3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Index of 3.3.2

BOOKS

Sr. No.	Year	Title of the book/chapters published	Page No.
1	2021-22	Leading an Organization through Change and Leadership Elements	10-13
2		Instilling soft skills in engineering studnets for crafting employability in the corporate world	14-17
3		Dynamics of Machinery	18-23
4		Metal Forming Technology	24-27
5		Surface Engineering	28-31
6		Press Tool Design	32-34
7	2020-21	Effect of Plunging and Dwelling Period on Temperature Profile and Energy Dissipation in FSSW and Its Relevance in FSW	35-44

NATIONAL CONFERENCE

Sr. No.	Year	PAPER TITLE	Page No.
1	2021-2022	Ncrenb 2022 Proceedings(Cover Page & Content Page)	45-61
2		Review On Applications Of Smart Materials	62
3		A Review On Quality Management Using 7 Qc Tools	63
4		Application Of Big Data Analytics In Manufacturing Sector - A Review	64
5		Dry Hand Sanitizer Dispensing Machine	65
6		Medborg: A Medical Service & Disinfection Robot	66
7		Bit Stream-The Rescue Messenger	67
8		Automated Ration Shop	68
9		Rf Energy Harvesting	69
10		Empowering Applications With Easy To Integrate Blockchain	70
11		Tour Recommendation System	71
12		Pick Up Us- Pick & Drop Services For Passengers App	72
13		Real-Time Sign Language Interpreter Using Deep-Learning	73
14		Tenant Intimation And Information System	74
15		Background Checker Using Face Recognition	75
16		Human Benchmark	76
17		Peer-To-Peer File Sharing	77
18		Magic Hands For Deaf & Dumb People	78
19		Resume Ranking	79
20		Fr-Pay : A Secure Approach For Payment	80
21		Virtual Mouse	81
22		A Distinctive Multiligual Messanging Application With Ocr	82
23		Cloud Computing And Applications Of Software Services	83
24		A New Perspective Of Cloud Computing	84
25		Comparative Study Of Solid Waste Management In Bangalore And Gujrat	85
26		Review On Dispute Resolution Management	86
27		Earthquake Resistant Construction Techniques	87

Pages 1 to 477 are endorsed by the Principal

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

PRINCIPAL
VIVA INSTITUTE OF TECHNOLOGY

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

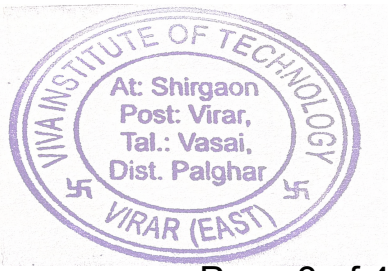
3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
28	2020-2021	Ncrenb 2021 Proceedings(Cover page & Content Page)	88-105
29		Design & Development Of Vision Controlled Snake Robot	106
30		Future Applications Of Smart Iot Devices	107
31		Smart Glasses Technology	108
32		Computational Intelligence In Wireless Network Sensor	109
33		Enhancing The Capability Of Chat Boats	110
34		An Alternative To Hard Drives In The Coming Future: Dna- Based Data Storage	111
35		Data Mining Techniques In Smart Agriculture	112
36		Digital Wellbeing	113
37		Machine Learning Applications Used In Auditing And Accounting	114
38		Password Systems That Are Mind Controlled	115
39		Smart Dustbins For Smart Cities	116
40		Firewall Security	117
41		Social Media Platform And Our Right To Privacy	118
42		Light Fidelity(Lifi)- Wireless Optical Networking Technology	119
43		A Review On Recent Trends In Non Destructive Testing Applications	120
44		The Business Development Ethics	121
45		Current Trends In Product Development During Covid-19	122
46		Design And Analysis Of Motorcycle Disk Brake	123
47		Just In Time System : A Study And Review	124
48		Kaizen: A Lean Manufacturing Technique	125
49		Semi-Automatic Boiled Potato Peeling And Smashing Machine	126
50		Process Improvement Of Grub Screw Manufacturing In A Small Scale Industry	127
51		Mechanical Engineers In Corporate World	128
52		Influence Of Various Parameters Of Cryogenic Treatment On Performance Of Tungsten Carbide Tool - A Review	129
53		An Overview Of Floating Solar Plants In Water Bodies	130
54		Leadership Only Can Lead The Organization Towards Improvement And Development	131
55		Understanding The Impact And Challenges Of Corona Crisis On Education Sector In India	132
56		Google File System	133
57		Cyber Security: Issues, Challenges And Risks	134
58		Internet Hacking And Prevention	135
59		Virtual Reality In Online Shopping	136
60		Haptic Technology—Interaction With Virtuality	137
61		A Study Of Data Storage Security Issues In Cloud Computing	138
62		Blockchain Sharding	139
63		The Usability Metrics For User Experience	140
64		A Study Of Tokenization Of Real Estate Using Blockchain Technology	141
65		Ethnography In Ux Design	142
66		Digital Case Paper	143
67		Sonic Wave Fire Fighter Robot Using Master Slave Concept	144
68		Government Scheme Awareness Through App	145

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
69	2020-2021	Furniture,Painting And Decor Designing Using Markerless Based Ar	146
70		Automated E-Waste Disposal Using Machine Learning	147
71		Iot Based Automatic Colour Sorting Machine	148
72		Face Detection And Feature Extraction For Facial Emotion Detection	149
73		Review Paper On Data Security Using Cryptography And Steganography	150
74		Extracting Features From The Fundus Image Using Canny Edge Detection Method	151
75		Development Of Online Hospital Booking Portal For Patient Appointment	152
76		An Iot Enabled Smart Health Care Kit : Review	153
77		Simulation Of Induction Motor For Reference Of Practical Engineering	154
78		Wireless Power Theft Monitoring System	155
79		Study Of Distributed Energy Resources	156
80		Solid State Transformer	157
81		Solar And Wind Generator For Street Light Application With Solar Tracking	158
82		Power Plant- Portable Micro Power Generation	159
83		Iot Based Power Grid Monitoring And Control System	160
84		Energy Harvesting From Revolving Doors	161
85		Design And Fabrication Of Electric 4 -Wheeler	162
86		Design And Estimation Of Rain Water Harvesting Scheme In Viva Institute Of Technology	163
87		Comparative Analysis Of Thermal Insulating Material In Lithium Ion Batteries Used In Ev'S	164
88		Blind Stick Using Ultrasonic Sensor With Voice Announcement And Gps Tracking	165
89		Artificial Intelligence In Power System	166
90		Providing Secure Cloud For College Campus	167
91		Survey Of A Symptoms Monitoring System For Covid-19	168
92		A Survey On Internet Of Things (Iot) Security : Challenges And Current Status	169
93	2019-20	Ncrenb 2020 Proceedings(Cover page & Content Page)	170-190
94		Multicurrency Calculator With Fake Currency Detection Using Image Processing	191
95		Vehicle Overload Detection Using Image Processing	192
96		System For Fingerprint Image Analysis	193
97		Blind Travelling Assistant	194
98		Detecting Alive Human Using Robot For Rescue Operation	195
99		Comparative Study For Fruit Ripeness Classification	196
100		Air Core Generator	197
101		Operational Requirements Of Robotic Tank With Electric Coilgun	198
102		Comparative Study On Different Types Of Fuel Cell	199
103		Fully Automated System For Monitoring And Controlling Water Users Using Iot	200
104		Speed Control Of Induction Motor Using Universal Controller	201
105		Design And Implementing Of Roof Ventilator In Small Scale Industry For Future Prospective	202



3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
106	2019-20	Wind-Solar Hybrid Project Identification And Formulation	203
107		Measurement Of Moment Of Inertia By Retardation Test In Three Phase Induction Motor	204
108		Power Quality Issues And Their Mitigation Techniques	205
109		Review Paper On Energy Management	206
110		A Comparative Study Of Lithium Ion And Lead Acid Battery For Finding Application In Electric Car	207
111		Implementation Of Thyristor Switch Capacitor For Improving Power Factor	208
112		Design Of Underground Cable Fault Detection Using Lot	209
113		Review Paper On Wireless Power Theft Monitoring In Energy Svstem	210
114		Condition Monitoring Of Induction Motor	211
115		A Systematic Review Of Artificial Intelligence And Machine Learning Techniques Used In Neonatal Care	212
116		Brainwave Controlled Wheelchair	213
117		A Medicinal Vending Machine Using Iot And Machine Learning	214
118		Feature Extraction And Feature Selection Using Textual Analysis	215
119		Securing Web Server Against Ddos Attack	216
120		Arm Based Touch Menu	217
121		Battery Monitoring System	218
122		Prominence Of Employability Skills In Multinational	219
123		Study Of Mps Under Stressed Conditions	220
124		Preparation Of Diesel From Plastic	221
125		Modelling And Control Design Of Shadowbot In Real Time Basis	222
126		Industry 4.0: Conceptual Framework, Scenarios And Application	223
127		Effect Of Cryogenic Treatment On Mechanical Properties And Wear Behavior Of High Carbon Steel	224
128		Productivity Enhancement By Digital Manufacturing	225
129		Implementing 5S, Kaizen And Quality Control Tools For Quality Improvement	226
130		Parametric Optimization Of Mig Welding	227
131		Survey Of Exophalanx In Robo Using Hapticfeedback System: A Review	228
132	2018-19	Ncrenb 2019 Proceedings(Cover page & Content Page)	229-247
133		Application Of Performance Based Specifications In Building	248
134		Self Compacting Concrete Jacketing-Test And Analysis	249
135		Strength Of Concrete By Using Different Type Of Fine Aggregate	250
136		Concrete Strength Prediction Using Machine Learning Algorithms	251
137		Use Of Textile Mill Sludge In Replacement To Fine Aggregate In Concrete	252
138		Special Technique For Rehabilitation Of Forts	253
139		Shade Of Green	254
140		Seismic Behaviour Of Structure With Soft Storey	255
141		Development Of High Strength Of Concrete Using Ferrochrome Slag Aggregate As Replacement Of Coarse Aggregate	256
142		Strength Properties Of Concrete Using Crumb Rubber With Partial Replacement Of Fine Aggregate	257
143		Behaviour Of Strengthened Rcc Beam Using Steel Plates	258
144		Fidic Contract : Application In Construction Claims	259

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
145	2018-19	Comparative Study On Various Methods Of Risk Analysis	260
146		Cloud Mapreduce	261
147		A Survey On Lung Cancer Detection Techniques	262
148		New Approach For Computing Trustworthy Reputation In E-Commerce Environment	263
149		A Survey On Sentiment Analysis With The Help Of Sarcasm	264
150		A Distinctive System For Cricket Predictions Using Machine	265
151		Foodmesh : An Intelligent Chabot	266
152		Subjective Answer Evaluation Using Data Mining And Semantics	267
153		Asl Recognition Using Smart Glove	268
154		Classify And Recognize Non Living Objects Using Classification Techniques	269
155		Securing Files On Cloud Through Hybrid Cryptography	270
156		Detection Of Spam Mobile Application Using Sentiment Analysis Authors	271
157		Bankruptcy Prediction: A Survey On Financial Distress And Solution	272
158		Review Of Image Compression Techniques Using Vector Quantization	273
159		A Survey Of Routing Protocol And Network Security In Manets	274
160		Database Security - Optimization Approach	275
161		Hci: Its Role In Distant Education Websites	276
162		A Survey On Text Prediction Techniques	277
163		The Countour Printer Is The First Desktop Phone Skin Printer	278
164		An Analysis Of Various Deep Learning Algorithms For Image Processing	279
165		Survey On An Innovative Approach For Cardiovascular Heart Disease Prediction Using Machine Learning	280
166		A Comprehensive Review Of Conversational Agent And Its Prediction Algorithm	281
167		Endowing Engineering Graduates: With Special Reference To Soft Skills As Vital Employment Skill	282
168		Class Ambiance And Teachers Performance	283
169		A Dft Study Of Co Gas Adsorption On Metal Doped Graphene Sheet	284
170		Microgrid: Challanges And Possibities In India	285
171		Partial Discharge In Gas Insulated Substation	286
172		Concentrated Solar Power	287
173		Rotor Fault Detection Of Induction Motor With The Help Of Signal Processing	288
174		Operation Principle Of Multiple Dc Smart Grids	289
175		Designing Of Brushless Dc Motor With Controllers	290
176		Electrical System On Ship-A Review	291
177		Performance Of Facts Devices In The Improvement Of Power Quality	292
178		A Review Paper Based On Vertical Axis Wind Turbine For Design And Performances To Generate Electricity	293
179		Smart Mirror Using Raspberry Pi	294
180		Automated Solar Tracking System For Efficient Energy Utilization	295

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
181		Bluetooth Enabled Smart Digital Pen	296
182		Image Encryption Using Rsa Algorithm And Additive Cipher	297
183		Overview Of A Satellite System	298
184		Study Of Digital Protractor Based On Psoc For Angle Measurement	299
185		A Survey On Different Fft Algorithms	300
186		Tube Forming Using Hydroforming Technology And Analysing The Process On Explicit Dynamics	301
187		Design And Fabrication Of Biomass Pellet Manufacturing Machine-A Concept	302
188		Preparation Of Biodiesel From Cooking Oil	303
189		Design And Analysis Of Bladeless Windmill	304
190		Application Of Topsis: A Multiple Criteria Decision Making Approach In Tool Insert Selection	305
191		System Analysis & Mathematical Modelling Of Bus Suspension System Using Matlab	306
192		Analysis Of Machining Parameters On Edm Of Hchcr-D2 Using Full Factorial Design	307
193		Development Of Automatic Writing Machine Using Android Interface And Voice	308
194		Cruise Control System To Maintain Acceleration Of Two Wheeler Constant	309
195	2018-19	Implementation Of Total Productive Maintainance In A Machine Shop	310
196		Improving Productivity By Using Quality Tools	311
197		Designing Of Air Conditioning Unit For A Computer Laboratory	312
198		Fabrication And Design Of Coconut Dehusking Machine	313
199		A Concept On Design And Modelling Of Waste Separator Machine	314
200		Fabrication Of Seed Sowing Machine	315
201		Comparison Of Influence Of Shallow And Deep Cryogenic Treatment On Hss Tool	316
202		Design And Fabrication Of Automatic Convertible Wheelchair	317
203		Application Of Theory Of Constraint For Reduction In Lead Time	318
204		Determination Of Critical Machine Using Overall Equipment Effectiveness	319
205		Implementing 5S, Gemba Walk And Why Why Analysis For Quality Improvement	320
206		Design And Manufacturing Of Brake Wear Indicator	321
207		Designing And Testing Of Led Fixture Body	322
208		Design And Fabrication Of Portable Printer	323
209		A Concept On Fabrication And Testing Of Waste Segregator Machine	324
210		Design And Modification Of A 4 Stroke Bike Using Gobar Gas	325
211		Modification And Fabrication Of Open Differential For Anti-Slip Effect.	326
212		Design Of Amphibian Vehicle	327
213		Bridging Gap Between Academics And Industry For Increasing Placements For Engineering Fresh Graduates	328

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
214	2018-19	Design And Fabrication Of Solar Powered Water Purifier And Cooler	329
215		Stable Water Cleaner Using Quadcopter	330
216		Structural And Modal Analysis Of Waste Segregator Machine	331
217		Implementation Of Taguchi Methodology To Optimization Of Cnc End Milling Process Parameters Of Al6351 –T6	332
218		Pipe Stress Analysis Using Caesar Ii Software	333
219		Manufacturing And Testing Of All Terrain Vehicle	334
220		Multipurpose Cnc Plotter Machine Using Arduino System	335
221		Design And Analysis Of All Terrain Vehicle	336
222		Optimization Of Working Process By Using Takt Time	337
223		Analysis Of Amphibian Vehicle Using Ansys	338
224		Sccai- A Student Career Counselling Artificial Intelligence	339
225		Eat It, Review It: A New Approach For Review Prediction	340
226	2017-18	Ncrenb 2018 Proceedings(Cover page & Content Page)	341-360
227		Strengthening Of Rcc Structures By Nsm Technique	361
228		Review On Risk Analysis Using Fuzzy Logic	362
229		Review Paper On Analysis Check Of Various Materials	363
230		Replacement Of Inactive Concrete By Waste Plastic	364
231		Hedonic Pricing Method	365
232		Efficiency Of Ggbs In Concrete	366
233		Encroachment- A Threat To Urban Development	367
234		Impact Of Demonetization On Real Estate In India	368
235		Advancement In Flexible Pavement By Using Steel Slag	369
236		Structural Audit	370
237		Overview Of Use Of Shredded Tyres In Highway	371
238		Early Termination Of Public Private Partnership Projects	372
239		Use Of Paper Sludge As A Construction Material	373
240		Diminution Of Shill Bidding Effect In Real Time Online Auction System	374
241		Security Enhancement On Web Server For Preventing Double Attack	375
242		A Hybrid Concept Of Keyless Algorithm And Compression Scheme For Encrypted Stego-Image	376
243		Sentiment Analysis On Twitter Data:A New Approach	377
244		Efficient Approach For Identification Of Phishing Websites	378
245		Network Management Automation, Challenges And Solutions	379
246		Enhanced Mechanism For Session Password Authentication	380
247		Repository File Transfer : A New Compound File Encryption Technique	381
248		Study Of Automation And Manual Testing	382
249		"Vhdl Implementation Of Autocorrelation And Cross Correlation Using Vedic Multiplier"	383
250		Next Generation Wireless Rgb Led Brightness Controller	384
251		A Literature Review On Varying Dimensions Of E-Shaped	385
252		Matching Technique For Coupled-Patches Rfid Tag Antenna	386
253		Survey On Color Spaced Used For Skin Modelling	387
254		Refrigeration System In Fishing Trawlers	388
255		Design & Solid Modelling Of Parkison Gear Tester	389

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

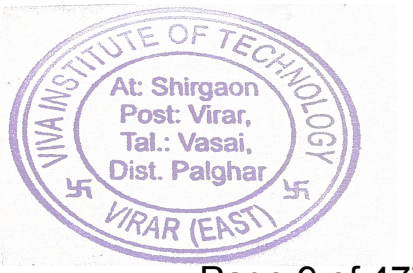
3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
256	2017-18	Naval Gear Orientor - Concept Review	390
257		Design Of Analysis Of System For Steam To Air Cooling	391
258		Design And Analysis Of Cooling Tower	392
259		Design And Fabrication Of Cooling Tower	393
260		Increasing Efficiency Of Reciprocating Compressor By Use Of Diffuser	394
261		Design And Analysis Of Wind Tunnel	395
262		Numerical Simulation Of Buffecting Effect On Wings	396
263		Design Of "I-Bicycle"	397
264		To Study The Imapct Of Biodiesel And Ethanol As A Fuel Additive With Diesel On	398
265		Soybean Milk Extracting Machine	399
266		Sand Filter & Separator Project	400
267		Design Of Portable Cnc	401
268		Test Rig On Heat Treatment Under Laminar Flow	402
269		Design And Manufacturing Of Biogas Plant	403
270		Design And Analysis Of Triplex Suspension	404
271		Theory Of Constraint As An Emerging Manufacturing Philosophy	405
272		Tube Hydroforming An Emerging Forming Technology In Automotive Industries	406
273		Preventive Maintenance Of Power Transformer	407
274		Closed Loop Control Of Speed For A Brushless Dc Motor	408
275		Auto Selection Of Any Available Phase, In 3 Phase Supply System	409
276		A Review On Energy Efficient Technologies In Electrical Motor System For Developing Countries	410
277		Voice Controlled Home Automation	411
278		Diagnosis Of Stator Faultsof Induction Motor Using Matlab Simulink	412
279		Electric Vehicle Using Renewable Energy Sources	413
280		Smart Wheelchair For Patient	414
281		Halbach Array Principle Based Bldc Motor	415
282		Power Generation By Vortex Principle	416
283		Energy Efficient Dual Axis Solar Tracking System Using Ldr As A Light Sensing Device	417
284		Power System Contingency Analysis	418
285		Clean Solar Energy	419
286		A Survey On Internet Of Things Based Smart City	420
287		Wind Energy Battery Energy Storage System Using Grid Power Quality Improvement	421
288		A Review Paper On Model Predictive Control Technique In Power Electronics Application	422
289		A Study Of Smart Technologies And Clean Energy Technologies To Reduce Energy Demands	423
290		Micro Hydro Power Plant Using Bavkhal (Ponds)	424
291		Automatic Mains Failure Panel (Amf Panel)	425
292		Spark Gap Coil	426
293		Role Of Electrical Engineer In Building Maintenance Service: A Survey	427
294		Application Of Gis And Remote Sensing In Water Resource	428

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

3.3.2.Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

NATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
295	2017-18	Work Environment And Its Impact On Work Performance	429
296		Impact Of Organization Hierarchical Culture On Hr Management	430
297		Experimental Studies On Nano Gel Polymer Electrolytes.	431
298		Green Concrete	432
299		Anticipation Of Student Admissions In An Institution Using Using Decision Tree Algorithm	433
300		Study Of Measuring Rf Power In Field	434
301		Transportation Using Cam Mechanism	435
302		Analysis Of Anti-Shoulder Surfing Attack Techniques	436
303		Approaches For De-Duplication In Cloud Computing: A Survey	437
INTERNATIONAL CONFERENCE			
Sr. No.	Year	PAPER TITLE	Page No.
296	2020-2021	Exploratory Analysis Of Disease Characteristics And Demographic Data Of Neonatal Patients Using Mimic-Iv Database	438-441
297		Classification And Prediction Of Severity Of Inflammatory Bowel Disease Using Machine Learning	442-445
298	2019-2020	An Innovative Approach For Fruit Ripeness Classification	446-449
299		Wireless Security - An Approach Towards Secured Wifi Connectivity	450-453
300	2018-2019	Sektroo: Smart Automated Pesticide Sprinkiling Bot	454-457
301		Bs-Mrp: Bandwidth Based Secured Data Transmission In Manet	458-464
302	2017-2018	An Overview Of Different Methods Of Domestic Waste Management And Energy Generation In India	465-468
303		Analysis Of Challenges In The Area Of Quality Of Service (Qos) Support In Mobile Ad-Hoc Network (Manet)	469-477



Indexing and Abstracting in Following Databases

1. Bowker: A ProQuest Affiliate

2. Crossref

ISBN 9789393502841

₹ 689 US$ 12

Published by
Integrated Publications
H. No. - 3 Pocket - H34, Sector - 3,
Rohini, Delhi-110085, India
Email: printintegrated@gmail.com

Attribution-NonCommercial-ShareAlike
4.0 International (CC BY-NC-SA 4.0)

Peer Reviewed & Refereed

Business Management: A New Paradigm

Volume - 4

Chief Editor - Dr. B. Subha

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Integrated Publications
New Delhi

Business Management: A New Paradigm

Volume - 4

Chief Editor

Dr. B. Subha
Assistant Professor (Senior Grade), Department of Management, Kristu Jayanti College, Autonomous, Bangalore, Karnataka, India

Integrated Publications
New Delhi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Published By: Integrated Publications

Integrated Publications
H. No. - 3 Pocket - H34, Sector - 3,
Rohini, Delhi-110085, India

Chief Editor: Dr. B. Subha

The author/publisher has attempted to trace and acknowledge the materials reproduced in this publication and apologize if permission and acknowledgements to publish in this form have not been given. If any material has not been acknowledged please write and let us know so that we may rectify it.

© Integrated Publications

Publication Year: 2022

Pages: 79

ISBN: 978-93-93502-84-1

Book DOI: https://doi.org/10.22271/int.book.146

Price: ₹ 689/-

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Contents

Chapters	Page No.
1. Group Dynamics in an Organization *(C. Deepa and M. Rama Devy)*	01-12
2. The Influence of Digital Media on Purchase Decisions of Consumers: Descriptive Research *(M. Vikram Kumar)*	13-26
3. Impact of Employer Branding on Organization Commitment in IT Sector *(Anjali Goyal and Dr. Bhanupriya Khatri)*	27-51
4. Mutual Funds: An Effective Tool for Retirement Planning *(Dr. Aashka Thakkar and Hardik Thakkar)*	53-67
5. Leading an Organization through Change and Leadership Elements *(Dr. Prashant Ramrao Pawar and Dr. Trupti Vikas Patil)*	69-79

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Indexing and Abstracting in Following Databases

1. Bowker: A ProQuest Affiliate

2. Crossref

ISBN 9789355701862

₹ 506, US $ 14

Published by
AkiNik Publications,
#169, C-11, Sector - 3, Rohini,
Delhi-110085, India
Toll Free (India): 18001234070

Attribution-NonCommercial-ShareAlike
4.0 International (CC BY-NC-SA 4.0)

Peer Reviewed & Refereed

Recent Trends In Education

Volume - 10

Chief Editor

Dr. A.C. Lal Kumar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AkiNik Publications

Recent Trends In Education

Volume - 10

Chief Editor

Dr. A.C. Lal Kumar

Assistant Professor, Department of Education, G.E.T. College of Education,
Gudiyattam Taluk, Vellore, Tamil Nadu, India

AkiNik Publications
New Delhi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Published By: AkiNik Publications

AkiNik Publications
169, C-11, Sector - 3,
Rohini, Delhi-110085, India
Toll Free (India) – 18001234070
Phone No. – 9711224068, 9911215212
Email – akinikbooks@gmail.com

Chief Editor: Dr. A.C. Lal Kumar

The author/publisher has attempted to trace and acknowledge the materials reproduced in this publication and apologize if permission and acknowledgements to publish in this form have not been given. If any material has not been acknowledged please write and let us know so that we may rectify it.

© AkiNik Publications

Publication Year: 2021

Pages: 96

ISBN: 978-93-5570-186-2

Book DOI: https://doi.org/10.22271/ed.book.1962

Price: ₹ 506/-

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Contents

Chapters		Page No.
1.	Instilling Soft Skills in Engineering Students for Crafting Employability in the Corporate World *(Dr. Trupti Vikas Patil and Dr. Prashant Ramrao Pawar)*	01-17
2.	Introduction to Adult Education *(Mayzul Alom Hussain)*	19-30
3.	Active Blended Learning in Upgrading Bachelor of Nursing Students: A Case Study of a Partnership between a Private and a Public University in Kenya *(Cheptum JJ, Bitok LK, Mageto IG, Munyalo B and Muiruri FW)*	31-43
4.	Knowledge Management in Higher Education Institutes *(Rashmi Meena)*	45-64
5.	Adjustment of Senior Secondary School Teachers in Relation to their Age and Experience *(Dr. Deepa Rani)*	65-75
6.	Possible New Model of Education System *(Manisha, Bas Kaur, Rashmi Tyagi and Sahil Boora)*	77-96

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MU | Sem 5 | Mechanical Engineering & Allied Branches

New Syllabus 2021-22

DYNAMICS OF MACHINERY

- Prof. (Dr.) H. S. Patil
- Prof. Pratik Raut (VIVA Inst. of Tech., Virar)

With Typical MCQ's

- With Solved Latest UNIVERSITY QUESTION PAPERS.
- Stepwise Solutions To all Numericals
- Consolidated List of Formulae

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture
www.techneobooks.in
info@techneobooks.in

M5-59A Price ₹ 445/-

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Scanned with CamScanner

Dynamics of Machinery

(Code : MEC503)

Semester V - Mechanical Engineering
(University of Mumbai)

TECH-NEO PUBLICATIONS
A Sachin Shah Venture
SPECIMEN COPY
For Review & Recommendation

Strictly as per the Choice Based Credit and Grading System (Revise 2019) of Mumbai University w.e.f. academic year 2021-2022

Prof. (Dr.) H. S. Patil

Professor and Head, Department of Mechanical Engineering
GIDC Degree Engineering College, Abrama-Navsari (Gujarat State)

Professor and Head of the Department of Mechanical Engineering at GIDC Degree Engineering College, Abrama-Navsari (Gujarat); Accumulated more than 24 years of teaching and research experience in mechanical engineering, with special emphasis in Machine Design, Machine Kinematics & Dynamics, and Tribology; Published numerous research papers in various international journals and conference proceedings; Extended services as reviewer and editorial board member in many international journals and conferences like ELSEVIER, Transactions of the Canadian Society for ME, Iranian Journal of Materials, Italian Journal of Fracture and Structural Integrity, Cambridge Scholars Publishing etc.; Authored many engineering books for various universities as Machine Design & Industrial Drafting (GTU), Fundamental of Machine Design (GTU), Dynamics of Machinery (GTU), Mechanical Vibrations (MU) Dynamics of Machinery (MU) and Machine Design-I (BATU); Reviewed books of McGraw Hill Publications and Springer International Publishing; Member of The Institution of Engineers (India) and Indian Society for Technical Education (India); Ex member of research recognition committee at NMU, Jalgaon, and board of studies at VNSGU, Surat.

Prof. Pratik P. Raut

M.E.(Machine Design)
Assistant Professor
Department of Mechanical Engineering,
VIVA Institute of Technology, Shirgaon, Virar (East), Maharashtra-401303

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture

M5-59
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Dynamics of Machinery
(Course Code : MEC503)
(MU - Semester 5/Mech – For New Syll. 2021-2022)
Authors : Prof. (Dr.) H. S. Patil, Prof. Pratik P. Raut
First Printed in India : August 2020
First Edition for New Syllabus : June 2021
Tech-Neo ID : M5-59
ISBN : 978-93-90376-68-1

Copyright © by Prof. (Dr.) H. S. Patil.

No part of this publication may be reproduced, copied, or stored in a retrieval system, distributed or transmitted in any form or by any means, including photocopy, recording, or other electronic or mechanical methods, without the prior written permission of the Publisher.

This book is sold subject to the condition that it shall not, by the way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the publisher's prior written consent in any form of binding or cover other than which it is published and without a similar condition including this condition being imposed on the subsequent purchaser and without limiting the rights under copyright reserved above.

Published by

- **Mr. Sachin S. Shah**
  Managing Director, B. E (Industrial Electronics)
  An Alumunus of IIM Ahmedabad
- **Mrs. Nayana S. Shah, & Mr. Rahul S. Shah**

Permanent Address

Tech-Neo Publications LLP

Sr. No. 38/1, Behind Pari Company, Khedekar Industrial Estate, Narhe, Maharashtra,

Pune-411041.

Email : info@techneobooks.in

Website : www.techneobooks.in

Printed at : Image Offset (Mr. Rahul Shah)

Dugane Ind. Area, Survey No. 28/25, Dhayari Near Pari Company, Pune - 411041. Maharashtra State, India.

E-mail : rahulshahimage@gmail.com

About Managing Director....
- Mr. Sachin Shah

- **Over 25 years of experience in Academic Publishing...**

  With over two and a half decades of experience in bringing out more than 1200 titles in Engineering, Polytechnic, Pharmacy, Computer Sciences and Information Technology.

- **A driven Educationalist...**

  1. B.E.(Industrial Electronics) (1992 Batch) from Bharati Vidyapeeth's College of Engineering, affiliated to University of Pune.
  2. An Alumnus of IIM Ahmedabad.
  3. A Co-Author of bestselling book on "Basic Electrical Engineering" Basic Electronics Engineering" for Degree Course in Engineering
  4. For over a decade, been working as a Consultant for Higher Education in USA and several other countries.

- **With path-breaking career...**

  - A publishing career that started with handwritten cyclostyled notes back in 1992.
  - Has to his credit, setting up and expansion of one of the leading companies in higher education publishing.

- **An experienced professional and an expert...**

  - An energetic, creative & resourceful professional with extensive experience of closely working with the best & the most eminent authors of Publishing Industry, ensures high standards of quality in contents.
  - Helping students to attain better understanding and in-depth knowledge of the subject.
  - Simplifying the methods of learning and bridging the gap between the best authors in the publishing industry and the student community for decades.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Scanned with CamScanner

Syllabus

Course Code	Course/Subject Name	Credits
MEC503	Dynamics of Machinery*	4

Objectives :

1. To acquaint with working principles and applications of Governors / Gyroscope
2. To study static and dynamic force analysis in the mechanisms
3. To familiarise with basics of mechanical vibrations
4. To study the balancing of mechanical systems

Outcomes : Learner will be able to...

1. Demonstrate working Principles of different types of governors and Gyroscopic effects on the mechanical systems
2. Illustrate basic of static and dynamic forces
3. Determine natural frequency of element/system
4. Determine vibration response of mechanical elements / systems
5. Design vibration isolation system for a specific application
6. Demonstrate basic concepts of balancing of forces and couples

Module	Details	Hrs.
1	**Governors and Gyroscopes** **1.1 Governors :** Introduction to Centrifugal and Inertia governors, Study and Force analysis of Porter and Hartnell governors including Performance characteristics, Governors effort and power. **(Refer chapter 1)** **1.2 Gyroscope :** Introduction, Gyroscopic couple and its effect on spinning bodies, naval ships during steering, pitching, rolling and their stabilization. **(Refer chapter 2)**	09
2	**2.1 Static and Dynamic force analysis** of Slider crank mechanism (neglecting mass of connecting rod and crank), Turning moment on crank shaft **2.2 Dynamically equivalent systems** to convert rigid body into two mass with and without correction couple (Case study - Connecting rod) **(Refer chapter 3)**	06
	3.1 Basic Concepts of Vibration : Vibration and oscillation, causes and effects of vibration, Importance of study of vibrations, Vibration parameters - springs, mass, damper, motion	

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Scanned with CamScanner

Module	Details	Hrs.
3	periodic, non-periodic, degree of freedom, static equilibrium position, vibration classification, steps involved in vibration analysis **(Refer chapter 4)** **3.2 Free Undamped Single Degree of Freedom Vibration System :** Longitudinal, transverse, torsional vibration system, Methods for formulation of differential equations by Newton, Energy, Lagrangian and Rayleigh's method **(Refer chapter 5)**	08
4	**4.1 Free Damped Single Degree of Freedom Vibration System :** Introduction to different methods of damping, Study and analysis of (1) Viscous damped system (under damped, critically damped, over damped; Logarithmic decrement) (2) Coulomb's damping (Combined Viscous and Coulomb damping excluded) **(Refer chapter 6)** **4.2 Equivalent Single Degree of Freedom Vibration System :** Conversion of multi- springs, multi masses, multi-dampers into a single spring and damper with linear or rotational co-ordinate system **(Refer chapters 4 and 7)**	07
5	**5.1 Forced Single Degree of Freedom Vibratory System :** Analysis of linear and torsional systems subjected to harmonic force excitation and harmonic motion excitation (excluding elastic damper) **(Refer chapter 8)** **5.2 Vibration Isolation and Transmissibility :** Force Transmissibility, motion transmissibility, typical isolators & mounts. **(Refer chapter 8)** **5.3 Vibration Measuring Instruments**: Principle of seismic instruments, vibrometer, accelerometer - undamped and damped, Introduction to conditioning monitoring and fault diagnosis. **(Refer chapter 9)**	10
6	**6.1 Rotor Dynamics :** Critical speed of single rotor, undamped and damped **(Refer chapter 10)** **6.2 Balancing :** Static and Dynamic balancing of multi rotor system(up to four rotors), balancing of reciprocating masses in In-line engines(up to four cylinders) , Introduction to V-engines (excluding other radial engines) **(Refer chapter 11)**	08

❑❑❑

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
Scanned with CamScanner

Mr. Sachin S. Shah
Managing Director
Tech-Neo Publications LLP
- B.E. in (Industrial Electronics) (1992 Batch)
Bharati Vidyapeeth COE (Affiliated to University of Pune)
- An Alumnus of IIM Ahmedabad
info@techneobooks.in

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovations
A Sachin Shah Venture

SCAN TO VISIT www.techneobooks.in

Sure Marks
Notes and Paper Solutions
Elevating Excellence

CHAPTERWISE UNIVERSITY PAPER SOLUTIONS

Sem 5 Mechanical Engineering and Allied Branches

Course Code	Compulsory Subjects
MEC501	Mechanical Measurements and Control
MEC502	Thermal Engineering
MEC503	Dynamics of Machinery
MEC504	Finite Elements Analysis

Course Code	Departmental Elective
MEDLO5011	Optimization Techniques
MEDLO5012	Design of Experiments
MEDLO5013	Computational Methods

e-books
Download App
SCAN TO VISIT

For Orders Contact :

Krishna Book Collections

Ground Floor, Krishna Niwas Building, Behind BEST Niwas Building, Near Napoo Hall, Chandavarkar Road, Matunga East, Mumbai 400019. **E-mail** : dharmeshsota05@gmail.com

Mobile No.: Dharmesh Sota - 98207 41455, Tulsidas Sota - 98331 33921 / 98330 82745 / 98330 82761

Books are available on Flipkart amazon boohwala.com

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MU Sem 6 Mechanical Engineering

New Syllabus 2021-22

With Typical MCQ's

[Department Level Optional Course - 2] (MEDLO6023)

Metal Forming Technology

Swapnil Prakash Raut

Priyank Madhukar Vartak

Tejas Hareshwar Chaudhari

[VIVA Institute of Technology, Shirgaon, Virar (East)]

TECH-NEO PUBLICATIONS

Where Authors Inspire Innovation

A Sachin Shah Venture

www.techneobooks.in

info@techneobooks.in

Syllabus based MCQ's most useful for ONLINE & COMPETITIVE EXAMS.

FREE DOWNLOAD Sample chapter from our Android App.

M6-117A

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar, Tal. Vasai, Dist. Palghar VIRAR (EAST)

University of Mumbai

Metal Forming Technology

[Department Level Optional Course - 2]
(Course Code : MEDLO6023)
Semester VI - Mechanical Engineering

Strictly as per the New Syllabus (REV-2019 'C' Scheme) of Mumbai University w.e.f. academic year 2021-2022

Mr. Swapnil Prakash Raut
Ph. D. in Mechanical Engineering (Pursuing)
M.E.(Manufacturing Systems Engineering)
Assistant Professor, Department of Mechanical Engineering,
VIVA Institute of Technology, Shirgaon, Virar (East),
Maharashtra-401303

Mr. Priyank Madhukar Vartak
M.E. (Manufacturing Systems Engineering)
Assistant Professor, Department of Mechanical Engineering,
VIVA Institute of Technology, Shirgaon, Virar (East),
Maharashtra-401303

Mr. Tejas Hareshwar Chaudhari
M.E. (Manufacturing Systems Engineering)
Assistant Professor, Department of Mechanical Engineering,
VIVA Institute of Technology, Shirgaon, Virar (East),
Maharashtra-401303

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture

M6-117
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Table of Contents

Module 1

Chapter 1 : Introduction to Metal Forming 1-1 to 1-28

1.1 Elastic and Plastic Deformations 1-1
1.2 Mechanism of plastic deformation 1-3
1.2.1 Slip 1-3
1.2.2 Twinning 1-4
1.2.3 Comparison between Slip and Twinning 1-5
1.3 Effect of various parameters on metal forming 1-6
1.3.1 Temperature 1-6
1.3.2 Friction 1-7
1.3.3 Lubrication 1-8
1.3.4 Strain rate 1-9
1.4 Yield Criteria 1-10
1.4.1 Effective Stress and Effective Strain 1-12
1.5 Metal Working 1-12
1.6 Metal Forming Process 1-13
1.7 Classification of Metal Forming Process 1-14
1.7.1 Based on Working Temperature 1-14
1.7.1.1 Cold Forming or Cold Working 1-14
1.7.1.2 Hot Forming or Hot Working 1-15
1.7.1.3 Warm or Semi Hot Forming 1-15
1.7.2 Based on form of raw material used 1-15
1.7.2.1 Bulk Forming Processes 1-16
1.7.2.2 Powder Metal Forming 1-18
1.7.2.3 Sheet Metal Forming 1-19
1.7.3 Advantages of Metal Forming Processes over other Manufacturing Processes 1-20
1.7.4 Disadvantages of Metal Forming Processes 1-20
1.8 Flow Stresses 1-21
1.8.1 Why Flow Stress is Important? .....

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar;
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Mr. Sachin S. Shah
Managing Director
Tech-Neo Publications LLP
- B.E. in (Industrial Electronics) (1992 Batch)
Bharati Vidyapeeth COE (Affiliated to University of Pune)
- An Alumnus of IIM Ahmedabad
info@techneobooks.in

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture

SCAN TO VISIT www.techneobooks.in

Sure Marks
Notes and Paper Solutions
Elevating Excellence

CHAPTERWISE UNIVERSITY PAPER SOLUTIONS

Sem 6

Mechanical Engineering

Course Code	Compulsory Subjects
MEC601	Machine Design
MEC602	Turbo Machinery
MEC603	Heating, Ventilation, Air conditioning & Refrigeration
MEC604	Automation and Artificial Intelligence

Course Code	Department Level Optional Course II
MEDLO6021	Press Tool Design
MEDLO6022	Tool Engineering
MEDLO6023	Metal Forming Technology

ISBN 978-93-5583-102-6

e-books
Download App
SCAN TO VISIT

For Orders Contact :

Krishna Book Collections

Ground Floor, Krishna Niwas Building, Behind BEST Niwas Building, Near Napoo Hall, Chandavarkar Road, Matunga East, Mumbai 400019. E-mail : dharmeshsota05@gmail.com

Mobile No.: Dharmesh Sota - 98207 41455, Tulsidas Sota - 98331 33921 / 98330 82745 / 98330 82761

Books are available on Flipkart amazon boohwalas.com the online book shop

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist.: Palghar
VIRAR (EAST)

SPPU Sem 6 Mechanical Engineering

New Syllabus 2021-22

Elective II (302052-B)

Surface Engineering

Vinit Deepak Raut

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture
www.techneobooks.in
info@techneobooks.in

FREE DOWNLOAD
Sample chapter from our Android App.

P6-76A

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon 235/-
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Savitribai Phule Pune University

Surface Engineering

[Elective - II]

(Course Code : 302052-B)

Semester VI - Mechanical Engineering

Strictly as per the New Syllabus (2019 Course) of Savitribai Phule Pune University w.e.f. academic year 2021-2022

Prof. Vinit Deepak Raut

M.E.(Manufacturing Systems Engineering)

Assistant Professor

Department of Mechanical Engineering,

VIVA Institute of Technology,

Shirgaon, Virar (East),

Maharashtra-401303

TECH-NEO PUBLICATIONS

Where Authors Inspire Innovation

A Sachin Shah Venture

P6-76

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Surface Engineering
(Course Code : 302052-B)
(SPPU - Sem VI -Mech - For New Syll. 21-22)
Author : Prof. Vinit Deepak Raut
First Edition : April2022
Tech-Neo ID : P6-76
ISBN :978-93-5583-097-5

Copyright © by Author.
All rights reserved.
No part of this publication may be reproduced, copied, or stored in a retrieval system, distributed or transmitted in any form or by any means, including photocopy, recording, or other electronic or mechanical methods, without the prior written permission of the Publisher.
This book is sold subject to the condition that it shall not, by the way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the publisher's prior written consent in any form of binding or cover other than which it is published and without a similar condition including this condition being imposed on the subsequent purchaser and without limiting the rights under copyright reserved above.

Published by
- **Mr. Sachin S. Shah**
  Managing Director,
  B. E (Industrial Electronics)
  An Alumunus of IIM Ahmedabad
- **Mrs. Nayana S. Shah &**
  Mr. Rahul S. Shah

Permanent Address
Tech-Neo Publications LLP
Sr. No. 38/1, Behind Pari Company,
Khedekar Industrial Estate, Narhe,
Maharashtra, Pune-411041.
Email : info@techneobooks.in
Website : www.techneobooks.in

Printed at : Image Offset
(Mr. Rahul Shah)
Dugane Ind. Area, Survey No. 28/25,
Dhayari Near Pari Company,
Pune - 411041. Maharashtra State, India.
E-mail : rahulshahimage@gmail.com

About Managing Director.... - Mr. Sachin Shah

Over 25 years of experience in Academic Publishing...

- With over two and a half decades of experience in bringing out more than 1200 titles in Engineering, Polytechnic, Pharmacy, Computer Sciences and Information Technology.

A driven Educationalist...

1. B.E.(Industrial Electronics) (1992 Batch) from Bharati Vidyapeeth's College of Engineering, affiliated to University of Pune.
2. An Alumnus of IIM Ahmedabad.
3. A Co-Author of bestselling book on "Basic Electrical Engineering" Basic Electronics Engineering" for Degree Course in Engineering
4. For over a decade, been working as a Consultant for Higher Education in USA and several other countries.

With path-breaking career...

- A publishing career that started with handwritten cyclostyled notes back in 1992.
- Has to his credit, setting up and expansion of one of the leading companies in higher education publishing.

An experienced professional and an expert...

- An energetic, creative & resourceful professional with extensive experience of closely working with the best & the most eminent authors of Publishing Industry, ensures high standards of quality in contents.
- Helping students to attain better understanding and in-depth knowledge of the subject.
- Simplifying the methods of learning and bridging the gap between the best authors in the publishing industry and the student community for decades.

VIRAR (EAST)

Table of Contents

Unit 1

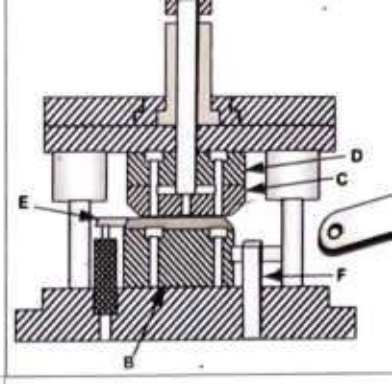
Chapter 1 : Introduction to Surface Engineering and Surface Degradation 1-1 to 1-28

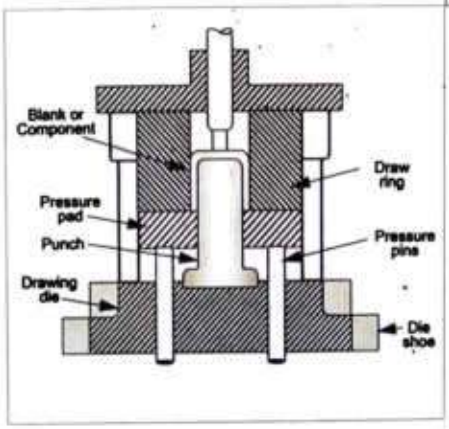
1.1 Introduction 1-1
1.2 Surface Dependant Properties 1-3
1.2.1 Properties Influenced by Surface Roughness 1-4
1.3 Importance and SCOPE of Surface Engineering 1-8
1.3.1 Importance of Surface Engineering in Manufacturing 1-9
1.4 Scope of Surface Engineering 1-9
1.4.1 Surface Technology 1-9
1.4.2 Surface Energy 1-9
1.5 Importance of Surface Energy 1-10
1.5.1 Causes of Surface Energy 1-10
1.5.2 Surface Energy Modification Technique 1-10
1.6 Determination of Surface Energy 1-10
1.6.1 Interfacial Energy (Surface Free Energy) 1-11
1.7 Surface interface 1-12
1.7.1 How is the Interface Structured? 1-12
1.7.2 Best Practices for Designing an Interface 1-12
1.7.3 Interface Structure Diagram (ISD) 1-13
1.8 Types of Wear 1-13
1.8.1 Adhesive Wear 1-13
1.8.2 Abrasive Wear 1-13
1.8.3 Erosive Wear 1-14
1.8.4 Polishing Wear 1-14
1.9 Corrosion 1-15
1.9.1 Surface Corrosion 1-15
1.9.2 Forms of Corrosion 1-15
1.9.3 Corrosion Triangle 1-16
1.10 The Pilling-Bedworth Rule 1-17
1.10.1 As per Pilling-Bedworth Rule 1-18

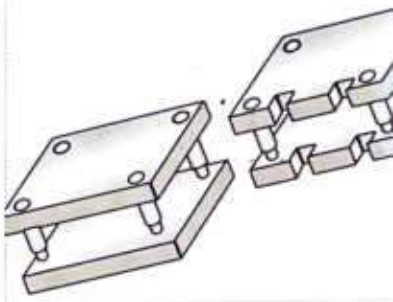
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MU Sem 6 Mechanical Engineering

New Syllabus 2021-22







[Department Level Optional Course - 2] (MEDLO6021)

Press Tool Design

Prof. Pratik Prakash Raut

[VIVA Institute of Technology, Shirgaon, Virar (East)]

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture
www.techneobooks.in
info@techneobooks.in

M6-115A

Price ₹ 285/-

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

University of Mumbai

Press Tool Design

[Department Level Optional Course - 2]
(Course Code : MEDLO6021)
Semester VI - Mechanical Engineering

Strictly as per the New Syllabus (REV-2019 'C' Scheme) of Mumbai University w.e.f. academic year 2021-2022

Prof. Pratik Prakash Raut

M.E.(Machine Design)
Assistant Professor
Department of Mechanical Engineering,
VIVA Institute of Technology,
Shirgaon, Virar (East),
Maharashtra-401303

TECH-NEO PUBLICATIONS
Where Authors Inspire Innovation
A Sachin Shah Venture

M6-115

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Press Tool Design

(Course Code : MEDLO6021)

(MU - Sem VI - Mech - For New Syll. 21-22)

Author : Prof. Pratik Prakash Raut

First Edition : March 2022

Tech-Neo ID : M6-115

ISBN : 978-93-89251-26-5

Copyright © by Author.

All rights reserved.

No part of this publication may be reproduced, copied, or stored in a retrieval system, distributed or transmitted in any form or by any means, including photocopy, recording, or other electronic or mechanical methods, without the prior written permission of the Publisher.

This book is sold subject to the condition that it shall not, by the way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the publisher's prior written consent in any form of binding or cover other than which it is published and without a similar condition including this condition being imposed on the subsequent purchaser and without limiting the rights under copyright reserved above.

Published by

- **Mr. Sachin S. Shah**
  Managing Director,
  B. E (Industrial Electronics)
  An Alumunus of IIM Ahmedabad
- **Mrs. Nayana S. Shah &**
  Mr. Rahul S. Shah

Permanent Address

Tech-Neo Publications LLP
Sr. No. 38/1, Behind Pari Company,
Khedekar Industrial Estate, Narhe,
Maharashtra, Pune-411041.
Email : info@techneobooks.in
Website : www.techneobooks.in

Printed at : Image Offset
(Mr. Rahul Shah)
Dugane Ind. Area, Survey No. 28/25,
Dhayari Near Pari Company,
Pune - 411041. Maharashtra State, India.
E-mail : rahulshahimage@gmail.com

About Managing Director.... - Mr. Sachin Shah

Over 25 years of experience in Academic Publishing...

- With over two and a half decades of experience in bringing out more than 1200 titles in Engineering, Polytechnic, Pharmacy, Computer Sciences and Information Technology.

A driven Educationalist...

1. B.E.(Industrial Electronics) (1992 Batch) from Bharati Vidyapeeth's College of Engineering, affiliated to University of Pune.
2. An Alumnus of IIM Ahmedabad.
3. A Co-Author of bestselling book on "Basic Electrical Engineering" Basic Electronics Engineering" for Degree Course in Engineering
4. For over a decade, been working as a Consultant for Higher Education in USA and several other countries.

With path-breaking career...

- A publishing career that started with handwritten cyclostyled notes back in 1992.
- Has to his credit, setting up and expansion of one of the leading companies in higher education publishing.

An experienced professional and an expert...

- An energetic, creative & resourceful professional with extensive experience of closely working with the best & the most eminent authors of Publishing Industry, ensures high standards of quality in contents.
- Helping students to attain better understanding and in-depth knowledge of the subject.
- Simplifying the methods of learning and bridging the gap between the best authors in the publishing industry and the student community for decades.

VIVA INSTITUTE OF TECHNOLOGY
Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Lecture Notes in Mechanical Engineering

Hari Vasudevan
Vijaya Kumar N. Kottur
Amool A. Raina *Editors*

Proceedings of International Conference on Intelligent Manufacturing and Automation

ICIMA 2020

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist.: Palghar
VIRAR (EAST)

Springer

Lecture Notes in Mechanical Engineering

Series Editors

Fakher Chaari, National School of Engineers, University of Sfax, Sfax, Tunisia

Mohamed Haddar, National School of Engineers of Sfax (ENIS), Sfax, Tunisia

Young W. Kwon, Department of Manufacturing Engineering and Aerospace Engineering, Graduate School of Engineering and Applied Science, Monterey, CA, USA

Francesco Gherardini, Dipartimento Di Ingegneria, Edificio 25, Università Di Modena E Reggio Emilia, Modena, Modena, Italy

Vitalii Ivanov, Department of Manufacturing Engineering Machine and Tools, Sumy State University, Sumy, Ukraine

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Lecture Notes in Mechanical Engineering (LNME) publishes the latest developments in Mechanical Engineering—quickly, informally and with high quality. Original research reported in proceedings and post-proceedings represents the core of LNME. Volumes published in LNME embrace all aspects, subfields and new challenges of mechanical engineering. Topics in the series include:

- Engineering Design
- Machinery and Machine Elements
- Mechanical Structures and Stress Analysis
- Automotive Engineering
- Engine Technology
- Aerospace Technology and Astronautics
- Nanotechnology and Microengineering
- Control, Robotics, Mechatronics
- MEMS
- Theoretical and Applied Mechanics
- Dynamical Systems, Control
- Fluid Mechanics
- Engineering Thermodynamics, Heat and Mass Transfer
- Manufacturing
- Precision Engineering, Instrumentation, Measurement
- Materials Engineering
- Tribology and Surface Technology

To submit a proposal or request further information, please contact the Springer Editor of your location:

China: Dr. Mengchu Huang at mengchu.huang@springer.com
India: Priya Vyas at priya.vyas@springer.com
Rest of Asia, Australia, New Zealand: Swati Meherishi at swati.meherishi@springer.com
All other countries: Dr. Leontina Di Cecco at Leontina.dicecco@springer.com

To submit a proposal for a monograph, please check our Springer Tracts in Mechanical Engineering at http://www.springer.com/series/11693 or contact Leontina.dicecco@springer.com

Indexed by SCOPUS. The books of the series are submitted for indexing to Web of Science.

More information about this series at http://www.springer.com/series/11236

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Hari Vasudevan · Vijaya Kumar N. Kottur ·
Amool A. Raina
Editors

Proceedings of International Conference on Intelligent Manufacturing and Automation

ICIMA 2020

Springer

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Editors
Hari Vasudevan
Dwarkadas J. Sanghvi College
of Engineering
Mumbai, India

Vijaya Kumar N. Kottur
Dwarkadas J. Sanghvi College
of Engineering
Mumbai, India

Amool A. Raina
RWTH Aachen University
Aachen, Germany

ISSN 2195-4356 ISSN 2195-4364 (electronic)
Lecture Notes in Mechanical Engineering
ISBN 978-981-15-4484-2 ISBN 978-981-15-4485-9 (eBook)
https://doi.org/10.1007/978-981-15-4485-9

© Springer Nature Singapore Pte Ltd. 2020
This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.
The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.
The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ICIMA 2020

Chief Patron

Shri Amrish R. Patel, Chief Patron, President, SVKM

Patrons

Shri Bhupesh R. Patel, Joint President, SVKM
Shri Bharat M. Sanghvi, Vice President and Trustee, SVKM and I/C DJSCE
Shri Chintan A. Patel, Vice President, SVKM
Shri Sunandan R. Divatia, Hon. Secretary, SVKM
Shri Harshad H. Shah, Hon. Treasurer, SVKM
Shri Shalin S. Divatia, Hon. Joint Secretary, SVKM
Shri Jayant P. Gandhi, Hon. Joint Secretary, SVKM
Shri Harit H. Chitalia, Hon. Joint Treasurer, SVKM
Shri Jagdish B. Parikh, Hon. Joint Secretary, SVKM

International Advisory Committee

Dr. Huynh T. Luong, Asian Institute of Technology, Thailand
Dr. Amit S. Jariwala, Georgia Institute of Technology, USA
Dr. Michel Fillon, University of Poitiers, France
Dr. Amool A. Raina, RWTH Aachen University, Germany
Dr. Konstantinos Salonitis, Cranfield University, UK
Dr. Rohan A. Shirwaiker, North Carolina State University, USA

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Advisory Committee

Dr. S. S. Mantha, Former Chairman, AICTE, New Delhi
Dr. D. N. Malkhede, Adviser–I(RIFD), AICTE
Dr. S. K. Mahajan, Joint Director, DTE, Maharashtra
Dr. S. G. Deshmukh, ABV–IIITM, Gwalior
Dr. S. K. Ukarande, Dean, FOST, University of Mumbai
Dr. M. K. Tiwari, IIT Kharagpur
Dr. K. P. Karunakaran, IIT Bombay
Dr. S. M. Khot, FCRIT, Navi Mumbai
Dr. Sushil Kumar, IIT Lucknow
Dr. Tusar Desai, NIT Surat
Dr. V. R. Kalamkar, VNIT Nagpur
Dr. C. M. Venkateswaran, Aker Solution
Dr. L. Ganapathy, NITIE, Mumbai
Dr. K. Madduley, SPJSGM, Mumbai
Dr. Vivek Sunnapwar, LTCE, Navi Mumbai
Dr. P. Sakthivel, VIT Vellore
Dr. Suhash Deshmukh, GCE, Karad
Dr. S. R. Chandak, Ex. V.P./Advisor (HR), Bharat Forge Ltd.

Organising Committee

Dr. Hari Vasudevan, General Chair and Convenor, Principal, DJSCE
Dr. A. C. Daptardar, General Co-Chair, Vice Principal (Admin.), DJSCE
Dr. M. J. Godse, General Co-Chair, Vice Principal (Acad.), DJSCE
Dr. Vijaya Kumar N. Kottur, Joint Convenor, Professor and Head, Department of Mechanical Engineering, DJSCE
Dr. Rajendra S. Khavekar, Co-Convenor, Training and Placement Officer, DJSCE

Members

Dr. S. N. Takalikar
Dr. Atul Dhale
Dr. Vinayak H. Khatawate
Dr. Sanjeev Thool
Dr. Meeta N. Gandhi
Mr. E. Narayanan
Mr. Sandeep R. Vaity
Mr. Prasad S. Shirodkar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Mr. Vyankatesh U. Bagal
Mr. P. Frank Crasta
Mr. Prashant P. Patankar
Mr. Avdhut Samant
Mr. Rajnarayan M. Yadav
Mr. Bronin Cyriac
Mr. Greegory Mathew
Mr. Dharam Ranka
Mr. Amit Chaudhari
Mr. Ramesh R. Rajguru
Mrs. Trupti Markose
Mr. Rohit K. Chaurasia
Mr. Mehul S. Prajapati
Mr. Vinit R. Katira
Mr. Pavan R. Rayar
Mr. Kartik M. Ajugia
Mr. Dhaval J. Birajdar
Mr. Sandip H. Mane
Mr. Sanket D. Parab
Mr. Shashikant M. Auti
Mr. N. C. Deshpande
Mr. Dhanjay Shukla
Mr. Ravikant Hattale
Mr. Sachin Kamble
Mr. Dhiraj Nigade

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Preface

Advanced technologies in the current era ensure that we are in turbulent and challenging times as we attempt for wealth creation and business in the fields of manufacturing and automation. Industries are currently looking up to manufacturing and automation engineers for their assistance in increasing the overall productivity in their organizations. It is also the time when policymakers across the globe have started to focus more of their attention on the manufacturing sector due to the presence of disruptive technologies in manufacturing. The International Conference on Intelligent Manufacturing and Automation 2020 (ICIMA 2020) was therefore designed to encourage discussions and research on advancements and applications in the areas of manufacturing and automation. The primary focus of this conference was to bring together academicians, researchers and scientists for knowledge sharing in various areas of manufacturing, automation and other allied domains. This conference covered topics encompassing automation, mechatronics, robotics, manufacturing processes, management and other related areas, such as product design and development, green manufacturing and smart materials with the objective of brainstorming and with specific emphasis on the applications in the field of intelligent manufacturing and automation. The response to the call for papers was overwhelming with 181 articles submitted for this conference. Finally, 82 articles, covering a wide spectrum of topics related to the theme of this conference, were accepted after a thorough review process. We express our sincere appreciation to the authors for their contribution to this book. We would also like to express our sincere gratitude to all the experts and referees for their valuable comments and support extended during the review process. Thank you everyone once again!

Mumbai, India — Hari Vasudevan
Mumbai, India — Vijaya Kumar N. Kottur
Aachen, Germany — Amool A. Raina

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Analysis and Manufacturing of Aerodynamic Components 187
Rajnarayan Yadav, Vinit Katira, Ruchit Doshi,
Shakshi Himmatramka, Parshva Mehta, and Harshil Mody

Design and Manufacturing of Compact and Portable Smart CNC Machine 201
Amit Choudhari, Shamir Talkar, Pavan Rayar, and Aditya Rane

Effect of Plunging and Dwelling Period on Temperature Profile and Energy Dissipation in FSSW and Its Relevance in FSW 211
Niyati N. Raut, Vivek Yakkundi, Akshay Vartak, and S. N. Teli

Prediction of Optimum Sheet Metal Blanking Clearance for IS513CR Steel Using Artificial Neural Network 221
Pradip P. Patil, Vijaya P. Patil, and R. Ramaswamy

Improving the On-Time Delivery of Projects in a Complex Industrial Environment 231
Hari Vasudevan, Rajendra Khavekar, and Krishnan Kaushik

Investigating the Influence of Infill Pattern on the Compressive Strength of Fused Deposition Modelled PLA Parts 239
Sanket Parab and Nilay Zaveri

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (East), Dist: Palghar-401305, Maharashtra
Website: www.viva-technology.org

National Conference on "Role of Engineers in Nation Building"

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

4th & 5th MARCH 2022

NCRENB - 2022

ISBN: 978-81-950600-5-4
VIVA-TECH IJRI ISSN: 2581-7280

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

10th National Conference

On

ROLE OF ENGINEERS IN NATION BUILDING

(NCRENB-2022 Proceeding)

4th & 5th March, 2022

Organized by

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and
Affiliated to the University of Mumbai

Shirgaon, Virar(East), Dist: Palghar-401305, Maharashtra
Tel.: 7770002544, Website:-www.viva-technology.org
Email: principal@viva-technology.org
contact@viva-technology.org

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Patrons

Hon. Shri. Hitendra Thakur
President, VIVA Trust

Hon. Shri. P. D. Kodolikar
Chairman, Managing Committee, VIVA Trust

Ms. Aparna P. Thakur
Secretary, VIVA Trust

Convener

Dr. Arun Kumar, Principal

Co-Convener

Prof. Archana Ingle, H.O.D.(EXTC)

Advisory Committee

Mr. Anil Dipnaik
Vice President (R & D), Hindustan Electric Motor, Mumbai

Mr. Pradeep G. Ranade
General Manager, Siemens Ltd

Mr. Nayan Mistry
Director Technical, NM Technocrafts

Dr. Ashok Pundir
Professor & Dean, NITIE, Pawai.

Mr. Ashok Grover
Director, STEAM-O-TECH ENGINEERS(I), Pvt. Ltd.

Mr. C. A. Anto
Director, Terminal Technologies (I), Pvt. Ltd.

Mr. Kishor A Shetty
M.D., Royal Arc Electrodes Ltd.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Coordinator

Prof. Karishma Raut, EXTC Department

Prof. Bhushan Save, Electrical Department

Prof. Lissy Jose, Civil Department

Prof. Ashwini Save, Computer Department

Prof. Niyati Raut, Mechanical Department

Dr. Ajazul Haque, Humanities Department

Prof. Chandani Patel, MCA

Organizing ,Registration Committee & Program Committee

Prof. Meena Perla

Prof. Meera Kulkarni

Prof. Kushal Suvarna

Prof. Pratik Parsewar

Prof. Arathy Menon

Prof. Yadnesh Patil

Prof. Ashish Shetty

Prof. Anoj Yadav

Prof Mukesh Kumar Mishra

Prof Ritesh Chavan

Prof. Reshma Chaudhari

Prof Pallavi Raut

Prof Kirtida Naik

Prof. Vinit Raut(Mech)

Prof. Sushil Mishra

Prof. Bhagyashree Netke

Prof.Trupti Patil

Prof. Neha Lodhe

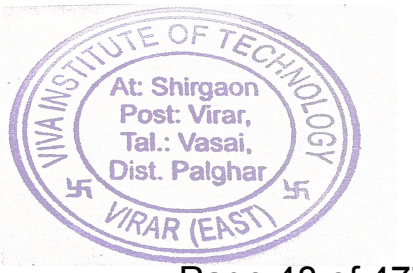
Prof. Pragati Mestry

Prof.Soniya Dubey

Mr. Amit Darge

Mr. Ankit Bhoir

Ms.Vishakha Thakare



PREFACE

On behalf of VIVA Institute of Technology, I take great pleasure and pride to formally welcome you all to the 10th National Conference on Role of Engineers in Nation Building (NCRENB 2022) in cooperation with VIVA-TECH International Journal for Research and Innovation (VIVA-TECH IJRI).

We are living in an age of remarkable competition of technology among the countries. In this competition we need to consider the role of Engineers in development of our nation. Looking at the immense rise in the technological area and the demands that are being placed, it is necessary for us to commence researches that will help to build a technologically advanced nation. The national/ international conferences provide common platform to contemplate the issues related to latest developments in the technology, research and development activities in this area.

We held the first national conference in 2013 with various disciplines such as Civil Engineering, Computer Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Mechanical Engineering, Humanities and Sciences and Master of Computer Applications.

NCRENB 2022 has received total 203 papers in 7 tracks. The selected full length papers will be sent for VIVA-TECH IJRI journal. These papers can be used as a reference for future work which will widen the horizon of technical advancement of our nation.

Dr. Arun Kumar

Chief Editor

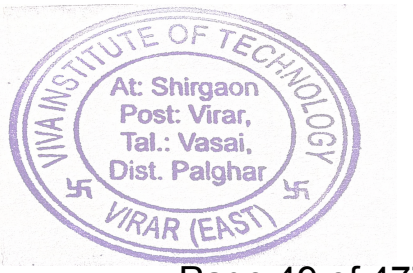


TABLE OF CONTENTS

SECTION A
TRACK: CIVIL

ELECTRICITY GENERATION FROM SOLID WASTE…… **A-6**
Sameer Abgul1, Nikhil Bhanse, Shlok Kumbhar, Amey More,

GROUNDWATER RECHARGING BY RECHARGE PITS …… **A-12**
Prajyot Aroskar1, Darshana Dodekar, Prasad Kulkarni, Hrithik Khopkar

A NOVEL EVOLUTIONARY ALGORITHM FOR IDENTIFYING MULTIPLE STRUCTURE DETECTS BY ARTIFICIAL INTELLIGENT MODEL UPDATING…… **A-17**
Akshay Mistry, Pratibha Patil

TERAFILE WATER FILTER…… **A-21**
Nikhil Devale, Gitanjali Gaikar, Advait Jadhav, Rohit Bharti

SCHEDULING, ESTIMATION & MODELLING OF G+14 STRUCTURE …… **A-27**
Shubham Chavan1, Prabhat Chavan, Pruthviraj Kamble, Ganesh Godhke

INTERNAL CURING OF CONCRETE USING LIGHT WEIGHT EXPANDED CLAY AGGREGATES …… **A-31**
Divyata Thakare, Yash Wavage, Saurabh Pednekar, Vaishnavi Shinde

GEOPOLYMER BRICKS ……
Priyanka Kamtekar, Komal Bane, Archana Kharpade, Sujit Chothe **A-37**

ANALYSIS OF GEOTEXTILE IN ROAD EMBANKMENT USING PLAXIS 2D ……
Ankit Atkole, Tanmay Gharat, Ajit Agale, Bhavesh Adkar **A-37**

FORMATION OF BIOENERGY BY FOOD WASTE…… **A-43**
Yadav Govinda, Sharma Shubham Repal Omkar, Tanmay Shinde

PLANNING AND SCHEDULING OF UNDERGROUND METRO STATION BOX USING MSP SOFTWARE…… **A-48**
Rahul Shelka, Suraj Sambare, Himanshu Sankhe

ANALYSIS & DESIGN OF ROW HOUSE USING ANCIENT TECHNIQUES…….. **A-54**
Suvarna Priya, Parab Siddhant, Toraskar Advait Krishna, Vichare Omkar Anil

RAPID CONVERSION OF KITCHEN WASTE INTO NUTRITIONAL COMPOSTING WITH USE OF EFFECTIVE MICRO-ORGANIS MS…… **A-59**
Omkar Sutar, Anshul Ratwadkar, Neha Salvi, Richa Singh

DESIGN OF DRAINAGE SYSTEM FOR ANDHERI SUBWAY…….. **A-65**
Purva Mahadeshwar, Gayatri Bedrakar, Kundan Bhatt, Krishna Gupta

REUSE OF PLASTIC WASTE IN PAVER BLOCKS…… **A-70**
Shreyas Waghmare, Adarsh Parekar, Karan Rathod and Dhir Patel

PASSIVE SOLAR HEATING…….. **A-76**
Aditya Waingankar, Sushant Shelke, Ashutosh Valvi, Sumit Waghmare

REVIEW ON DISPUTE RESOLUTION MANAGEMENT …….. **A-81**
Arathy H Menon, Purva Awari, Lissy Jose

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN & ANALYSIS OF SELF-COOLING BUILDING.....
Nikita Bankar, Yogesh Dalvi, Shubham Mangale, Suyash Morshing **A-85**

IDENTIFICATION OF GROUNDWATER RECHARGE POTENTIAL ZONES USING RS, GIS & AHP TECHNIQUE..... **A-91**
Rahul Athawale, Tej Desale, Harshad Bhosale, Sheel Desai

SPONGE CITY IN VASAI-VIRAR: OPPORTUNITIES AND CHALLENGES.....
Akshay Potdar, Shubham Patil, Jignesh Patil, Dhiraj Patil **A-97**

ANALSING THE RAILWAY SLEEPERS USING WASTE MATERIAL.....
Patil Nihar Narendra1, Tiwari Ketan Sudhir, Rana Bhavan Anil, Nar Vaibahav **A-103**

SLOPE STABILITY BY USING RICE HUSK ASH..... **A-109**
Rutvika Rathod, Nikita Sagvekar, Sonali Shinde, Saurabh Pandey

ENVIRONMENTAL CLEARANCE FOR HIGH RISE BUILDING..... **A-114**
More Siddhesh Anil, Khandelwal Himanshu Jagdish ,Bhoir Kaustubh Arvind, Mishra Deviprasad Phoolchand

UTILIZATION OF FIBRE AS COMPOSITE MATERIAL IN CEMENT MOTAR TILES.....
Jayesh Rathod, Saurav Salunkhe, Abhishek Sangale, Dinesh Yadav **A-120**

SELF-ILLUMINATING ROAD..... **A-125**
Kaustubh Naik, Ritvij Naik, Athrav Sankhe, Shubham Sankhe

COMPARATIVE STUDY OF SOLID WASTE MANAGEMENT IN BANGALORE & GUJARAT..... **A-129**
Purva P. Awari, Arathy H. Menon

MODELLING AND ANALYSIS OF CABLE STAYED BRIDGE USING SAP 2000..... **A-137**
Pranil Juwale, Prathamesh Bhoir, Lalitkumar Bawaskar

LANDFILL MANAGEMENT AT GOKHIVARE DUMPING GROUND..... **A-141**
Avinash Narkar, Prashant Patil, Sagar Pawar, Mahesh Wankhede

CONSTRUCTION OF BITUMINOUS ROAD USING PLASTIC WASTE..... **A-147**
Manisha Gaikwad, Sameer Kamble, Sudheer Karpe, Aniket Kelgandre,

TRANSIT ORIENTED DEVELOPMENT **A-151**
Bhushan Rahate, Saurabh Shirke, Prachi Sonawane, Shruti Tambe,

COIR FIBRE USED IN REINFORCED CONCRETE..... **A-157**
Pratik Bandre, Shubham Katkar, Pratik Bhosale,Gaurang Darde

BRICK MADE FROM DISCARDED PPE KIT AND MASK..... **A-163**
Priyanka Mahajan, Prashant Jangam, Prachi Mhatre and Monika Kamble

FLOOD CONTROL UNDERGROUND TANKS..... **A-168**
Powar Vinay Shashikant, Shukla Satyam Murlidhar, Thakare Yogesh Sadashiv, Yadav Rahul Rajesh.

ENGINEERED CEMENTITIOUS COMPOSITE **A-173**
Ashish Thakkar, Mangesh Nannaware, Rushikesh Shinde, Sudhir Suryavanshi

FLY ASH CONCRETE: A TECHNICAL ANALYSIS FOR COMPRESSIVE STRENGTH..... **A-178**
Meena Bhagat, Ramya Raju, Jimit Chotai

RETROFITTING USING FRP LAMINATE..... **A-183**
Swati Bandgar, Janvi Gamare, Vivek Gupta, Omkar Kadam

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ANALYSIS AND DESIGN OF PILE JETTY…… **A-187**
Lisa Bhatt, Akash Chavhan, Devanshi Dhatavkar, Bhagyesh Kadam

SECTION B

TRACK: COMPUTER

CLOUD COMPUTING AND APPLICATION OF SOFTWARE SERVICES …… **B-1**
Poonam Bhagat, Rutuja Jadhav, Mayur Bote, Akshata Raut

A REVIEW OF HANDWRITTEN TEXT RECOGNITION USING MACHINE LEARNING AND DEEP LEARNING TECHNIQUES..,,. **B-6**
Priyank Shah, Nitiket Shinde, Deep Limbad, Ashwini Save

A REVIEW ON THE PROTOCOL SYSTEMS FOR SECURITY ENHANCEMENT OF ADMINISTRATIVE DEVICES…… **B-12**
Yash Pandhare, Aditya Bawa, Pawan Pujari, Ashwini Save

DERIVING A DISTRIBUTED CLOUD PROXY ARCHITECTURE FOR MANAGED CLOUD COMPUTING SERVICE…… **B-18**
Raj Gupta, Gaurav Gupta, Urval Chikhale, Prof.Umesh Mohite

BIOINSPIRED INTELLIGENT ALGORITHM AND ITS APPLICATIONS FOR MOBILE ROBOT CONTROL…… **B-23**
Sagar Gorle, Abhishek Iswalkar, Govindnarayan Dubey, Pallavi Raut

A NEW PERSPECTIVE ON CLOUD COMPUTING…… **B-29**
Himanshu Dhande, Divya Karwande, Atharv Kadam, Akshata Raut

CLOUD COMPUTING AS AN EVOLUTION OF DISTRIB UTED COMPUTING…… **B-37**
Siddhesh Rane, Yogeshwar Patil, Yash Patil, Pallavi Raut

SPECIAL CHILD CARE APP…… **B-43**
Prathamesh Naik, Mansi Dhuri, Yukta Bharankar,Prof. Bhavika Thakur

A REVIEW OF MACHINE LEARNING ALGORITHMS FOR CRYPTOCURRENCY PRICE PREDICTION…… **B-47**
Aditya Sule, Ashwani Tiwari, Rahul Yadav, Kirtida Naik

PET PARADISE – A VET CARE APPLICATION…… **B-56**
Deveshree Kadu, Hruchita Jadhav, Yugali Patil, Prof. Reshma Chaudhari

SMART INTERVIEWS USING AI…… **B-63**
Aditi More, Samiksha Mobarkar, Siddhita Salunke, Reshma Chaudhari

ANGLE HEURISTICS APPROACH TO DETERMINE ANGLE OF POSES BASED ON AI…… **B-69**
Piyush Yadav, Tarun Thanvi, Hamid Samani, Kirtida Naik

INTELLIGENT EYE –APP FOR VISUALLY IMPAIRED PEOPLE..... **B-76**
Rahul Patil, Prathamesh Parab, Vilas Rathod, Vinit Raut

FR-PAY-A SECURE APPROACH FOR PAYMENT…… **B-81**
Kamlesh Mali, Karan Kumar, Balaji Mhetre, Janhavi Sangoi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

FR-PAY-A SECURE APPROACH FOR PAYMENT..... **B - 88**
Kamlesh Mali, Karan Kumar, Balaji Mhetre, Janhavi Sangoi

RESUME RANKING..... **B - 96**
Maitri Bhagat, Riddhima Chinchane, Shweta Jha, Janhavi Sangoi

VIRTUAL MOUSE USING ARTIFICIAL INTELLIGENCE..... **B -104**
Prathmesh Medhekar, Anant Prajapati, Tanushka Padelkar, Monali Pimpale

QUANTUM TELEPORTATION IN SECURITY.....
Shivani Sanjiv Shukla , Jayant Pramod Varma **B - 108**

MORSE CODE-BASED COMMUNICATION SYSTEM FOCUSED ON AMYOTROPHIC LATERAL SCLEROSIS PATIENTS.....
Hussain Thanawala, Sanika Suthar, Simran Thakur, Bhavika Thakur **B - 112**

A REVIEW ON THE PERCEPTION AND RECOGNITION SYSTEMS FOR INTERPRETING SIGN LANGUAGES USED BY DEAF AND MUTE..... **B - 118**
Suyash Koltharkar, Amit Gupta, Hemil Patel, Sunita Naik

NEW ERA OF VIRTUAL DRESSING BASED ON DEEP LEARNING..... **B - 122**
Darshan Naik, Rahul Nair, Sumit Samanta, Kirtida Naik

ROAD-SAFE A GIS-BASED ROADS MONITORING system..... **B - 128**
Vinit Churi, Ashutosh Vasalwar, Vinit Bhoir, Saniket Kudoo

BLOCK CHAIN BASED REAL-ESTATE MANAGEMENT SYSTEM..... **B - 134**
Chirag Patil, Devesh Patil, Shubham Kore, Prof. Sunita Naik

WILDFIRE PREDICTION TECHNIQUE USING MACHINE LEARNING..... **B - 139**
Piyush Sankhe, Sharan Dabhi, Pratik Singh, Prof. Saniket Kudoo

A DISTINCTIVE MULTILINGUAL MESSAGING APPLICATION WITH OCR..... **B - 145**
Ajaykumar Yadav, Shubham Waingankar, Kshitij Salvi, Prof. Monali Pimpale

EXPERIMENTAL RESEARCH ON I VOTE: CLOUD BASED VOTING SYSTEM..... **B - 151**
Gauresh Desai, Hritik Mahadik, Rahul Tambat, Vinit Raut

SECTION C

TRACK: ELECTRICAL

CASE STUDY OF SOLAR GENERATION USING HELIOS COPE..... **C- 1**
Chitralekha Vangala

WIRELESS SENSOR..... **C- 7**
Mukeshkumar Mishra, Anojkumar Yadav

AGRO LAND MAPPING VERTICAL OF GEOSPATIAL DATA CENTER..... **C-10**
Sangita Chouhan, Sneha Poojari, Falguni Pawar, Avinash Gupta

A REVIEW PAPER ON CHALLENGES AND OPPORTUNITIES IN BATTERY TECHNOLOGIES **C-14**
Anojkumar Yadav, Mukesh kumar Mishra

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AGRICULTURAL FIRE PROTECTION SYSTEM **C-17**
Kalpit Raut, Dakshat Patil, Priyanka Pawar, Prof. Anojkumar Yadav

LOW COST VENTILATOR WITH BGM & OXIMETER..... **C- 23**
Milan Madiya, Ashish Bharkhada, Harmish Sejpal, Mukeshkumar

SYNCHRONOUS MACHINE DESIGN SOFTWARE..... **C- 28**
Suyash Gosavi, Chetana Thakare Chetana, Pratik Makwana

REMOTELY OPERATED VEHICLE FOR UNDERWATER INSPECTION..... **C-33**
Sreetish Mundayat, Amaan Saiyed, Raj Shinde, Bhushan Save

TRAFFIC LIGHT CONTROLLER TECHNIQUES..... **C-38**
Harshal Gupta, Akshay Chauhan, Rohan Sawant, Bhushan Save

SMART GLOVE FOR DEAF AND DUMB PATIENTS..... **C-43**
Rahul Pawar, Aniket Murudkar, Gautam Amin, Mukeshkumar Mishra

IOT BASED AIR QUALITY MONITORING SYSTEM ..... **C- 47**
Pooja Pashte, Nishant Pilke, Siddhi Jadhav, Bhushan Save

DYNAMIC WIRELESS CHARGING OF EV. ..... **C- 53**
Tanay Pimple, Yugan Sankhe, Bhavesh Thakare, Mukeshkumar Mishra

VORTEX BLADELESS WIND TURBINE..... **C-57**
Sachin Mardolkar, Parag Sase, Jatin Panchal

DIFFRENTIAL PROTECTION OF TRANSFORMER USING ARDUINO..... **C-61**
Prince Kumar Vishwakarma, Kushal Koleker, Pratik Sawant

DYNAMIC LOAD MANAGEMENT SYSTEM IN SMART HOME **C-65**
Niraj Pawar, Jitesh Bhusara, Vishal Ojha, Kavita Mhaskar

MATLAB CODING FOR PATH TRACING OF COILGUN..... **C-69**
Rahul Abhyankar

SUSTAINABLE E-PLOUGHING IN AGRICULTURE..... **C-71**
Mihir Nanjiani, Omkar Kapdule, Ankit Hirpara

C-76
SOIL PH FOR AGRICULTURE LAND.....
Amisha Bhoir, Nitesh Lase, Pradeep Kale

TRASHBOT: A BEACH CLEANING ROBOT..... **C-80**
Shweta Kamble, Pratham Rawool, Aakash Yadav

PORTABLE ACCOMMODATION FOR BEACH CLEANING ROBOT WITH SOLAR CHARGING..... **C-85**
Rushikesh Patil, Sanket Patil, Ashutosh Vaze

AUTONOMOUS ROBOT FOR SANITIZATION..... **C-88**
Payal Patil, Bhakti Khadaye, Parth Tank

ELECTRICITY GENERATION FROM SOLID WASTE..... **C-94**
Sameer Abgul, Nikhil Bhanse, Shlok Kumbhar, Amey More, Asmita Mhatre

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

REMOTE CONTROL HOVERCRAFT………………..…………………………………………………...… **C- 97**
Hitesh Gharat, Amay Tambe, Omkar Patil

SPEED CONTROL OF DC MOTOR BY VARIOUS METHODS…………………………………….…... **C-100**
Aditi Gijbile, Vrushali Kumbhar, Surekha Velpada

SOLAR POWERED MOBILE OPERATED SMART MULTIFUNCTION AGRICULTURE ROBOT **C-105**
Sharad Paradhi, Chintu Shanvar, Pradip Bhandari

DESIGN AND COMPARISON OF CONTROLLERS FOR SPEED CONTROL……………………… **C-109**
Rajendra Gupta, Hitesh Solim, Vinay Upadhyay

TRAFFIC DATA VERTICAL OF GEOSPATIAL DATA CENTRE…………………………………... **C-115**
Dhruvesh Vanmali, Rutik Shinde And Rohit Sapate

WEATHER DATA VERTICAL OF GEOSPATIAL DATA CENTER.. **C-119**
Karuna Gawade, Priti Gupta, Samiksha Jadhav

STUDY OF LATEST TRENDS IN BIG DATA MANAGEMENT OF SMART GRIDE……… ………. **C-125**
Ritesh Chavan

MODELLING AND SIMULATION OF DYNAMIC VOLTAGE RESTORER CONNECTED TO WIND POWER DISTRIBUTION…………………………………………………………...…………. **C-131**
Piyali Mondal, Jajna Prasad Sahoo

APPLICATION BASED SOLAR CALCULATOR WITH COST ESTIMATION…………………….... **C-137**
Pankaj Yadav, Ashishkumar Pacharekar, Hitesh Jadhav, Prathamesh Vekhande

PERCEPTION OF INDIAN CONSUMERS TOWARDS AN ELECTRIC VEHICLE FOR PRIVATE TRANSPORTATION……………………………………………………………………………...….. **C-141**
Bhushan Save, Prerna Goswami

SECTION D

TRACK: EXTC

TENANT INTIMATION AND INFORMATION SYSTEM……………………………………….....… **D- 1**
Meet Raval, Saumya Joshi, Janvi Patel , Prof. Madhura Ranade

BACKGROUND CHECKER………………………………………………………………….…..… **D- 7**
Shubham R. Keni1, Mihir P. Rabade, Sanjit R. Vaz, Karsihma Raut

PEER-TO-PEER FILE SHARING……………..………………………………………………….... **D- 12**
Pravin Choudhary , Mokshada Kesarkar , Tejashree Jadhav , Archana Ingle

REAL-TIME SIGN LANGUAGE INTERPRETER USING DEEP-LEARNING……………………..… **D- 18**
Kriti Yadav, Soundarya Namal, Trupti Khadye, Madhura Ranade

TOUR RECOMMENDATION SYSTEM…………… ………..………………………………………. **D- 26**
Vinayak Garudi, Mitali Jadhav, Divya Kotian, Prof. Meena Perla

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

HUMAN BENCHMARK ..... **D- 31**
Aman Tripathi, Tahir Shaikh, Mihir Mistry, Karishma Raut

MEDBORG: A MEDICAL SERVICE ROBOT..... **D- 37**
Tanvi Aswani, Aman Maurya, Dipkumar Gupta, Prof. Nutan Malekar

PICK UP US – PICK AND DROP SERVICES FOR PASSENGERS APP..... **D- 43**
Shalaka Tambe, Siddhesh Tambe, Priya Tiwari, Pratik Parsewar

RF ENERGY HARVESTING..... **D- 49**
Aashish Gupta, Dhaval Khandagale, Rishikesh Jha, Sahil More, Ashwini Haryan

TRAFFIC LIGHT PRIORITY CONTROL FOR EMERGENCY VEHICLE ..... **D- 54**
Hemant Gurav, Suyash Khilare

MAGIC HANDS FOR DEAF AND DUMB PEOPLE..... **D- 58**
Nilesh Mishra, Vikas Raut, Sanket Shemankar, Archana Ingle

ATTENDANCE SYSTEM USING FACE RECOGNITION..... **D- 64**
Payal Pujari, Amit Bhillare, Narayan Gawade, Trupti Patil

SOCIAL MEDIA USING BLOCKCHAIN..... **D- 70**
Akash Tripathi, Riddhi Kadam, Reethik Thota, Shoeb Shaikh

DRY HAND SANITIZER DISPENSING MACHINE..... **D- 76**
Prof. Nutan Malekar, Nitesh Mishra, Vivek Mishra, Rohit Khandagle

BITSTREAM-THE RESCUE MESSENGER..... **D- 83**
Aditi Verma, Pooja Prasad, Madhav Tikam

AUTOMATED RATION SHOP..... **D- 91**
Harshikesh Nikam, Harshad Sawant , Hrutikesh Sawant, Meera Kulkarni

ONLINE MEDICINE DONATION SYSTEM..... **D- 97**
Anushka Save, Mansi Patil, Pradnya Kamble, Archana Ingle

VOICE CONTROLLED ROBOT CAR USING ARDUINO WITH VARIABLE SPEED..... **D- 104**
Hemant Chaudhari, Meet Kawali , Ganesh Waghe

EMPOWERING APPLICATION WITH EASY TO INTEGRATE BLOCKCHAIN..... **D- 110**
Aakanksha Bomble, Nikhil Naidu, Prerana Padave, Prof. Kushal Suvarna

SMARTPHONE OPERATED MULTIFUNCTIONAL FARMING VEHICLE..... **D-116**
Raj Bhoir, Hitesh Dingore, Hrutik Gharat, Aditya Jadhav

SPEECH RECOGNITION USING PYTHON..... **D-122**
Manthan Mohile, Aishwarya Patil, Tanvi Pawar , Meena Perla

SENTIMENT ANALYSIS OF STOCK NEWS USING NLTK..... **D-128**
Hardik Raut, Rohini Hodge, Harshal Bhoir, Reema Yedge

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION E

TRACK: Humanities & Applied Sciences

AN OVERVIEW:IMPLEMENTATION OF ONLINE LEARNING IN INDIA DUE TO COVID 19…. **E-1**
Dr. Shwetali K. Churi

STUDY OF POTENTIAL APPLICATIONS OF FERROCENE FUNCTIONALIZED DERIVATIVES FOR ITS ANTICANCER, ANTIMALARIAL, ANTIFUNGAL, ANTIVIRAL AND ANTITUBERCULAR PROPERTIES……..……... **E-5**
Ajitkumar V. Ingle,Shrimant V. Rathod,Sheetal Powar,Kailas W. Shinde

IMPACT AND EFFECT OF COVID-19 ON VARIOUS ASPECTS OF HUMAN LIFE…… **E-8**
Deepak Dubey,Dr. Ajazul Haque ,Dr. Jayesh Jain ,Ramashankar Prajapati

SECTION F

TRACK: MCA

PROGRESSIVE WEB APPLICATIONS (PWA'S): DETAILED COMPARISON WITH EXISTING MOBILE APPLICATION DEVELOPMENT ARCHITECTURES ……..……..…… **F-1**
Shloka Patil, Chirag Shah

DIGITAL IMAGE PROCESSING ……..……..……..……..……..……..……..…….. **F-8**
Bharat Verma, Shubham Pandey

SIXTH SENSE TECHNOLOGY ……..……..……..……..……..……..……..…….. **F-14**
Faisal Khan,Nitin Naik

HANDLING UNCERTAINTY IN THE BIG DATA PROCESSING.……..……..…….. **F-20**
Suman Barai, Hitashri Sankhe

BLOCKCHAIN AND DECENTRALIZATION……..…….. **F-26**
Dhiraj Naik, Shreya Bhamare

SELF-DRIVING VEHICLES: HISTORY & FUTURE.……..……..… **F-31**
Snehal Desai , Samiksha Kini

5G TECHNOLOGY.……..……..……..……..……..……..……..……..… **F-37**
Miteshree Rath, Chandani Patel

INTERNET OF THINGS AND ITS EFFECT ON BUSINESS ANALYTICS…….. **F-43**
Harshada Kamble , Sanket Bhoir

DEVELOPMENT ON BUSINESS INTELLIGENCE.……..….. **F-49**
Nidhi Singh , Nisha Jha

RADIOACTI VE WASTE MANAGEMENT.……..……..……..……..…… **F-53**
Chintan Pandya,Manish Reddy

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AI-POWERE D DIGITAL PAYMENTS…… **F-58**
Milan George,Aditya Gurav

F-63
HUMAN COMPUTER INTERACTION……
Manupeter Sam Mattathil , Aditya Mhatre

NEURALINK TECHNOLOGY…… **F-69**
Saurabh Pandey, Ashwin Sreedhar

AI IN MENTAL HEALTH…… **F-75**
Rikita Sheth , Omkar Raut

POWER OF ARTIFICIAL INTELLIGENCE IN IOT…… **F-81**
Swapnil Gadekar ,Priyanka Nalawade

STRATEGIES AND TECHNIQUES OF AUTOMATED SOFTWARE TESTING…… **F-86**
Pankaj Vishwakarma , Sheetal Gupta

AI/ML AUGMENTED HYPER-AUTO MATION…… **F-92**
Abdulbaqui Ansari, Uday Futak

ARTIFICAL INTELLIGENCE IN ROBOTICS…… **F-98**
Jahanvi Joshi and Shephali Patil

WEARABLE DEVICE IN MEDICAL IOT…… **F-104**
Rahul Dalvi, Kaushik More

FUTURE OF IOT…… **F-110**
Abhishek Upadhyay, Himanshu Tiwari

DATA SCIENCE…… **F-116**
Sanjog Pawar, Manas Sawant

FACE RECOGNITION TECHNOLOGY…… **F-122**
Nagendra Mahato ,Tejal Marale

SMART GLASSES…… **F-128**
Arjun Vishwakarma, Farhana Abdullah

BANKING SECURITY AND ATMS…… **F-133**
Shivam Chaurasiya, Chetan Prajapati

ARTIFICIAL INTELLIGENCE IN INFORMATION SYSTEM…… **F-139**
Unnati Jain, Apurva Pednekar

WEB TECHNOLOGY-WEB DEVELOPME NT…… **F-145**
Akanksha Tamore, Sachin Bhagat

BIOINFORMATICS AND DATA SCIENCE…… **F-151**
Shelo Chakkalakkal, Sonali Mishra

A STUDY ON INTERPLANETARY FILE SYSTEM BASED ON BLOCKCHAIN…… **F-156**
Aditi Kudu, Harshada Prajapati

MODELS IN CLOUD COMPUTING…… **F-162**
Sandeep Vishwakarma , Akshay Patil

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AUGMENTED REALITY IN THE FIELD OF TRAVEL & TOURISM DURING COVID-19 PANDEMIC…… **F-168**
Pooja Gupta, Neel Rathod

CREDIT CARD FRAUD DETECTION…… **F-174**
Henil Dandekar , Jay Chamare

A REVIEW ON USE OF BTRFS (B-TREE FILESYSTEM) IN LINUX OPERATING SYSTEMS….. **F-179**
Rohit Jha , Arun Nair

TEXT SUMMARIZATION…… **F-185**
Vaibhav Apraj , Jilesh Mourya

5G TECHNOLOGY IN INDIA…… **F-191**
Namrata Redekar, Roshani Bhosure

CLOUD COMPUTING…… **F-198**
Arti Shukla,Rahul Mestry

ROLE OF IOT TECHNOLOGY IN AGRICULTURE…… **F-204**
Ashish Tiwari, Kamalesh Yadav

AUGMENTED AND VIRTUAL REALITY TECHNOLOGIES WITH ADAPTIVE LEARNING SYSTEMS…… **F-210**
juhi Chaudhari

NEED FOR CYBER SECURITY AND CYBER LAW AWARENESS…… **F-215**
Sminal Patil, Payal Santosh Pawar

CLOUD COMPUTING –AWS…… **F-220**
Rishabh Rai, Manish Pandey

ANDROID MOBILE OPERATING SYSTEM AND ARCHITECTURE…… **F-225**
Dinesh Devkar , Sunny Vishwakarma

A REVIEW ON DATA MINING FROM PAST TO THE FUTURE…… **F-232**
Rohit Desai, Priyanshu Yadav

ROLE OF HUMAN-COMPUTER INTERACTION…… **F-238**
Komal Gautam , Aditya Patel

SECTION G

TRACK: MECHANICAL

MODELLING, SIMULATION & CONTROL DESIGN OF OMNIBOT USING REACTION WHEEL PRINCIPLE…… **G-1**
Pratik Raut, Vinit Raut, Priyank Vartak , Swapnil Raut

PERFORMANCE ANALYSIS OF TWO-WHEELER BIKE FINS USING ANSYS…… **G-7**
Mayuri C. Khopkar, Aishwarya A. Gawandi, Adityasingh R. Daswani, Madhavi R. Jadhav.

DESIGN OF HVAC SYSTEM FOR MULTI-SPECIALTY HOSPITAL…… **G-13**
Krunal Patil, Pooja Thakur, Smit Mithari, Dhaval Naik

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN AND FABRICATION OF PLASTIC BRICK MAKING MACHINE..... **G-19**
Hrishiskesh Nimbalkar, Jalpesh Solanki , Ashish Tandel, Abhishek Tiwari

RECOVERY OF WASTE HEAT ENERGY & IT'S UTILISATION IN UTILITY PLANT..... **G-23**
Harsh Lokhande, Granthali Dandgawhal, Nishant Chavan, Nilesh Jadhav

DESIGN AND FABRICATION AUTOMATED SCAVENGER SEWAGE MACHINE **G-27**
Prem N. Sahani1,Chetan B. Sable, Prajyot V. Naik,Abhishek G. Shinde

PERSPECTIVE TO GREEN MANUFACTURING AND APPLICATIONS..... **G-34**
Chhaya Patil

IMPLEMENTATION OF POKA-YOKE ON EFFECTIVE SYSTEM..... **G-40**
Kokale Khyati, Jadhav Bhavesh, Chorghe Raj, Chavan Shreyas

AUTOMATIC PAPER PUNCHING AND CUTTING MACHINE USING GENEVA MECHANIS M.... **G-44**
Shivam Nayak, Abhishek Upadhyay, Krishna Mishra, Daksha Palav

A REVIEW PAPER ON IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT..... **G-51**
Aditi Pimpale

INDOOR VERTICAL HYDROPONIC FARMING UNIT **G-55**
Harsh Rane, Tej Shah, Huzaifa Shaikh, Sail Pawar

REVIEW ON APPLICATIONS OF SMART MATERIALS..... **G-61**
Shweta Patel, Henisha Raut, Aditi Pimpale

A LITERATURE REVIEW ON APPLICATION OF LEAN MANUFACTURING TECHNIQUES..... **G-64**
Sushil S Mishra

AUTOMATIC ROAD CLEANER..... **G-69**
Devendra Dorkar, Raj Nair, Siddhesh Neman, Aakash Chauhan

THE INEVITABLE ROLE OF ARTIFICIAL INTELLIGENCE EMERGING IN MECHANICAL ENGINEERING..... **G-75**
Shreeyesh Sreenivasan

DESIGN AND MANUFACTURING OF SEMI TRAILING ARM SUSPENSION SYSTEM..... **G-80**
Ojas borkar, Kunal Dhekane, Aniket Bhujang, Jay Harne

EXPERIMENTAL ANALYSIS OF EFFECT OF PROCESS PARAMETER ON SURFACE ROUGHNESS IN EDM **G-83**
Vinit Deepak Raut, Pratik Raut, Swapnil Raut, Priyank Vartak

APPLICATION OF BIG DATA ANALYTICS IN MANUFACTURING SECTOR - A REVIEW..... **G-89**
Mansi Lakhani

A REVIEW ON QUALITY MANAGEMENT USING 7 QC TOOLS..... **G-95**
Henisha Raut, Tejas Chaudhari

INVENTORY MANAGEMENT FOR SMALL BUSINESS..... **G-101**
Prajwal Jaya Naik, Niyati Raut

AUTOMATIC - VEHICLE VALIDATION SYSTEM..... **G-107**
Omkar Chikhale, Keyur Dattani, Mandar Koli, Mangesh Kini

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN AND MANUFACTURING OF FLEXIBLE HOPPER FEEDER FOR MOLDING MACHINES…….. **G-111**
Vaibhav Dalvi, Sushmita Jujar, Rohit Loke, Jayesh Mahyavanshi

FABRICATION OF E-BIKE WITH MANUAL TRANSMISSION …….. **G-115**
Hitesh Sakpal, Omkar Vanjare, Sarvadnya Shirodkar, Yash Patel

DESIGN AND FABRICATION OF PLOUGHING, SOWING AND HARVESTING MACHINE FOR AGRICULTURAL PURPOSES…….. **G-120**
Harsh Utekar, Pratik Vajandar, Abhishek Vichare, Vrutik Vasave

DESIGN AND FABRICATION OF ORGANIC WASTE COMPOSTER: A CONCEPT…….. **G-125**
Varun Sankhe, Jay Thakur, Om Thakur, Atharva Vartak

CONTACTLESS EDDY BRAKING SYSTEM…….. **G-129**
Tejas Jadhav, Shubham Jadhav, Yash Salkar, Shweta Patel

DESIGN OF HEATING VENTILATION AND AIR-CONDITIONING SYSTEM FOR HEALTH CARE FACILITY…….. **G-135**
Mohammed Kaif Khan, Aniruddha Jain, Nabhod Kumare and Neeraj Mahamunkar

MINI BELT GRINDER…….. **G-141**
Jayesh Ranjankar, Anas Shaikh, Yash Patil, Pratik Tare

DESIGN AND FABRICATION OF CASH SANITIZING MACHINE…….. **G-145**
Bhavik Thakare, Abhishek Pawar, Nitesh Sutar, Nishant Rane

DESIGN AND SIMULATION OF RC CARGO AIRPLANE…….. **G-150**
Hitesh G Kateliya ,Chetan S Manke,Riddhi N Kuwalekar, Shubham D Gaonkar

THE AGRO WASTE CRUSHER…….. **G-156**
Satyam Gawad, Kaustubh Kadam, Pritisuravi Hota, Omkar Jadhav

AUTOMATIC WATER OVERFLOW CUT-OFF CIRCUIT…….. **G-161**
Nimish Gharat, Dhruv Kawli, Atharva Kulkarni, Gavin Mathak

DESIGN AND FABRICATION OF SOLAR OPERATED WINNOWING MACHINE FOR GRAIN CLEANING…….. **G-166**
Rohit Patil, Saurabh Patil, Vaibhav Patil, Amey Pawar

SMART SHOPPING SYSTEM…….. **G-171**
Rohan Kadam, Yash Jogale, Abhijit Kurade , Gopesh Jajal

DESIGN AND FABRICATION OF MULTIPURPOS E MINI FORK LIFT…….. **G-175**
Jay Bhise, Riddhesh Chaudhari, Prathamesh Kadam, Pratik Kijbile

QUALITY MANAGEMENT…….. **G-179**
Harshal Nilkanth Nemade, Niyati Raut

AUTOMATED IRRIGATION SYSTEM…….. **G-184**
Nawaz Sayyed, Omkar Salvi, Himanshu Rai ,Pranesh Padvekar

MINI FLOUR MILL AND DOUGH MAKER…….. **G-189**
Aniket Malankar, Aditya Nevrekar, Shubham Kangane, Ritik Aayare

FABRICATION OF PEDAL-OPERATED WATER PUMP FOR AGRICULTURAL …….. **G-195**
Sahil Mathkar, Ruchik Devgania, Vyankatesh Bhingude, Dhaval More

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Review on applications of Smart Materials

Shweta Patel[1], Henisha Raut[2] Aditi Pimpale[3]
[1](Department of Mechanical Engineering, VIVA Institute of Technology, University of Mumbai, India)
[2](Department of Mechanical Engineering, VIVA Institute of Technology, University of Mumbai, India)
[3](Department of Mechanical Engineering, VIVA Institute of Technology, University of Mumbai, India)

Abstract: *Smart materials are stimuli reactant, environment based changes occurs in them and can be used for behavioral changes due to various reasons. These materials can have numerous applications. The smart word itself gives us idea about how intelligent a material can be when it comes to environmental and stimuli based changes*
Keywords- *Smart materials, Stimuli based, Intelligent*

I. INTRODUCTION

Human being from thousand years ago used material for different purposes, which enhanced their life styles, even civilization was classified by different ages that started by discovering a new effective material. According to archaeologists, the first age belongs to Stone Age, and a most revolutionary fall out with discovery of bronze, because it was harder and durable than the other on hand materials. The Bronze Age was the beginning of metallurgy, which civilization steps further to extract different materials that occupied every part of our life. In the last two centuries, dense researches have been done to synthesize new types of functional materials, which are classified to several groups and families. There are four main group of materials which are metals, ceramics, polymers, and recently advanced materials. Among them, advanced materials become more attractive one because they have more technological applications. Since, some physical properties of advanced materials can be controlled; they are the building block of most advanced hybrid devices around us. Semiconductors revolve generation of computers from vacuum tubes to a more compacted electronic chips. On the other hand, biomaterials opened the way of interaction with biological organs, likewise nano-engineered materials are more efficient than their bulky counterparts. Consequently, smart or intelligent materials will boom civil engineering, industrial appliances, medical instruments, automation systems and more. Nowadays, the necessity of using smart materials for various constructions are due to their ability to change properties when exposed to external stimuli. Their reversibility makes them to be one of the matchless materials and can be specified by their sensing, healing and adaptable in response to environmental conditions. Factors like, temperature, mechanical stress, strain, hydrostatic pressure, magnetic field, electric current, pH or chemical effect, can lead to a change in size, color, moisture, scent, and viscosity of flow . Thus, the smart material's applications such as sensors, actuators and drug delivery can be satisfied by using the aforementioned parameters. In this review, we have concentrated on an introduction to different types of SMs and their potential applications in various areas. This article has been arranged such that the SMs defined in chapter two and from a historical point of view; the most important investigations and discoveries were illustrated. Since, SMs have different types, then their groups were counted and some important physical properties have been explained in chapter three. In addition, for showing their important situation in modern society, some of recent applications were represented in chapter four. Finally, some active field of research and open gates were clarified that may give opportunity to the researchers in this area.

.

II. SMART MATERIALS

There is not a unique definition for smart materials], e.g. NASA defined them as materials that can remember different forms and able to reconcile with particular stimuli, or it can be defined as a highly engineered materials which can react smartly to their environment .Smart materials belong to advanced material that can sense some particular signals from outside and actuating themselves to doing a determined task. Smart, intelligent, or even adaptive are the words that are used for those materials, which are including sensors and actuators. In

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post Virar
Tal. Vasai
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A Review on Quality Management Using 7 QC Tools

Henisha Raut[1], Tejas Chaudhari[2]
[1](Department of Mechanical Engineering, VIVA Institute of Technology/ University of Mumbai, India)
[2](Department of Mechanical Engineering, VIVA Institute of Technology/ University of Mumbai, India)

Abstract: *Dr. Kaoru Ishikawa was the first person associated with Total Quality Management (TQM) and the development and advocacy of using the seven quality control (QC) tools in the organizations for problem solving and process improvements. Seven old quality control tools are a set of the QC tools that can be used for improving the performance of the production processes, from the first step of producing a product or service to the last stage of production. Today's competitive environment has, lower manufacturing cost, more productivity in less time, high quality product, defect free operation are required to follow to every foundry man. So, the general purpose of this paper is to introduce these 7 QC tools. This study found that these tools have significant roles to monitor, obtain and analyze data in order to facilitate the achievement of performance excellence in the organizations.*

Keywords– *Manufacturing, Productivity, Profitability, Seven QC Tools, Total Quality Management.*

I. INTRODUCTION

The 7 QC Tools are simple statistical tools used for problem solving. The first guru who proposed seven basic tools was Dr. Kaoru Ishikawa in 1968, by publishing a book entitled "Gemba no QC Shuho" that was concerned managing quality through techniques and practices for Japanese firms. It was intended to be applied for "self-study, training of employees by foremen or in QC reading groups in Japan. It is in this book that the seven basic quality control tools were first proposed. These tools have been the foundation of Japan's astonishing industrial resurgence after the Second World War. For solving quality problems seven QC tools used are Pareto Diagram, Cause & Effect Diagram, Histogram, Control Charts, Scatter Diagrams, Graphs and Check Sheets. All this tools are important tools used widely at manufacturing field to monitor the overall operation and continuous process improvement. This tools are used to find out root causes and eliminates them , thus the manufacturing process can be improved. The modes of defects on production line are investigated through direct observation on the Production line and statistical tools.

II. THE 7 QC TOOLS

2.1 Pareto Diagram

It is introduced by an Italian economist, named Vilfredo Pareto, who worked with income and other unequal distributions in 19th century, he noticed that 80% of the wealth was owned by only 20% of the population. later, Pareto principle was developed by Juran in 1950. A Pareto chart is a special type of histogram that can easily be apply to find and prioritize quality problems, conditions, or their causes of in the organization. On the other hand, it is a type of bar chart that shows the relative importance of variables, prioritized in descending order from left to right side of the chart. The aim of Pareto chart is to figure out the different kind of "nonconformity" from data figures, maintenance data, repair data, parts scrap rates, or other sources. It is a tool that arranges items in the order of the magnitude of their contribution, thereby identifying a few items exerting maximum influence. This tool is used in SPC and quality improvement for prioritizing projects for improvement, prioritizing setting up of corrective action teams to solve problems, identifying products on which most complaints are received, identifying the nature of complaints occurring most often, identifying most frequent causes for rejections or for other similar purposes. Dr.Juran suggested the use of this principle to quality control for separating the "vital few" problems from the "trivial many" now called the "useful many".

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Application of Big Data Analytics in Manufacturing Sector - A Review

Mansi Lakhani[1]
[1](Department of Mechanical Engineering, VIVA Institute of Technology, University of Mumbai, India)

Abstract : *The period of the fourth industrial revolution, called Industry 4.0, is characterized by new, innovative technologies such as: Cloud Computing; the Internet of Things; the Industrial Internet of Things; Companies that are able to analyze the current state of their processes, forecast its most optimal progress and proactively control them based on reliable predictions will be a decisive step ahead competitors. In terms of Industry 4.0, data analytics focus on "what will happen" rather than "what has happened". These problems are entitled as predictive analytics and aims at building models for forecasting future possibilities or unknown events. The aim of this paper is to give detailed insight about these techniques, provide applications from the literature and present how big data analytics can change the dynamics of manufacturing sector across various functions*

Keywords – *Big Data, Data Analytics, Industry 4.0, Artificial Intelligence, Machine learning, Manufacturing sector*

I. INTRODUCTION

Big data collected in the manufacturing industry has been around for a couple of decades. Its potential to contribute to the efficiency of processes and equipment has been the subject of debate. Computer scientists have been developing new techniques and tools that enable the analysis of massive amounts of data. This is often done in order to improve the efficiency of manufacturing processes.

Data-driven solutions have been successfully used in many studies. However, their reliability and performance are often affected by the large volume of training data that they require. Numerous approaches and tools are already available to address these challenges, but the manufacturing industry's willingness to use them is still not clear.

Recently, the problem of the management and use of large and complex statistics has brought about the development of the emerging massive-statistics paradigm. The term large statistics denotes information whose effective control and use aren't feasible with conventional strategies, due to their size and/or different traits, such as a loss of shape, variability, pace, distributivity, range, incompleteness, un-credibility, un-verifiability, etc. (Babiceanu and Seker 2016; Boyd and Crawford 2012; Esmaeilian, Behdad, and Wang 2016; Gartner 2016; Hitzler and Janowicz 2013; Hurwitz et al. 2013; Laney 2001; Villars and Olofson 2011; Wang, Törngren, and Onori 2015).

Big-records analytics may be perceived as a extensive framework for extracting the price from such massive and complicated statistics. It gives tactics, methods, techniques and gear that together shape green statistics-analytics structures. To correctly practice huge-facts analytics in manufacturing systems, abilties and expertise of information and verbal exchange technology, and specially information science, as well as the engineering know-how of manufacturing structures, and expert information of manufacturing processes, need to be included.

However, the software of huge-statistics analytics in the production area lags at the back of in terms of penetration and variety in comparison with other domain names, consisting of advertising and marketing, healthcare, and commercial enterprise (Babiceanu and Seker 2016). In our view, the motive for this situation is in particu

This paper proposes a brand new conceptual framework for introducing massive-facts analytics into production systems. The objective is to clarify the relation between the massive-information paradigm and the

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Dry Hand Sanitizer Dispensing Machine

Prof. Nutan Malekar[4] , Nitesh Mishra[1], Vivek Mishra[2], Rohit Khandagle[3]

[1]Department of EXTC, Viva Institute of Technology, Virar-401 303
Email: nutanmalekar@viva-technology.org
[2]Department of EXTC, Viva Institute of Technology, Virar-401 303
Email: niteshmishra9967@gmail.com
[3]Department of EXTC, Viva Institute of Technology, Virar-401 303
Email: Mishravivek865@gmail.com
[4]Department of EXTC, Viva Institute of Technology, Virar-401 305
Email: Khandagaler123@gmail.com

Abstract – *In the covid-19 pandemic situation, the wastage of water for hand wash is at a peak. To help and resolve this water wastage problem we designed a system. The proposed automated sanitizing system, mainly deals with COVID-19 care precautionary measures and the purpose is to prevent the wastage of water. Yet, in public places, people are facing many issues. Sanitizing is one of the important factors in COVID-19 care measures in public places. And people waste a lot of water in traditional tap-based hand wash systems. This paper aims to provide an easily compatible facility at an economically feasible rate. Hence, by adopting this, we will be able to implement precautionary measures and facilitate people to use these effectively.*

Keywords – *Automated sanitizing system, Contactless Hand washing, Fog-based technology, covid-19.*

I. INTRODUCTION

The positive effects of good hand hygiene can reduce infection transmission [2]. It's been known since Ignaz Semmelweis faced opposition for introducing hand-washing regimes in the 1840s [14]. The Overuse and misuse of our arsenal of antibiotics have led to pandemics of hospital-acquired infections (HAIs) and more recently widespread community-associated infections with multidrug-resistant (MDR) organisms [7].

In this covid-19 pandemic, hand hygiene is the most important measure to prevent the spread of covid-19 as advised by WHO (World Health Organization) which includes washing hands with some extent of alcohol or something which can disinfect our hands from germs and bacteria, in which hand sanitization using hand sanitizers, etc. [3]. Hygiene prevents disease, especially through washing hands, coughing in the elbow, etc. Hand washing helps to prevent any diseases that spread through contact [2]. Hand wash is used to kill germs on skin, objects, and surfaces. In most healthcare departments, tap-based handwashing with soap and water is the most preferable way to disinfect hands because they can be easily tolerated and more effectively reduce bacteria.[8] But the amount of water that gets wasted in disinfecting hands is huge, especially in public places such as college residence halls, shopping malls, bank halls, market areas, etc. [4]. And according to "NITI AAYOG" latest report India's 20 cities going to face the worst water crisis in the upcoming years [9]. And the table shown below shows the quantity of water a person will waste by using a traditional tap-based hand washing system [12].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

MEDBORG: A Medical Service Robot

Tanvi Aswani[1], Aman Maurya[2], Dipkumar Gupta[3], Prof. Nutan Malekar[4]

[1]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

[2]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

[3]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

[4]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

Abstract : *Bacteria and viruses can survive for several days or longer on inanimate surfaces in hospitals. Disinfection, telemonitoring, and hygiene are three crucial components of any healthy indoor environment, & these characteristics become even more important in a pandemic. Because of the rise in contagious viruses & diseases, such robots are being developed to reduce contact & to assure cleaning, sterilisation, & support in hospitals. The robot involves using UVC light to disinfect surfaces & logistical duties, such as medicine administration &food delivery. Diseases spreads mostly through close & infected surfaces. To reduce human, contact on that time period the patient must interact with the doctor, the robot allows patients & doctors to have live video & audio conference conversations, while also allowing for distant monitoring. In today's overcrowded work environments, nurses endure substantial physical, mental, & emotional problems. But with the right help, this can change.*

Keywords - *Disposal, E-waste, hazardous, mining, ML Model*

I. INTRODUCTION

The COVID-19 pandemic has demonstrated that there is a lack of preparedness. Health- care facilities to scope with a pandemic. This has also highlighted the urgent necessity to build facilities capable of coping with infectious patients and to shift supply lines quickly enough to manufacture the prescription products (including medications) required to avoid infection and treatment for infected patients. At each visit hospitals or clinical centers, we try to leave everything, if possible. There is a danger of Hospital-acquired infections (HAIs) which are a leading cause of mortality and morbidity. A new coronavirus has caused an ongoing viral pneumonia outbreak over the world in recent months. High fever, cough, shortness of breath, and headache are among the symptoms of this disease, which is extremely infectious. More and more patients need to be isolated in independent rooms of the hospitals. How to transport meals and medicines to patients and reduce the infection for medical staff simultaneously is a hot issue. Using robots to bring medical supplies or meals to patients is a safe and practical way. As a result, the focus of this study is on how to guide the robot to its goal while also entering the door like a human. Human-robot skill transfer is one of the hottest subjects in human-assisted systems right now. The key challenge is to convey medical supplies securely under various exterior environmental conditions, particularly in the hospital room.

The use of robotics, automation applications, and artificial intelligence in public healthcare is growing daily. Robots assist doctors and medical employees in performing complex functions with precision and reducing medical staff workload, hence boosting the efficacy of healthcare services. To minimize COVID-19 from spreading, several work functions have been allocated to robots, such as cleaning and food processing jobs in contaminated areas. Service robots are mobile robots with a large payload capacity but limited degrees of freedom that are used in hospitals.

The Medborg Service and disinfectant robot can help to fight COVID-19 in many ways, particularly in the control of autonomous medic robots. This robot is deployed to deliver food and dispense medications to

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

BitStream-The Rescue Messenger

Aditi Verma[1], Pooja Prasad[2], Madhav Tikam[3]
Govind Naik[4], Prof. Nutan Malekar[5]

[1]*Department of EXTC, VIVA Institute of Technology, Virar-401 305*
Email: 17201004aditi@viva-technology.org

[2]*Department of EXTC, VIVA Institute of Technology, Virar-401 305*
Email: 17201037pooja@viva-technology.org

[3]*Department of EXTC, VIVA Institute of Technology, Virar-401 305*
Email: madhavtikam20@gmail.com

[4]*Department of EXTC, VIVA Institute of Technology, Virar-401 305*
Email: 17201052govind@viva-technology.org

[5]*Department of EXTC, VIVA Institute of Technology, Virar-401 305*
Email: nutanmalekar@viva-technology.org

Abstract -- *In the last decade, there is an increase in natural disasters observed. In such situations, social media become an important resource to warn and get informed about disaster situations. Communication breakdown between emergency responders & trapped people causes difficulties in the evacuation process. So, Communication is important to find help in disasters. Apart from other solutions to the problem present in the market none of them is as energy-efficient this paper proposes a solution that uses a LoRa. It will be user-friendly and does not require any license to access it. With BitStream, users can send a customized message with GPS location over the LoRA network. Also, it is integrated into mobile devices to improve functionality.*

Keywords – *Long Range communication, Integrated Circuit, RSSI Received Signal Strength*

I. INTRODUCTION

In the case of natural disasters, Communication failure may occur in most extreme event scenarios which provoke loss of lives and properties. Also, the damage to CS alongside the rise in traffic crossing the network disrupts relief operations. Thus, rescuers aren't ready to exchange information and other people cannot communicate their position or invite assistance, and therefore the entire relief operation is hardly managed. Besides physical damage, the remaining CSS is insufficient to handle the increased got to make calls because the network becomes overloaded by a large number of communication attempts. Despite massive technological changes in recent years, communication problems persist including system failure, system overload, and incompatibility between communication systems employed by different agencies. a number of the precise technical problems identified in recent case studies are:

o Failure of the wired telephone system, due to explosion, etc. (experienced by police, fire-fighters, and military in the Toulouse ammonium nitrate disaster, September 2001)
o Overload of the telephone system due to insufficient lines (experienced during the Weybourne leaking container ship incident, Norfolk, May 1991)

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Automated Ration Shop

Harshikesh Nikam[1], Harshad Sawant[2] , Hrutikesh Sawant[3] , Ameya Purandare[4]

(Electronics and Telecommunication Engineering/ VIVA Institute of Technology/ University of Mumbai, India)

Abstract: *The important aspect for every family in India is a Ration card which is also required to buy commodities provided by the government. In our country Ration card is also used as address proof it plays a major role in household details like getting a gas connection, etc. It contains family members' details.PDS(Public Distribution scheme) under this scheme the government provides food grains and commodities at an affordable price to people. The main reason behind this corruption is manual work and lack of high-tech technology which can use to automate this PDS system. In our project we have replaced the manual work done in the distribution centers by smart measuring automated electronic devices with the help of Arduino microcontroller which measures the goods accurately and updates it in the database periodically about the availability of goods and information regarding the transactions done in a digitalized manner. Therefore, this project ensures a corruption free ration centers working system which will also enhance the direct communication of the consumers with the government and will definitely provide transparency.*

Keywords*:- Registration of Consumer, OTP Verification, Accurate Measurement of Material, Web Portal*

I. INTRODUCTION

1.1. Importance of project :-

The Public Distribution System (PDS) is mainly classified as a system of management of scarcity through distribution of food grains at affordable prices. Over the years, PDS has become an important part of the Government's policy for management of the food economy in the country. PDS is supported for poor and needy people and is not intended to make available the entire requirement of any of the commodities provided under it to a household of the society. PDS is jointly operated under the responsibility of the Central and the State/UT Governments. The Central Government, operates through Food Corporation of India (FCI), has assumed the responsibility for procurement, storage, transportation, and bulk allocation of food grains to the State Governments. The responsibility of operation, including allocation within the State, identification of eligible families, Issue of Ration Cards, and supervision of the functioning of Fair Price Shops (FPSs), etc., rests with the State Governments. Under the PDS, mainly distribution of the commodities like wheat, rice, sugar, and kerosene are being allocated to the States/UTs for distribution. However, PDS, with its focus on the distribution of food grains to needy and eligible consumers in urban as well as rural areas, had emanated from the critical food shortages of the 1960s.

1.2. Motivation:-

To distribute ration goods more efficiently we are presenting an Automated Ration Shop which consists of an advanced and automatic system. The aim of the project is to minimize the manual intervention in the process of ration distribution to make it more transparent & efficient. Our project focuses on the design and implementation of fully Automatic Ration Shop. In recent scenarios, all the public and private sectors are implementing automation in their process. Civil Supplies Corporation of India is responsible for the major public sector which manages and distributes the essential commodities to all the citizens. In that system various products namely Rice, sugar and kerosene are distributed using the conventional ration shop system. Some of the limitations

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

RF Energy Harvesting

Aashish Gupta[1], Dhaval Khandagale[2], Rishikesh Jha[3], Sahil More[4], Ashwini Haryan[5]
1,2,3,4,5 (EXTC, Viva Institute of Technology/Mumbai University, India)

Abstract : *Radio Frequency Energy Harvesting (RFEH) is a technology which enables wireless power delivery to multiple devices from a single energy source. The main components of this technology are the antenna and the rectifying circuitry that converts the RF signal into DC power. RF energy harvesting holds a bright future for generating a small amount of electrical power to the circuits in wireless communication electronics devices. Wireless power transmission was developing a thought nearly a century ago. Many achievements are made till date which have made power harvesting a reality and capable of providing alternative sources of energy. This includes a resonant voltage boosting network, which provides high bias from a small signal and a rectifier that produces DC voltage. The RFEH gives very good efficiency performance, if a single antenna is considered the maximum power delivered is generally not enough to power all the elements of a system. Since the energy harvesting circuits are designed to operate with very small number of voltages and currents, they are depends on the electrical technology for obtaining high efficiency*

Keywords *- Radio Frequency Energy Harvesting (RFEH), Voltage multiplier, Impedance Matching*

I. INTRODUCTION

The Radio Frequency Energy Harvesting (RFEH) is an important and very essential technology because of its advantages over the more popular harvesting technologies. In the past years the use of wireless devices is growing in many applications like mobile phones or sensor networks. This increase in wireless applications has generated an increasing use of batteries. The charging of multiple applications is easy because the user can do it easily, like for mobile phones. Collecting energy from radio waves and mobile applications is a feasible energy harvesting method, in which the power harvested will be present until the source signal is cancelled. The power can be transferred using inductive coupling at very short distances, inductive power transfer for mid-distances and RF power transfer for long distances. Wireless Power Transfer is a technology that can deliver power to one location to another locations, which are not possible for the conventional energy harvesting methods. There are several methods for applying wireless power supply. Near-field inductive coupling typically works on less than few centimeters and it's characterized by high efficiencies. Inductive coupling methods are not depending on radio propagation properties. They work on the distances much shorter than the wavelength of the energy source signal is done. Transmitters and receivers used in this technology are typically very large and energy can only be transferred over very short ranges where the distances are compared which are depends to the receiver and emitter physical sizes. The highest power efficiency available is only reached close to an optimal operating point.

II. LITERATURE REVIEW

Ambient RF Energy Harvesting, It was published in March 2010 and author name followed as D.BOUCHOUICHA. In this paper we have presented a study of feasibility to harvesting the ambient RF energy. The RF energy available in urban environment is very low. To scavenge a maximum of DC power we have presented a wideband system when able to deliver a DC power around 12.5pW. The rectenna has attracted great attention to recycle the ambient power radiated by wireless systems. Accordingly, the major goals of this thesis are on investigating a wide range of RF energy sources, different antenna types performance, designing novel rectennas for RF wireless energy harvesting and proposing novel ways of improving rectenna conversion efficiency for low input power density with the main goal to resolve the energy supply problems faced by the autonomous systems. [1]

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

EMPOWERING APPLICATION WITH EASY TO INTEGRATE BLOCKCHAIN

Aakanksha Bomble[1], Nikhil Naidu[2], Prerana Padave[3], Prof. Kushal Suvarna[4]
(EXTC, Viva Institute of Technology, India)

Abstract: *Satoshi Nakamoto's development of Bitcoin in 2009 has regularly been hailed as an extreme advancement in cash and money, being the principal illustration of a computerized resource which at the similar time has no sponsorship or inherent worth and no unified guarantor or regulator. Nonetheless, another - seemingly more significant - portion of the Bitcoin test is the basic blockchain innovation as an apparatus of appropriated agreement, and consideration is quickly beginning to move to this other part of Bitcoin. So we are utilizing this innovation to make our own blockchain which is reasonable for some specialty areas which defeats the misfortunes of Bitcoin blockchain. The internet is undergoing a transformation: concentrated restrictive administrations are being supplanted with open, decentralised ones; believed parties supplanted with undeniable calculation; fragile area addresses supplanted with versatile substance addresses; wasteful solid administrations supplanted with shared algorithmic business sectors.*
Bitcoin, Ethereum, and other blockchain networks have gained popularity in recent years. It has demonstrated the utility of decentralized exchange ledgers. We are building blockchain which can be easily integrated. We are using proof of work method in consensus layer.

Keywords *–Blockchain, Decentralized system, Proof of work, Bitcoin, Proof of stake.*

I. INTRODUCTION

The internet is undergoing a transformation, with centralised proprietary services being replaced by decentralised open services; brittle location addresses replaced with resilient content addresses; trusted parties replaced with verifiable computation Peer-to-peer algorithmic markets are replacing wasteful monolithic services .It is consisting of a series of blocks that contains information. It was first defined in 1991 .A blockchain is a distributed ledger that It is totally accessible to anybody. Once data has been stored in a blockchain, changing it becomes extremely impossible. Each block contains some data, hash of block, & hash to previous block The kind of blockchain determines the data that is kept within each block. For example, the bitcoin blockchain maintains transaction data such as sender, recipient, and coin amount. A hash is similar to a fingerprint in that it identifies a block and all of its contents and is always unique, just like a fingerprint. The hash of a block is determined after it is produced. The hash will change if something inside the block is changed. When you wish to identify changes to blocks, hashes come in handy. If a block's fingerprint changes, it's no longer in the same block. The previous block's hash is the third element. This essentially forms a chain of blocks, and it is this mechanism that ensures the security of a blockchain. Our solution is a decentralised network that transforms cloud storage into a market based on algorithm. A tangible asset (a home, car, cash, or land) or an intangible are two types of assets. As a member of a members-only network, you can trust that you will get accurate and timely data from blockchain, and that your sensitive blockchain records will be shared only with network members to whom you have expressly authorised access. These contracts are simple in nature that are stored on blockchain and can be put to use automatically exchange coins based on criteria.

II. LITERATURE SURVEY

2.1: bitcoin: a peer-to-peer electronics payment systemThe satoshi nakamoto published a paper entitled " bitcoin: a peer to peer electronic cash system" in that We have learned about the fundamental data structure of blockchain, consensus algorithm, proof of work Concept, mining and about networking. The technology stack

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation *Volume 1, Issue 5 (2022)*
ISSN(Online): 2581-7280
VIVA Institute of Technology
10thNational Conference on Role of Engineers in Nation Building – 2022 (NCRENB-2022)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Tour Recommendation System

Vinayak Garudi[1],Mitali Jadhav[2],Divya Kotian[3], Prof. Meena Perla[4]

[1,2,3,4](*Electronics and Telecommunication Engineering, VIVA INSTITUTE OF TECHNOLOGY, India)*

Abstract: *Tourism is an area that is growing rapidly with advances in information technology. Nowadays, people rely on online services to plan a trip, but difficult task for people visiting unfamiliar cities. Personalized tour recommendation is a popular but challenging problem as every traveler has different interest/preferences also, there is an added complexity due to the need to schedule visits to all recommended places. They are usually faced with the problem of being supplied with lots of information and they have to invest a great deal of time to decide what to visit, when, etc. This huge amount of possibilities available on internet makes difficult for users to discern the interesting offers from the rest. This project proposes a tourism recommendation system based on user preferences. The system analyses and recommends the places, hotels and the trip plan based on factors like the age, gender and preferences given by the user.*

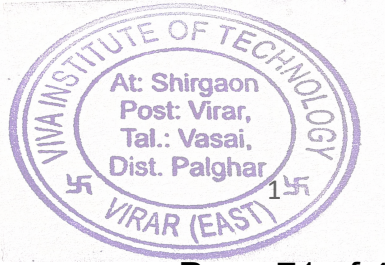
Keywords *– React js , Recommendation system , User preferences.*

1.INTRODUCTION

In some cases we take choices ignorant about the presence of different other options. This might be the justification for why many individuals these days trust in outsiders rather than in themselves to take decisions. This absence of mindfulness, and furthermore the expanding measure of data that new advancements, for example, the Internet, supply are positively affecting the significance of having separating and determination strategies that work with the dynamic interaction.

The purpose of this project starts from the the development of a recommendation system which can contribute to the field of Tourism. The tour recommendation system we have designed combines both recommender techniques based on content and recommender techniques based on collaboration. Its domain is represented through an ontology.

Users can have access to a huge deal of data and information related to a specific place, but surely they will prefer to filter that information and get those elements or activities that match their profile or particular interests. Each of these profiles determines the different places to visit or the different ways to plan a trip. For instance, gastronomic travelers will put their culinary preferences in the first place; that is, the restaurant they want to eat, and will leave in the second place, the places and monuments to visit around it. For example, users who travel with children will avoid visiting many museums, and will consider practicing outdoor activities, such as gardens or amusement parks.



VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

PICK UP US – PICK AND DROP SERVICES FOR PASSENGERS APP

Shalaka Tambe[1] , Siddhesh Tambe[2] , Priya Tiwari[3] , Pratik Parsewar[4]

[1](*Electronics & Telecommunication Engineering , VIVA Institute of Technology/Mumbai University, Virar East)*
[2](*Electronics & Telecommunication Engineering, VIVA Institute of Technology/Mumbai University, Virar East)*
[3](*Electronics & Telecommunication Engineering, VIVA Institute of Technology/Mumbai University, Virar East)*
[4](*Electronics & Telecommunication Engineering, VIVA Institute of Technology/Mumbai University, Virar East)*

Abstract : *PICK Up US – pick and DROP service for passengers project is to prepare a Application for the give lift to the needy passenger. The Application must be like user can take left to the car owner & That Car owner can help needy people. With the help of this application car owner and user can travel together and reach their destination with comfort With the help of this project will do is, user can search their source and destination of trip if car owner and user have same destination then car owner and user are go for ride because of this application we can overcome traffic on road and pollution in atmosphere There must be a log in for the User, Car owner, admin. Admin can see all details of user &car owner.*

Keywords - *Car owner, Passenger, Admin .*

I. INTRODUCTION

Today everyone used smart phone and so they are familiar with the apps . application are actually help to in day to day life for examples for ordering some important stuff just open amazon app and make order what ever you want. This Pick Us Up – Pick and Drop Service for Passengers App is a modern days tool so that solve our day to day transportation related problems. There are a number of issues when it comes to travelling from one place to another, some people don't have their own vehicles, and others don't want to use public transport like buses to travel, independent taxi owners asking for higher fares and many more.

Pick Up Us – Pick and Drop Service for Passengers app aims to provide relief to people facing these issues by providing easy to book, cheap and pleasant taxi rides to anyone with access to a smartphone. The Pick Up Us– Pick and Drop Service for Passengers app is a two - way tool that encourages both the customers in need of a ride as well as car owners and Pick & drop service for passenger providers to register with the app, thus diminishing the distance between customers and car owners.

With the help of pick & drop services for passengers app eliminates the need of bargaining that the customers and the drivers have to go through as it makes sure that price one pay for a ride is minimum. This is ensured by the fact that there are multiple cab service providers and the customer has the option to pick the one providing best services for the lowest price.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

REAL-TIME SIGN LANGUAGE INTERPRETER USING DEEP-LEARNING

Kriti Yadav[1], Soundarya Namal[2], Trupti Khadye[3], Madhura Ranade[4]
[1](EXTC, VIVA Institute of Technology, India)
[2](EXTC, VIVA Institute of Technology, India)
[3](EXTC, VIVA Institute of Technology, India)
[4](EXTC, VIVA Institute of Technology, India)

Abstract : *Communication is one of the basic requirements for survival in society. People with hearing or speaking impairments communicate using sign languages, and the language barrier is still a real thing. Our project aims to lessen this gap, to aid in communication, using a real-time ISL recognition system built with an LSTM algorithm. There is a lack of standard datasets for the classification of ISL characters, so we have collected a dataset using MediaPipe Holistic landmarks of face, pose, left and right hand for tracking and identifying the region of interest. The dataset consists of classes A-Z. The system collects the input via the web camera and displays the fingerspelled letter on the screen as the output. The system is trained using the LSTM algorithm and evaluated to get the best accuracy to recognize the dynamic gestures.*

Keywords – *Long Short-Term Memory (LSTM), Indian Sign Language, ISL Recognition System, MediaPipe Holistic*

I. INTRODUCTION

As said by Nelson Rolihlahla Mandela, talk to a man in a language he understands, that goes to his head. Talk to him in his own language, that goes to his heart, language is really essential to mortal commerce and has been since mortal civilization began. It's a medium humans use to communicate to express themselves and understand odds and ends of the real world. Without it, no books, no cell phones and surely not any word I'm writing would have any meaning. It's so deeply rooted in our everyday routine that we frequently take it for granted and don't realize its significance. Hardly, in the fast-changing society we live in, people with hail impairment are generally forgotten and left out. They've to struggle to bring up their ideas, voice out their opinions and express themselves to people who are different from them. Sign language, although being a medium of communication to deaf people, still has no meaning when conveyed to a non-sign language communicator. Hence, broadening the communication gap. To help this from passing, we're putting forward a sign language recognition system. It'll be an ultimate tool for people with hail disability to communicate their studies as well as a really good interpretation for non-sign language addicts to understand what the ultimate is saying. Numerous countries have their own standard and interpretation of sign gestures. For example, an ABC in Korean sign language won't mean the same thing as in Indian sign language. While this highlights the difference, it again pinpoints the complexity of sign languages. Deep literacy must be well clued with the gestures so that we can get a decent delicacy. In our proposed system, Indian Sign Language is used to produce our datasets.

The World Health Organization estimates that there are around 6.3 million people in India who have complete or partial hearing disability. Hearing loss is a spectrum, with varying types of loss and communication strategies. Some deaf people use hearing aids or cochlear implants; generally, this group chooses to lip read and use auditory cues when possible. For others, sound amplification doesn't work or is otherwise unappealing. Sign Language is the primary communication mode of communication for them. Only a minuscule percentage of hearing people understand any sign language. There has been extensive work done on American Sign Language (ASL) recognition, but not much on Indian Sign Language (ISL). ISL uses two hands for communicating and

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Tenant Intimation and Information System

Meet Raval[1], Saumya Joshi[2] , Janvi Patel[3] , Prof. Madhura Ranade[4]
[1](Electronics and Telecommunication Engineering, VIVA Institute of technology, India)
[2](Electronics and Telecommunication Engineering, VIVA Institute of technology, India)
[3](Electronics and Telecommunication Engineering, VIVA Institute of technology, India)
[4](Electronics and Telecommunication Engineering, VIVA Institute of technology, India)

Abstract : *This Paper Presents the novel idea of Tenant Intimation and Information System. It describes a web app for Submitting Information of Tenants for overall security and crime management. Users can send the basic information of the Resident Members which is required by the local police station. We aim to collect required data at ground level. The primary objective of our system is to reduce the dependency of physical Forms and Records. Existing Systems are polar systems that are Either Completely Manual or are Completely Online. The Initial Login Page of Web App Comprises New Entry and Modify Entry in User Section. Using the New Entry Section Users Can Generate a New Entry. Admin Login and Verify Application are two Subsections Present in Admin Section. As a Result, Users experience a Hybrid System that can Integrate Manual Filled Forms and Online Form. The System Also Completes the objective to solve the existing problem of party and residents' photographs which are not available in the existing portals.*

Keywords - *Data Entry Systems, Police Verification, Public Data Collection Systems, Tenant Intimation.*

I. INTRODUCTION

Tenant Intimation and Information System Deals Information of Tenants / Licensee / Long-Term Temporary Residents, Intimation of Such Persons to Local Police Station. A Form Containing the Relevant Information Like 1) Owner Details 2) Rented Property Details 3) Tenant Details 4) Family/Resident Members Details Etc. is Submitted Physically to Local Police Station. Each Police Station Keeps the Records in Physical Form. Under Digital India Programme Many City and Urban Police Websites have Launched their Own Digital Systems to Collect this Information. Each Different System has Different Databases and It is not Possible to Collect Information from Physical Forms as well as Connect the Databases at Time of Need of the Information. Thus We Have Built an Easy Access User-Friendly and Single Common System All over the State to Collect the Tenant Information, Submit and Receive the Intimation of New Tenants.

II. PROBLEM STATEMENT

At Present there are Different Physical Forms Used by Every Police Station to Collect Information of Local Residents. Hence, there exists a problem of searching physical data When Required. When the data is needed insistent for Investigation Purposes the Data is Not Available on time which Delays Investigation and Ultimately Delays Delivery of Deserved Justice. Due to Different physical forms no proper Common Resident data is collected nor a Database is Maintained for Such. For Online Forms that are Currently Available, there are different Systems and databases for every district in every State. Data is not accessible by the Investigating Police personal. When an Investigating Officer wants to access the data they have to request specially to Superiors (Office of SP, or DSP). Online Facilities to Submit the Information of Tenants cannot be accessed by All as Each Citizen does not Possess Equal Technical Expertise to Submit Information through Multiple Page Online Forms. Hence a Hybrid System is Required which can Combine Online as well as Offline Data Inputs.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

BackGround Checker

Shubham R. Keni[1], Mihir P. Rabade[1], Sanjit R. Vaz[1], Karsihma Raut[1]
[1](*EXTC, Viva Institute of Technology, India)*

Abstract : *Nowadays, virtual identity is also as important as someone's physical identity proofs. But there are various ways/tools which can be used to tamper the virtual documents, which help the fraudsters to establish their fake identity. If a person has a criminal background or has been indulged in any criminal activities, changing their name can help them to disguise themselves as someone else and hide from the punishments for all the crimes they have committed.*

Background Checker is a web portal (website) that can be used to identify such people who are trying to hide their identities. The database of this website can only be edited by polices officers which makes it even more reliable and trustworthy. The website can be used to search the database using the face of the person or by name, if a match is found, everything regarding the offense will be displayed along with a picture of the criminal. And if there are no record of that person nothing will be displayed, which ensures the privacy of innocent people.

Keywords – Background, Face Identification, Face Recognition, Machine Learning, Web Portal.

I. INTRODUCTION

Background Check is a process to verify the information provided by an individual. Now-a-days knowing a background / history of a person is very important if you are an employer to ensure safe environment for all the employees. NOC from local police station is mandatory for joining MNCs but for local business no such NOC is required, for them knowing the person's background is important. It can also be useful for policemen trying to arrest the criminals who are resisting their arrest and are trying to hide. Being an employer, we are not sure about the background / history of the person who has applied for a reputed position in our company. In this project, we can search for a person's background only using their face. It is an easy-to-use tool / website to understand more about any person.

II. PROPOSED METHODOLOGY

3.1 The website is divided into three main parts:

3.1.1 Citizen login .
3.1.2 Official/ Officer Login.
3.3.3 Face Recognition.

The Home page of the web portal has the two parts (as shown in Fig. 3), viz., citizen login which can be used only to view the database or only for the search feature, the second one will be officer login, for this account, there will be an option to create/edit the database of the criminals.

The third part Face Recognition System which is equally important, can be used by both citizens as well as the officers. This can be used by clicking on the search option which is commonly displayed in both the Login options. In this part, with the help of OpenCV and Template Matching Algorithm face recognition is performed, the searched image of face is compared with the criminal database and if match is found, then criminal's image along with some important details are displayed; by searching using the name similar results are obtained (if a match is found).

The flow of the project can be seen in Fig.: 1

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation *Volume 1, Issue 5 (2022)*
ISSN(Online): 2581-7280
VIVA Institute of Technology
10th National Conference on Role of Engineers in Nation Building – 2022 (NCRENB-2022)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Human Benchmark

Aman Tripathi, Tahir Shaikh, Mihir Mistry, Karishma Raut
(EXTC, Viva Institute of Technology, India)

Abstract : *In market, there are numerous software that are capable of benchmarking or gauging your computer hardware, mobile devices, electronics and all the gadgets pretty efficiently. But no one stops and wonders about the physical aspects. No way to benchmark them. The part that helps us exist, mental and physical attributes. All of this is because to implement them a lot of variables and parameters have to be considered and there hasn't been a single way to implement them seamlessly. The society that we live in has deemed these factors invaluable or something which takes lower precedence over other things. This is what our application is built upon. To work around this issue and provide a platform to overcome this individuality and provide a fresh perspective.*

I. INTRODUCTION

Human Benchmarking is a platform which deals with a human's mental and physical attributes. It provides a steady platform to test your mental and physical capabilities. As time passed on, people started to prioritize other things over their own health. The human body has been neglected for a long time and there's no application which is capable enough to fix that problem. This application takes in multiple factors, cross references them and puts out a desired output for the user. Once implemented successfully, it can change the way we look at these factors and it'll shine a new light to how we view our human body. It can be used to improve our characteristics, brush up on one's abilities and even used in medical fields. People with certain medical conditions can benefit from this platform. The purpose of this application to provide a platform which has the ability to work with multiple factors, take them into consideration and use the user data proficiently.

II. RELATED WORK

Upon analyzing multiple charts and diagrams to find the BMI of a human body it became clear that the actual classification system is misleading when mortality rates are taken into consideration. Considering that, the need to monitor BMI becomes a necessity [1]. After referring this paper, it became clear that the visible mass a human body is different to the actual percentage on paper. After looking at a study with over 5900 images of 2950 subjects the accuracy drops down to less than 30% [2].

Research showed that the idea of calculating body mass using just a few pictures of a human body is not far. The data gathered during the research was promising confirming the aforementioned idea [3]. A human brain cross references all the data that it has been given, analyzes it, checks with the past experiences and then it works on it. But due to all this the capacity of the human brain to take in new information drops down marginally after a certain amount of time. [4].

Papers also proved that any kind of change in the emotional state affects the attention and memory part of the brain. The stimuli of the body changes with respect to the emotions in the amygdala [5]. Considering the time constraints that it takes to store memory; OMCL is proposed with a Phase shift mechanism. Just doing this increases the performance by 86.1% but it also hampers the life of the system by a miniscule 3.4% [6]. Looking at the study from thousands of neuroimaging scans it became clear that the frontal lobe is the same in short term and long-term retrieval. The precognition task takes place at the same part of the brain and it becomes easier to retrieve information from the prefrontal cortex [7].

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Peer-To-Peer File Sharing

Pravin Choudhary[1], Mokshada Kesarkar[2], Tejashree Jadhav[3], Archana Ingle[4]
(EXTC, VIVA Institute of Technology, India)

Abstract: *File sharing is a peer-to-peer (P2P) file sharing system that consists of a network of computing devices that work together to form a single system. The implementation of Web RTC for file sharing proved to be effective. The system shares files completely peer-to-peer. It just needs a third peer to act as a signaling server to help these peers to know how to connect to each other. The current stage of the project is capable of sharing file, video/audio streaming between two devices. Multiple devices in a network need more complex management. The system must have no single point of failure and there must not be a need for users to trust each other. The using Web RTC helps to stream real time video and audio buy converting it into a continuous array buffer. Every connection attempt generates a new unique id. The data transferred needs to be converted into an array buffer before sending it and at the receiver peer the array buffered data is converted into blobs. STUN servers are used to get the actual users IP address. Whenever the connection between the two peers is not possible then the TURN (Traversal Using Relays around NAT) server is used for establishing the connection.*

Keywords – *WEB RTC, PEER, SIGNAL CHANNEL, INTERNET CONNECTION ESTABLISHMENT, SESSION DESCRIPTION PROTOCOL*

I. INTRODUCTION

Today's file storage providers are completely centralized and have access to all user's data. Any loss from the company side can lead to user data loss. As there is a tremendous growth seen every year in storage needs, it may happen that we will end up with scarcity of storage devices. One way to solve that issue is to use public devices such as cell phones, pc, etc. that are not going to use their full storage capacity. It can be achieved by a peer-to-peer network of devices to store and share files over the network. There are many peer-to-peer file sharing systems such as Napster, Bittorrent, IPFS and these applications have millions of user file distribution capacities. The upcoming era is becoming much more challenging because of the need for hosting petabytes of data, high quality and large size real-time video/audio streaming, managing versioning of data, and preventing accidental loss of important data. Main motive of this project is to build a distributed file system for sharing and storing data on a network of devices, the system must be fault tolerant and there should not be any single point of failure, the system must be available even if there is any failure and to prevent users data loss by replicating the data.

II. LITERATURE SURVEY

This paper titled “A Blockchain-based Decentralized Data Storage and Access Framework for PingER” published by IEEE Publication in 2018 and the method they have used is metadata are stored on the blockchain whereas the actual files are stored at multiple locations using a PingER Monitoring Agents. There is no single point failure problem since no single machine holds all the data record in the network. The most updated date goes back to 24 hours of time which make it impossible for PingER to capture events in real time [1]. The IEEE-published paper entitled CrowdB C: a blockchain-based decentralized framework for crowdsourcing and its functionality is a system, and the requester's task relies on a third trusted institution. It can be solved by a group of employees without having to do it, the privacy of the user is guaranteed, and the transaction fee is small [2]. In this paper “Cassandra" which is published by Facebook on their own storage systems and how to design them. In this system the distributed storage system for very large amounts of data spread out across many commodity servers. The advantages are Cassandra can support a very high update throughput while delivering low latency and

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Volume 1, Issue 5 (2022)
Article No. X
PP XX-XX

VIVA Institute of Technology
10th National Conference on Role of Engineers in Nation Building – 2022 (NCRENB-

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Magic Hands For Deaf and dumb people

Nilesh Mishra[1], Vikas Raut[2], Sanket Shemankar[3],Archana Ingle[4]
[1](EXTC, Viva Institute of Technology/Mumbai University, India)
[2](EXTC, Viva Institute of Technology/Mumbai University, India)
[3](EXTC, Viva Institute of Technology/Mumbai University, India)
[4](EXTC, Viva Institute of Technology/Mumbai University, India)

Abstract : *Communication is the bestmedia for the people to share their viewswith each other. About nine million people in the world are deaf and dumb. The Communications between deaf- dumb with a normal person have always been a challenging task. Deaf and dumbpeople usually communicate via language, a form of illustration of words through hand and finger positions. To minimize this communication gap between normal person and these people for better interaction, we are developingan electronic device that can translate the sign language which is converted into speech in order to make proper communication between deaf and dumb people with normal person.*
Keywords – *Sign Language Translation,SensorBased Communication, Bluetoothmodule*

I. INTRODUCTION

We often saw most of the dumb and deaf are unable to communicate with us because of this situation this unsecured in our society. Many of us often make fun of them but we don't understand what problems they are facing. Our paper Magic Hand is totally dedicated to such kind of special people, there are too many projects available in the market that claim to convert sign language into voice/speech but at a very high cost, the cost varies from 20,000/1,00,000. But some people cannot express their feelings, emotions through word and sound those people are called deaf and dumb. These people can express their feelings and emotions by using gestures and sign language but normal people don't understand their sign language, so for the proper communication between deaf and dumb with the normal person, we are developing one device. Every day we see many people who are facing an illness like deaf, dumb and blind etc. They face difficulty while interacting with others. They cannot adapt to the surrounding environment quickly and respond to other normal people and expressing themselves is hard. Over the world, 9 million of the total population suffers from deafness and dumbness. The record of sign language started in the 17th century as a visual language or method of communication. A sign language is composed of a system of conventional gesture, mimic, hand sign and figure spelling, plus the use of hand position to represent letters of the alphabet. The sign can also represent a complete idea or phrase. Whereas we are making this project at a very low-cost so that every special person can afford it

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Resume Ranking

Maitri Bhagat[1], Riddhima Chinchane[2] , Shweta Jha[3]
[1](Computer Engineering, Viva Institute Of Technology, India)
[2](Computer Engineering,Viva Institute Of Technology,India)
[3](Computer Engineering,Viva Institute Of Technology,India)

Abstract : *Resumes contain required content that aids in decision making during an organization's selection and ranking processes. Project managers and human resource personnel are frequently tasked with selecting the "right person for the right job" from hundreds or even thousands of candidate resumes. Incorrect recruitment or task assignment decisions can cost a company a lot of money. Because of the rapid growth of Internet-based recruiting, there are a large number of personal resumes in recruiting systems.*

So, in the existing method the job-seeker has to fill specific data about their resume in a manual form which takes a vast amount of time and then also the candidates are not satisfied by the job which the present system prefers according to their skills. The standard approach usually includes a labor-intensive procedure of manually penetrating through the appeal candidates, reviewing their resumes, and then producing a shortlist of suitable candidates to be interviewed. In this era of technology, handling a vast amount of resumes has become harder and more inaccessible at the same time. Whereas, the process of selecting a candidate based on their resume has not been entirely automated.

As a result, in this work, we extract information using rule-based and statistical methods, and we use the LDA algorithm to achieve high accuracy in the ranking and parsing sections. The four main functions of this device are plain text extraction, preprocessing, segmentation, and information extraction.
Although supervised and rule-based methods for extracting facts from resumes have been developed, they are heavily reliant on hierarchical structure information and massive volumes of labeled data, both of which are difficult to obtain in practice.

According to experimental results on a real-world dataset, the method is both feasible and effective. Before being saved to the database, most proposed observations are analyzed using a set of Natural Language Processing (NLP) and pattern matching algorithms. This study proposes a model..Experimental results on a real-world dataset show that the algorithm is feasible and effective. Mostly all proposed observations are validated using a set of Natural Language Processing (NLP) and pattern matching techniques before being saved to the database. This research proposes a model which extracts valuable information from the resume and ranks it according to the preference and requirement of the described job extract.

Keywords **-** Data Extraction , Filtration , Naive resume matching, Ranking data , Score matching

I. INTRODUCTION

Resume parsing technology transforms unstructured resume input into a structured manner. A resume parser analyzes resume data and transforms it to machine-readable text. A CV/resume parser automates the storage, organization, and analysis of resume data in order to locate the best candidate.The values assigned to each

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

FR-PAY-A secure approach for payment

Kamlesh Mali[1], Karan Kumar[2], Balaji Mhetre[3], Janhavi Sangoi[4]
[1](Computer, Viva Institute of Technology/Mumbai, India)
[2](Computer, Viva Institute of Technology/Mumbai, India)
[3](Computer, Viva Institute of Technology/Mumbai, India)
4(Computer, Viva Institute of Technology/Mumbai, India)

Abstract: *The form of digital payments continues increasing, this is because according to WHO the surface of objects can be a medium in the spread of the covid-19 virus. The trend of digitalization is becoming a new business trend to develop and survive in the midst of a crisis due to this pandemic. Face recognition has got rapid growth in recent year. Face recognition is the ability to detect and recognize person face by facial- characteristics. We know that face is multidimensional so it requires lots of mathematical computation. Face recognition system is very essential and important for providing security, mug shot matching, law enforcement applications, user verification, user access control, etc. and is mostly used for recognition for various applications. These all applications require an efficient Face recognition system. In payment system the facial recognition has brought new challenges. We know that credit card payment was easy and quick but sometimes we forget the password or lose the card. There are lots of other method for payment like UPI, QR code etc. Researchers said that there were many studies emphasizes that working principles of facial recognition payment system have reliability and the further development trend. Researcher said determinant of end-user acceptance of biometrics.*

Keywords – *Biometrics, Computation, Digitalization, Face recognition System, Security*

I. INTRODUCTION

Digital payments play an important role in this pandemic. In view of the current situation in which individuals are forced to maintain a physical distance, digital payment modes are actually being adopted. The conventional methods of payment cannot be relied on as they can be forged, manipulated and even stolen. In addition, traditional security methods like keys and cards can be lost or misplaced.

Thus, a simple and efficient payment system has to be developed to overcome these drawbacks. Biometric methods can be implemented as they present a higher degree of security when compared to traditional methods. As the human face is unique, it offers much higher security and efficiency than other techniques. Systems that are capable of detecting and recognizing faces can be applied to a wide range of applications including payments, criminal identification and surveillance systems.

Face recognition is one of the few biometric methods that possess the merits of both high accuracy and low intrusiveness. It has the accuracy of a physiological approach without being intrusive. For this reason, face recognition has drawn the attention of researchers in fields from security, psychology, and image processing, to computer vision. Numerous algorithms have been proposed for face recognition. Among the various biometric ID methods, the physiological methods (fingerprint, face, DNA) are more stable than methods in behavioral category.

II. LITERATURE SURVEY

Anurag Achanta et.al [1], modern culture has always been trying to achieve a cashless and digital society. The evolution of payment methods like cards, net banking, and digital wallets has enabled the possibility of cashless and cardless payments. But, these payment methods are at the risk of crime or Fraud and sometimes may require users to memorize different passwords. Mobile and biometric payment systems as they do not require a device to take out the transaction, That's Why Face recognition payments are easier

VIVA Institute of Technology
At: Shirgaon
Post: Virar,
Tal: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Virtual Mouse using Artificial Intelligence

Prathmesh Medhekar[1], Anant Prajapati[2], Tanushka Padelkar[3], Monali Pimpale[4]
[1](Computer Engineering Department, Viva Institute of Technology, India)
[2](Computer Engineering Department, Viva Institute of Technology, India)
[3](Computer Engineering Department, Viva Institute of Technology, India)
[4]((Asst. Professor,Computer Engineering Department, Viva Institute of Technology, India)

Abstract : *This paper is an excellent example of Human computer interaction where the user can perform actions of a mouse without using any external hardware mouse, we can achieve this by adapting various artificial intelligence algorithms and python libraries. The working of this system starts when we first assign gestures into the machine as input values eg; scroll up and down, click and double clicks and drag and drop etc, user can select gestures as per his/her choices then these assigned gestures are recorded using webcam so by this the data is filmed and actions are performed in the machine virtually. This saves the cost of the external mouse and also provides users with privilege of operating the machine easily.*

Keywords - *Artificial Intelligence, Gesture assigning, Human computer interaction, Python libraries, Virtual Mouse.*

I. INTRODUCTION

This model and paper solve various previous problems of the external mouse where users had to buy them and have to constantly click and move the external mouse which can sometimes hurt or damage the users' hands and fingers. This drawback is avoided by using this system which as discussed operates the machine virtually by using a virtual mouse and also avoids other issues of external mouse and thereby providing us the efficient and cost-free technique, and still now the researches always make an effort to increase the qualities of this virtual mouse systems as the organizations consider this system very useful.

The main aim of this system is to enhance the daily use of an external mouse for the daily computer users which helps them to smoothly and quickly perform the operations and also give the users a gift of the new AI techniques and rules. By just installing a basic webcam and some essential algorithms we can build this superb setup of a virtual mouse for our machine which ensures that user is having a good time while operating the machine using the system and is facing no issues, although a lot of researchers has found this system as an amazing power of AI and spite, they suggest a user of this system must have basic knowledge of AI and other essential libraries required for installing and running the system.

The other requirements are a proper machine because heavy programming languages and modules need and take up big storage, compatible OS and inbuilt advanced machine properties, so before adapting this system we must check for the basic and advanced modules of the machine to install this system.

II. LITERATURE SURVEY

The research shows the application of a virtual mouse which is an advanced form of an external mouse which establishes a great comfort for operating the machine and thereby, the virtual mouse using Al tackles several other issues regarding the operations of the mouse. It brings up a bit of easy and proper nice. implementation which is much more efficient as compared to other techniques and methods in different researches, because as in other researches there are complex and lengthy lists of requirements of materials other external stuff for operating the machine, Whereas, in this research we provide an efficient and quite easy way to develop the system, by avoiding the materials and adapting more logical modules and methods so as to use them in the correct form and correct place. Here the system runs only with the help of fingers of user i.e. by hand detection, then user assigns gestures

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A Distinctive Multilingual Messaging Application with OCR

Ajaykumar Yadav[1],Shubham Waingankar[2],Kshitij Salvi[3], Prof. Monali Pimpale[4]
[1](Computer Engineering Department, VIVA Institute of Technology, India)
[2](Computer Engineering Department, VIVA Institute of Technology, India)
[3](Computer Engineering Department, VIVA Institute of Technology, India)
[4](Computer Engineering Department, VIVA Institute of Technology, India)

Abstract: *In today's world, Chat application is the most common means for distant communication and to connect to individuals. Many people face language barriers during chatting, especially in a country like India where there are 22 official languages are present. The problem of language difference has hindered effective information communication over the years. This project will try to solve this issue. The proposed system eliminates the need to have a common language for text communication. With advancement of technology, it is possible to apply some techniques to perform text detection and text translation. Thus, these OCR Messaging Application will not only convert text message into one language to another but also convert the languages inside the images by extracting it into text with the help of OCR method and then converting it into other language which the user will select according to his/her preference.*

Keywords – *API, Multilingual Messaging Application, OCR, Text detection, Text translation*

I. INTRODUCTION

The problem of language difference has hindered effective information communication over the years. There have been difficulties in information communication amid countries over the years. In modern times, language interpreters must understand and speak both the language been translated to and verse-visa. While communicating, the difference of language between the end users creates barriers for conveying their thoughts to others and leads to unsuccessful communication. Over the decade's humans have developed different ways of translating languages in other to solve the problems associated with language differences. The first approach which was implemented in solving this language problem was by using human translators that will be able to understand and translate both languages to the involved parties. This method was the first method introduced and has been used for decades, which has proven not to be the most efficient and effective method of language translation proven over the years. For solving this problem, we have introduced this application named “Multilingual Messaging Application”. Android makes it easier for consumers to get and use new content and applications on their Smart phones. This project focus to develop an Android-platform based text translation application that is capable to recognize the text present on images taken with a mobile phone camera, translate the text from any language, and display the translation result back onto the screen of the mobile phone. Smartphones have been known as most commonly used electronic devices in daily life today. As hardware embedded in smartphones can perform much more task than traditional phones, the smartphones are no longer just a communication device but also considered as a powerful computing device which able to capture images, record videos, surf the internet and etc. With advancement of technology, it is possible to apply some techniques to perform text detection and translation. Therefore, an application that allows smartphones to capture an image and extract the text from it to translate into other language. OCR is a technology that allows users to convert text or documents in images captured by an input device into an editable, searchable and reusable data type for further image processing. This technology enables a machine to recognize the characters automatically through an optical mechanism just like a human being use eyes to see an object in the world. Thus, these OCR Messaging Application will not only convert text message into one language to another but also convert the languages inside the images by extracting it into text with the help of OCR method and then converting it into other language which the user will select according to his/her preference. It has the inbuilt feature of Translating the message sent by the end user to convert it in user preferred language, so the user can understand the exact thought which end user wanted

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Cloud computing and application of software services

Poonam Bhagat[1], Rutuja Jadhav[2], Mayur Bote[3], Akshata Raut[4]
[1,2,3,4]*(Computer Engineering Department, VIVA Institute of Technology/ Mumbai University, India)*

Abstract : *Application software services are the foundation of science Cloud computing, but it always has to do with limited software Licenses and hardware resources. Therefore, software and hardware simultaneous allocation algorithms and strategies. In the field of science cloud computing. In this paper A new architecture for the Science Cloud Computing Campus Suggests that policy-based software and hardware can be supported Management and assignment. Then the model is created Resources, users, jobs, and applications. Besides, the software and the hardware simultaneous allocation algorithm SHA has been proposed. The SHA algorithm was used in NPU campus cloud computing Surroundings. It has various roles and ensures fairness among users. Same role Science Cloud computing is a new pattern of science Calculate. Application software services are the key to science Cloud computing environment. It always refers to something limited Software licenses and hardware resources. Novel in this post proposed campus cloud computing architecture. Based on simultaneous allocation of this architecture, software and hardware. The SHA algorithm is recommended. SHA algorithm was developed used in campus cloud computing environments. Recognize differences in QoS between different users. Ensuring roles and fairness among the same user's role.*

Keywords *- cloud computing, dynamic priority, scheduling algorithm, software service, Wrapping Tools*

I.INTRODUCTION

Cloud computing is the new research and collaboration scientific computational model. Keahey et al. recommendone of them the first cloud infrastructure for digital science, Science cloud. Software a service is at the top cloud computing platform, considered as an alternative Traditional software. With SAAS, the cloud operator provides end users with integrated services including hardware, software and development platform. The resource management is the key of application software service in science cloud computing. The optimization decomposition approach to solve cloud resource allocation for satisfying the cloud user`s needs and the profits of the cloud providers. A new resource management framework presented and it provides efficient green enhancements with scalable cloud computing architecture.

A resource self-organizing model for cloud computing is presented in reference. Abovementioned study is focused on hardware resource management. However, application software licenses are expensive and limited, so it is very important to study how to co-allocation the software and hardware resource. Efforts are being made to remedy the shortcomings of authority and traditional software management mode. Because for example, GenLM is a license management framework allowing independent software vendors to manage their licenses use in a distributed world. Djebbar provides a source enable high data in the cloud.

Although the above techniques were promised, now they are not supported by an application software company. Traditional software user mode is always the main mode. This article focuses on the main application techniques cloud computing science campus software service environment, in this situation, the software license and Hardware is centrally managed. All materials and Software resources are shared based on user roles and priorities. The hardware and software co-allocation algorithm is currently. Evaluation results prove that it can improve use of resources, respect service level based on role agreements, maintaining system load balancers, and more.

II.LITERATURE SURVEY

Wang Xiaoyu, et. al. [1] In cloud computing environments, most Transfer application software and data to the cloud data centres, network service providers, all Application and data management and maintenance Outsourceit to a cloud computing service provider to complete. Provides user convenience with cloud computing functionIt brings a lot of security issues. In this work, first We discussed the architecture of cloud computing

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation *Volume 1, Issue 5 (2022)*
ISSN(Online): 2581-7280
VIVA Institute of Technology
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280
National Conference on Role of Engineers in Nation Building – 2022 (NCRENB-2022)

A new perspective on cloud computing

Himanshu Dhande[1], Divya Karwande[2], Atharv Kadam[3], Akshata Raut[4]
(Computer Engineering Department, VIVA Institute of Technology, India)

Abstract: *Cloud computing has become a widely exploited research area in academia and industry. Cloud computing benefits both cloud service providers (CSPs) and consumers. The security challenges associated with Cloud computing have been widely studied in the literature. This systematic literature review (SLR) is aimed at reviewing the existing research studies on cloud computing security, threats, and challenges. This SLR examined the research studies published between 2010 and 2020 within the popular digital libraries. We selected 80 papers after a meticulous screening of published works to answer the proposed research questions The outcome of this SLR reported seven major security threats to cloud computing services. The results showed that data tampering and leakage were among the most discussed topics in the chosen literature. Other identified security risks were associated with data intrusion and data storage in the cloud computing environment. These SLR's results also indicated that consumers' data outsourcing remains This is a challenge for both CSPs and cloud users. Our survey paper identified the blockchain as a partner. technology to alleviate security concerns. The SLR findings reveal some suggestions to be carried out in future work to bring data confidentiality, data integrity, and availability.*

Keywords - *Auditing, cloud computing, cloud models, decryption, encryption, intrusion, malicious behavior, secured communication*

I. INTRODUCTION

The Cloud Computing idea has emerged from distributed software design. Cloud computed technology is aimed to provide hosted services over the net. In recent years, cloud computing in Information Technology has given rise to various new user communities and markets. Cloud computing services are provided from information centers settled in different components of the globe. Microsoft SharePoint and Google applications are general samples of cloud computing services. Security plays a very important role within the wider acceptance of cloud computing services. Existing literature is targeted on completely different security solutions, together with technology and security policy implementation. The latter study introduced new attacks on the cloud setting from a sociology perspective. The planned answer to those recent attacks relies on criminal theories for the protection of the cloud.

The constant analysis proposes to beat the known issues regarding the protection of the cloud. A security guide, developed during this analysis, enables the cloud user organizations to bear in mind security vulnerabilities and approaches to invade them. Security vulnerabilities and challenges arise from the usage of cloud computing services. Currently, cloud computing models are at the first supply of those challenges and vulnerabilities. The intruders exploit the weakness of cloud models in accessing the users' non-public information, by offensive the processing power of pc systems. The ''Autonomous Cloud Intrusion Response System'' (ACIRS) has been recently planned to beat the matter mentioned earlier. Before this work, the ''Network Intrusion Detection and

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon Post. Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Comparative Study of Solid waste management in Bangalore & Gujarat

Purva P. Awari[1], Arathy H. Menon[2]
[1](Civil Department, Viva Institute of Technology, India)
[2](Civil Department, Viva Institute of Technology, India)

Abstract . *As rapid urbanization continues to take place, with a projected 70% of the India's population expected to live in cities by 2050, waste management in proximity to human settlements poses problematic. Although waste generation and failure of its management is seen as a huge problem in developing cities, wealthier cities generate more waste than less affluent cities, and thus waste management is a crucial issue in developed as well as developing cities for obvious ecological reasons and for sustainability. solid waste management includes planning, administrative, financial, engineering, and legal functions. Solutions might include complex inter-disciplinary relations among fields such as public health, city and regional planning, political science, geography, sociology, economics, communication and conservation, demography, engineering. Bangalore city's Solid waste management techniques were found to be incompetent with increasing rate of waste generation. With a view of improving waste management techniques in Bangalore, study tour of Gujarat was undertaken and further comparative analysis of waste management techniques were made.*

Keywords – *Demography, Economics, Sociology, Sustainability, Waste-management.*

I. INTRODUCTION

Solid waste refers to the range of garbage materials arising from animal and human activities that are discarded as unwanted and useless. Solid waste is generated from industrial, residential, and commercial activities in area, and may be handled in a variety of ways. Solid waste can be classified in different units according to its availability. Categories may also pertain to the origin of the waste, whether industrial, domestic, commercial, institutional, or construction and demolition. Regardless of the origin, content, or hazard potential, solid waste must be managed systematically to ensure environmental best practices. As solid waste management is a critical aspect of environmental hygiene, it must be incorporated into environmental planning.

Solid waste management techniques in Bangalore city were studied first with help of team of technical experts, corporator, those with experience in waste management to suggest suitable corrections in ongoing techniques. While putting together a comprehensive plan for improving Waste Management in Bangalore, the team found that most of the practices that seemed missing though inevitable for Bangalore are already in operation in Gujarat, especially in Ahmedabad, Rajkot and Surat. Gujarat was chosen by the team to understand Integrated Solid Waste Management practices from all angles – administrative, political and from the citizens point of view. The study visit in Gujarat was carried out in 2015 by experienced team comprising of technical experts & government officials. After which detailed comprehensive report was prepared by them regarding challenges faced in Bangalore and how innovative management techniques were used in some cities of Gujarat like Surat, Rajkot and Ahmedabad.

II. COMPONENT OF STUDY

In order to understand Waste Management in totality and to see problems in perspective, the team made efforts to understand the following aspects during their study tour to Gujarat: 1) Overview of Waste Management 2) Collection & Cleaning 3) Transfer & Transportation 4) Treatment & End disposal. . The report will cover the situation on ground in Ahmedabad, Rajkot and Surat, when it comes to Solid Waste Management, as shared by the Municipal Corporation in the respective cities, and based on our observations, field visits and interactions with

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Review on Dispute Resolution Management

Arathy H Menon[1], Purva Awari[2], Lissy Jose[3]
[1,2,3](Civil Engineering Department, VIVA Institute of Technology, Mumbai University, India)

Abstract : *Construction Industries are prone to conflicts due to the complex nature. Every construction project is bound to have dispute. There are many types of methods / techniques to resolve disputes. Disputes usually arise out of delays in obtaining the work down, disappointing work, or a customer's failure to form payments. Construction-related disputes will consume plenty of your time and cash on a part of everybody concerned. In several cases, the Expense concerned in following a dispute is way out of proportion to the cash really at stake. This paper contains the explanation and comparative study of different dispute resolution methods*

Keywords – *Dispute, Conflict, Arbitration, Dispute management*

I. INTRODUCTION

Construction projects are prone to conflicts this is happened due to the multiplicity of different people handling different phases of projects, any type of construction work conflicts or disputes are affects projects. Research of determining the causes of disputes is identified and continue to manifest in projects. Because most of the studies undertaken have been based upon Research of determining the causes of disputes which are identified and continue to manifest in projects. Because most of the studies depend upon questionnaires or derived from case law, the factors identified for example, poor communication has been identified as a cause of disputes. Fundamentally, work processes, policies, and procedures as well behaviors' need to change in concert if disputes are to be reduced in construction.

II. DISPUTE

Nowadays, disputes in construction industry are a common thing and sometimes could not be avoided. Every construction project is bound to have conflict. There are many types of methods / techniques to resolve disputes. Disputes usually arise out of delays in obtaining the work down, disappointing work, or a customer's failure to form payments. Construction-related disputes will consume plenty of your time and cash on a part of everybody concerned. In several cases, the Expense concerned in following a dispute is way out of proportion to the cash really at stake. Associate lawyer with expertise in construction disputes will assist you pursue your Claim in associate economical, cost-efficient manner.

2.1Type of disputes

Type 1: Disputes that resolve and settle
This type of dispute is that the best of all of them. It is often resolved by confrontation without anything serious happen like court and cash. typically, it's done verbally.
Type 2: Disputes that may end in financial claims
This type of dispute can involve plenty of cash because the outcome of this dispute can ensure that the losing aspect can lose cash as they pay the value of compensation or Settlement of the cash left in addressing the business.
Type 3: Disputes that will not lead to financial claims
This type of dispute can have associate degree consequence of no call are often created between the parties concerned or there's a winner however no cash can involve to the losing facet. Therefore, each party can have to be compelled to deal that nobody can commence as a winner. Some cases can also be that, the losing facet can end wherever it started and no settlement can have to be compelled to pay to the winning party.
Type 4: Disputes that can't be resolved and have to be compelled to refer for arbitration some disputes square measure onerous to resolve and so the sole thanks to agitate it's by arbitration methodology as a result of there aren't any alternative approach higher to agitate the dispute than arbitration.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference onRole of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Earthquake Resistant Construction Techniques

Meena Bhagat[1], Pratibha patil[2] , Jimit Chotai[3], Ramya Raju[4]

[1](Department of civil Engineering , Viva Institute of technology)
[2](Department of civil Engineering , Viva Institute of technology)
[3](Department of civil Engineering , Viva Institute of technology)
[4](Department of civil Engineering , Viva Institute of technology)

Abstract : *Apart from the modern techniques which are well documented in the codes of practice, there are some other old traditional earthquake resistant techniques which have proved to be effective for resisting earthquake loading and are also cost effective with easy constructability.*

Keywords *-catastrophic damage, non-engineered buildings, traditional architecture, lack of proper seismic knowledge, details of seismic resistant construction.out*

I. Introduction

Disasters are unexpected events which have adversely affected humans since the dawn of our existence. In response to such events, there have been attempts to mitigate devastating effects of these disasters. Results of such attempts are very encouraging in developed countries but unfortunately and miserably poor in developing countries including ours. Earthquakes are one of the nature's greatest hazards on our planet which have taken heavy toll on human life and property since ancient times. The sudden and unexpected nature of the earthquake event makes it even worse on psychological level and shakes the moral of the people. Man looks upon the mother earth for safety and stability under his feet and when it itself trembles, the shock he receives is indeed unnerving. Mitigation of the devastating damage caused by earthquakes is of prime requirements in many parts of the world. Since earthquakes are so far unpreventable and unpredictable, the only option with us is to design and build the structures which are earthquake resistant.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Late Shri.Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (East), Dist: Palghar-401305, Maharashtra
Website: www.viva-technology.org

National Conference on "Role of Engineers in Nation Building"

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

5th & 6th MARCH 2021

NCRENB - 2021

ISBN: 978-81-950600-0-9
VIVA-TECH IJRI ISSN: 2581-7280

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

9th National Conference

On

ROLE OF ENGINEERS IN NATION BUILDING

(NCRENB-2021 Proceeding)

5th & 6th March, 2021

Organized by

Late Shri. Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and

Affiliated to the University of Mumbai

Shirgaon, Virar(East), Dist: Palghar-401305, Maharashtra

Tel.: 7770002544, Website:-www.viva-technology.org

Email: principal@viva-technology.org

contact@viva-technology.org

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Patrons

Hon. Shri. Hitendra Thakur
President, VIVA Trust

Hon. Shri. P. D. Kodolikar
Chairman, Managing Committee, VIVA Trust

Ms. Aparna P. Thakur
Secretary, VIVA Trust

Convener

Dr. Arun Kumar, Principal

Co-Convener

Prof. Archana Ingle, H.O.D.(EXTC)

Advisory Committee

Dr. Girish Kumar

IIT Bombay.

Mr. Craig Francis
Global Company Hiring, Wipro

Mr. Nayan Mistry
Director Technical, NM Technocrafts

Dr. Ashok Pundir
Professor & Dean, NITIE, Pawai.

Mr. Ashok Grover
Director, STEAM-O-TECH ENGINEERS(I), Pvt. Ltd.

Mr. C. A. Anto
Director, Terminal Technologies (I), Pvt. Ltd.

Mr. Kishor A Shetty
M.D., Royal Arc Electrodes Ltd.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Coordinator

Prof. Karishma Raut, EXTC Department

Prof. Bhushan Save, Electrical Department

Prof. Lissy Jose, Civil Department

Prof. Ashwini Save, Computer Department

Prof. Niyati Raut, Mechanical Department

Dr. Ajazul Haque, Humanities Department

Prof. Chandani Patel, MCA

Organizing ,Registration Committee & Program Committee

Prof. Meena Perla

Prof. Ameya Purandare

Prof. Kushal Suvarna

Prof. Pratik Parsewar

Prof. Arathy Menon

Prof. Yadnesh Patil

Prof. Ashish Shetty

Prof. Anoj Yadav

Prof Kavita Mhaskar

Prof. Bhavita Patil

Prof. Reshma Chaudhari

Prof. Akshata Raut

Prof. Vinit Raut(Mech)

Prof. Sushil Mishra

Prof. Bhagyashree Netke

Prof. Neha Lodhe

Prof. Pragati Mestry

Mr. Amit Darge

Mr. Ankit Bhoir

Ms.Vishakha Thakare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PREFACE

On behalf of VIVA Institute of Technology, I take great pleasure and pride to formally welcome you all to the 9th National Conference on Role of Engineers in Nation Building (NCRENB 2021) in cooperation with VIVA-TECH International Journal for Research and Innovation (VIVA-TECH IJRI).

We are living in an age of remarkable competition of technology among the countries. In this competition we need to consider the role of Engineers in development of our nation. Looking at the immense rise in the technological area and the demands that are being placed, it is necessary for us to commence researches that will help to build a technologically advanced nation. The national/ international conferences provide common platform to contemplate the issues related to latest developments in the technology, research and development activities in this area.

We held the first national conference in 2013 with various disciplines such as Civil Engineering, Computer Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Mechanical Engineering, Humanities and Sciences and Master of Computer Applications.

NCRENB 2021 has received total 190 papers in 7 tracks. The selected full length papers will be sent for VIVA-TECH IJRI journal. These papers can be used as a reference for future work which will widen the horizon of technical advancement of our nation.

Dr. Arun Kumar
Chief Editor

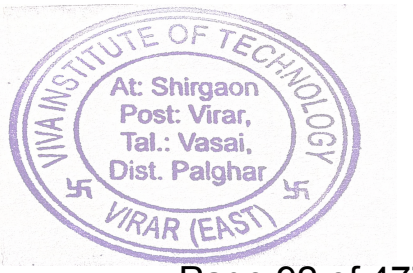


TABLE OF CONTENTS

SECTION A

TRACK: CIVIL

USE OF ERGONOMICS RISK ASSESSMENT TOOLS ON CONSTRUCTION SITE…. A-1
Mayank Katode, Hemant Lokhande Sahil Kocharekar, Abhishek Jadhav

MATERIAL MANAGEMENT – USING BARCODE SYSTEM……. A-5
Vrushali Gawale, Himani Barapatre, Prathamesh Dhoke, Ritul Gavand

ANALYZE AND DESIGN OF SUSPENSION BRIDGE USING SAP2000…… A-10
Shubham Patil1, Samiksha Patil, Piyush Naik, Swati Patil

EFFECTS OF THE IMPLEMENTATION OF GREY WATER REUSE SYSTEMS ON CONSTRUCTION COST AND PROJECT SCHEDULE…… A-14
Vishal Urade ,Prashant Gondane, Yadnesh Patil, Mayur Patel

DESIGN OF INCINERATOR PLANT FOR VASAI-VIRAR REGION…… A-19
Mane Aditya Prashant, Mane Ashok Prakash, Makwana Karnav Vinod, Chavan Shubham Mahnedra

EARTHQUAKE RESISTANT CONSTRUCTION TECHNIQUES …….. A-23
Meena Bhagat, Pratibha patil, Jimit Chotai, Ramya Raju

EMERGING ARTIFICIAL INTELLIGENCE METHODS IN STRUCTURAL ENGINEERING A-26
Akshay Mistry

HIGHWAY SAFETY USING ROLLER BARRIER……. A-28
Yogesh Chawan1, Chetan Mahindrakar2, Mangesh Maurya3, Vaibhav Mayekar4

SMART WASTE MANAGEMENT…… A-32
Ritesh Dhadiwal1,Pandhari Gurav,Shubham Gurav,Avadhut Joshi

ANALYSIS AND DESIGN OF SUSTAINABLE RESORT ……. A-38
Manthan Pawar, Akash Patil, Alpesh Shelar, Amey Varekar

GREEN BUILDING EFFECT IN COMMERCIAL BUILDING ……... A-44
Jatin Bhosale1, Rampal Chaurasiya, Shubham mahadik, Jitesh Bhoir

DESIGN OF AQUAPONICS SYSTEM OF IRRIGATION…….. A-47
Bhapkar Sanket Suresh, Kinjale Omkar Vinayak, Gavanuk Raj Suryakant

DESIGN & ANALYSIS OF WATER DISTRIBUTION NETWORK MODEL BY EPANET A CASE STUDY…… A-53
Aniket Wadekar, Chaitrali Narsule, Ashish Sawant, Gitesh Parab

FEASIBILITY STUDY OF SAMRUDDHI EXPRESSWAY…… A-58
Patel Mayur D, Vishal Urade, Prashant Gondane, Ashish Shetty

CRACK DETECTION OF WALL USING MATLAB…….. A-64
Yash Kore, Sneha Divekar, Sushant Bhostekar, Sanchit Dhivare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ASSESSMENT AND RISK REDUCTION MEASUREMENT OF LIQUEFACTION OF SOIL… A-69
Anand sarvankar,Tushar varose,Sanket patil and Mohit vaze

TIME DELAY AND COST ESCALATION IN CONSTRUCTION WORKS…….... A-77
Ankit Jaiswal, Dennies Thomas, Rahul Kushwaha, Ravikant Mahato

PUBLIC PRIVATE PARTNERSHIP IN CIVIL ENGINEERING…….. A-73
Jimit Vijay Chotai, Meena Bhagt

EARTHQUAKE RESISTANCE TECHNIQUE BY PTMD (PENDULUM TUNED MASS DAMPER)…….. A-83
Shubham Shivdas Sawant, Ashpak Raheman Shaikh, Pratik Prakash Pawar, Hiran Shrikant Sharma

BIOMASS CO-FIRING: A TRANSITION TO A LOW CARBON FUTURE …….. A-89
Arathy Menon, Purva Awari

STUDY ON REPAIRING OF POTHOLES……... A-95
Purva P. Awari, Arathy Menon

PARTIAL REPLACEMENT OF FINE AGGREGRATE AND CEMENT IN PAVER BLOCKS USING WASTE MATERIALS…… A-101
Lailesh Late, Pranit Patil, Suraj Mate, Ajay Shinde

CONSTRUCTION INDUSTRY BEFORE AND AFTER PANDEMIC…….. A-109
Vivek vijay Urmaliya, Akash babaji vanjare, Rahul sijayee pal, Shankar bhimrao tambe

DESIGN OF SELF CLEANING ROAD…… A-114
Borhade Navnath Shivaji , Jadhav Rohan Ramesh , Bhoite Akshay Sanjay , Avhad Ajay Sudam

DESIGN OF MULTI STOREY SLEEVE CAR PARKING WITH STADD PRO……. A-117
Ganesh Londhe, Apurva Mhatre, Vidya Jadhav, Shashank Mokashi

WASTEWATER TREATMENT BY VERMI-FITRATION TECHNOLOGY…….. A-120
Prasad Bhuwad, Onkar kolatkar, Harshit Bhoir, Kishor Bandarkar

ANALYSIS OF RISK IN CONSTRUCTION INDUSTRY……... A-124
Amar Chaurasia, Krishna Jadhav, Swaraj Kamble, Parag Hindlekar,

PARTIAL REPLACEMENT OF STEEL REINFORCEMENT BY BAMBOO (G+2)……. A-129
Nikhil Waghmare, Bhavesh Tandel, Vishwajit Pawar and Dipesh Waghdada

DESIGNED FOR COMBINED COMMON EFFLUENT TREATMENT PLANT OF TARAPUR MIDC…….. A-134
Sharvari Gharat, Nihar Churi, Ruchita Marde, Prashant Dawane

LANDSLIDE EARLY WARNING SYSTEM…… A-140
Ramya Raju, Meena Bhagat

RECYCLING OF GREY WATER INTO USABLE WATER BY USING NATURAL MATERIALS…… A-143
Gaurav Santosh Patil, Divya Nitin Patil, Sneha Hemkant Rane, Shubham Vijay Satelkar

DESIGN OF AMPHIBIOUS HOMES…… A-146
Raj Jadhav, Abhishek Jogadia,Sanket Gawali, Madan Ghude

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SMART VILLAGE …….. A-151
Simaran Tatkare, Snehal Shinde, Jyoti Thankar, Pradee Singh

STRUCTURAL HEALTH MONITORING OF BRIDGES BY USING ULTRASONIC SENSOR A-153
Sahil Yadav , Vinit Patil , Shravya Pandirkar , Sanket Yadav

WASTE MANAGEMENT OF HOSPITAL WASTE IN COVID-19…….. A-158
Hemant yadav, Amit yadav, Pankaj yadav, Satyendra yadav

SIMULATION OF DRAINAGE IN VIT BY SWMM SOFTWARE…….. A-164
Viraj Mhapsekar, Simran Mote, Divesh Mukne, Mehul Kasle

CLAIMS MANAGEMENT AND ASSESSMENT THROUGH DOCUMENTATION……. A-169
Priyanka Panchal, Devang Rana, Abhijit Wasave

EFFECTIVE RISK MANAGEMENT IN CONSTRUCTION PROJECTS…… A-174
Sagar Parab, Siddhi Patil, Aniket Sudrik, Smitesh Palav

GENERATION OF HYDROELECTRICITY BY SEA WAVES……. A-178
Disha Pawaskar, Pratik Pawar, Mayur Pawar, Sahil Shelke

ESTIMATION AND EVALUATION G+3 RESIDENTIAL BUILDING……. A-182
Tejesh Bhalekar, Akshay Jadhav, Satish Gupta

SECTION B

TRACK: COMPUTER

A COMPARATIVE STUDY OF DIFFERENT SCANNING APPLICATIONS AND FLUTTER PLUGINS FOR THE APPLICATION DESIGNING …… B- 1
Harshali Malgundkar, Prathmesh Tirodkar, Saylee Ghadi, Ashwini Save

REVIEW OF POSE RECOGNITION SYSTEMS …… B- 9
Juilee Bhombe, Aashish Jethwa, Aditya Singh, Dr. Tatwadarshi Nagarhalli

A COMPARATIVE STUDY OF DIFFERENT FILE SHARING APPLICATIONS AND WI-FI DIRECT TECHNOLOGY FOR FILE SHARING …… B- 17
Khyati Baria, Saurabhkumar Maurya, Rohit Yadav, Prof. Umesh Mohite

SURVEY OF ACCIDENT DETECTION SYSTEMS …… B – 24
Harshali Malgundkar, Prathmesh Tirodkar, Saylee Ghadi, Ashwini Save

PROVIDING SECURE CLOUD FOR COLLEGE CAMPUS …….. B – 31
Belamkar Shridhar Vitthal , Darade Hitesh Subhash , Qureshi Umair Nasim Ahmed , Prof. Vinit Raut

PEOPLE MONITORING AND MASK DETECTION USING REAL-TIME VIDEO ANALYZING …….. B – 35
Yogesh Gowari, Ritik Gaikwad, Aniket Gurav, Prof. Vinit Raut

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

LIVESTOCK DISEASE PREDICTION SYSTEM……. **B – 39**
Daksh Ashar, Amit Kanojia, Rahul Parihar, Prof. Saniket Kudoo

NLP BASED INTERVIEW ASSESSMENT SYSTEM…… **B – 43**
Jay Patel, Disha Sakre, Dheeraj Purohit , Prof. Dnyaneshwar Bhabad

A HYBRID APPROACH FOR PHISHING WEBSITE DETECTION USING MACHINE LEARNING…….. **B – 49**
Harsh Kansagara, Vandan Raval ,Faiz Shaikh, Prof. Saniket Kudoo

DEEPFAKE DETECTION TECHNIQUES: A REVIEW……... **B – 54**
Neeraj Guhagarkar, Sanjana Desai, Swanand Vaishyampayan, Ashwini Save

SPEECH AUTOMATED EXAMINATION FOR VISUALLY IMPAIRED STUDENTS……... **B – 64**
Sanket Memane, Sunetra Mhaskar, Atif Khan, Prof. Umesh Mohite

CRIMINAL IDENTIFICATION FOR LOW RESOLUTION SURVEILLANCE……... **B – 71**
Saniya Prashant Patil, Grishma Sunil Yadav2 Shrutika Devdas Kudalkar, Sunita Naik

COMPARATIVE STUDY ON ADVANCED FARM SECURITY SYSTEM USING INTERNET OF THINGS AND IMAGE PROCESSING…….. **B – 77**
Saily Kini, Saurabh Hadpe, Vishal Rasal, Prof. Janhavi Sangoi

SHORTEST ROUTE FINDING AMBULANCE SYSTEM…… **B – 84**
Rushikesh Jadhav, Sushant Baperkar, Snehal Kamble, Prof. Umesh Mohite

SURVEY OF A SYMPTOMS MONITORING SYSTEM FOR COVID-19…….. **B – 92**
Shantilal Sen, Manali Patil, Sejal Ravankar, Janhavi Sangoi

SMART PORTAL: A PLATFORM FOR STUDENT'S PROFILE CREATION, EVALUATION AND CLUSTERING…… **B – 98**
Rutika Naik, Shubham Warang, Sneha Pawar, Prof. Dnyaneshwar Bhabad

ENHANCEMENT OF AGRICULTURAL STAKEHOLDERS BY USING ANDROID APPLICATION…… **B – 104**
Deepali Chavan, Shrushti Gaikwad, Ashwini Mali, Reshma Choudhary

CRITERION BASED AUTOMATIC GENERATION OF QUESTION PAPER…… **B – 109**
Vishnu Jha, Jatin Kadam, Gitanjali Jadhav, Prof. Saniket Kudoo

A SOS BASED APPLICATION FOR TRAVELERS TO TRAVEL ALONE……... **B – 114**
Pratiksha Angchekar, Bhagyashree Gangan, Nikhil Ghadshi, Prof. Reshma Chaudhari

MOBILE APPLICATION FOR DONATION OF ITEMS…… **B – 120**
Shubham Belekar, Rahul Rajput, Karan, Prof. Pallavi Raut

A DEEP LEARNING MODEL FOR CRIME SURVEILLANCE IN PHONE CALLS……... **B – 126**
Abhishek Khaire, Pranav Mahadeokar, Praveen Kumar Prajapati, Prof. Sunita Naik

CATEGORIZE BALANCED DATASET FOR TROLL DETECTION…… **B – 132**
Prashant Singh, Nidhi Singh, Namit Rasalkar, Prof. Pallavi Raut

A SURVEY ON INTERNET OF THINGS (IOT) SECURITY: CHALLENGES AND CURRENT STATUS…… **B – 139**
Bhavika Thakur

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION C
TRACK: ELECTRICAL

STUDY OF DISTRIBUTED ENERGY RESOURCES …….. C- 1
Chitralekha Vangala

BLIND STICK USING ULTRASONIC SENSOR WITH VOICE ANNOUNCEMENT AND GPS TRACKING ……..... C-6
Sandeep Mishra, Pramod Patil, Vipul Dhokte, Prof. Mukeshkumar Mishra

INDUCTION MOTOR PROTECTION USING PLC ……..... C-11
Dhiraj Bukale, Pawan Balugade, Vrushabh Kamerkar,Prof. Mukeshkumar Mishra

SOLID STATE TRANSFORMER ……..... C-16
Anojkumar Yadav, Mukesh Kumar, Bhavita Patil

ARTIFICIAL INTELLIGENCE IN POWER SYSTEMS …… C-21
Bhavita Patil, Anojkumar Yadav, Mukesh Mishra

PARTIAL BINOMIAL DISTRIBUTION METHOD FOR GENERATION CAPACITY OUTAGE USING SPREADSHEETS…….. C-27
Rahul abhyankar

A REVIEW OF SMART CITIES EVOLUTION IN INDIA …… C-30
Bhushan Save

SOLAR AND WIND GENERATOR FOR STREET LIGHT APPLICATION WITH SOLAR TRACKING …….. C-34
Aniket Gavli, Mitali Borole, Samruddhi Kanade, Chitralekha Vangala

THREE PHASE MOTOR DRIVE USING SPACE VECTOR PULSE WIDTH MODULATION TECHNIQUE …… C-40
Vishnu Shivnekar, Vighnesh Solanki, Brijesh Vishwakarma, Rahul Abhyankar

ENERGY HARVESTING FROM REVOLVING DOORS…….. C-46
Prasheel rathod, Ganesh Mandal, Avinash Dhangada, Chitralekha Vangala

MONITORING AND CONTROLLING OF BLDC MOTOR USING IOT…… C-51
Ishani R. Davane, Aishwarya M. Kadam, Laxmi V. Gilbile, Pratik Mahale

POWER QUALITY IMPROVEMENT IN TRANSMISSION LINE USING DPFC …… C-56
Deepali Chavan, Dipali Hadal, Sfurti Raut, Kavita Mhaskar

VEHICLE TO GRID TECHNOLOGY……... C-63
Priya Gupta, Devangee Bhurawalla, Pooja Shah, Bhushan Save

DESIGN AND FABRICATION OF SOLAR ELECTRIC VEHICLE…… C-70
Chinmay A. Dandekar, Prathamesh K. Patil, Rajesh R. Kubal, Bhushan Save

DESIGN AND FABRICATION OF ELECTRIC 4 - WHEELER…… C-75
Aaditya G. Samant, Shubham J. Patil, Ashutosh S. Patil, Bhavita Patil

SOFTWARE BASED CALCULATIONS OF ELECTRICAL MACHINE DESIGN …….. C-80

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Priya Singh, Riya Salunkhe, Bhavana Sawant, Anojkumar Yadav

IOT BASED POWER GRID MONITORING & CONTROL SYSTEM …….. C-85
Sarvesh Avere, Pranit Vichare, Pavan Machhi, Anojkumar Yadav

IMPACT OF ELECTRIC VEHICLE INTEGRATION ON GRID…… C-91
Yaqub Shaikh, Shivam Chaurasia, Anas Shaikh, Bhushan Save

SOLAR POWERED OZONE GENERATOR PROTOTYPE USING CORONA EFFECT …… C-96
Adarshkumar Singh, Yash Dehrikar, Himanshu Tamore ,Sumit Tamore

THE CALCULATION OF ELECTRIC MOTOR AND LITHIUM BATTERY CAPACITY OF IIRED E-BIKE……. C-100
Aaditya G. Samant, Shubham J. Patil, Ashutosh S. Patil, Rahul Abhyankar

SIMULATION OF INDUCTION MOTOR FOR REFERENCE OF PRACTICAL ENGINEERING… C-104
Prabjeet Singh, Tejas Sakpal, Sachin Mondkar

DROPLET BASED ELECTRICITY GENERATION ……. C-109
Manish Wankhede, Onkar Pednekar, Suraj Shinde, Mayur Chavan

DATA DRIVEN ANALYSIS OF ENERGY MANAGEMENT IN ELECTRIc VEHICLES…… C-113
Sanket Sawant, Aniruddha Patil, Dipesh Solanki, Bhushan Save

POWER PLANT- PORTABLE MICRO POWER GENERATION ……... C-119
Pooja P. Darade, Reema S. Gupta, Jagruti S. Gaikar, Piyali Mondal

SOFTWARE BASED CALCULATION OF CAPACITY OUTAGE OF GENERATING UNITS …… C-124
Ashish Mungekar, Sukanya Naik, Ashit Nair, Rahul Abhyankar

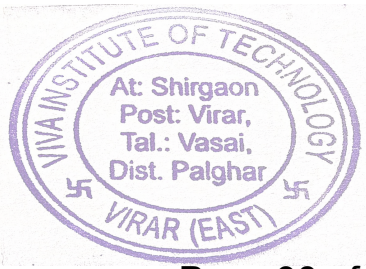
IMPROVING POWER FACTORS BY USING LANDSMAN CONVERTER IN PMBLDC MOTOR . C-129
Shubham Agre, Prashant Khade, Vaibhav kirange

COMPARATIVE ANALYSIS OF THERMAL INSULATING MATERIAL IN LITHIUM ION BATTERIES USED IN EV'S…… C-134
Kavita Mhaskar, Piyali Mondal

DESIGN AND ESTIMATION OF RAIN WATER HARVESTING SCHEME IN VIVA INSTITUTE OF TECHNOLOGY…….. C-137
Piyali Mondal, Somraj Sengupta

WIRELESS POWER THEFT MONITORING SYSTEM…… C-141
Mukesh Mishra, Anojkumar Yadav, Bhavita Patil

READJUSTING THE CURRENT TREND IN ELECTRICAL POWER ENGINEERING……. C-144
Sunil P. Suknale
SELF-BALANCING TWO-WHEELER……. C-149
Dhiraj Kotiyan, Onkar Gaonkar, Naitik Bhoir, Kavita Mhaskar



SECTION D

TRACK: EXTC

PROSTHETIC ARM FOR AMPUTEES…… D- 1
Haridra Gazzela1, Bhagyashree Shirkar, Neetu Yadav, Nutan Malekar

IOT BASED AUTOMATIC COLOUR SORTING MACHINE……... D- 7
Kunal Shinde, Vinayak Adulkar, Avinash Wankhede, Mrs. Meena Perla

EXTRACTING FEATURES FROM THE FUNDUS IMAGE USING CANNY EDGE DETECTION METHOD FOR PRE-DETECTION OF DIABETIC RETINOPATHY ……. D- 13
Nishant Dandekar, Jayesh Kulkarni, Riddhi Raut, Karishma Raut

REVIEW PAPER ON DATA SECURITY USING CRYPTOGRAPHY AND STEGANOGRAPHY … D- 19
Ankita Patil, Shubham Mulik, Punit Pathak, Karishma Raut

DESIGN & DEVELOPMENT OF VISION CONTROLLED SNAKE ROBOT …….. D- 25
Suyash Kawankar, Jawwad Khan, Sanket Puthran, Madhura Ranade

DESIGN AND DEVELOPMENT OF CNC WRITING AND DRAWING MACHINE ..……..… D- 31
Apoorv Chaudhary, Ankit Mhatre , Anantkumar Sharma, Amey Tiwramkar

FACE DETECTION AND FEATURE EXTRACTION FOR FACIAL EMOTION DETECTION ….. D- 37
Chetan Bhosale, Disha Jariwala, Tejas Keni, Karishma Raut

AUTO TRAFFIC MANAGEMENT SYSTEM …….. D- 43
Adit Shirodkar, Sumedh Tandel, Shlok Raut, Bhagyashree Vaidya

AN IOT ENABLED SMART HEALTH CARE KIT: REVIEW…….. D- 49
Ms. Rutuja Parab, Ms. Shweta Gupta,Mr.Hitesh Thanvi , Ms. Archana Ingle

SONIC WAVE FIRE FIGHTER ROBOT USING MASTER SLAVE CONCEPT …….. D- 56
Nitesh Shetye, Revati Khadas, Vaishnavi Bhogal, Ameya Purandare

DEVELOPMENT OF ONLINE HOSPITAL BOOKING PORTAL FOR PATIENT APPOINTMENT D- 62
Vinayak Jogalekar, Reekshab Pal, Arunkumar Yadav, Archana Ingle

SELF-CONTROLLED DRONE…….. D- 68
Prof. Pratik Parsewar, Saurabh Guchait, Mayuri Dudam, Mohammed Aquib Khan

ELECTRONIC CIRCUIT ASSESSMENT USING MACHINE LEARNING (ML) …….. D- 73
Nilesh Ohol, Pratik Vishwakarma, Hitesh Rawat, Aakash Yadav

GOVERNMENT SCHEME AWARENESS THROUGH APP …… D- 81
Pranav Patil,, Ritik Rana , Bikas Maharana , Ashwini Kothawale

DIGITAL CASE PAPER …… D- 85
Bhakti Patil , Manish Patil , Ashwanti Pawar, Ameya Purandare

AUTOMATED E-WASTE DISPOSAL USING MACHINE LEARNING…….. D- 91
Tanvi Aswani, Aman Maurya, Govind Naik, Prof. Meena Perla

FURNITURE, PAINTING AND DECOR DESIGNING USING MARKERLESS BASED AR ……. D- 98
Kunal Gaikwad , Vinay Mahamunkar , Somya Singh, Kushal Suvarna

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AUGMENTECHTURE - 3D PROJECTION OF BUILDING CONSTRUCTION FLOOR PLAN USING MARKER BASED AUGMENTED REALITY TECHNOLOGY …….. D- 104
Pratham Pednekar, Asmita Pawar, Vishal kanrar, Kushal Suvarna

WATER CLEANING BIN…… D- 110
Yogendra Sharma, Saurabh Shetty, Vinit Ranjane3, Manish Arya

SECTION E

TRACK: Humanities & Applied Sciences

THE BUSINESS DEVELOPMENT ETHICS……... E-1
Shweta Patel

METHODS FOR DETECTION OF COMMON ADULTERANTS IN FOOD……. E-4
Dr.Shwetali K. Churi

THEORETICAL STUDY OF TWO DIMENSIONAL NANO SHEET FOR GAS SENSING APPLICATION…… E-10
Deepak Dubey, Dr.Ajazul Haque, Dr.J.C.Jain, Ramashankar Prajapati

STRUCTURAL AND MORPHOLOGICAL STUDIES OF NANO COMPOSITE POLYMER GEL ELECTROLYTE HAVING SIO_2…….. E-14
Manju R. Mishra,S.k Tripathi

A STUDY ON SOLVING ASSIGNMENT PROBLEM…… E-21
Prof. Ramashankar Prajapati, Dr. Ajazul Haque,Dr. Jayesh Jain, Prof. Shiksha Singh

LEADERSHIP ONLY CAN LEAD THE ORGANIZATION TOWARDS IMPROVEMENT AND DEVELOPMENT……. E-27
Dr. Prashant R Pawar, DrTrupti V patil ·Dr Suma Shreedhar

UNDERSTANDING THE IMPACT AND CHALLENGES OF CORONA CRISIS ON EDUCATION SECTOR IN INDIA……. E-30
Dr. Trupti Vikas Patil , Dr. Prashant Ramrao Pawar

SECTION F

TRACK: MCA

CROSS PLATFORM DEVELOPMENT USING FLUTTER……. F-1
Mr. KetanKumar Jwala Singh, Prof. Neha Lodhe

FUTURE APPLICATIONS OF SMART IOT DEVICES ……..…… F-7
Devkrishna Pareek, Prof. Nitesh Kumar

SMART GLASSES TECHNOLOGY…… F-12
Surti Pratik Kishor, Prof. Pradnya Mhatre

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

COMPUTATIONAL INTELLIGENCE IN WIRELESS SENSOR NETWORK……. F-19
Pranesh Nanoskar, Prof. Pradnya Mhatre

ENHANCING THE CAPABILITY OF CHATBOTS ……. F-25
Bhavik Mehta, Prof. Pradnya Mhatre

AN ALTERNATIVE TO HARD DRIVES IN THE COMING FUTURE: DNA-BASED DATA STORAGE……. F-32
Rajeshri Deshmukh, Chandani Patel

DATA MINING TECHNIQUES IN SMART AGRICULTURE……. F-40
Jash V Oza, Prof. Pradnya Mhatre

DIGITAL WELLBEING……. F-46
Sanmesh Sawant, Prof. Neha Lodhe

MACHINE LEARNING APPLICATIONS USED IN ACCOUNTING AND AUDITS……... F-50
Rohan Sawant, Prof. Neha Lodhe

PASSWORD SYSTEM THAT ARE MIND CONTROL……. F-56
Divyakant Shewale, Neha Lodhe

SMART DUSTBINS FOR SMART CITIES…….. F-61
Pooja Ajay Pandey, Prof Nitesh Kumar

HAPTIC TECHNOLOGY- INTERACTION WITH VIRTUALITY……. F-66
Akshaya Hegde, Prof. Shreya Bhamare

FIREWALL SECURITY……. F-71
Ankit kadam, Shreya bhamare

VIRTUAL REALITY IN ONLINE-SHOPPING…….. F-78
Mr.Gupta Saurab Ghanshyam, Prof. Shreya Bhamare

A STUDY OF DATA STORAGE SECURITY ISSUES IN CLOUD COMPUTING…… F-83
Tushar Bobade, Chandani Patel

THE FUTURE OF QUANTUM COMPUTER……. F-88
Vikas Rajendradeo Tiwari, Prof. Sonia Dubey

ETHNOGRAPHY IN UX DESIGN…… F-94
Mithila Kundapur, Prof. Pradnya Mhatre

BLOCKCHAIN SHARDING……. F-98
Sreeraj Menon, Prof. Chandani Patel

SIGN LANGUAGE RECOGNITION USING IMAGE-BASED HAND GESTURE RECOGNITION TECHNIQUES……. F-104
Prasad Suhas Tandel, Prof. Sonia Dubey

REVIEW OF FACE DETECTION SYSTEM USING NEURAL NETWORK……. F-110
Deepak A. Yadav , Prof. Sonia Dubey

INTERNET HACKING AND PREVENTION……. F-115
Suraj K. Yadav, Prof.Pragati Mestry

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

CYBER SECURITY: ISSUES, CHALLENGES AND RISKS…… F-122
Vinay Chhapre, Prof. Krutika Vartak

A STUDY OF TOKENIZATION OF REAL ESTATE USING BLOCKCHAIN TECHNOLOGY…… F-128
Vinayak Chavan, Prof.Chandani Patel

GOOGLE FILE SYSTEM……... F-136
Pramod A. Yadav , Prof. Krutika Vartak

THE USABILITY METRICS FOR USER EXPERIENCE……. F-142
Prachi Desul, Prof.Chandani Patel

SOCIAL MEDIA PLATFORM AND OUR RIGHT TO PRIVACY…….. F-148
Hardade Akash Dattatray, Prof. Krutika Vartak

LIGHT FIDELITY(LIFI)- WIRELESS OPTICAL NETWORKING TECHNOLOGY……. F-154
Mahesh Munde, Prof. Pragati Mestry

3D INTERNET…… F-160
Ms. Priyanka Rao, Prof. Pragati Mestry

RECOMMENDER SYSTEMS……. F-166
Mr. Yashit Yadnesh Save, Prof. Nitesh Kumar

SECTION G

TRACK: MECHANICAL

ANALYSIS OF TOOL USED FOR FRICTION STIR SPOT WELDING BY EXPLICIT MESHING SCHEME……... G-1
Mrs.Niyati Raut

DESIGN AND ANALYSIS OF AIR CONDITIONING SYSTEM FOR AN IT OFFICE BUILDING….. G-5
Anurag Pulikotil, Ajay Jaykar, Ashish Agre, Priyanka Paliwal, Shweta Gaikwad

DESIGN AND FABRICATION OF MULTIANGLE DRILLING MACHINE……. G-11
Padave Siddhesh, Pawar Bhushan ,Sankhe Aniket, Patil Viraj

DESIGN AND FABRICATION OF EXHAUST GAS ANALYZER……... G-17
Mandar.K.Pitale, Yash.N.Rane, Ritwik.S.Tiwari, Khushal.C.Prajapati

OPTIMIZATION OF FRP MOULDING PROCESS……... G- 23
Dubey Manas, Jain Jaynabh ,Jain Jaynik, Jain Sani

PROCESS IMPROVEMENT OF GRUB SCREW MANUFACTURING IN A SMALL SCALE INDUSTRY……..... G-29
Bhavesh Singhvi, Omkar Ugavekar, Chinmay Ujal, Abhidnya Vartak, RajKumar Devkar

DESIGN AND FABRICATION OF COW DUNG POT MAKING MACHINE……... G-34
Salvi Shubham, Sawant Vishal, Teli Jayendra, Veer Adarsh

LARGER DISTANCES OBJECTS TRANSPORTING (LDOT) GUN…….. G- 39
Ninad Chitnis, Tushar Apte, Mayur Kargutkar, Yogesh Kanthale

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN AND FABRICATION OF BLENDED WING BODY…….. G-44
Rahul Posture, Shreyash Paradkar, Omkar Pawar, Omkar Padwal

DESIGN AND OPTIMIZATION OF LILY IMPELLER…… G-49
Das Vishal, Kale Vishal, Kurhade Vipul, Gadag Pritesh

DESIGN OF THERAPEUTIC PAD FOR MEDICAL APPLICATION…… G-54
Kalpesh Patil, Saish R. Parkar, Arun N. Babu, Prithvi Puthran

EXPERIMENTAL INVESTIGATION OF EFFECT OF TIG AND MIG WELDING PARAMETERS ON TI6AL4V……. G-60
Mishra Amit, Singh Sanket, Shinde Ashray, Tarfe Prashant

DESIGN AND FABRICATION OF WELDING FIXTURES AND POSITIONERS……... G-64
Gupta Aakash , Choudhary Nikesh, Hait Surajit, Gupta Chanabhan

DESIGN AND FABRICATION OF NATURAL WATERPROOFING SOLUTION MAKING MACHINE……. G-69
Jalpesh Solanki , Aditya Pathak, Ajay Singh, Vijay Prasad.

DESIGN OF AIR CONDITIONING SYSTEM……. G- 72
Dilip Parithe, Sandhyarani Patil, Deepak Singh, Chirag Patil

JUST IN TIME SYSTEM: A STUDY AND REVIEW……. G-78
Aditi Pimpale

A REVIEW ON RECENT TRENDS IN NON DESTRUCTIVE TESTING APPLICATIONS……... G-83
Mayur D. Jagtap

REVIEW OF TRIBOLOGICAL CHARACTERISTICS OF MODIFIED PEEK COMPOSITES……. G-87
Manojkumar Yadav

KAIZEN: A Lean Manufacturing Technique…… G-93
Henisha B. Raut

GREEN MANUFACTURING PRACTICES IN SMES OF INDIA -A LITERATURE REVIEW…….. G-98
Sushil Mishra

MICROMACHINING TECHNOLOGIES FOR FUTURE PRODUCTS…….. G-104
Chhaya Shamrao Patil

DESIGN AND ANALYSIS OF PROGRESSIVE TOOL IN SHEET METAL MANUFACTURING…… G-109
Nilesh B. Nagare

A STUDY ON TQM DEVELOPMENT, PERFORMANCE AND SUSTENANCE IN SERVICE INDUSTRIES THROUGH EFFECTIVE COMMUNICATION, CRITICAL SUCCESS FACTORS AND MARKET ORIENTATION……... G-114
Suneet Mehta

RECENT 3D PRINTING TECHNOLOGIES: A COMPARATIVE REVIEW AND FUTURE PERSPECTIVE……. G-120
Tejas Chaudhari

DESIGN AND FABRICATION OF TINNING MACHINE…… G-123
Vinayak Sagar, Mayuresh Patil, Vinay Vadvalkar, Rohan Pagare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

INFLUENCE OF VARIOUS PARAMETERS OF CRYOGENIC TREATMENT ON PERFORMANCE OF TUNGSTEN CARBIDE TOOL A REVIEW…….. G-128
Mansi Lakhani

DESIGN AND FABRICATION OF FLOATING SOLAR POWER PLANT…… G-132
Saurav Gawali, Mayur Bandkar, Akshay Jadhav, Rohan Kanade

MECHANICAL ENGINEERS IN CORPORATE WORLD……... G-137
Rajkumar Devkar

EXPERIMENTAL ANALYSIS AND OPTIMIZATION OF PROCESS PARAMETERS IN PLASMA ARC CUTTING MACHINE OF EN-45A MATERIAL USING TAGUCHI AND ANOVA METHOD…. G-139
Vinit Deepak Raut, Pratik Raut

DESIGN AND FABRICATION OF SINGLE CYLINDER SOLENOID ENGINE…….. G-146
Sanket Sandeep More, Shaikh Md Aameel Iqbal Hassan, Rutvik Rajaram Patil, Pushpak Mahesh Shewale

CURRENT TRENDS IN PRODUCT DEVELOPMENT DURING COVID-19…… G-153
Pratik Raut, Priyank Vartak, Swapnil Raut, Vinit Raut

PRODUCTIVITY IMPROVEMENT BY USING VALUE STREAM MAPPING IN STAINLESS STEEL UTENSILS MANUFACTURING INDUSTRY……... G-160
Mr. Chinmay Pingulkar

OPTIMIZATION OF CNC MACHINING…… G-163
Harshal Nilkanth Nemade

OPTIMIZATION OF LASER BEAM WELDING ON TITANIUM MATERIAL……... G-166
Aniket Manohar Jadhav

DESIGN AND FABRICATION OF FOODGRAINS PACKAGING SYSTEM USING SCREW CONVEYOR……. G-169
Sumeet Patil, Yash Sawant, Abhishek Vinerkar, Nidish Shetty

DESIGN & FABRICATION OF PORTABLE TABLE SAW FOR SMALL WOOD WORKING PROJECT & WORKSHOP……. G-175
Tafsir Ansari, Harsh Bhatt , Gyanendra Bogati, Omkar Chavan

DESIGN AND FABRICATION OF PAPR SYSTEM FOR POWDER COATING…….. G-179
Rai Vedan, Raut Harsh, Sankhe Adit, Sankhe Yatharth

DESIGN & MANUFACTURING OF WHEELCHAIR LIFTER……... G-183
Amey Thakur, Anuj Pawar, Nachiket Patil, Chinmay Tare

DESIGN AND FABRICATION OF PORTABLE DRILLING AND BORING MACHINE…… G-188
Sushant Jangam, Vinay Joshi , Ninad Ghanekar, Sanket Davrung

DESIGN AND ANALYSIS OF MOTORCYCLE DISK BRAKE……... G-192
Shivam Mishra, Nihar Patil, Kiran Varkhande, Aditi Pimpale

ANALYSIS AND OPTIMIZATION OF AN ALL TERRAIN VEHICLE (ATV)…… G-197
Sagar Chavan, Mrunal Jadhav, Sarvesh Charatkar, Anuj Gupta

SEMI-AUTOMATIC BOILED POTATO PEELING AND SMASHING MACHINE…… G-201
Prathamesh Manze, Swagat Atigre, Ritesh Chougule, Sunny Khembavi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

RAILWAY TRACK PATROLLING BICYCLE…….. G-205
Ashok Yadav, Mithun Yadav, Rohit Kumar Yadav, Suraj Singh

FABRICATION OF UNMANNED AERIAL VEHICLE (UAV) FOR AGRICULTURAL PURPOSES... G-211
Chaitanya Samant, Samson Sonawane, Bhavesh Prajapati, Tushar Nimbare

DESIGN OF UNMANNED AERIAL VEHICLE (UAV) FOR AGRICULTURAL PURPOSES…… G-215
Mihir Chavan, Rupesh Chaudhari, Chinmay Araikar, Rutuja Kaneri

DEVELOPMENT OF SALINE WATER DESALINATION SYSTEM……. G-221
Paras Maladkar, Rohan Khandare, Shubham Kadam, Hrushikesh Marathe

SIX SIGMA AS A QUALITY AND CONTINUOUS IMPROVEMENT STRATEGY……. G-225
Prajwal Jaya Naik

AN OVERVIEW OF FLOATING SOLAR PLANTS IN WATER BODIES……. G-230
Aniket Deshmukh

DESIGN AND FABRICATION OF CATCH AND KILL AIR FILTER……... G-234
Chetan Bandekar, Ganesh Bhojane, Tejas Choudhary, Sahil Dalvi

AN OVERVIEW ON THE RISING SOLAR ENERGY……... G-238
Omkar K. Joshi

CONCEPT CONVERTIBLE WHEELCHAIR WITH VENTILATOR AND MONITORING SYSTEM. G-241
Memon anas yunus, Mankar sahil kalpak ,Menezes chris william, Mhatre preet vijay

HEAVY DUTY AIR TRANSPORT VEHICLE…… G-248
Akash a chavan, Nitanshu v borad, Jay deshpande, Hardik r darji

AUTOMATIC POWER-ADJUSTABLE CHARGER…….. G-255
Gaurav Rai, Suresh Patel, Abhishek Rana, Saurabh Patil

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Design & Development of vision controlled snake robot

Suyash Kawankar[1], Jawwad Khan[2], Sanket Puthran[3], Madhura Ranade[4]
[1](EXTC, Viva Institute of Technology/Mumbai University, India)
[2](EXTC, Viva Institute of Technology/Mumbai University, India)
[3](EXTC, Viva Institute of Technology/Mumbai University, India)
[4](EXTC, Viva Institute of Technology/Mumbai University, India)

Abstract : *A snake is the only reptile which has the ability to conquer harsh terrains like rock and sand with apparent ease. This project highlights the design, development and testing of a snake-like robot prototype. The snake robot offers high stability than any other wheeled devices. It simulates the serpentine motion of a snake and is controlled by the keyfob transmitter and receiver. The motion commands to snake robot are delivered by four button remote control. The brain of the snake robot is an Arduino microcontroller board which has a wireless camera connected with the board which is placed in the front head portion of the snake and therefore it possesses the ability to map and navigate in its surroundings and also to find the possibility of human life. The applications of these kinds of robots are mainly in space exploration, disaster management, surveillance, etc.*
Keywords – *Arduino Mega, GPS module, remote control, serpentine motion, Wi-Fi camera.*

I. INTRODUCTION

The Scientific innovations in modern times have been helping the mankind to explore the new technologies and achieve the avenues beyond our imagination from simple tools to advanced spaceships, satellites. With ever growing innovations & inventions man has achieved more in small duration of time. There are common items such as pen to advanced computerized technology which has helped humans to achieve beyond the human capabilities. The project tries to mimic a snake and to take inspiration of their body shape and their neuronal control mechanism to develop novel type of robot. Robotics is the branch which combines mechanical engineering, electrical engineering and computer science to deal with the implementation, construction, and application of robots, as well as computer systems [3]. A snake robot is significantly different from a wheeled robots because of the ability to be more mobile with high redundancy. The multi-joint flexible structure design gives the snake robot an advantage of a multi-gait motion and also provides the ability to adapt a complex environment and can be widely used in disaster rescue, underwater survey, industrial testing and other special environments that traditional robots or humans cannot enter and hence there is an increasing attention is development of the snake robots [8]. The snake robot's advanced navigation and positioning is the key feature of the autonomous movement in complex environments. In the present time the most research is related to the snake robot's structure, the movement gait and the gait control method [5].

II. LITERATURE REVIEW

We have searched and read different papers from Google and other sources and also we have referred other conference papers to gather more information which would help us in designing and developing our project.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Future Applications of Smart Iot Devices

Devkrishna Pareek[1], Prof. Nitesh Kumar[2]
[1]*Department of MCA, University of Mumbai, India*
[2]*Department of MCA, University of Mumbai, India*

Abstract— *With the Internet of Things (IoT) bit by bit creating as the resulting time of the headway of the Internet, it gets critical to see the diverse expected zones for the utilization of IoT and the research challenges that are connected with these applications going from splendid savvy urban areas, to medical care administrations, shrewd farming, collaborations and retail. IoT is needed to attack into for all expectations and purposes for all pieces of our day-to-day life. Despite the fact that the current IoT enabling advancements have immensely improved in the continuous years, there are so far different issues that require attention. Since the IoT ideas results from heterogeneous advancements, many examination difficulties will arise. In like manner, IoT is planning for new components of exploration to be finished. This paper presents the progressing headway of IoT advancements and inspects future applications.*

Keywords— *Applications, Internet of Things (IoT), Privacy, Smart devices, Security.*

I. INTRODUCTION

The Internet of Things (IoT), occasionally suggested as the Web of Objects will have an enormous effect, including ourselves. The Internet influences training, correspondence, business, science, government, and humankind [1]. The Internet is perhaps the most huge and staggering indications in the entirety of mankind's arrangement of encounters, and now with the possibility of the Internet of things, the Internet ends up being more important to have astute life in every perspective. Shrewd gadgets, cell phones, shrewd vehicles, savvy homes, keen urban communities, shrewd world. These thoughts have been grasped for quite a while. Achieving these destinations has been inspected, up to this point, by various grouped and frequently disjoint exploration organizations. Five such obvious exploration networks are Internet of Things (IoT), Mobile Computing (MC), Pervasive Computing (PC), Remote Sensor Networks (WSN), and most starting late, Cyber Physical Systems (CPS). In any case, as innovation and game plans progress in all of these fields, there are a growing cover and combination of guidelines and exploration questions. Thusly, the major target of the Web of Things is to cause it practical for objects to be related with various items, individuals, at whatever point or wherever using any organization, way or administration. The Internet of Things (IoT) is little by little being seen as the subsequent stage in Internet advancement. IoT will cause it doable for standard gadgets to be associated to the Internet to achieve unending divergent targets. At the present time, a normal number of only 0.6% of gadgets that can be fundamental for IoT has been related up until now. In any case, constantly 2020, in light of everything, in excess of 50 billion gadgets will have a web affiliation. The Internet of Things (IoT) is depended upon to continue to stretch out its reach as identifies with the number of gadgets and limits, which it can run. This is evident from the unclearness in the proclamation of "Things" which makes it difficult to chart the always creating limitations of the IoT [2]. While business accomplishment continues showing up, the IoT ceaselessly offers a for all intents and purposes limitless deftly of possibilities, in organizations just as in examination. As necessities may be, the understudy keeps an eye on the diverse probably zones for the utilization of IoT regions and the examination challenges that are identified with these applications. As the Internet continues propelling, it has gotten in excess of an essential organization of PCs, yet rather an organization of various gadgets, while IoT fills in as an organization of various "related" gadgets an organization of organizations [3], as showed up in Fig. 1. Nowadays,

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute Of Technology
9th National Conference On Role Of Engineers in Nation Building – 2021(NCRENB – 2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Smart Glasses Technology

Surti Pratik Kishor [1], Prof.Pradnya Mhatre [2]

[1] *(Department of Computer Application, Viva School of MCA, University of Mumbai, India)*
[2] *(Department of Computer Application, Viva School of MCA, University of Mumbai, India)*

Abstract : *The Smart glasses Technology of wearable computing aims to identify the computing devices into today's world.(SGT) are wearable Computer glasses that is used to add the information alongside or what the wearer sees. They are also able to change their optical properties at runtime.(SGT) is used to be one of the modern computing devices that amalgamate the humans and machines with the help of information and communication technology. Smart glasses is mainly made up of an optical head-mounted display or embedded wireless glasses with transparent heads- up display or augmented reality (AR) overlay in it. In recent years, it is been used in the medical and gaming applications, and also in the education sector. This report basically focuses on smart glasses, one of the categories of wearable computing which is very popular presently in the media and expected to be a big market in the next coming years. It Evaluate the differences from smart glasses to other smart devices. It introduces many possible different applications from the different companies for the different types of audience and gives an overview of the different smart glasses which are available presently and will be available after the next few years.*

Keywords: *Augmented reality , Embeded Wireless glasses , Optical heads-up , Smart Glasses, Wearable Computing .*

1. INTRODUCTION

Smart glasses Technology, a Wearable computing technology used to cover information over a user's viewing field, started as simple pre-screen displays. Over the years, Smart glasses have used eye-catching computer devices. On top of that their displays go with the user's head, which leads users to see the display in terms of its position and position. we saw it progress to the ability to perform complex tasks using computer power. we can find this experience through Optical Head-Mounted Display, Reality technology or optical Heads-Up Display Glasses. Despite its continued growth and potential in the business and industrial sector, these wearable computer screens still face exceptions that hold them back from achieving market capitalization. Faced with a clear moment, smart glass companies are currently trying to expand their world. [1][4]

Although businesses are finding great system solution through eyewear technology, the public will still have to wait a while to earn the benefits of mass access and use. The manufacturers of Smart glasses Technology have realized that in order to take the Shotgun marketing experience, they must first get the better of the challenges of balancing performance and wear at an affordable cost. Many smart glasses offer different prices. [4]

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Computational Intelligence In Wireless Sensor Network

Pranesh Nanoskar[1], Prof. Pradnya Mhatre[2]

[1](Department of Computer Application, Viva School of MCA, University of Mumbai, India)
[2](Department of Computer Application, Viva School of MCA, University of Mumbai, India)

Abstract- *The wireless sensor networks are event-monitoring and data collecting devices which are tightly distributed, lightweight nodes deployed in large number to monitor the environment or system. They are generally deployed for periodic reporting and event detection in an environment. WSN faces many challenges like design and deployment of sensor nodes, localization and topology changes, mobility and physical distribution, clustering, data aggregation, security, and quality of service management. An intelligent-based approach works more efficiently as sensor nodes are deployed in dynamic environments. Computational intelligence provides autonomous behavior, flexibility, robustness against communication failure and topology changes. The most common computational intelligence (CI) paradigms such as fuzzy systems, evolutionary algorithm, artificial neural networks,, swarm intelligence, and artificial immune systems are explored in this paper.*

Keywords- *Computational intelligence, Fuzzy logic, Neural networks, Reinforcement Learning, Wireless sensor networks*

I. INTRODUCTION

A wireless sensor network are a group of sensor nodes which collectively work for several tasks like intrusion detection, weather forecasting, event detection, health and area monitoring, etc. Every single sensor node in WSN consists of one or more sensing devices that communicate to few other local sensor nodes via wireless channels. There are few major limitations in a sensor node, namely, storage capacity, battery power and communication bandwidth. The WSNs support a several real-world applications which lead to a engineering and challenging research problems because of the flexibility and the dynamic property of sensor nodes. Accordingly, To encompass the entire design space there is not a single technical solution and to clearly classifies all WSNs also there is no single set of requirements. Some of these applications distribute several basic characteristics. In many cases of the WSNs, the sources of data are the actual nodes that sense the data and the sink nodes are the delivery nodes of ultimate data shown in Figure 1.

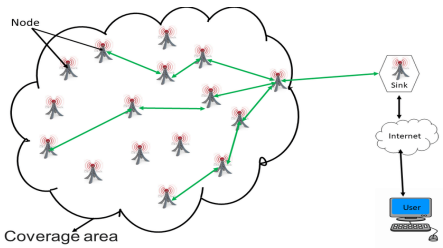


Fig. 1. Wireless sensor network

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Enhancing The Capability of Chatbots

Bhavik Mehta[1], Prof. Pradnya Mhatre[2]
[1](*Department of MCA, University of Mumbai, India)*
[2](*Department of MCA, University of Mumbai, India)*

Abstract-- *The usage of chatbots has increased tremendously since past few years. A conversational interface is an interface that the user can interact with by means of a conversation. The conversation can occur by speech but also by text input. When a chatty interface uses text, it is also described as a chatbot or a conversational medium. During this study, the user experience factors of these so called chatbots were investigated. The prime objective is "to spot the state of the art in chatbot usability and applied human-computer interaction methodologies, to research the way to assess chatbots usability". Two sorts of chatbots are formulated, one with and one without personalisation factors. the planning of this research may be a two-by-two factorial design. The independent variables are the two chatbots (unpersonalised versus personalised) and thus the specific task or goal the user are ready to do with the chatbot within the financial field (a simple versus a posh task). The results are that there was no noteworthy interaction effect between personalisation and task on the user experience of chatbots. A significant difference was found between the two tasks with regard to the user experience of chatbots, however this variation wasn't because of personalisation.*

Keywords: *Chatbots, Conversational interfaces, Finance, Personalisation, Usability, User Experience,*

I. INTRODUCTION

Conversational AI experiences are on the increase as tongue and machine learning technologies advance. However, enterprise chatbot failure can often emerge as a result of the restrictions of current NLP technology. Four Problems with Current NLP Solutions.

1.1. The matter of Too Many Intents

The issue of intent limitations and the way many a single bot can handle well is usually overlooked when a corporation architects their bot solution. Before continuing, here are some definitions to differentiate between intents and utterances.
Intent: An intent is that the user's intention. for instance, if a user types "how much does the car cost?", the user's intent is to urge pricing information on the car. Intents are given a reputation, like "GivePrice". Utterance: An utterance is what the user says or types. for instance, for the above intent, there are alternative ways of posing for an equivalent information e.g., a user may type or say "show me pricing for the car", "what does the car cost?", "how much is that the car?". the whole sentence is that the utterance. A single intent generally has many utterances. In some business intents the number of utterances is often high, representing the various alternative ways that different users request an equivalent information. For those beginning with a primary bot, the quantity of intents and utterances often doesn't even arise as a problem as it's hard to even generate an outsized number of utterances for every intent. But as intents and utterances get added over time, issues can begin to emerge. So what percentage intents are you able to put into one chatbot? Although there's no hard and fast number and it can depend upon the NLP engine and therefore the use case, as one bot handles up to and beyond 100s of intents it can compared to the limit that existing NLP solutions can support. Unfortunately, it's impossible to define the precise breakpoint at which the bot performance starts to say no. Different use cases require different sets of intents and utterances with some intents packing during a wide selection of various utterances. Often you won't know what's getting to happen once you add intents or utterances, until you begin to ascertain the bot performance decline.

VIVA Institute of Technology At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

An Alternative to Hard Drives in the Coming Future: DNA-BASED DATA STORAGE

Rajeshri Deshmukh[1], Chandani Patel[2]
[1]*Department of Computer Applications, VIVA School of MCA, India*
[2]*Department of Computer Applications, VIVA School of MCA, India*

***Abstract**-- Demand for data storage is growing exponentially, but the capacity of existing storage media is not keeping up, there emerges a requirement for a storage medium with high capacity, high storage density, and possibility to face up to extreme environmental conditions. According to a research in 2018, every minute Google conducted 3.88 million searches, other people posted 49,000 photos on Instagram, sent 159,362,760 e-mails, tweeted 473,000 times and watched 4.33 million videos on YouTube. In 2020 it estimated a creation of 1.7 megabytes of knowledge per second per person globally, which translates to about 418 zettabytes during a single year. The magnetic or optical data-storage systems that currently hold this volume of 0s and 1s typically cannot last for quite a century. Running data centres takes vast amounts of energy. In short, we are close to have a substantial data-storage problem which will only become more severe over time. Deoxyribonucleic acid (DNA) are often potentially used for these purposes because it isn't much different from the traditional method utilized in a computer. DNA's information density is notable, 215 petabytes or 215 million gigabytes of data can be stored in just one gram of DNA. First we can encode all data at a molecular level and then store it in a medium that will last for a while and not become out-dated just like floppy disks. Due to the improved techniques for reading and writing DNA, a rapid increase is observed in the amount of possible data storage in DNA.*
Keywords: data storage, DNA, floppy disk, information density, optical data storage systems

I. INTRODUCTION

The outing of information stockpiling started from bones, shakes, and paper. At that point this excursion digressed to punched cards, attractive tapes, gramophone records, and floppies, at that point forward. Thereafter with the occasion of the innovation optical circles including CDs, DVDs, Blue-beam plates, and blaze drives came into activity. Those are exposed to rot. Being non-biodegradable materials these contaminate the climate and furthermore discharge high measures of warmth energy while utilizing energy for activity.

Consistently in 2018, Google led 3.88 million pursuits, and people watched 4.33 million recordings on YouTube, sent 159,362,760 messages, tweeted multiple times and posted 49,000 photographs on Instagram, in sync with programming organization Domo. By 2020 an expected 1.7 megabytes of data are visiting be made every second per individual worldwide, which means around 418 zettabytes during one year (418 billion one-terabyte hard drive of data), accepting a total populace of seven.8 billion [3].

The attractive or optical information stockpiling frameworks that presently hold this volume of 0s and 1s normally can't keep going for longer than a century, if that. Further, running server farms takes gigantic measures of energy. To put it plainly, we are on the purpose of have a weighty information stockpiling issue that may just turn out to be more extreme over the long haul. Interest for information stockpiling is developing dramatically, however the

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Data Mining Techniques in Smart Agriculture

Jash V Oza[1], Prof . Pradnya Mhatre[2]
[1]*Department of Computer Application , University of Mumbai*
Viva School of MCA , Shirgaon , Virar (East).
Email: jashoza10@gmail.com
[2]*Department of Computer Application , University of Mumbai*
Viva School of MCA , Shirgaon , Virar (East).
Email: pradnyamhatre@vivamca.org

Abstract : *Agriculture is an important sector in many countries, especially in the rural sector. It introduces a major source of food for people worldwide. However, it faces the great challenge of producing more and better quality while increasing sustainability through proper use of natural resources, reducing environmental degradation and adapting to climate change.Therefore, it is very important to move from traditional farming methods to new modern agriculture. Smart Agriculture is one of the solutions to address the growing demand for essential food products while meeting the needs of sustainability. In Smart Advanced Agriculture, the role of knowledge is growing day by day. Information on weather conditions, soil, diseases, pests, seeds, fertilizers, etc. It contributes significantly to the economic development and sustainability of the sector. Smart and Advanced Management consists of transferring, collecting, analyzing and selecting data.As the value of agricultural data increases exponentially, robust analytical techniques that are able to process and analyze large amounts of data to obtain accurate data and more accurate predictions are essential. Data Mining is expected to play a key role in Smart / Modish Agriculture managing real-time and big data analysis. The purpose of this paper is to review further studies and research on Advance and smart agriculture using the latest Data Mining practice, to solve various agricultural problems and scenerios.*

Keywords -*Data mining, IoT, Precision agriculture , Smart agriculture, WSN.*

I. INTRODUCTION

Agriculture is one of the world's largest jobs. It is a very traditional practice in all productive activities and has undergone many technological changes and transformations over time with the aim of producing better and better.

However, the sector now faces significant challenges. To reduce the negative effects of productive but dynamic agriculture, it is urgent to transform agricultural production processes in a more sustainable way, by allocating resources more efficiently and by using alternative methods of Smart Agriculture. Smart Agriculture is seen as one of the way to achieve these goals.

The Smart and Precision Agriculture programs should play an important role in improving agricultural activities. It is a combination of IoT and information technology. Its purpose is to gather information from a variety of sources so that they can better understand, predict and organize agricultural work.Smart Agriculture is based on the use of different automation technologies, data capture, data transfer, data processing and decision making. This plant is susceptible to several diseases as it grows. Their discovery is the goal of much research. Based on a combination of Data Mining techniques and image processing to overcome the lack of public viewing

Exploitation of standard digital image processing techniques integrated with Data Mining in the agricultural sector to detect, classify and measure plant diseases. The CNN Algorithm is used to diagnose several plant diseases.The paper examined various plant diseases. Depending on the results of testing the proposed method may provide in part specific information for various diseases.

II. FRAMEWORK

2.1 Convolutional Neural Network(CNN)

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Digital Wellbeing

Sanmesh Sawant[1], Prof. Neha Lodhe[2]
[1](*Department of MCA, University of Mumbai, Maharashtra, India)*
[2](*Department of MCA, University of Mumbai, Maharashtra, India)*

Abstract : *Innovation for supporting prosperity has for quite some time been a focus on numerous orders, including PC science, brain research, and human-PC connection. In any case, the meaning of prosperity isn't continuously clear and this has suggestions for how we plan for and evaluate advances that intend to cultivate it. Here, we talk about current meanings of prosperity and how it relates with and now and then is a result of self-amazing quality. We at that point center around how innovations can uphold prosperity through encounters of self-amazing quality, finishing with conceivable future bearings.*

Keywords – *Digital, positive technology, self-transcendence, techno-spirituality, Wellbeing*

I. Defining Wellbeing

Prosperity or "being great" isn't all around characterized, making it trying to plan for computerized innovation that underpins prosperity. Calvo and Peters [4] propose that one draws on various hypothetical focal points of prosperity relying upon the project. Simultaneously, any task on prosperity ought to be grounded in existing examination and hypothesis or, in all likelihood hazard hurt. Emotional prosperity, how one thinks they are getting along throughout everyday life, is for the most part contained life fulfilment, presence of positive state of mind, and nonappearance of negative disposition. Numerous analysts have utilized abstract prosperity quantifies that have indicated significant legitimacy through verification with neuroimaging, natural markers, and self-reports.

II. Models of Wellbeing

Models of Wellbeing From a hypothetical point of view, analysts have built up a few prosperity models. Positive brain science was first presented by Rogers and Maslow [12] and afterward exactly created by Seligman and Csikszentmihalyi .Positive brain science works on three levels: 1) emotional joy, prosperity, life fulfilment, love, expectation, and improvement; 2) singular genuineness, courage, future-mindedness, self-assurance, pardoning, innovation, shrewdness, relational abilities, and high ability; 3) gathering or cultural creation and development of important positive connections and positive organizations, and encouraging those city excellencies for better citizenship, expanded duty, charitableness, resistance of variety, fairness, opportunity, affability, correspondence, and balance. Different models of prosperity incorporate self-assurance hypothesis and the expand and-fabricate theory [7].

III. Prosperity and Self-amazing quality

Self-amazing quality identifies with numerous comparative ideas, for example, edification, arousing, and supernatural encounters. While there is some contradiction encompassing explicit results and meanings of self-transcendence, Yaden et al. may best catch the substance of every one of these definitions as diminished self-notability and expanded sensations of connectedness to others and one's environmental factors. Sufficient proof exists for prosperity as an associate and result of self-amazing quality—see audit. The prosperity results of self-amazing quality incorporate, however are not restricted to, mental and physical prosperity, supportive of sociality, self-administration, and life quality and fulfilment. In grown-ups, there is a positive connection between self-

VIVA INSTITUTE OF TECHNOLOGY
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Machine Learning Applications Used in Accounting and Audits

Rohan Sawant[1], Prof. Neha Lodhe[2]
[1]*Department of MCA, University of Mumbai, Maharashtra*
[2]*Department of MCA, University of Mumbai, Maharashtra*

Abstract: *AI is a territory of software engineering that gains from a lot of information, recognizes examples, and makes expectations about future occasions. In the accounting and auditing professions, Machine Learning has been progressively utilized over the most recent couple of years. Thusly, this investigation means to Survey the current Machine Learning applications in accounting and auditing with a focus on Big Four Organizations. In this study, the AI devices and stages created by Big Four organizations are analyzed by directing a content investigation. It has been distinguished that Big Four organizations built up a few Machine learning devices that are utilized for predictable audits coordination and the management, completely automated audits.*
Accounting processes such as accounts receivable and accounts payable management, preparation of expense reports, and risk assessment can easily be automated by AI. For instance, machine learning algorithms can match an invoice received, decide the right business ledger for acknowledgment, and place it in a payment pool where a human specialist can inspect and submit the payment request to the payment queue.
Keywords: *Accounting, Artificial Intelligence, Auditing, Big four Organization, Machine learning.*

I. INTRODUCTION

The technological developments such as AI that enable preparing data quickly and with no mistakes or inclination are generally utilized in various zones. Hence, the potential for AI calculations to give accountants and auditors upgraded information investigation is as needs be high.

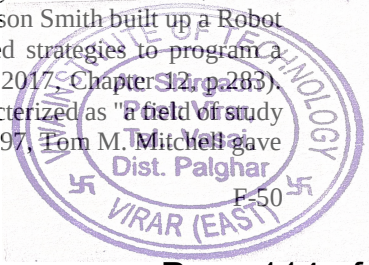
AI tools designed by humans can perform numerous tasks that can help auditors and accountants. For example, rather than inspecting information, an element's whole record might be audited with robotization (Shimamoto 2018).

In this examination, the current machine learning applications developed by Big Four accounting organizations were analyzed and summed up.

II. INTRODUCTION TO MACHINE LEARNING

AI is a region of software engineering which studies learning computer algorithms that utilization measurements for deciding examples in colossal measure of information and making exact expectations for obscure future occasions. Machine learning applications have been utilized in numerous various fields, for example, schooling, wellbeing, science, and accounting (Dogan & Birant,2021, p.1)

During the 1930s, Thomas Ross worked on a machine that recreated a living animal's behavior, which can be viewed as the main examination in the zone. Thomas Ross and his prof. Stevenson Smith built up a Robot Rat that can discover the route through a fake labyrinth. Their examination showed strategies to program a computer to carry on like creatures or people in the learning cycles (Bhavsar et al., 2017, Chapter 12, p.283). However, the expression "AI" was presented by Arthur Samuel in 1959 and was characterized as "a field of study that gives Computers the capacity to learn without being expressly customized". In 1997, Tom M. Mitchell gave



VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Password System That are Mind Control

Divyakant Shewale[1], Neha Lodhe[2]
[1](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)
[2](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)

Abstract-- *One-day system authentication could be widely achieved through brainwaves. One doesn't need to remember that 8 or more character long strange password. Simply thinking of certain things, such as a person face, or a rotating displayed cube, or line of song would be enough to unlock a device. Electro-encephalography (EEC) sensors are behind the technique. That is where electrical activity in certain parts of the brain is recorded. These sensors are used to generate the graphical lines on charts created from wired electrodes placed on the scalp, as seen in hospitals and TV shows. They are used in hospital to diagnose epilepsy, among other things. In this case, though, one wouldn't need to be fitted with wired electrodes —or even a headset, which is used already in some current non-muscular EEC computer controls. An ear bud will collect the signals (mental gesture) and perform secure authentication. This research could provide hands-free and wireless interaction, authentication, and user*
experience, all in the form-factor of a typical ear bud.
Keywords: E*ar bud, Electro-encephalography (EEC), hands-free and wireless interaction, mental gesture, secure authentication.*

I. INTRODUCTION

Our brain is composed of neurons. The number of neurons is approximately billion in number[1]. These number of neurons are interconnected each other via trillions of synapses. Neurons communicate using electrical signals called neurotransmitters that either stimulate or inhibit the activity of a responding neuron[2]. These electrical signals are possible to record using a monitoring method which is known as Electroencephalography (EEG). Today, with the help of neurosciences and computer technology, it has become possible to create a communication between a human brain and a computer. This process is known as Brain Computer Interface(BCI). By using BCI (Brain Computer Interface), we developed a system, which can help to control password security. this paper represents mind controlled password system, which is based on Brain-computer, interfaces (BCI). BCIs are systems that provide direct communication and control between the human brain and physical devices. System worked by translating different patterns of brain activity into commands in real time. The brain wave sensor will sense brain signals and it will convert data into packets and transmit through Bluetooth. Then the control command will have transmitted to the relay circuit.

II. FROM PASSWORDS TO PASSTHOUGHTS

A password or a fingerprint or an iris scan—these are the ways to verify that we are who we say we are, allowing us to log in to our devices or enter a high security area. But if we want to move beyond touch screens and keyboards, our methods of authentication will have to change too. That has pushed an idea to find new ways to verify our identities, and to do it directly from the source: the brain.
When we perform mental tasks like picturing a shape or singing a song in our heads, our brains generate the unique neuronal electrical signals. A billion people could mentally hum the same song and no two brain-wave patterns generated by that task would be alike.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9thNational Conference onRole of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

SMART DUSTBINS FOR SMART CITIES

Pooja Ajay Pandey [1], Prof Nitesh Kumar[2]
[1](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)
[2](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)

Abstract : *There are many projects made by government under the smart cities and it is necessary that these systems which conflicts the smart-cities garbage systems have to be smarter. With the help of these smart cities systems, it is necessary thatpeople need easy accessibility to the garbage disposing methods as well as the collection process. It should be efficient in terms of time and fuel cost. In our propose system we are going to check garbage fill status of the dustbin by using different types of Sensor to check the status and send the message to cloud. This research paper represents to segregate Dry and Wet garbage more efficient and reliable to certain extents.*

Keywords-*Garbage collection and disposing,GPS and Smart Dustbin,Layers,Modelling,Scheduling Techniques,*

I. INTRODUCTION

From the number of Indian cities many cities are not well built and do not simplify the proper waste disposal and collection method, there are fast-growing and productive cities pressure on current non-existent infrastructure progress at the same speed as the current urban migration. As the govt. Indian introduced a smart city a project to implement an IT-enabled solution and therefore there is a complete need to keep the city clean. Our proposed program solves four related problems:

- Provides additional access to waste disposal points (public dustbin).
- The system works well in terms of fuel costs and time.
- Provide a place to collect information that shows how the big city produces garbage and is well organized disposal process.
- Recovery of wet and dry garbage in the dustbin.

II. PROBLEM DEFINITION

With rapid population growth in many cities and it says, there are many problems that people face, such as environmental issues where litter is increasing, it increases the variety of diseases and creates health problem and much more. In recent times garbage collection and management is a very serious problem. To overcome the issues generated by previous programs again produce a system that provides greater access to garbage dump points (public dust bins), efficient in terms of time and fuel costs, and provide a data collection point for how the big city produces garbage and is well organized, the process of disposing of, and obtaining, wet and dry waste dust.

2.1 PreviousWork

Longhi s et al. had performed a numerical analysis betweenthe past and the existing dust bins and their performance population.They read and analyzed the area distribution of dustbins in urban areas and also the rate of near-term activity.Significantly,the local distribution of current dustbins seemed to be the caseprominent in

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Firewall Security

Ankit kadam[1], Shreya bhamare[2]
[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract : *When your computer is connected to the Internet, you expose your computer to a variety of potential threats. The Internet is designed in such a way that if you have access to the Internet, all other computers on the Internet can connect to your computer.This leaves you vulnerable to various common attacks. This is especially troubling as several popular programs open services on your computer that allow others to view files on your computer! While this functionality is expected, the difficulty is that security errors are detected that always allow hackers to attack your computer with the ability to view or destroy sensitive information stored on your computer. To protect your computer from such attacks you need to "teach" your computer to ignore or resist external testing attempts. The common name for such a program is Firewall. A firewall is software that creates a secure environment whose function is to block or restrict incoming and outgoing information over a network. These firewalls actually do not work and are not suitable for business premises to maintain information security while supporting free exchange of ideas. Firewall are becoming more and more sophisticated in the day, and new features are being added all the time, so that, despite criticism and intimidating development methods, they are still a powerful defense. In this paper, we read a network firewall that helps the corporate environment and other networks that want to exchange information over the network. The firewall protects the flow of traffic through the internet and limits the amount of external and internal information and provides the internal user with the illusion of anonymous FTP and www online communications.*

Keywords - *Firewall technologies, network security, access control, security policy, protective mechanisms.*

I. INTRODUCTION

Today's networks change and develop on a regular basis to adapt to new business situations, such as organisations, acquisitions, outsourcing, mergers, joint ventures, and strategic partnerships, and the increasing degree to which internal networks are connected to the Internet. The increased complexity and openness of the network thus caused makes the question of security more complicated than hitherto, and necessitates the development of sophisticated security technologies at the interface between networks of different security domains, such as between Intranet and Internet or Extranet. The best way of ensuring interface security is the use of a firewall.

A Firewall is a computer, router or other communication device that filters access to the protected network. Cheswick and Bellovin define a firewall as a collection of components or a system that is placed between two networks and possesses the following properties:

- All traffic from inside to outside, and vice-versa, must pass through it.
- Only authorised traffic, as defined by the local security policy, is allowed to pass through it.
- The firewall itself is immune to penetration.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Social media platform and Our right to privacy

Hardade Akash Dattatray[1], Prof. Krutika Vartak[2]

[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract— *The advancement of Information Technology has hastened the ability to disseminate information across the globe. In particular, the recent trends in 'Social Networking' have led to a spark in personally sensitive information being published on the World Wide Web. While such socially active websites are creative tools for expressing one's personality it also entails serious privacy concerns. Thus, Social Networking websites could be termed a double edged sword. It is* ***important*** *for the law to keep abreast of these developments in technology. The purpose of this paper is to demonstrate the limits of extending existing laws to battle privacy intrusions in the Internet especially in the context of social networking. It is suggested that privacy specific legislation is the most appropriate means of protecting online privacy. In doing so it is important to maintain a balance between the competing right of expression, the failure of which may hinder the reaping of benefits offered by Internet technology*

Keywords— *Information, Right for privacy, Social Media, Social Networking, user experience.*

I. INTRODUCTION

In the larger context of knowledge mining, a substantial measure of productive analyzing so on learn are often found advanced records of human conduct in interpersonal organizations without breaching the users' privacy. Thus, information need to be made accessible during a manner that privacy should be safeguarded and protection is extremely scrutinized. On the opposite hand, the suspicion that any outsider which is intrigued to interrupt down information are often viewed as reliable is truth be told unlikely, due to the key point of preference that the usage of all information, including recognizing and delicate ones, may provide for these gatherings. Thanks to the precise instance of interpersonal organizations, the foremost grounded measure which will be received is to form unflinching quality of individual's privacy who expresses the affiliation.

According to the authors, who had proposed that any kind of examination about the amount of inhabitants in clients who express inclinations, therefore defusing protection dangers also as vital investigation. The proposition remains to stay connection able to the interpersonal organization profiles of their users, however to allow clients to partner some guaranteed property estimations with their credentials, by picking whenever they express credits that require to uncover. within the sideline perspective of the privacy domain , the topic of privacy has been under scrutiny and ensuring the essential importance given by the actual academic group has deemed to be vigilant. to make sure privacy of clients by recognizing characteristics, not by vulnerability

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Light Fidelity(LiFi)- Wireless Optical Networking Technology

Mahesh Munde[1], Prof. Pragati Mestry[2]

[1](Department of MCA, VIVA School of MCA/ University of Mumbai, India)
[2](Department of MCA, VIVA School of MCA/ University of Mumbai, India)

Abstract: *The study LiFi (Light Fidelity) demonstrates about how can we use this technology as a medium of communication similar to Wifi . This is the latest technology proposed by Harold Haas in 2011. It explains about the process of transmitting data with the help of illumination of an Led bulb and about its speed intensity to transmit data. Basically in this paper, author will discuss about the technology and also explain that how we can replace from WiFi to LiFi . WiFi generally used for wireless coverage within the buildings while LiFi is capable for high intensity wireless data coverage in limited areas with no obstacles .This research paper represents introduction of the Lifi technology,performance,modulation and challenges. This research paper can be used as a reference and knowledge to develop some of LiFi technology.*

Keywords - *Challenges, Intensity, LiFi, Modulation, Performance.*

I. INTRODUCTION

Li-Fi is termed as Light Fidelity. This is the latest technology proposed by Harold Haas in 2011. Li-Fi transmits the data by illumination of an led bulb to send data at faster intensity that is not visible to human eye. Lifi is the technology that uses light as a medium of communication by replacing the regular cable wire communication. LiFi technology is evolved to overcome rate of speed of WiFi. Basically in this paper, author will discuss about the technology and also explain that how we can replace from WiFi to LiFi . WiFi generally used for wireless coverage within the buildings while LiFi is capable for high intensity wirelss data coverage in limited areas with no obstacles . LiFi is an wireless optical networking technology that uses light emitting diodes (LEDs) for transmission of data. Similar to WiFi , LiFi is an medium to deliver high speed communication.Lifi is refered to as visible light technology (VLC). LiFi has its advantages which gives better bandwidth, availability, efficiency and security than WiFi and also has achieved high speeds in lab. In the paper, the author has discussed detailed study about LiFi technology and its future scope.

The main difference in technical terms is Wifi uses radio frequency to induce a voltage in antenna to transmit data, whereas Lifi requires modulation of light intensity to transmit data.This technology is referred to as Visible Light Communications(VLC) and working is done by switching current to LEDs off and on at very high speed which is not noticeable to human eye. Lifi technology uses light waves for communication, which cannot penetrate walls which leads to lower hacking potential relative to Wifi.

As there are some limitaitons in Wifi ,LiFi is considered more better than Wifi. Radio frequencies ranging from 2.4 GHz to 5 GHz are used to deliver wireless internet access and the bandwidth is limited to 50 Mbps to 100 Mbps. The reliability of signals suffers due to increasing number of Wifi hotspots and volume of WiFi traffic. The main concern is security and speed. For hackers, WiFi communication is vulnerable as it can easily

VIVA Institute of Technology, At: Shirgaon, Post: Virar, Tal.: Vasai, Dist. Palghar, VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A Review on Recent Trends in Non Destructive Testing Applications

Mayur D. Jagtap[1]
[1](Department of Mechanical Engineering, VIT Virar)

Abstract : *The field of NDT is a very large and interdisciplinary field that plays a critical role in inspection of crucial component. These test may fail due to either the fault in the equipment used, the miss application of the methods or the However, these techniques generally require considerable operator skill and interpreting test results. This paper presents the reviews of different works in the area of NDT and tries to find out recent and trends available in industries and other fields in order to minimize the total equipment cost, minimize damages and maximize the safety of machines, structures and materials.*

Keyword – *NDT, Recent Trends in inspection, Multidisciplinary field*

I. INTRODUCTION

Non-destructive testing techniques typically use a probing energy form to determine material properties or to indicate the presence of material discontinuities (surface, internal or concealed).” The application of physical principles for detecting in homogeneities in materials without impairing the usefulness of the materials has brought into being a technique known as “non-destructive testing”. Actually, the methods and techniques used in NDT measure physical properties or non-uniformity in physical properties of materials as well. Variations or non uniformities in physical properties may or may not affect the usefulness of a material, depending upon the particular application under consideration. Non destructive testing is the testing of materials, for surface or internal flaws or metallurgical condition, without interfering in any way with the integrity of the material or its suitability for service.

The common NDT methods are:

1. Visual and optical Testing
2. Ultrasonic Testing
3. Electromagnetic Testing
4. Thermographic Testing
5. Radiographic Testing
6. Liquid Penetrant Testing
7. Magnetic particle Testing
8. Acoustic Emission testing
9. Magnetic Resonance Imaging Testing
10. Near-Infrared Spectroscopy
11. Optical Microscope Testing

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

The Business Development Ethics

Shweta Patel[1]
[1](*Department of Mechanical Engineering, VIVA Institute of Technology/ Mumbai University, India)*

Abstract: *The novel ideas of being a entrepreneur is a key for everyone to get in the hustle, but developing a idea from core requires a systematic plan, time management, time investment and most importantly client attention. The Time required for developing may vary from idea to idea and strength of the team. Leadership to build a team and manage the same throughout the peak of development is the main quality. Innovations and Techniques to qualify the huddles is another aspect of Business Development and client Retention.*

Keywords *–Retention, Development, Management, Investment, Systematic Plan.*

I. INTRODUCTION

The competitive ground in case of any new business deals with any kind of new hustles that may or are creating obstacle in a new business development strategy. The idea behind developing a successful Business is by managing Time, Team Building and most importantly Client reviews. In the earlier years when the business were developed the competition was less and thus profits were more. In the current era you need a totally creative as well as user friendly model to sell or serve a particular product or service respectively. The purpose of the business should not only serve the needy but also make a valuable blink of thought in a mind who don't even need it. How your purpose is serving others or can serve others will make it the best seller. All of the above is just a thought if we don't give importance to the Business Development Ethics. The ethics should valuably consider personal thoughts regarding professional work in a team. There should be no groups or personal grievances when dealing with the development of the purpose as a team. The time should be managed and work should be distributed amongst the team for whoever is best for doing whatever he/ she is best at.

II. METHODOLOGY

Leadership The basic fundamentals of effective corporate governance are leadership and direction. The CEO, M.D. other executive and non-executive director with good leadership styles, brilliant communication skills provide set of governance principles, balance and check the correct operations which are required by corporate governance. Management environment Placing the principles to suggest the working is the basic function of management environment. The main focus is on to establish structures to support the achievements of corporate objectives which include following:

- Sound business planning and setting clear objectives
- Yardsticks for performance measures, evaluating performance appropriate feedback.
- Clear cut division of work and responsibilities.
- Establish an ethical frame work.
- Ensure right decision about the work force (right person for right job)

Risk management Here risk management is not simply managing the risks which could present hindrance in achieving business objectives, but it includes some other diverse activities such as professional development, review of operating performance, the effective use of IT, adhering to appropriate delegations and disaster recovery plans.

Monitoring Monitoring the quality of systems, from time to time is necessary to ensure that the systems, plans and procedures are operating effectively. With the help of proper and timely monitoring you can identify best practices, also you can defect the areas where improvement can be made. For this purpose the structure may have audit committees, internal audit units, system Appraisal and control self assessment.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Current Trends in Product Development during COVID-19

Pratik Raut[1], Priyank Vartak[2], Swapnil Raut[3], Vinit Raut[4]
[1](Department of Mechanical Engineering, VIVA Institute of Technology, India)
[2](Department of Mechanical Engineering, VIVA Institute of Technology, India)
[3](Department of Mechanical Engineering, VIVA Institute of Technology, India)
[4](Department of Mechanical Engineering, VIVA Institute of Technology, India)

Abstract: *This paper will summarize the authors´ experience over the last decades, from new methods developed and used within Product Development, as well as current trends. Hence, a general and broad overview is presented, rather than recent research results. Driving forces in PD are: Technology, Market and Society. Ecological, economic and social sustainability require recycling, reuse, energy conservation and new business concepts. Customization is carried out by modular architecture, combining customer specific products with volume production of components and sub-systems. PD integrates "hard" properties (engineering), with "soft" properties (industrial design). Fundamental PD characteristics are: Iteration, Integration (technical and organizational), and Innovation. Globally distributed industrial partners co-operate using Internet. Iteration: modeling/simulation, virtual prototyping and additive manufacturing speed up process loops. Structured PD: Initial specification of "what" – functional requirements, then "how" - generation of design solutions. Interdependencies analysis is important to simplify the product´s structure. The V-model for specification and verification is commonly used. A 3-stage industrial process separates strategy, core technology development, and product design for market introduction..*

Keywords - *Product Development, Covid-19, Machine Design, Engineering design*

I. INTRODUCTION

Some of the most important characteristics concerning current PD methodology and procedures in industrial product development have been summarized. This paper is focused on the development of mechanical products, but today's complex products usually combine many fields of technology, not the least IT in form of embedded systems and networks for control of mechanical devices. The market situation is changing rapidly; industries have to respond and have to consider many new issues, as sustainability and environmental effects of their activities and products. The fourth industrial revolution means decentralized "smart" factories, with a high degree of automation and information/data exchange in networks, as well as monitoring of services

Nomenclature

B2B	Business to business
CAD	Computer Aided Design
CAE	Computer Aided Engineering
DFA	Design for Assembly
DOE	Design of Experiments - orthogonal arrays
DSM	Design Structure Matrix
FMEA	Failure Mode and Effect Analysis
FTA	Fault Tree Analysis
IPD	Integrated Product Development
LCA	Life Cycle Assessment
LCC	Life Cycle Costing
PD	Product development
PDM	Product Data Management
PLM	Product Life Management

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Design and Analysis of Motorcycle Disk Brake

Shivam Mishra, Nihar Patil, Kiran Varkhande, Aditi Pimpale
[1](Mechanical Engineering, Viva Institute of Technology /Mumbai University, India)
(Mechanical Engineering, Viva Institute of Technology /Mumbai University, India)
(Mechanical Engineering, Viva Institute of Technology /Mumbai University, India)
(Mechanical Engineering, Viva Institute of Technology /Mumbai University, India)

Abstract: *The disc brake is a device for slowing or stopping the rotation of a wheel. A brake disc (or rotor), usually made of cast iron or ceramic composite, is connected to the wheel and/or the axle. Friction causes the disc and attached wheel to slow or stop. Brakes convert friction to heat, but if the brake get too hot, they will cease to work because they cannot dissipate enough heat. This condition of failure is known as brake fade. This paper discusses the phenomenon of heat distribution on the brake disc during braking. Heat distribution on the brake disc is caused by kinetic energy changing into mechanical energy. Energy changes occur during the braking process due to friction between the surface of the disc and a disc pad. The temperature resulting from this friction rises high. Disc brakes are exposed to large thermal stresses during routine braking and extraordinary thermal stresses during hard braking. Structural and Thermal analysis is to be done on the disc brake. The materials used are Cast iron and finding the suitable material and also find the best geometric design. Structural analysis is done to verify the strength of the disc brake for applied loads. This is important to understand action force and friction force on the disc brake new material, how disc brake works more efficiently, which can help to reduce the accident that may happen in each day Thermal analysis is done to verify thermal properties like thermal gradient and thermal flux etc. Comparison can be done for displacement, stresses, thermal gradient etc. for the materials to check which material is best. ANSYS is general purpose finite element analysis (FEA) software package. Analysis of brake rotor includes Structural analysis and Steady state Thermal analysis for each design. A comparison between the existing brake rotors and proposed new design is carried out and based on the results the best design is found out by ANSYS software*

Keywords *-Design, ANSYS, SOLIDWORKS, Disc brake, Friction, Thermal analysis, FEA, Comparison, Heat flux, Structural analysis, strength, Stress*

I. INTRODUCTION

The model of brake disc is designed based on analytical measurements and standard values available from the standard catalog. The brake disc is designed using SOLIDWORKS. The designed model of disc brake is analyzed structurally and thermally to study its properties using ANSYS. The models are individually analyzed for the calculated structural boundary condition and the same as for thermal boundary condition. The alternate models are analyzed both structurally and thermally.

Different materials used to design disc brake in this study first one are cast iron and other composite materias. SOLIDWORK used to design disc brake and ANSYS used to thermal analysis. The practical use of finite element modeling is known as FEA which is best understood during the real problem solving. FEA has been widely used by the automotive industry. It is a very popular tool for design engineers in the product enlargement method. FEA allows design engineers to analyze their designs while the designs are still in the procedure of an adjustable computer aided design (SOLIDWORK) model. This helps and gives flexibility to the design engineers to go back and forth to implement of the FEA analysis results in the whole design process and improve the model. It is important to understand the FEA basics, modeling techniques, the inherent errors and their effects on the quality of the results so as to render FEA as a successful design tool. FEA is also used as a computational tool for carrying out engineering problem analyze.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Just in Time System: A Study and Review

Aditi Pimpale
(Department of Mechanical, Viva Institute of Technology / Mumbai University, India)

Abstract : *Just in Time has been a very popular operation strategy partly because of its success in Japanese industry. JIT is a methodologies used to enhance manufacturers' competitiveness through inventory and lead time reduction. JIT implementation can involve a series of incremental steps and missteps, before the desired outcome is achieved. How many people in the automobile industry, manufacturing industry, and electrical industry can truly say that they have not heard about JIT? JIT implementation improves performance through lower inventory levels, reduced quality cost and greater customer responsiveness. This paper will examine the roll of a company's resource. This paper present a literature review on a small manufacturing that altered its resources configuration from a producer- consumer relationship separated by a buffer, to a simultaneity constraint. The result of this paper shows that the removal of the buffer system increased the manufacturing system's need for mix flexibility and indicates that JIT system is success full, and operating JIT system can lead to many advantages to the case company.*

Keywords –*Buffer System, Faster response, Inventory reduction, Just in Time, Producer-Consumer relationship*

I. INTRODUCTION

The aim of JIT is waste elimination. The principle of Just in Time (JIT) is to eliminate sources of manufacturing waste by getting right quantity of raw material and processing the right quantity of products in the right place at the right time. The roots of JIT system can probably be traced to Japanese manufacturing industries. Just-in-Time widely used in the Japanese automobile industry and the electronics industry, though more and more applications can be found in many industries over the world.. Lean manufacturing or also known as lean production has been one of the most popular pattern in waste elimination in the manufacturing and service industry. Just in Time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Just in Time (JIT) is a type of operations management approach which originated in Japan in the 1950s. Just-In-Time (JIT) is a system that focuses on waste reduction and continuous improvement to achieve operational excellence. In a manufacturing context, JIT involves a manufacturing system where the parts needed to complete finished products are produced or delivered at the assembly site as required. Over the last three decades, hundreds of journal articles have been written on research carried out in the area of JIT manufacturing. The vast majority of these articles praise the benefits that can be achieved through the implementation of JIT practices, including increased performances with respect to manufacturing costs, quality levels, delivery responsiveness and flexibility. JIT manufacturing is said to be based on a number of principles. These principles, though somewhat varied depending on the research focus, almost always list two factors: elimination of waste and total employee involvement; with researchers sometimes including other factors such as supplier participation, total quality control and workplace organization. The objective of JIT system is to improve profits and return on investment through cost reduction, inventory reduction and quality improvement. Involvement of workers and elimination of waste are the means of achieving these objectives.

II. JIT MEANING

JIT Meaning is a Japanese management philosophy which has been applied in practice since early 1970s in many Japanese manufacturing industries. JIT means set the method of manufacturing.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

KAIZEN: A Lean Manufacturing Technique

Henisha B. Raut[1]
[1](Department of Mechanical Engineering, VIVA Institute of Technology, India)

Abstract : *Now-a-days the ultimate goal of all industries is to enhance productivity through simplified system and incremental improvements by applying some modern available techniques. At present, many manufacturing companies are facing problems such as high quality rejection, high inventories, high lead time, high costs of production, and inability to cope with customer orders. By implementing and practicing the lean production system many problems can be solved without employing high-tech and high-touch approaches but by involving people on the shop floor in Kaizen activities. For continuous improvement in an organization, Japanese philosophy Kaizen is very popular. Flawless concepts of Kaizen methodology and proper implementation of tools can lead to a successful kaizen program in a company. Kaizen is one of the powerful tools of lean manufacturing. Kaizen refers to continuous improvement in performance, cost and quality. Kaizen ensures that manufacturing processes become leaner and fitter, but eliminate waste (problem) where value is added. The main objective of this paper is to provide a background on kaizen, present an overview of kaizen concepts that are used to transform a company into a high performing lean enterprise.*

Keywords- *Kaizen, 5S, Pokayoke, Muda, Jidoka*

I. INTRODUCTION

Kaizen was created in Japan following World War II. The origin of Kaizen can be traced back to the Quality Guru Dr. W. Edwards Deming, but it was Masaki Imai who popularized the concept of Kaizen to become a revolution around the world. Kaizen is a combination of two Japanese words (kai+zen), literally means ―Change for the Better. It is a compound word involving two concepts: Kai (change) and Zen (for the better). This is translated as "Continuous Improvement" in English. Kaizen means improvement. Moreover it means continuing improvement in domestic life and working life. Kaizen means continuing improvement involving everyone - from top management to managers and workers, when it is practiced at workplace. The Kaizen philosophy has been implemented in organizations around the world as a way to improve production values while also improving employee morale and safety. The Kaizen philosophy may be applied to any workplace scenario due to its simple nature. Taiichi Ohno and Shigeo Shingo developed in at Toyota. The kaizen in important tool for Lean Manufacturing, the Toyata Production System (TPS), Just In Time other effective manufacturing strategies.

II. METHODOLOGY

There is a standard methodology of Kaizen which can be used in different fields like engineering, manufacturing, management and other supporting processes in the organization. The methodology of Kaizen is also known as Deming's PDCA Cycle or Shewhart Cycle.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

SEMI-AUTOMATIC BOILED POTATO PEELING AND SMASHING MACHINE

Prathamesh Manze[1], Swagat Atigre[2], Ritesh Chougule[3], Sunny Khembavi[4]
[1]*Department of Mechanical Engineering, VIVA Institute of Technology, Mumbai University, India*
[2]*Department of Mechanical Engineering, VIVA Institute of Technology, Mumbai University, India*
[3]*Department of Mechanical Engineering, VIVA Institute of Technology, Mumbai University, India*
[4]*Department of Mechanical Engineering, VIVA Institute of Technology, Mumbai University, India*

Abstract : *India is experiencing expansive growth in the fast-food sector. In most of the fast-foods, the use of boiled potatoes is seen in major quantity. But, the Potato peeling processes faces some numerous problems such as poor hygiene, more time consumption, etc. The main purpose of this paper deals with development of Peeling and smashing machine for boiled potatoes. The study of manufacturing is very important in order to carried out this project to ensure that everyone can understand on what are the needs to do and to help people easy to use. This paper involved the complete process of designing and fabrication of Boiled potato peeling and smashing machine using engineering concepts and marketing review. Methods and process involve in this paper like welding, perforating, shearing, cutting, drilling, riveting, etc. Generating a new concept of portable peeling and smashing machine for boiled potatoes is the main aim behind this paper. After all process had been done, this peeling machine may help us to understand the fabrication and designing process that involved in this paper.*

Keywords - *Cutting, Peeling, Perforating, Potato, Smashing*

I. INTRODUCTION

The traditional economic scenario of Indian society differed from that of modern situation. Majority of Indian consumers preferred to eat the home cooked food. Though, today the modern culture of dining out is rapidly changing the mind-set of Indian society. Now several fast-food brands have established its place in India, as they have powerful market in India due to current fast moving lifestyle, busy schedules, competition, increase in number of working women, nuclear family concept etc.

India is experiencing enormous growth in the fast-food sector. The growth in fast-food consumption is increasing day by day with urbanization, which shows modernization of India is on its way in food industry. In global production, the potato ranks fourth after wheat, maize and rice. It is second only to maize in terms of the number of countries that grow potato. Its importance as food is well recognized in European countries.

In the most of the countries, a large portion of potatoes is consumed in the processed form. Potato contains about 80 % water and 20 % dry matter. Starch is major portion of the dry matter. The starch content is (about 14 %) and the sugar content is about 2 % on fresh weight basis. The crude protein content of potato is 2 % and the fat content is 0.1 %. In addition, the potato contains fibres, vitamins and glycol alkaloids in small quantities. As India is most diverse country, so many food items are made from smashed potato such as vada pav, pav bhaji, sandwich, and many more. Hence, appropriate processing technology and equipment are essential to produce smashed potato in large quantity. Potato is an important crop in India. Both area and production has increased manifolds during the past decades. To sustain the increasing potato production, a closer look needs to be taken at the utilization of potato in our country. Almost all the potatoes produced in the country are utilized as human food. Allowing for about 10% used as seed and another about 15% lost at various stages, the per capita availability of potatoes in India is only about 15 kg/year. Processing could reduce losses due to spoilage. It has been estimated that about two to four million tons of potatoes are surplus in each of the two states of Uttar Pradesh and West Bengal. As to produced large quantity of smashed potato large human efforts are required and

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

PROCESS IMPROVEMENT OF GRUB SCREW MANUFACTURING IN A SMALL SCALE INDUSTRY

Bhavesh Singhvi, Omkar Ugavekar, Chinmay Ujal, Abhidnya Vartak, RajKumar Devkar
(Mechanical, Viva Institute of Technology /Mumbai University, India)
(Mechanical, Viva Institute of Technology / Mumbai University, India)
(Mechanical, Viva Institute of Technology / Mumbai University, India)
(Mechanical, Viva Institute of Technology / Mumbai University, India)
(Mechanical, Viva Institute of Technology / Mumbai University, India)

Abstract : *This study is an approach to investigate the viable impacts of Grub screw manufacturing. Due to increase in demand of grub screw in industry it leads the manufacturer to upgrade the exiting process of manufacturing the grub screw. A method and apparatus for manufacturing a screw capable of mass-producing a multiple screw bolt such as a so-called grub screw, grinding and slotting for use therein. By making the existing machine semi automatic to increase the production rate as well as to reduce the man power required for the production process. Grub screw manufacturing process consists of COLD FORGING, SLOTTING, GRINDING and ROLL THREADING. Slotting machine cuts the slot on the top of screw head. The feeding mechanism demands human effort causing slow production rate and time consuming process. To eliminate this we come up with semi-automatic bowl feeder. As similar problem is faced in the grinding process we decided to combine the slotting and grinding machine into one. This project is focused on increasing the production rate with minimal man power by consuming less amount of time compared with the existing process. For this purpose, an optimized design of existing machine is made consisting of cost effective & quality materials.*

Keywords - *Grub Screw, Semi Automatic, Reduce Human Efforts, Bowl Feeder, Cost Effective, Better Efficiency, Increase Productivity & Consuming Less Time.*

I. INTRODUCTION

Grub Screws are a sort of fastener, in some ways like a bolt, typically product of metal, and characterized by a helical ridge, referred to as a male external thread. Grub Screws are accustomed fasten materials by digging in and wedging into a material when turned, while the thread cuts grooves within the fastened material that will help pull fastened materials together and stop pull-out.

1.1 Project Background

The concept of Grub screws came into existence since olden times, predating the metal screw by at least several hundred years. Screw manufacturing is being chosen for this study and it is among the most established manufacturing industry, screw can be categorized as non-permanent joint or fastener, it is used to join parts that can be easily disassembled. Screw can join metal part with non-metal part, it can join any parts together from any kinds of material, and Screw is non-permanent join so it is suitable for design that need disassemble for maintenance purpose. That is why it widely used in industries, home appliance, automotive industries, and electronic industries and building structures.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Mechanical Engineers in Corporate world

Rajkumar Devkar
[1](Department of Mechanical Engineering, VIVA Institute of Technology, India)

Abstract : *In today's Digitization, every business is trying to become digital in terms of operations. After the COVID-19 breakdown, about 60 percent of businesses have transformed into digital form. In the case of the manufacturing world, this digitization is nothing but industry 5.O.Now a days many of the mechanical engineers are recruited in Corporate because of the integrity they possess. Having said that it's also a bitter truth that many mechanical engineers lack the skills that are needed in the corporate world. Due to which they tend to miss the targets. This study investigates the problems faced by fresh mechanical graduates in the corporate world and how to overcome them. This study is significant because, after COVID -19 outbreak, HR wants a personality that can be best at the factory shop floor as well as in-office with desired skills.*

Keywords - *Digitization, Corporate World, COVID-19 Outbreak, Factory Shop floor, industry 5.O*

I. INTRODUCTION

Mechanical Engineering is perhaps the most diverse and versatile of the engineering disciplines. In addition to physics and mathematics, it encompasses key elements of aerospace, electrical, civil, chemical and even materials science and bio-engineering. Mechanical engineering touches virtually every aspect of modern life, from mobile phones and biomedical devices, to aircrafts and power plants. Not only engineering, mechanical engineers deal with economic issues, from the cost of a single component, to the economic impact of a manufacturing plant. Besides this, mechanical engineers can also be found in sales, engineering management, and corporate management.

II. PROBLEM STATEMENT

Versatility is another unique advantage in a world that is undergoing constant economic, political, industrial, and social change. Mechanical engineers are educated and positioned, not only to adapt, but to define and direct change. Our students build upon their knowledge of science and maths gained in school to learn about materials, solid and fluid mechanics, thermodynamics, heat transfer, control, product design and manufacturing processes.

III. CAREER PROSPECTS

Courses on communication, business and other social-sciences along with the technical subjects are designed to groom students with well-rounded perspectives, as well as the ability and flexibility to work in a variety of settings. Practical learning is integrated into the curriculum through B.Tech projects and by providing an opportunity for summer internship with national and international University and industry to solve engineering and scientific problems

IV. CONCLUSION

The broadness of the Mechanical Engineering degree offers a wide array of career possibilities. The key characteristics of the profession are its breadth, flexibility, and individuality. The career paths of mechanical engineers are largely determined by individual choices, a unique advantage in a dynamic world. Mechanical engineers are capable of working in a wide variety of industry sectors, and new technologies will create industries that don't exist today. Mechanical engineers are no longer confined to the traditional industries of aerospace, automotive, and manufacturing, but are also employed extensively in important emerging areas, such as nuclear technology, robotics, biomedical technology and energy systems. Furthermore, our students acquire valuable skills in creative thinking, critical analysis and teamwork, which are highly sought after in any engineering industry, consulting and management. The rapidly-evolving technologies and economies of today

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Influence of various parameters of cryogenic treatment on performance of tungsten carbide tool - A review

Mansi Lakhani[1]
[1](Department of Mechanical Engineering, VIVA Institute of Technology, India)

Abstract : *Cryogenic treatment is supplementary thermal treatment done after conventional hardening process, wherein hardened material is further cooled till cryogenic temperatures which may range from -80°C to -196°C. In the case of various grades of steel, the cryogenic treatment process has proved to have improved mechanical properties significantly through conversion of retained austenite to martensite and refinement of grain structure of steel. However, the effect of cryogenic treatment on high hardness material like tungsten carbide is still in research and results are uncertain. Ongoing research have suggested that cryogenic treatment may result into improvement of hardness and wear resistance of tungsten carbide tools which in turn may improve tool life and efficiency of the cutting operation. But, the amount of improvement in properties majorly depends of various parameters of cryogenic treatments. This paper deals with reviewing various parameters of cryogenic treatment like cooling cooling rate, soaking temperature, soaking time, tempering temperature, tempering time and its effect on performance of tungsten carbide tool.*

Keywords - *cryogenic treatment, tungsten carbide, performance evaluation, tool life, mechanical properties, soaking time, soaking temperature, cooling rate*

I. INTRODUCTION

In current metal cutting industry, tungsten carbide (WC) has almost entirely replaced carbon steel in the manufacturing of metal cutting tools owing to its exceptional hot hardness properties. In the manufacturing of tungsten carbide tools, the fine and hard carbide particles are cemented to the soft cobalt binder, making it a metal matrix composite and usually referred as WC-Co hard metal.

Application of high-speed machining to achieve a high material removal rate resulted in alloying the tungsten carbide material with carbides of transition group metals like niobium, chromium, zirconium, titanium, and vanadium to improve the core properties of base metal. Nevertheless, due to the invention of newer work materials, the demand to further increase the wear resistance of cutting tools resulted in the invention of harder coatings.[1] Though the advanced techniques like “alloying” and “coating” have improved the life of tungsten carbide-based tools significantly,[1] the processes are relatively complex and expensive.

Cryogenic treatment of steel and steel alloys is been widely accepted as a supplement process to conventional heat treatment that can aid in almost complete transformation of austenite to martensite with some other microstructural changes that enhances properties of steel. In case of steel, cryogenic treatment post conventional heat treatment results in improvement in mechanical properties like tensile strength, hardness, wear resistance, impact strength. The commercial success of cryogenic treatment on ferrous materials and its alloys, allowed the researchers to focus on studying and establishing an appropriate process parameter to super hard tool materials like tungsten carbide.

This paper aims to review and summarize the key research findings about the various parameters related to cryogenic treatment of tungsten carbide material, and how each parameter may affect the performance and properties of cutting tools made up of tungsten carbide.

II. CRYOGENIC PROCESSING

Cryogenic treatment is a supplementary process to conventional heat treatment, and is done after hardening and before tempering of steel [2] [3]. It involves deep freezing of materials at cryogenic temperatures.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

An overview of Floating Solar Plants in Water bodies

Prof. Aniket Deshmukh
[1](Department of Mechanical Engineering, VIVA Institute of Technology, University of Mumbai, India)

Abstract : *Energy demand in this era has increased which led us to go for renewable energy sources; Solar energy with this respect can fulfill the energy demand. This paper aims at review of the existing floating solar plants worldwide with respect to their capacity. Floating solar plants can save the area for generation. Limitations to such power plant are land availability, land development & land acquisition, substation capacities, evacuation also timely clearances for the project on land and évacuation. These are hurdles for completion of the project. Most of the locations projected by the government considering solar radiation data in the country are hot and dry regions. Though at these locations the radiation appeared to be higher, the energy yield of these points is less due to heating of the solar panels and higher temperature of the surface of solar cells. To overcome these problems an innovative idea has come in front for installation of solar power plants on the water that is canal tops, water bodies, lakes, dam backwater and reservoirs, which generally belongs to the government. This paper reveals review regarding the floating solar PV power plants installed in the world*

Keywords - *Renewable energy, solar photo voltaic, solar power plants, floating Solar System, floating solar PV*

I. INTRODUCTION

The biggest problem in our country is power crisis. Around 70% coal is used for generation of electric energy. Irrigation and industry production is get affected due to load shedding, daily shutdown, etc. So we need to move towards renewable energy sources to generate electricity. Now a days renewable energy sources are growing fast not in just India but many other countries. Solar energy is clean, efficient and abundant source of alternative energy. The use of solar energy Solar energy decreases greenhouse effect. Area wise seventh largest country is India and has good sunshine. Solar energy is energy produced by sun created through a thermonuclear process and this process crates heat and electromagnetic radiations. These electromagnetic radiations have the energy that reaches the earth. Solar energy is the indirect source of energy so we need two main components: firstly the collector to collect radiations which are coming from the sun and convert it into the electrical energy form, secondly storage unit as radiations are varying in nature. To solve the energy crisis solar energy will be an excellent solution but to use land-mounted solar system is the requirement of land which is very costly and less available to get it. India will generate up to 1.75 GW solar powers from renewable energy sources and 1 GW of solar power in upcoming 10 years.

Floating solar system has PV concentrator which is very light weight and it floats on water bodies, mounted on anchored rafts float on the surface of irrigation canals, water reservoirs, quarry lakes, and tailing ponds. Some of systems exist in France, India, Japan, Korea, the United Kingdom and the United States.

1. Basics And Overview Of Floating Solar Power Plants

These floating solar plants are installed on water reservoirs like dams, lakes, rivers, oceans, etc. The solar panels are mounted on floating platforms which are anchored tightly to so that it will not get damaged even under the worse weather conditions. Moreover, research suggests that solar panels installed on land surfaces results in the reduction of yields, as the ground gets heated up and affects the rear surfaces of solar panel. Studies also suggests that if the rear surfaces of solar panels are placed on the top of the water, the solar panels will be able to cool themselves more efficiently which means they will last longer and they can shade the water they float on which reduces evaporation by up to 70%, also their ability to generate power

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9thNational Conference onRole of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

LEADERSHIP ONLY CAN LEAD THE ORGANIZATION TOWARDS IMPROVEMENT AND DEVELOPMENT

Dr. Prashant R Pawar[1], DrTrupti V patil[2,]Dr Suma Shreedhar[3]
[1](H&S, Viva Institute of Technology, Virar)
[2](H&S, Viva Institute of Technology, Virar)
[3](H&S, A P Shah Institute of technology
Thane)

Abstract : *This paper is explaining that how only leadership is responsible for sustainable improvement and growth and only it can lead the organization towards improvement and overall development. Leadership and its effectiveness are discussed in this research work and also how leadership is a different way of the success of the organization and different from the traditional management to create true work-culture and good-will of the organization in the social scene. Leadership is only responsible in bringing positive and negative change in the organization; if the leadership doesn't have the concern in the organization, the organization will not be able to lead in the right direction towards improvement and development.*

Keywords -*Development, good-will, Improvement, leadership, Management, Work culture*

INTRODUCTION

The world is coming together as one due to the rapid growth of the economic environment as well as the emergence of the internet. But, ultimate results great competitiveness among all organizations. To sustain in the competition organizations have to serve products with better quality at minimum cost and have adopted various strategies to be flexible to face the continuous development in the market. Other than that, the current competitive scenario expects the organization to make changes to cope up with the quick changes in the market and strategies. On the off chance that the organization neglects to accepts changes of the market ultimate result will be non-survival in the competition and will confront disappointment in their vision and mission. Only Leadership is accountable for giving an unmistakable vision and a deliberate method to powerful accomplish that vision, for if there is no initiative there is no improvement and development in the organization.

I. EFFECTIVENESS OF LEADERSHIP

Leadership is quite possibly the most fundamental pieces of the general technique for an association to support their business despite issues brought about by the fast development of the financial climate. Leaders are the person who controls and assumes responsibility for the activity of an association and great pioneers can set idealistic objectives and targets while guiding the activity of the organization towards those objectives through powerful methodologies. Other than that, great pioneers can likewise impact their subordinates and spur them by fortifying a positive work culture and through liberal worker benefits, for example, medical care protection, specialist remuneration, leave advantage and others.

Good leaders likewise must utilize their abilities and experience to viably and proficiently manage their great move even with a dubious future and to diminish the sensations of frailty in their subordinates brought about by that susceptibility of the future.

Leadership can impact the accomplishment of the organization, because of his full ability to control the course of action of the organization, just as through the impact they apply on their workers that propels them to carry the organization to more prominent statures.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Understanding the Impact and Challenges of Corona Crisis on Education Sector in India

Dr. Trupti Vikas Patil [1], **Dr. Prashant Ramrao Pawar**[2]
[1]*Assistant Professor,Department of Humanities and Applied Sciences*
VIVA Institute of Technology, Virar(East)-401305.

[2]*Assistant Professor,Department of Humanities and Applied Sciences*
VIVA Institute of Technology, Virar(East)-401305.

Abstract : *In the second week of March 2020, governments of all states in a country suddenly declared shutting down of all colleges and schools for a temporary period of time as an immediate measure to stop the spread of pandemic that is of novel corona virus. As the days pass by almost close to a month with no certainty when they will again reopen. Due to pandemic like this an alarm bells have started sounding in the field of education where a huge impact can be seen on teaching and learning process as well as on the entire education sector in turn. The pandemic disruption like this is actually gave time to educators of today to really think about the sector. Through the present research article, the author is highlighting on the possible impact of coronavirus on education sector with the future challenges for education sector with possible suggestions.*

Keywords - *Education, Impact, Learning, Pandemic, Teaching.*

I. INTRODUCTION

The mankind has witnessed several calamities in history, containing disastrous outbreak of disease. However, dreadfulness of the hazardous impact of COVID-19 and the improbability of finding preventive drug has created chaos among the entire population, administration and worldwide government. The speedy spread of virus has left no option but to isolate ourselves and maintain social distancing by confining ourselves to homes.

The pandemic novel corona virus has considerably disrupted many sectors in India like retail, automobiles, agriculture, aviation, oil and gas to mentioned few. With uncertainty which is imminent over the future of world economy, India is not an exception to this with far-reaching repercussions on GDP, inflation and unemployment in turn. There is no sector which remain unaffected by the pandemic. In this health crisis of COVID-19 many countries including India have rightly decided to shut down all universities, colleges and schools as primary precaution. Due to the closure of educational institutions more than 32 crores of students in India both at school, institution and university level get affected. Considering the current scenario, there is nothing but only the uncertainty regarding reopening of schools and colleges. No doubt, for education sector this is very dilemmatic and crucial timing to cope up with, as many school and college examinations are on hold, many entrance and competitive exams of various universities are due which are generally conducted during this time. Various board examinations, school and college admissions can't be ignored in this situation. The speed of the lockdown and these closures shifted classroom teaching and learning to distance learning through online mode. Before understanding the impact and consequences of COVID 19 on educational sector let us first understand the current scenario of what all educational institutions are doing at present to fight against this pandemic. The primary measures which have been taken at present by the educational institutions are mainly-

- Closure of schools and colleges
- Sanitisation of educational premises.
- Postponed/cancellation/rescheduling of exams

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Google File System

Pramod A. Yadav[1] , Prof. Krutika Vartak[2]

[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract : *Google File System was innovatively created by Google engineers and it is ready for production in record time. The success of Google is to attributed the efficient search algorithm, and also to the underlying commodity hardware. As Google run number of application then Google's goal became to build a vast storage network out of inexpensive commodity hardware. So Google create its own file system, named as Google File System that is GFS. Google File system is one of the largest file system in operation. Generally Google File System is a scalable distributed file system of large distributed data intensive apps. In the design phase of Google file system, in which the given stress includes component failures , files are huge and files are mutated by appending data. The entire file system is organized hierarchically in directories and identified by pathnames. The architecture comprises of multiple chunk servers, multiple clients and a single master. Files are divided into chunks, and that is the key design parameter. Google File System also uses leases and mutation order in their design to achieve atomicity and consistency. As of there fault tolerance, Google file system is highly available, replicas of chunk servers and master exists.*

Keywords - *Design, Scalability, Fault tolerance, Performance, Measurements*.

I. INTRODUCTION

Google File Sys-tem (GFS) to meet the ever-increasing needs of Google data processing needs. GFS shares many similar goals with previously distributed file systems such as functionality, feasibility, reliability, and availability. However, its design is driven by the critical recognition of our application workloads and technology, current and hosted, reflecting the significant departure from other design of file system design. We also reviewed the major sector options and explored very different points in the design space.

First, partial failure is more common than different. The file system contains hundreds or thousands of storage devices built from the most inexpensive components of the com-modity type and is available with an equal number of customer's equipment. The quantity and quality of computers is likely to ensure that some do not work at any time and some will not recover from their rent failure. We've identified problems caused by app bugs, operating system bugs, human errors, and disks, memory, connectors, connections, and power of sup-plies. Therefore, regular monitoring, error detection, error tolerance, and automatic recovery should be in line with the system.

Second, the files are large by traditional standards. Multi-GB files are standard. Each file typically contains multiple application elements such as web documents. When we are constantly working on fast-growing data sets many TBs contain billions of items, it is impossible to manage billions of files equivalent to KB almost even if the file system can support them. For this reason, design considerations and parameters such as I / O performance and block size should be reviewed.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Cyber Security: Issues, Challenges and Risks

Vinay Chhapre[1], Prof. Krutika Vartak[2]
[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract :*Cyber Security is a crucial and rising part of concern in the present age with a rapid increase in the graph of digitization. And with an increase in the activities in cyberspace, there is also an increase in the cyber-crimes. Handling the huge volumes of data with security has become an inevitable need of the hour. Antivirus software, Firewalls, and other technological solutions help to secure this data but are not sufficient enough to prevent the cybercrooks from destructing the network and stealing confidential information. This paper mainly focuses on the issues and challenges faced by cybersecurity. It also discusses the risks, cybersecurity techniques to curb cyber-crime, cyber ethics, and cyber trends.*

Keywords -*Challenges, Cyber Ethics, Cyber Security, Cyberspace Dynamics, Systemic Risks*

I. INTRODUCTION

Today a man is able to send and receive any type of information may be an e-mail or an audio or video just with a tap of a button but did we ever imagine how securely his information is being transferred or sent to the destination safely without leaking of his information?? The solution is cybersecurity.

Internet is a rapidly expanding infrastructure in daily life.[1] In today's technical world many latest emerging technologies are changing the future of mankind. But due to these technologies' mankind is finding it difficult to save himself from the cybercrime escalating day by day. Today maximum transactions are done online, so this subject needs special high-quality attention or security for safest transactions. Therefore, this subject is been a latest issue today. The reach of Cybersecurity is not limited to just keeping our data safe but also to other fields like cyberspace etc. Even the latest technologies like E – commerce, cloud computing, net banking etc. also needs to be secured highly.

As these technologies include important data of a person their security is highly recommended. Enhancing Cybersecurity and safeguarding confidential information infrastructures are essential to each nation's safety of economic health. Making the Internet and the users of internet safe have become the important part of development of emerging services and also government policies. So, the technical measures alone cannot save us from any crime, its necessary that there should be a law for preventing and investing all this. Given that today many countries and governments are announcing strict rules on cybersecurity in order to safeguard the important data of its own. Every person on this planet should also educate about Cybersecurity and protect themselves from the Criminal activities.

II. CYBER SPACE DYNAMICS

Cyberspace is interconnectivity of all the digital devices across the globe. When we talk about a technology that connects everyone at a global level, we can only imagine the risks that come along with the unending scope of growth and digital transformations. However, many businesses and governments have released its potential in the digital growth and heavily invests in it. Although, more technical knowledge is required to abate the risks and secure all the transactions taking place in the cyberspace.

This paper will focus on the four major transformative technologies that contributes to the change in the cyberspace dynamics.[2]

2.1 Ubiquitous Connectivity

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

INTERNET HACKING AND PREVENTION

Suraj K. Yadav [1], Prof.Pragati Mestry[2]
[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract :*Understanding the term hacking as any unconventional way of interacting with some system it is easy to conclude that there are enormous number of people who hacked or tried to hack someone or something. The article, as result of author research, analyses hacking from different points of view, including hacker's point of view as well as the defender's point of view. Here are discussed questions like: Who are the hackers? Why do people hack? Law aspects of hacking, as well as some economic issues connected with hacking. At the end, some questions about victim protection are discussed together with the weakness that hackers can use for their own protection. The aim of the article is to make readers familiar with the possible risks of hacker's attacks on the mobile phones and on possible attacks in the announced food of the internet of things (next IoT) devices.*

.

Keywords -*Scalability, Fault tolerance, Performance, Measurements.*

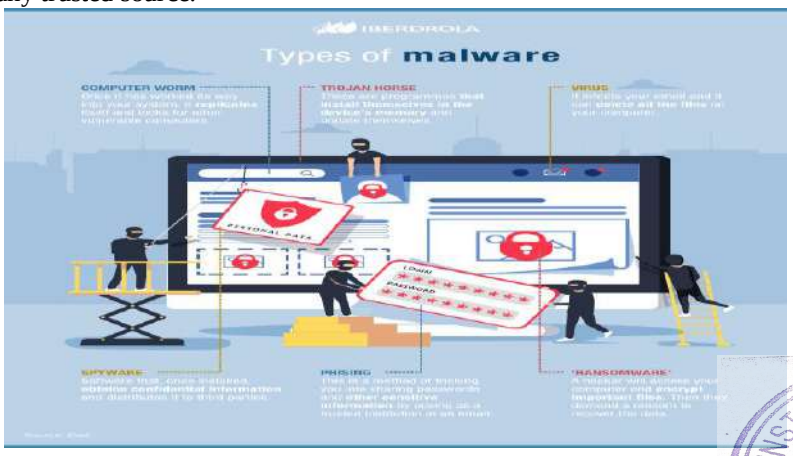
I. INTRODUCTION

Hacking is an unauthorized entry into a network or a computer to steal or manipulate information, data or files. The person involved in this process is named as a hacker. Computer hacking is done using several types of programs such as Rootkit, Trojan, Keylogger etc. Hackers also employ techniques like browser hijacks, spoofing, phishing etc. to capture user's personal or financial details.

Your computer may show certain signs of being hacked such as fake antivirus warning messages, unwanted browser toolbar, redirection to strange websites, random pop ups, ransomware message etc. If you receive any of these warning signs, you can be sure that your computer has been targeted by a hacker.

Prevention:If you are planning to download a music file, video or a utility software do so from a trusted website. Many websites offer a free download of certain high-value software, but those may carry the virus or a spyware released by a hacker to obtain your PC information.

Email is one of the biggest tools through which hackers spread malware. The spyware or virus are hidden in attachments and links clicking on which the infection begins. Hence, never click on random attachments if those are not from any trusted source.



VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Virtual Reality inOnline-Shopping

Mr.GuptaSaurabGhanshyam[1], Prof.Shreya Bhamare[2]
[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract :*Virtual reality is a machinery by-way-of which consumer can interact inside three-3 atmosphere by mean of electronic appliance. Virtual reality (cyberspace) will provide interactive practice through the assistance of virtual reality gadgets like VR thick pair of goggles sensor gloves. with the help of this technology user are absorbed and connect to three-dimensional worlds without viewing physical in front of shop with this customer can feel and sense the product through virtual environment this will increase the buyer better understanding and provide better view about product as compared to Electronic-Commerce experience. This will benefitcustomer as well as seller of the product, consumer can view and sense it through the help Virtual reality gadgets at any place at any time. This research study fundamentally based how to improve E-shopping with the use cyberspace technology simulation.*
The idea involves making the e-shopping experience more intuitive, closer to the experience of visiting a real shop, and providing on-line three-dimensional interfaces for the entire process from shop design and product placement to customer experience analysis.

Keywords-*Cyberspace, Electronic-Commerce, Three-Dimensional, Sensor, Virtual reality.*

I. INTRODUCTION

Virtual reality (VR) may be a simulated experience that may be the same as or completely different from the real world. The aim of VR is to make a sensory experience for the user sometimes including sight, touch, hearing, smell, or perhaps taste. The VR industry as a full is growing at a quick pace, with the market size of consumer virtual reality hardware and software projected to extend from 6.2 billion U.S. dollars in 2019 to over 16 billion U.S.dollarsby2022.VR gaming and VR video frame the largest consumer use cases for VR technology, with 20.8 billion U.S. dollars expected to be spent in 2023 on these areas alone. However, experts have suggested that the advantages of VR will have a control upon industry too, with improvements to efficiency a true possibility. As a result, by 2023 it's expected that industrial usage are 3 times larger than that of consumers.

Current online shops could also be functional and efficient, but don't offer enough of an immersive shopping experience.The current wave of digitization of the retail brought economic benefits but they also caused a change in strategy, with retailers increasingly placing greater emphasis on customer satisfaction and therefore the shopping experience. It's even as important for the performance of such user interfaces because it is for the customer's satisfaction and shopping experience to produce the user with interactivity and data in an appropriate and supportive manner. Current online shops usually only offer ordinary 2D content (e.g. product photos or advertising videos) and use simple 2D interfaces, which are mainly utilized in a classic way with mouse and keyboard on the house PC. Here, the merchandise sales are within the spotlight, and products must be found as quickly as possible for the sake of convenience and conversion rates. This focus comes at a value because it results in limited search functionality, confusion and products visualization. While the common list-based approach using scrolling or page-based navigation can have good usability ratings, especially within the explore for products, it abstracts from the particular "three-dimensional world" of a store and neglects the important aspect of user experience and immersion, especially with increasing number of products and categories.

VIVA Institute of Technology
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9thNational Conference onRole of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Haptic Technology- Interaction with Virtuality

Akshaya Hegde[1], Prof. Shreya Bhamare [2]
[1](Department of MCA, University of Mumbai, India)
[2](Department of MCA, University of Mumbai, India)

Abstract: *Our daily routine activities revolves on our sense of "touch" or "feel". And a technology that helps in experiencing this sense through a device is called "haptic technology". Haptic tries to evaluate the sensation of touch through various mechanisms. Haptic devices make virtual objects seam real when they are touched. Haptic technology uses force, motions and vibrations to the user to initiate interaction between virtual environment and user. With this technology we can now touch the objects that is only in the mind of a computer system but does not exist in reality. Users can receive feedbacks in the form of felt sensations in the hand or other parts of the body from computer applications using various input and output devices. The idea of haptic technology evolved from virtual reality. Haptic is a technology that is evolving day-by-day. As the demand for virtual reality is being intensified the haptic technology will also intensify. In this paper we will study the idea and evolution of haptic technology, haptic devices and their applications. Finally we will conclude with the future of haptic in our daily life.*

Keywords -*feedback,haptic, interaction , touch, virtual*

I. INTRODUCTION

Computer Science has been the source for a variety of applications in different fields. The combination of computer science and human senses has led to great inventions. The interaction between humans and communication and information ideas has been drastically changed due to the use of haptic technology in the field of computer interface. The word haptic derived from the Greek word haptikos, means “tactile, designed to be perceived by touch”. The sense of touch may be passive and active, and the term "haptic" is often used with active touch to interact or recognize objects. Among the five senses that a human posses, touch is the most proficient one. The sense of touch involves simultaneous input and output through which there is flow of information between user and virtual environment. Such kind of touch is known as “active touch”.

In the past, haptic has been helpful at creating things that are noticeable, with vibration feature in your phone or the gaming controllers. But now there’s been a shift toward creating things that feel more natural, and can interpret similarly that of natural communication. Over the past decade, there is an increase in exteroception applications that are more robust, compact, and easily controllable actuators becoming readily available.

Immersion, interaction and imagination the three important features of “Virtual Reality” are enhanced by haptic feedback. This is achieved because users can obtain immediate feedback through directly manipulating virtual objects. Imagination can be enhanced when haptic helps user to construct an virtual world that is beyond temporal limitations. Haptic feedback can provide more realistic feedback that imitates physical interaction which in turn enhances the feature of immersion.

Involving touch in human-computer interactions would enhance the fields of robotics, therapeutic rehabilitation, education, navigation, communication and even online shopping.

II. WORKING OF HAPTICS

Different technological concepts are used for providing the sensations that mimic solid objects and resistance. Devices apply force, pressure or defaince by using electric actuators, pneumatics and hydraulics.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirsad
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A Study of Data Storage Security Issues in Cloud Computing

Tushar Bobade[1], Chandani Patel[2]
[1](Department of MCA, Viva School Of MCA/ University of Mumbai, India)
[2](Department of MCA, Viva School Of MCA/ University of Mumbai, India)

Abstract :
Cloudcomputingprovidesondemandservicestoitsclients.Datastorageisamongoneoftheprimaryservices providedbycloudcomputing.Cloudserviceproviderhoststhedataofdataowneronttheirserverandusercan accesstheirdatafromtheseservers.Asdata,ownersandserversaredifferentidentities,theparadigmofdata storagebringsupmanysecuritychallenges.Anindependentmechanismisrequiredtomakesurethatdatais correctlyhostedintothecloudstorageserver.Inthispaper,wewilldiscussthedifferenttechniquesthatare usedforsecuredatastorageoncloud.
Cloud computing is a functional paradigm that is evolving and making IT utilization easier by the day for consumers. Cloud computing offers standardized applications to users online and in a manner that can be accessed regularly. Such applications can be accessed by as many persons as permitted within an organization without bothering about the maintenance of such application. The Cloud also provides a channel to design and deploy user applications including its storage space and database without bothering about the underlying operating system. The application can run without consideration for on premise infrastructure. Also, the Cloud makes massive storage available both for data and databases. Storage of data on the Cloud is one of the core activities in Cloud computing. Storage utilizes infrastructure spread across several geographical locations.
Keywords - *Cloud computing, Cloud storage server, Data storage , Functional paradigm , Storage space*.

I. INTRODUCTION

Cloud computing is the combination of many pre- existingtechnologiesthathavematuredatdifferent rates and in the different contexts. The goal of cloud computing is to allow users to take benefit of all thesetechnologies.Manyorganizationsaremoving into cloud because it allows users to storetheir data on clouds and can access at anytime from anywhere. Data breaching is possible in cloud environment, since data from various users and business organizations lie together in cloud. By sending data to the cloud, the data owners transfer the control of their data to third person that may raise security problems. Sometimes the Cloud Service Provider(CSP) itself will use/corrupt the dataillegally.Cloud storage is important aspect of today's life.[3][5]Security and privacy stands as major obstacle on cloud computing i.e. preserving confidentiality, integrityandavailabilityofdata.Asimplesolutionis toencryptthedatabeforeuploadingitontocloud. This approach ensures that the data are not visibletoexternalusersandcloudadministratorsbut has the limitation that plain text based searching algorithm are not applicable. In this paper, we discuss the security flaws in data storage and mechanisms to overcomeit.[1][2]

II. CLOUD STORAGE

Cloud storage is one of primary use of cloud computing.Wecandefinecloudstorageasstorageof thedataonlineinthecloud.Acloudstoragesystem is considered as a distributed data centres, which typically use cloud-computing technologies & offers some kind of interface for storing and accessing data. When storing data on cloud, it appearsasifthedataisstoredinaparticularplace with specificname.[6]
Therearefourmaintypesofcloudstorage:

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

BLOCKCHAIN SHARDING

Sreeraj Menon[1], Prof.ChandaniPatel[2]
[1](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)
[2](Department of MCA, VIVA SCHOOL OF MCA/University of Mumbai, India)

Abstract-*Bitcoin has been a hot topic in the technology industry since its boom in 2017. The underlying technology of bitcoin is the blockchain that has impressed many of the onlookers due to its transparency and usability in this globalized world. In cryptocurrencies, a ledger is operated which contains all the data regarding the transactions and contracts that are to be executed. These ledgers are maintained on multiple nodes around the world. Every node has to maintain a full copy of the ledger which currently is 15 GB for bitcoin. As more and more transactions are carried on the blockchain, this approach becomes slow. Scaling is the only solution to counter this problem, that's where the sharding technology comes into play. In sharding, rather than each node maintaining the full ledger, the ledger is divided or sharded into multiple fragments. So, in short, each node consists of a small part of the ledger rather than the whole ledger which is easy to maintain and in turn helps in scaling the blockchain. So rather than a full blockchain, we have shard chains that consist of multiple node or validator networks which are then assigned multiple tasks like verifying transactions or operations.*

Keywords- *Blockchain, Consensus, Hashing, Ledger, Sharding.*

I. INTRODUCTION

Most of the financial system in the 21st century is still under a centralized entity or a group of exclusive entities. However, this kills the basic principle of financial freedom which can be easily attained in a decentralized environment. This is where the idea of blockchain comes into the picture. Although most people got to know about blockchain through the boom or popularity of bitcoin in early 2008. However, blockchain is not limited to bitcoin or any other cryptocurrency, there are a plethora of other opportunities that can be unlocked, like for example, we can implement it for voting systems that can fulfil the needs of a transparent democracy. As it doesn't come under the power of a single entity there is no chance of manipulating the data or deleting it.
Blockchain technology provides great opportunities to promote various sectors through its unique combination of features, for e.g., decentralization, consistency, and transparency. We see promising opportunities in the application of this scientific and academic technology.

Blockchain has revealed its great capability in disrupting how digital dealings are passed out in a more protected and transparent manner. But the question still stands - does it have the capability to assist other practical applications? Such misperception is because of the interruption caused by its scalability problems. Scalability issues rise due to inadequate block size and present consensus method where each node in the system consecutively authenticate the contract before it being issued in the blockchain. This problem deepens with a rise in the number of dealings requiring additional nodes to support the system but at the same stretch increasing the number of steps for the contract to travel and spread complete consensus with each node. We can also get a comparative relationship among decrease in scalability of the blockchain and increase in the system size. This flaw is the key setback that is discontinuing the mass approval of blockchain for real-life applications.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

THE USABILITY METRICS FOR USER EXPERIENCE

Prachi Desul[1], Prof.Chandani Patel[2]

[1](*Department of MCA, Viva School Of MCA/ University of Mumbai, India)*
[2](*Department of MCA, Viva School Of MCA/ University of Mumbai, India)*

Abstract :*The Usability Metric for User Experience (UMUX) is a four-item Likert scale used for the subjective assessment of an application's perceived usability. It is designed to provide results similar to those obtained with the 10-item System Usability Scale, and is organized around the ISO 9241-11 definition of usability. A pilot version was assembled from candidate items, which was then tested alongside the System Usability Scale during usability testing. It was shown that the two scales correlate well, are reliable, and both align on one underlying usability factor. In addition, the Usability Metric for User Experience is compact enough to serve as a usability module in a broader user experience metric*

Keywords *-metric,system usability scale,usability,user experience*.

I. INTRODUCTION

Usability can be measured, but it is rarely Metrics are expensive and are a poor use of typically scarce usability resources. Although measuring usability can cost fourfold the maximum amount as conducting qualitative studies (which often generate better insight), metrics are sometimes well worth the expense. Among other things, metrics can help managers track design progress and support decisions about when to release a product. As organizations increase their usability investments, collecting actual measurements is a natural next step and does provide benefits. In general, usability metrics let you: Track progress between releases. You cannot fine-tune your methodology unless you recognize how well you're doing. Assess your competitive position. Are you better or worse than other companies? Where are you better or worse? Make a Stop/Go decision before launch. Is the design ok to release to an unsuspecting world? Create bonus plans for design managers and higher-level executives. For example, you'll determine bonus amounts for development project leaders supported what percentage customer-support calls or emails their products generated during the year. Usability may be a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the planning process.

Usability is defined by 5 quality components:

Learnability: How easy is it for users to accomplish basic tasks the primary time they encounter the design? Efficiency: Once users have learned the planning , how quickly can they perform tasks? Memorability: When users return to the planning after a period of not using it, how easily can they re-establish proficiency? Errors: what percentage errors do users make, how severe are these errors, and the way easily can they get over the errors? Satisfaction: How pleasant is it to use the planning There are many other important quality attributes. A key one is utility, which refers to the design's functionality: Does it do what users need?

Usability and utility are equally important and together determine whether something is useful: It matters little that something is straightforward if it isn't what you would like

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A Study of Tokenization of Real Estate Using Blockchain Technology

Vinayak Chavan[1], Prof.Chandani Patel[2]
[1](Department of MCA, University of Mumbai, India)
[2](Department of MCA, University of Mumbai, India)

Abstract : *Real estate is by far one of the most trusted investments that people have preferred, being a lucrative investment it provides a steady source of income in the form of lease and rents. Although there are numerous advantages, one of the key downsides of real estate investments is lack of liquidity. Thus, even though global real estate investments amount to about twice the size of investments in stock markets, the number of investors in the real estate market is significantly lower. Block chain technology has real potential in addressing the issues of liquidity and transparency, opening the market to even retail investors. Owing to the functionality and flexibility of creating Security Tokens, which are backed by real-world assets, real estate can be made liquid with the help of Special Purpose Vehicles. Tokens of ERC 777 standard, which represent fractional ownership of the real estate can be purchased by an investor and these tokens can also be listed on secondary exchanges. The robustness of Smart Contracts can enable the efficient transfer of tokens and seamless distribution of earnings amongst the investors. This work describes Ethereum blockchainbased solutions to make the existing Real Estate investment system much more efficient.*

Keywords -*Blockchain, Ethereum, Real Estate, Security Token, Tokenization, Vehicle.*

I INTRODUCTION

Real estate is a unique and complex asset class. The commercial real estate market makes up a significant economic global segment in terms of the asset base and the transactional activity. Although the investment market for real estate is huge, it has been dominated by a relatively closed network of firms and organizations able to make large investments which are not liquid. Real estate is different from various other asset classes as it involves high transaction costs, land use regulations and other barriers to entry. These characteristics of real estate have implications for the overall efficiency of the market. While there have been improvements in the information flow and transaction set up and completion – we are only at the initial few steps in terms of digitization [14]. A significant portion of the digitized information is hosted on disparate systems, which results in a lack of transparency and efficiency, and a higher incidence of inaccuracies that creates a greater potential for fraud. There is still a lot of improvement that can be made in real estate when it comes to the use of digital technology and the representation of physical assets in digital forms.

Blockchain technology could enable the real estate industry to address these inefficiencies and inaccuracies. Simply said, a blockchain is essentially a shared and distributed database or ledger. Transactions are processed and bundled in blocks and the blocks encrypted and cryptographically linked in a chain. The processing takes place within a network of nodes – either public or private – with a consensus design intended to decentralize authority such that no single source is the sole decider of transactional integrity. Rather authority is decentralized across the operators of the nodes, with each node validating and maintaining verified copies of the ledger [18]. By recording and combining transactions into a decentralized, secure ledger, a blockchain network creates a "chain" of chronological data that no one party has control of or can change and such that each block and the individual transaction can be verified via cryptography. The transaction records are further protected by the replication of the data across nodes allowing for multiple and verifiable sources of truth. The main contributions of this paper are:

Providing an approach for Real Estate Asset tokenization by using Ethereum, thus making it liquid, secure and efficient.Extend the approach to provide an automated solution for the transfer of tokens and distribution of earnings to investors.The remainder of this paper is organized as follows: Section 2 describes the existing system and its flaws. Section 3 discusses the preliminaries for this work. Section 4 describes the proposed

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Ethnography in UXDesign

Mithila Kundapur[1], Prof.Pradnya Mhatre[2]
[1](Department of MCA, University of Mumbai, India)
[2](Department of MCA, University of Mumbai, India)

Abstract : *By doing ethnographic research, UX designers can reap several key benefits for making a long term, multi-legged UX strategy.Ethnography is an experiential research method which means that the researcher experiences the environment while observing it.Ethnography is a long-term engagement with a consumer cultural group, collecting data through observation, key informant interviews and textual material in their natural settings, and analyzing it using the worldview and understanding of cultural protocols used within the community. This research allows design-thinkers to develop and place a product within a community that aligns easily and fills a gap that can be understood only from within the group.The purpose of ethnographic research is to put yourself in the shoes of those you're observing, get into their heads, understand their perspectives and expectations, and accurately record and share that gained knowledge in an objective way that you can then use to support design decisions later.You can do this through either: passive observation—as though you were a fly on the wall.*
active participation—by becoming a member of the team for a week and learning how to do the job—assuming you've got the prerequisite qualifications and experience.

Keywords -*design, experience, ethnography,research, UX*

I. INTRODUCTION

Ethnographic research enables the researcher to look at a specific group of people and better understand their behaviours and through that interpret their needs which are currently not met. It's an expensive business though; ethnographic research requires real interaction with a population over a period of time.

Predicting what will work best for users requires a deep understanding of their needs in context. Furthermore, traditional participatory research methods such as focus groups and surveys have obvious face validity, but may not provide the information that design teams need. The reason is that these techniques require users to predict their future behaviour, something that people are poor at doing.

An alternative method is to examine what people do rather than tell what they are doing. This approach is based on a simple premise: the best predictor for future behaviour is past behaviour. What people do is a better indicator of the underlying user need than what people say.

To avoid simply asking users what they want, user researchers have appropriated the methods of ethnography and applied them to user research. This technique is widely known as "design ethnography' but it differs in important ways from traditional ethnography.

II. ANALYSIS OF ETHNOGRAPHY IN UX

The analysis of the results depends on the method by which the knowledge was collected. In both cases, the research consisted of obtaining a detailed description of the users and their performance of the tasks to be verified, the researchers will use the data to look for patterns and themes, you will be looking for challenges and obstacles. They will look for the challenges and barriers that users encountered and how this effected different users.

One of the methods you can use to analyze the data is to use an affinity graph. This method allows you to take all the observations from research and summarize them so you can get started looking for patterns. The

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Digital Case Paper

Bhakti Patil [1], Manish Patil [2], Ashwanti Pawar[3], Ameya Purandare[4]

[1](Department of EXTC, VIVA Institute of Technology, Mumbai University, India)
[2](Department of EXTC, VIVA Institute of Technology, Mumbai University, India)
[3](Department of EXTC, VIVA Institute of Technology, Mumbai University, India)
[4](Department of EXTC, VIVA Institute of Technology, Mumbai University, India)

Abstract : *In today's world, a lot of innovation has been going on in the field of medicine and hospital management. But still waiting in the queue for case paper is everyday phenomenon. In hospital there are large patient's data to handling such huge data is difficult some time data regarding patients is a lost too. So, to solve this problem we are developing the app which can access from anywhere and generate case paper and also print that paper using wireless printer in hospital. Our system will have face detection for direct login and case paper generating once registration of patient is done. It will automatically assign doctors available. So, it saves time and easy to use.*

The problem of data storage is solving by using MySQL database this store all the data for further use. Digital case paper is to be designed with user friendly interface which can beneficial to patients. Users must be able to get the information within a minute without wastage of time. The implementation of system is primarily as a means to improve the patient service. It provides the security of data and ensure data accuracy. It also minimizes manual data entry.

Keywords - *Hospital management, Queue, MySQL, Face detection, Digital case-paper, wireless printer.*

I. INTRODUCTION

In general, every organization or line of business requires a person to book appointments, which needs to be confirmed or verified. In today's society individuals are generally on the go and appointments are made, modified and confirmed at a rapid rate, requiring patience, time and cost. Furthermore, there is generally a lag between requesting an

appointment time and having the appointment approved. One such area where appointments are made is in the medical field where a patient or user needs to book appointment with a family doctor who may then subsequently require the patient to book an appointment with a specialist, hospital, It is not unusual for the patient to repeat basic information all over again. There have been various attempts to improve this scheduling issue. It is an objective of this system to provide an improved online booking service. Keeping in mind today's fast day-to-day lives, the time is very important factor.

People are demanding more for new technology that would help in making their normal life easier. In other words, technology became one of the most important tools in our daily life. So, scientists, researchers, doctors and even students are trying to add more value to our life by developing new systems and one of them is the online appointment system which is a useful tool that can reduce costs, time and efforts; this issue can give people the freedom to choose suitable appointments with the desired doctor in a suitable time and location. Online appointments are growing more by the growth of technology and internet; therefore, we need more researches and harder work to keep up with the rapid changes and developments. Healthcare sector is one the most important sectors that needs more attention due to the high sensitivity so, developing such systems is very complicated and must be more accurate with very high confidentiality.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. 84
PP 1-6

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Sonic Wave Fire Fighter Robot Using Master Slave Concept

Nitesh Shetye[1], Revati Khadas[2], Vaishnavi Bhogal[3], Ameya Purandare[4]

[1](*Electronics and Telecommunications Engineering Department, VIVA Institute of Technology, India)*

[2](*Electronics and Telecommunications Engineering Department, VIVA Institute of Technology, India)*

[3](*Electronics and Telecommunications Engineering Department, VIVA Institute of Technology, India)*

[4](*Electronics and Telecommunications Engineering Department, VIVA Institute of Technology, India)*

Abstract - *In today's world, A lot of innovation has been going on in the field of fire safety and management. Automated Water and chemical sprinklers are commonly used in various skyscrapers. But these sprinklers have to be pre-installed at a particular distance apart from each other. for it to work efficiently many sprinklers are used on each floor and rooms of skyscrapers. Also, the maintenance of this system is a difficult task, and the cost of maintenance is very high. Hence, we are looking for another more reliable method which may overcome the disadvantages of the traditional method and also replace the chemical use. We are not only looking to extinguish the fire in the early stages but also, we are planning to take precautions in our project to avoid and reduce the rate of fire. To make our project most effective in a dangerous situation we are going to use a master-slave concept, so basically, we divide our project into the master which control the information, and the slave which is going to extinguish the fire when it occurs*

Keywords – *Collimator, Fire extinguisher, Master control unit, Power cut-off, Sound/acoustic waves.*

I. INTRODUCTION

In ancient times Fire is introduced to our ancient peoples. At that time fire helps in there day to day life. The occurrence of hazardous fire at that time was very low but nowadays because of various machines, chemical experiment, devices which used in day-to-day life the unwanted and hazardous fire occurs which may harm us. There are so many ways to control the fire but that is not sufficient. The traditional methods now use to extinguish the fire have many drawbacks. In the traditional method, we use chemicals and water but when we use chemical extinguishers, we not only waste chemicals but the reaction takes place to extinguish the fire pollute our environment by creating residues behind it. There are 4-5 ways to extinguish the fire and the chemicals which are used to extinguish also different in some conditions we use water also.

1.1 Importance of Project

Here we have made a slave robot which can easily move around complete room and can detect exact place of fire in the room and extinguish it. To control this slave robot, we have master control unit which will continuously monitor fire and smoke in the room and guid the slave robots to the fire destination. Our research work is aimed at introducing a type of fire extinguisher that eradicates the use of both water as well as chemicals by using sound/acoustic waves, thus saving resources as well as preventing equipment and health damage caused by chemicals. This Sound based fire extinguishers will be installed on slave robot along with traditional water sprinkler Also our system includes automatic door and windows opening which will have a way for smoke to come out of room hence preventing death by smoke clogging. our system also includes automatic mains power cut on fire or smoke detection.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Government Scheme Awareness Through App

Pranav Patil, Ritik Rana, Bikas Maharana, Ashwini Kothawale
[1](EXTC, Viva institute of technology/ Mumbai University, India)
[2](EXTC, Viva institute of technology/ Mumbai University, India)
[3](EXTC, Viva institute of technology/ Mumbai University, India)
[4](EXTC, Viva institute of technology/ Mumbai University, India)

Abstract : *Government Schemes in India are launched by the government to address the social and economic welfare of the citizens of this nation. These schemes play a crucial role in solving many socio-economic problems that beset Indian society, and thus their awareness is a must for any concerned citizen The whole idea of this project is to create platform which connect citizens to gov. and spread awareness of gov. scheme available based on their eligibility. Provide detailed information of scheme and complete instruction how to apply for it. Create back-end for easy management (change, add and remove) scheme database.*

Keywords - *Scheme, Awareness, Application, Government, Communication.*

1. INTRODUCTION

1.1 Importance of project

Government Schemes are launched by the government of India to address the social and economic welfare of the citizens of this nation. These schemes play a crucial role in solving many social and economic problems that beset Indian society, and thus their awareness is a must for any concerned citizen. Govt. utilize significantly large amount of money to spread awareness about this schemes through different advertising mediums. Our app act as bridge between Gov and society. You just have to put information like location, gender, age, profession, and area of interest (finance, education, health etc) and app tell you which government scheme suits to your interest.

1.2 Motivation

As a student & future employee I was interested in what government has to offer us to help my career life.So while researching I ended up into official government site where variety of schemes where displayed but I was finding it difficult while going through which scheme will be applicable to my criteria because there was no proper search engine used. So I came up with the idea of making a government schemes app which is user friendly which saves time by giving you the proper result eligible with your criteria you have chosen by developing an accurate search engine.

1.3 Organization of the report

This report is the overview of how the project will be built. It contains all the basic information of making this project. This synopsis contains the literature review in which we have mentioned some of the papers we have studied during this course. Further in this paper we have described the design methodology, that how we will make this project done step by step description. The tool, hardware and software that are required in this project are also mentioned below.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

Furniture, Painting and Decor Designing Using Markerless Based AR

Kunal Gaikwad [1], Vinay Mahamunkar [2], Somya Singh[3], Kushal Suvarna [4]

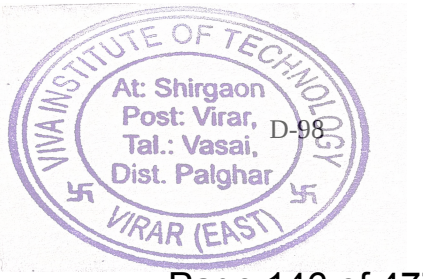
[1](*Electronics and Telecommunication Engineering, VIVA Institute of Technology, India)*
[2](*Electronics and Telecommunication Engineering, VIVA Institute of Technology, India)*
[3](*Electronics and Telecommunication Engineering, VIVA Institute of Technology, India)*
[4](*Electronics and Telecommunication Engineering, VIVA Institute of Technology, India)*

Abstract : *The interior decor planning industry has been seeing increase in demand in the interior industry.The applications of Augmented Reality could potentially transform this industry by making it more convenient for consumers to plan their home and office interiors in their own time on their phone or system. This application would help in designing and planning the floor space virtually with a range of options available for selection in real-time mode. The implemented system works by using not just the images captured by the camera on the device, rather by using the orientation of the camera with respect to the ground plane that has to be detected. This gives a more realistic view for the consumer to judge their fit efficiently with the dimensions of items, and save the manual work of moving furniture. The implemented system is evaluated for its deployment time for various models and performance under different distances.*

Keywords *- Augmented reality, Interior decor planning industry, Markerless augmented reality, Realistic view, Realtime mobile view.*

1. INTRODUCTION

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside within the world are enhanced by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory, and olfactory. AR can be defined as a system that fulfills three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. The overlaid sensory information can be constructive (i.e. additive to the natural environment), or destructive (i.e. masking of the natural environment). This experience is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment. In this way, augmented reality alters one's ongoing perception of a real-world environment, whereas virtual reality completely replaces the user's real-world environment with a simulated one.



VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

AUTOMATED E-WASTE DISPOSAL USING MACHINE LEARNING

Tanvi Aswani[1], Aman Maurya[2], Govind Naik[3], Prof. Meena Perla[4]

[1]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

Email: 18201023tanvi@viva-technology.org

[2]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

Email: 19212010aman@viva-technology.org

[3]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

Email: 17201052govind@viva-technology.org

[4]*Department of ELECTRONICS AND TELECOMMUNICATION, MUMBAI University, INDIA*

Email: meenavallakati@viva-technology.org

Abstract: *E-waste is a huge problem in India. In my surroundings we have always noticed that people dispose their non-working or damaged tube lights, batteries, lamps, filament bulbs, electronic toys, routers, earphones etc. in general waste which is an incorrect method of disposal because it contains extremely hazardous and toxic metals and we also need to minimize the number of people getting exposed to damaged electronic equipment's so to overcome this problem we wanted to ensure that the e-waste generated in household of India gets into the proper hands which can dispose, recycle and reuse effectively for this it became mandatory to make an e-waste vending machine where people will gather all the unused, damage equipment and dispose it into our machine for which they will be rewarded but because of rewards people should not dump any unwanted things like plastic, papers, stones so for that we have used the camera module which will take the image of an object which further will be predicted by ML model that the waste is electronic equipment and worth storing or no. We wanted to ensure that the system built by us will effectively collect the E-waste generated and we can reuse most of them for further process and it will also reduce the pressure on non-renewable resources which are used in production of various products as recycling can significantly decrease the demand for mining heavy metals and reduce the greenhouse gas emissions from manufacturing virgin materials.*

Keywords – *Disposal, E-waste, hazardous, mining, ML Model*

I. INTRODUCTION

The hazardous nature of e-waste is the rapidly growing environmental problems of the world. The problem is deepened by the ever-increasing amount of e-waste associated with the absence of knowledge and sufficient capacity. Increased use of electrical and electronic equipment is generating waste at an alarming pace in India, coupled with a huge population and evolving consumption patterns. This is attributable to the improvement or growth of technology. In modern times, these drastic advances have undeniably increased the quality of our lives. At the same time, these have led to several issues, including the issue of large quantities of toxic waste and other waste from electric product. These dangerous and other wastes pose a significant danger to the environment and human health. Land-filling of these waste results in extensive soil and groundwater pollution, while waste incineration contributes to the release of harmful gases such as dioxins and furans. Obsolete PCs are appealing to informal recyclers because of the high precious metal content and high demand for used machines in developing countries such as India. Computer recycling includes sophisticated applications and procedures, which are not only very costly, but also require special abilities and preparation for the operation. The majority of recyclers

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

IOT based Automatic Colour Sorting Machine

Kunal Shinde[1], Vinayak Adulkar[2], Avinash Wankhede[3], Mrs. Meena Perla[4]
[1](Student, Dept. of Electronics & Telecommunication, Viva Institute of Technology, Virar Maharashtra, India)
[2](Student, Dept. of Electronics & Telecommunication, Viva Institute of Technology, Virar Maharashtra, India)
[3](Student, Dept. of Electronics & Telecommunication, Viva Institute of Technology, Virar Maharashtra, India)
[4](Professor, Dept. of Electronics & Telecommunication, Viva Institute of Technology, Virar Maharashtra, India)

Abstract *: In our day - to - day life we use wide range of products .The manufacturing and production of these products are done in many small scale and large scale industries. Arranging products manually make quality consistent issue. Nowadays, After manufacturing and production of the products the main difficulties are faced is the sorting of products. Arranging of products in an industry is a poor modern process, which is largely done physically. The machine which is consistent and sort products according to their size, colour, shape and weight etc. are needed in industry which helps in consuming time and human interactions. This paper gives a brief information about how products are sorted according to their containers respectively.*

Keywords – *Internet of Things (IOT), Automation, Sorting Machine, Servo Motor, Raspberry pi4*

1. INTRODUCTION

Industrial processes are well refined with the assistance of automated system thanks to the drawbacks of the manual system .The manual system of sorting objects relies on manpower. Human are highly capable to differentiate objects colours and to sort them. But repeating the identical process may cause irritation and mental stress which might result in certain manual errors like low accuracy, low efficiency, etc. To reduce production time and to extend quality, automated systems are being employed. The proposed system is in a position to sense, sort and count objects supported their colours and to display them on App and stored using Cloud. It transfers the various coloured objects to different containers for several number of times.

1.1 Importance of Project

Automatic colour sorting machine are significantly different from manually colour sorting machine with high flexibility and swiftness in its movement. The automatic colour sorting machine structure design gives an advantages over manually colour sorting machine and also the ability to adapt to industrial requirements so that it can be widely used in industry, industrial testing etc. and special conditions like humans cannot detect colour shades result in increasing attention is paid to automatic colour sorting machine.

1.2 Motivation

The motivation of creating a IOT based automatic colour sorting machine comes from the abilities which a IOT based colour sorting machine possesses in comparison to manually colour sorting machine such as flexibility, adaptability and less human interference .

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

FACE DETECTION AND FEATURE EXTRACTION FOR FACIAL EMOTION DETECTION

Chetan Bhosale[1], Disha Jariwala[2], Tejas Keni[3], Karishma Raut[4]
[1](EXTC, Viva Institute of Technology/ Mumbai University, India)
[2](EXTC, Viva Institute of Technology/ Mumbai University, India)
[3](EXTC, Viva Institute of Technology/ Mumbai University, India)
[4](EXTC, Viva Institute of Technology/ Mumbai University, India)

Abstract : *Facial emotion Recognition has been a major issue and an advanced area of research in the field of Human-Machine Interaction and Image Processing. To get facial expression the system needs to meet a variety of human facial features such as color, body shape, reflection, posture, etc. To get a person's facial expression first it is necessary to get various facial features such as eye movement, nose, lips, etc. and then differentiate by comparing the trained data using differentiation appropriate for speech recognition. An AI-based approach to the novel visual system system is suggested. There are two main processes in the proposed system, namely Face detection and feature extraction.Face detection is performed using the Haar Cascade Method. The proper feature extraction method is used to extract the element and then used a vector machine to distinguish the final face shape. The FER13 data set is used for training.*

Keywords *- Emotion recognition, CNN, Machine learning, Python, AI*

1.INTRODUCTION

Mental illness has a profound effect on human performance, health, and quality of life. Getting early warning of depression or other mental illness is a challenge.

Generally, the availability of emotional information is required for emotional awareness .The elements of emotional information include a variety of physical or behavioral responses as well as changes in mood, including internal and external emotional factors.

Human emotion recognition plays an important role in the interpersonal relationship and for detecting user's state of mind. The automatic recognition of emotions has been an active research topic from early times,therefore, there are several advances made in this field. Emotions are reflected from hand,speech, gestures of the body and through facial expressions. Hence extracting and understanding of emotion is very essential for the interaction between human and machine communication[1].

Facial recognition (FER) has emerged as an important area of research over the past two decades. Facial expressions are one of the quickest, most natural, and powerful ways for people to communicate their intentions and emotions. The FER system can be used for many important applications such as driver safety, health care, video conferencing, virtual reality, and cognitive science etc.

Often, facial expressions can be divided into neutral, anger, disgust, fear, surprise, sadness and joy. Recent research shows that young people 'ability to read other people's feelings and emotions is diminished by the increased use of digital devices[2]. Therefore, it is important to develop an FER system that accurately detects facial expressions in real time.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Review paper on Data Security using Cryptography and Steganography

Ankita Patil[1], Shubham Mulik[2], Punit Pathak[3], Karishma Raut[4]
[1](EXTC, VIVA institute of technology, India)
[2](EXTC, VIVA institute of technology, India)
[3](EXTC, VIVA institute of technology, India)
[4](EXTC, VIVA institute of technology, India)

Abstract: *One of the major problems faced by this digital world is Data Security. Data Security plays an important role in the field of information technology. As there are large advancements in internet technology, there has been huge text as well as multimedia data transfer over the internet. The communication channel available for data transfer from the transmitter to receiver is highly insecure. As the security of electronic data is a major issue and to achieve high security and confidentiality, the public and the private sectors use different kinds of techniques and methods to protect the data from unauthorized users. Cryptography and Steganography are the most popular and widely used technologies for security. Cryptography is the art of hiding information by encryption and steganography is a technique to hides data in the cover medium. Cryptography hides the readable and meaningful contents of the data. And the existence of the data is hidden by the Steganography technique.*

Keywords – *Advanced encryption standard (AES), Cryptography, Encryption, Image Stitching, Steganography.*

1. INTRODUCTION

In the last few years, the amount of information shared on electronic media has increased significantly. With increasing technology, there is a threat to data that is transmitted using the unsecured channel. Data needs to be hidden from unauthorized access, protected from unauthorized change, and available to an authorized entity when it is needed. Hence to ensure the Security and Confidentiality of data to be transmitted is very important and necessary.

This requirement can be achieved by different data security techniques, some of the well-known techniques are Steganography and Cryptography.

Cryptography techniques can be basically classified into two types' Symmetric-key cryptography and Asymmetric-key cryptography. In Symmetric-key, only one key is used by the sender as well as the receiver. In Asymmetric-key, two different keys are used: a public key which is disclosed to all, and a private key which is secretly known only to the authorized recipient of data [1].

In Cryptography, even though the secret data is sent in an unreadable format, it gives the hint of the existence of secret data to the unauthorized recipient. However, in Steganography, such a hint is not given to the unintended recipient as the secret data is hidden inside another data. Therefore, Steganography can be more useful and advantageous when the use of cryptography is risky or prohibited [1]. Cryptography provides security for the message transmitted over the network whereas steganography protects both message and the communicating parties [2]. Various secure methods are present but with increasing technology these methods become weak so there is a need to enhance these security methods for better and securely transmission of data.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Extracting Features from the fundus image using Canny edge detection method for Pre-Detection of Diabetic Retinopathy

Nishant Dandekar[1], Jayesh Kulkarni[2], Riddhi Raut[3], Karishma Raut[4]
[1](Electronics and Telecommunication Engineering, VIVA Institute of Technology, Virar, India)
[2](Electronics and Telecommunication Engineering, VIVA Institute of Technology, Virar, India)
[3](Electronics and Telecommunication Engineering, VIVA Institute of Technology, Virar, India)
[4](Electronics and Telecommunication Engineering, VIVA Institute of Technology, Virar, India)

Abstract: *Diabetic Retinopathy (DR) is an ailment of the eye caused by diabetes. People suffering from diabetes can procure the disease. DR is caused when the high blood sugar level damages the blood vessels of the eye. Also due to high blood sugar level abnormal blood vessels can grow in the retina. This can make the patient lose its vision. Unfortunately, the symptoms of DR cannot be detected easily. The disease can grow increasingly if left untreated. Hence it becomes all the more important to detect DR. In this paper we have made use of Image processing Technique like canny edge detection to extract the features necessary to detect DR and find the severity of the disease. The features extracted from the image can be used to detect DR by various other methods like SVM, Logistic Regression, etc.*

Keywords – Diabetic *Retinopathy, Feature Extraction, Canny Edge Detection, Image Processing Technique*

I. INTRODUCTION

Person with diabetes can develop an eye disease called diabetic retinopathy. This is when high blood sugar causes damage to the blood vessels in the retina. These arteries can become inflamed or leaky, blocking the flow of blood. Sometimes new abnormal blood vessels grow in the retina. All of these changes can steal patient's vision. The symptoms of DR appear gradually over time making it difficult to identify if a particular patient is suffering from DR or not. Hence it becomes important to identify if a patient who's having diabetes has DR.

By looking at various papers and journals while researching for Diabetic retinopathy it was seen that the detection of Diabetic Retinopathy in early stages is difficult as the symptoms are very difficult to detect and test. Many journals and papers have been written and published on the detection of Diabetic Retinopathy which have used many different techniques and processes to detect DR. The prediction that the image is having Diabetic Retinopathy is done by implementing various image processing and machine learning techniques on the extracted features from the image [1][2].

In this paper, we have used Canny edge detection method to extract important features from the input fundus image. By using canny edge detection, features like the gaussian image, weak edges, strong edges, magnitude of the input image is obtained which can be used for detection of Diabetic Retinopathy. This extracted feature can be used with other Image processing technique like k-means clustering, etc. and Machine learning Techniques like Conventional neural network, Support Vector Machine (SVM), etc to predict if the input image is having Diabetic Retinopathy and finding its severity.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL
VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Development of Online Hospital Booking Portal for Patient Appointment

Vinayak Jogalekar[1], Reekshab Pal[2], Arunkumar Yadav[3], Archana Ingle[4]
[1](ECE, Viva Institute of Technology/Mumbai University, India)
[2](ECE, Viva Institute of Technology/Mumbai University, India)
[3](ECE, Viva Institute of Technology/Mumbai University, India)
[4](ECE, Viva Institute of Technology/Mumbai University, India)

Abstract : *Health care is changing with a new emphasis on patient-centeredness. Fundamental to this transformation is the increasing recognition of patients' role in health care delivery and design. Medical appointment scheduling is the the main point of most non-urgent health care services and it is undergoing major developments to support active involvement of patients. The project presents approach to design a smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. By using the Internet as a medium, more freedom is given to the patients in decision making about their preferences for the appointments and have improved access.*

Keywords –*Online hospital booking portal, Emergency appointment, Healthcare management.*

I. INTRODUCTION

If anybody is sick and wants to visit a doctor for check-up, he or she needs to go to the hospital and should waits till the doctor is available. While getting appointment the patient also waits in queue. Because of some emergency reasons if the appointment is cancelled by the doctor then it is difficult to know about the cancelation of the appointment to the patient unless or until he or she visits the hospital. As the mobile communication technology is developing rapidly, therefore, one can use the mobile's applications to overcome such problems and inconvenience for the patients.

The proposed project is a smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. This is a web based portal that overcomes the issue of managing and booking appointments according to user's choice or demands. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the users as per their availability. Hence the effective solution is offered by this project where users can see various booking slots available and select the preferable date and time. In this system users can also cancel their booking anytime. The system has to be feed by the doctor regularly with his daily earnings and at the month's ending a report is automatically generated by the system of total amount earned.

II. LITERATURE REVIEW

The patient will have their own profiles under which there will be some options such as taking input of medical data, viewing the previous records, taking online appointment of registered doctors and taking online medication from the appointed doctor. The appointed doctor can view the patient's data and listen to the patient's health complaint via message system[1].

It is worked by mobile devices such as smart phones, providing user interfaces for configuring medication schedules and user alerts for reminding users about the time and type of medication according to the configured medication schedule. To ensure that patients actually take their medications some systems use sensors, radio-frequency identification (RFID), or motion detection technologies. It is a free application which supports

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

"AN IOT ENABLED SMART HEALTH CARE KIT: REVIEW"

Ms. Rutuja Parab[1], Ms. Shweta Gupta[2],Mr.Hitesh Thanvi[3] , Ms. Archana Ingle[4]

[1](EXCT, VIVA Institute of Technology, Virar, Maharashtra, India.)
[2](EXCT, VIVA Institute of Technology, Virar, Maharashtra, India.)
[3](EXCT, VIVA Institute of Technology, Virar, Maharashtra, India.)
[4](EXCT, VIVA Institute of Technology, Virar, Maharashtra, India.)

Abstract: *Nowadays due to busy and hush lifestyle people tend to ignore their health also due to this lifestyle people don't have time to take care of their loved ones especially parents and grandparents It is a hope to perform checking of the wellbeing state of a patient with so amenities and every day exercises this system provides such facilities which is hand on to use and with accuracy with the help of IOT and hardware used IOT is a wireless network connecting different devices to share, record, analyze the information IOT plays the vital role in this system to be a success hence patients data such as heart rate, blood pressure, ECG etc. and transfer accordingly this system is a onetime investment to the health of an individual person in day to day life.*

Keywords – *(Internet of Things (IOT), Health monitoring, Health Parameter,* Raspberry Pi, *Sensors.)*

I. INTRODUCTION

In IOT there are numerous gadgets are associated with one another for correspondence reason it shares the information, data and ready to deliver new data and record it for future reason. Ordinary individuals require new gadgets, new innovation for make his life simple. The examination is consistently attempting to think on new gadgets for make his life simple. In our everyday life we are confronting numerous issues identified with our wellbeing since we are not thinking about ourselves. Thus, to lessen these issues we are presented an IOT Based Smart Healthcare Kit.

This framework is valuable for everyday citizens to gauge and observing like, temperature, ECG, heart beat rate etc. & the outcome is recorded in INTEL GALILEO BOARD and show on LCD.The specialist can login to this site and see that result. This framework utilized sensors and actuators for get the information from patient and record it. This framework is give better yield and it is less exorbitant.[1]

The fundamental vision of the medical services industry is to give better medical services to all the individuals anyplace and whenever in the world. This ought to be done in a more patient neighbourly and financial way. Along these lines for expanding the patient consideration productivity, there is a need to improve the patient observing gadgets. The clinical present reality faces two issues in quiet observing; initially, the need of medical care suppliers also, overseers to be available at the bedside of the patient and second is that the patient is limited to bed and is wired to huge machines. So as to accomplish adaptable and agreeable patient consideration, the previously mentioned issues ought to be explained and as the bioinstrumentation and broadcast communications advancements are propelling, it has gotten more possible to plan a home based crucial sign checking framework to accumulate, show, record also, send the physiological information from a human body to any area. The proposed system uses IoT and distributed computing for seeing of person's prosperity using sensors. The IoT enables the relationship of contraptions around us to web by methods for distant and wired correspondence developments. These sensors can be used to accumulate particular kinds of data, for instance, internal heat level,

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon, Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Simulation of induction motor for reference of practical engineering

Prabjeet Singh[1], Tejas Sakpal[2], Sachin Mondkar[3]
[1](Department of Electrical Engineering, Viva Institute of Technology, India)
[2](Department of Electrical Engineering, Viva Institute of Technology, India)
[3](Department of Electrical Engineering, Viva Institute of Technology, India)

Abstract : *This Project simulates an Induction Motor. It will be helpful for the performer in the practical, observation of the Induction Motor in the lab, as the design motor will be the simulation of the actual motor used for the practical and experiment. The Factors such as direction of magnetic field, magnetic field density, number of windings, heat dissipation, temperature gradient, current flow, etc. which are not visible for the performer but actually plays a very important role for the performance and the efficiency of the Induction Motor will be seen digitally, graphically with the help of simulation on the platform of ANSYS software. The design and calculation of various parameters of the induction motor are done to obtain a simulation which will be approximate to that of the induction motor used for the practical purposes. This will not only increase the interest of the performer but also the understandability of the practical will be more convenient as the performer will be able to gain knowledge about various parameter which were practically impossible to view.*

Keywords *- ANSYS, Design, Induction Motor, MAXWELL, Simulation.*

I. INTRODUCTION

The Induction motors are widely used because of their advantages such as simple and rugged design, less required maintenance and low cost when compared to DC motors. Hence the study of induction motor in academics holds much importance for the students in as a theoretical and numerical subject as well as practical and experimental study performed in the laboratory.

This project will prove to be a helping hand for the performer in the laboratory, as during the session of practical, the simulation of the same motor will be available for the performer and would be able to view many factors such as temperature rise, magnetic field, magnitude of different forces as well as their direction, etc. with the help of software.

While performing the practical the simulation of the motor would be seen by the viewer to understand and gain more knowledge of the various parameters which are running inside the induction motor.

This will boost the process of understanding the practical and basic knowledge of the subject for the performer and will gain more interest for the same.

To provide a side by side digital visual approach of the simulation of the induction motor for understanding the parameters of the performing practical and gaining more information and knowledge about the internal process of the induction motor.

This will include the visualization of the parameters such as increase in temperature, current flow, magnetic flux distribution, magnitude of the magnetic field in different portions and many more.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

WIRELESS POWER THEFT MONITORING SYSTEM

Mukesh Mishra[1], Anojkumar Yadav[2], Bhavita Patil[3]

[1](Electrical Department, VIVA Institute of Technology, India)
[2](Electrical Department, VIVA Institute of Technology, India)
[3](Electrical Department, VIVA Institute of Technology, India)

Abstract : *Power larceny is the sizably voluminous quandary now days which causes immensely colossal loss to electricity boards. And to surmount these losses prices are incremented. So if we can obviate this larceny we can preserve lots of potency. The mundane practice for power larceny is to short input output terminals or to place magnet on the wheel in case of old meters. In this system a micro controller is interfaced with an energy metering circuit current sensing circuit, RF communication & a contactor to make or break power line. If current is drawing & energy pulses are mundane then no puissance is larceny. If current is drawing & energy pulses are not coming then it designates power larceny. So microcontroller trip the o/p utilizing relay. This information is sent to substation utilizing wireless communication. Line faults may be caused due to over current or earth fault. If there transpires to be a connection between two phase lines then over current fault occurs. Earth fault occurs due to the earthing of phase line through cross arm or any other way*

Keywords- *power theft, monitoring, earthing, fault.*

I. INTRODUCTION

An electric meter is a device used for measuring the amount of electrical energy supplied to a commercial or residential building. Due to the increasing cost of electricity, security and tampering in electric meters has become a major concern for government agencies over the globe. Moreover in populous countries like China and India, tampering in electric meter and energy theft have become common. Electric meters can be manipulated, thus causing them to stop, even bypassing the meter. Consumers those who are tamper with electric meter, effectively and efficiently use power without paying for it. This theft or fraud can be dishonest as well as dangerous .Electric meter security is made as major issue in many countries today. Wireless Power Theft Monitoring Unit use remote monitoring method to prevent power theft. It is necessary to present this method to electricity department. This Unit also use Radio technology to monitor wireless meter reading. If there will be difference in wireless reading and installed meter reading, then it is easy to detect thief.

II. PROBLEM IDENTIFICATION

According to the Indian atmosphere, it is a great problem to blame any personality against the theft of power line from the power distribution system. this can only by overcome by an experienced method that the total load of distributed may be fixed and if any person may create any theft against this load the power may get off of the whole position which is been distributed so that the whole person living in that locality it is to be located they may refuse for power theft otherwise the employee cant able to blame any person against power theft. This system has been experienced in khurshipaar area placed in Chhattisgarh India where plenty of power theft is being occurred by the personality living in that locality this has been controlled through our control system and it has a better result on controlling and monitoring the theft against the personality in that area, then by Zigbee based RF transferring of signal to the substation and at the substation it is being received and monitored that the tripping function has been performed.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Study of distributed energy resources

Chitralekha Vangala[1]
[1](*Department of Electrical Engineering, VIVA Institute of Technology, India*)

Abstract: *Increased demands on the nation's electrical power systems and incidences of electricity shortages, power quality problems, rolling blackouts, electricity spiked prices have caused many customers to seek other sources for high-quality and reliable electricity. Distributed Energy Resources (DER) small-scale power generation resources located close to where the electricity is used (e.g., a house or commercial sectors), provide an alternate source of energy.*

DER is a faster and less expensive option for the construction of large and central power plants and also high-voltage transmission lines. They offer consumers the potential for lower cost, higher service reliability, high power quality, increased energy efficiency, and energy independence. The use of renewable distributed energy generation technologies and "green power" such as wind, photovoltaic, geothermal, biomass, or hydroelectric power can also provide a significant environmental benefit.

Keywords - *Distributed energy resource, electrical source, green power, power grid, renewable energy.*

I. INTRODUCTION

In 2015, the Essential Reliability Services Task Force (ERSTF) recognized that the North America's electric power system generation resource mix is changing from the use of larger synchronous sources to the use of a more diverse fleet of smaller sized resources with varying generation characteristics. As this following transformation continues, there is fundamental shift in the characteristics of operation in the power system in a whole and the potential reliability implications. The Essential Reliability Services Task Force final report provides directional measures in order to help the industry understanding and the policy makers prepare for all the ongoing transition. The measures provide the insight to the key technical aspirations that may not have considered the representative challenges with a conventional generation fleet but it may pose risks to the BPS reliability under a distinctive change in generation fleet.

The ongoing interest in this distributed electric grid and the new variations of distributed resources add further increase in the variety of stakeholders and also in the technologies. Both the new and the conventional stakeholders are building and/or planning to build the distributed solar PV systems, energy management systems (EMS), micro-grids (MGs), demand services, aggregated generating systems behind the retail meter and many other distributed generation systems. Many such kind of stakeholders have absolute considerable experience by installing such systems in the distributive network for the benefits of industrial and/or residential customers, however, they may have less similarity with the BPS system and the coordinated activities that ensure system reliability during both normal operation and in response to disturbances. While this report studies the reliability considerations from the point of view of BPS, it will also help the DER providers understanding the reliability considerations for the whole power system.

Increasing amounts of DER can also change the distribution system interaction with BPS and will also transform the distribution system for an active source of energy and ERS. Careful attention must be given to potential reliability impacts and the time frame required in order to address reliability concerns with coordination of ERS and system protection considerations, for the transmission as well as distribution system and also grow importance of information sharing within the transmission distribution interface.

Today, the effect of aggregated DER is not at all fully presented in the BPS models and also in the operating tools. This could have resulted in an unanticipated power flows and increase the demand forecast

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Solid state transformer

Anojkumar Yadav[1], Mukesh Kumar[2], Bhavita Patil[3]
[1](Electrical Department, VIVA Institute of Technology/ University of Mumbai, India)
[2](Electrical Department, VIVA Institute of Technology/ University of Mumbai, India)
[3](Electrical Department, VIVA Institute of Technology/ University of Mumbai, India)

Abstract : *The conventional transformer in power infrastructure should be capable of meeting the demand for the load. The conventional transformer is structured and designed to handle high power. Also, the overload capacity of conventional transformers depends on the highest temperature and short-term overload. This paper represents the construction and working of the solid-state transformer which consists of AC to DC and DC to AC conversion which has low overload capability as compared to conventional transformers. Solid-state transformer finding applications in Solar and wind power generation electric vehicle battery management systems because of high-frequency operation, which is not possible in case of conventional transformers also smart transformer, provides flexible control of electric power distribution.*

Keywords - *AC to DC converter, Conventional transformer, DC to AC converter, High-frequency magnetics, Solid state transformer*

I. INTRODUCTION

The power infrastructure should be capable of the meeting the load demand but the non-conventional energy resources such as solar, wind and new loads such as electric vehicles challenge grid management and load dispatching activities. This new type of the loads creates problems such as phase's imbalance, power quality issues, and transformer overload. The conventional transformers are designed for handling higher power than the nominal one. Their overload capability depends on the highest temperature (hot spot), and short-term overload is permitted for a few hours per day. To make the power system, it is very important to make very sensitive to demand it will not only meet the need of present but also saves energy with improving the power quality. Among several scenarios, the smart transformer represents a solution for simultaneously managing low and medium voltage grids, providing ancillary services to the distribution grid. However, unlike conventional transformers, the smart transformer has a very limited overload capability, because the junction temperature which must always be below its maximum limit is characterized by a short time constant.

II. BASIC STRUCTURE OF SOLID STATE TRANSFORMER

Smart transformer caters to a wide variety of applications, ranging from alternative power generation to traction locomotives, power grid and electric industries, and others. Smart transformer is used in a wide range of applications, which would facilitate the smooth transition from AC to DC and DC to AC, besides voltage conversion. Alternative power generation is the most dominant application off Smart transformer driving the market growth. Increasing adoption of renewable power sources, such as wind & solar energy, traction locomotives, are major factors boosting the adoption of Smart transformer globally. The world smart transformer market is driven by, increasing preferences for renewable energy source, growing use of traction locomotives & electric vehicles and heavy investments in smart grids & energy systems. In addition, new renewable energy sources such as tidal energy for power generations have boosted research and development activities in the field of electric distribution network, further, driving the market growth.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Volume 1, Issue 4(2021)
ArticleNo.X
PPXX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

SOLAR AND WIND GENERATOR FOR STREET LIGHT APPLICATION WITH SOLAR TRACKING

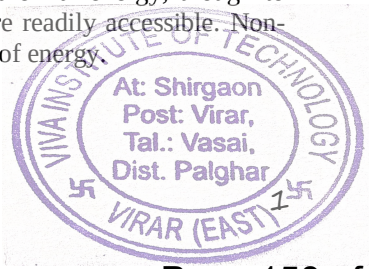
Aniket Gavli[1], Mitali Borole[2], Samruddhi Kanade[3], Prof. Chitralekha Vangala[4]
[1](*Department of Electrical Engineering, Viva Institute of Technology/Mumbai University, India)*
[2](*Department of Electrical Engineering, Viva Institute of Technology/Mumbai University, India)*
[3](*Department of Electrical Engineering, Viva Institute of Technology/Mumbai University, India)*
[4](*Department of Electrical Engineering, Viva Institute of Technology/Mumbai University, India)*

Abstract: *The main objective of this project is "Solar and Wind Generator for Street Light Application with Solar Tracking". The Solar Tracking – Vertical Axis Wind Turbine System is not only cheap and efficient, but also eco-friendly. This turbine generate electricity using both solar and wind energy. So, for uninterrupted electricity generation, we have two powerful and inexhaustible sources. The system has two basic Components- one for electricity generation through solar energy and another for wind generation. Our project focuses on the use of air on highway divider with the help vertical axis wind turbine. When the vehicles passed on the highway, it produces a considerable amount of air due to its speed. The blade of the vertical axis wind turbine strikes tangentially and makes the turbine spin in just one direction. The solar system is used to enhance the overall efficiency of solar panel by keeping them aligned along with the sun position, solar tracking system is used nowadays. The electrical output of the vertical axis turbine and the solar system is stored in battery. This accumulated energy that can be used further for street use, lighting, toll gates etc.*
Keywords - *Hybrid energy system, Highway medium, Solar tracking, vertical axis wind turbine, Wind energy.*

I. INTRODUCTION

For our day to day life, electricity is most needed. There are two methods of producing electricity, either by conventional energy resources or by non-conventional energy resources. Electrical energy demand increases in day by day so to fulfill demand we have to generate electrical energy. The electrical energy of a day is now created. Centered on traditional energy sources such as coal, diesel, nuclear, etc. The primary limitation of these sources is it creates and takes care of waste such as ash in coal power plants, radioactive waste in nuclear power plants.

Waste is very expensive and it harms nature as well. Nuclear waste is therefore very dangerous to mankind. The conventional resources are exhausting day by day. It will soon disappear entirely from the planet, so we have to find some way to produce electricity. The new source should be pollution free and economical. Healthy alternative energy options for traditional energy resources should be non-conventional energy resources. There are limitations of tidal energy, such that it can only be applied on seashores. Geothermal energy, though to extract heat from earth, very lager phase is required. In any case, solar and wind are readily accessible. Non-conventional energy options such as solar and wind can be a strong alternative source of energy.



VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

POWER PLANT- PORTABLE MICRO POWER GENERATION

Pooja P. Darade[1], Reema S. Gupta[2], Jagruti S. Gaikar[3], Prof.Piyali Mondal[4]

[1]*ELECTRICAL DEPARTMENT,VIVA Institute of Technology, Virar. India*
[2]*ELECTRICAL DEPARTMENT,VIVA Institute of Technology, Virar. India*
[3]*ELECTRICAL DEPARTMENT,VIVA Institute of Technology, Virar. India*
[4]*ELECTRICAL DEPARTMENT,VIVA Institute of Technology, Virar. India*

Abstract : *This project gives on idea of "POWER PLANT- PORTABLE MICRO POWER GENERATION". In this project we considered wind as a renewable source of energy to generate electricity with the help of aeroleaves are leaf like structure of wind turbine. Which are placed in the form of tree called Wind tree. These aeroleaves are small vertical Axis Wind Turbine (VAWT) and able to generate power. They are also silent, so they could be installed along buildings, street or even in people's backyards. The rotation of aeroleaves depends on wind speed and wind direction. VAWT will catch wind from all directions. When wind blows, aeroleaves rotate and energy get produced .In this project , the power generated from wind tree is eco-friendly, less noise polluted and can provide electricity to remote locations.*

Keywords - *Aeroleaves, Wind Tree, Renewable Sources, Vertical Axis Wind Turbine*

1. INTRODUCTION

Wind energy plays an essential role to generate the electricity. It is also reliable, efficient and low lost energy system with no pollution and natural resource. Wind energy is worldwide fastest growing energy system. In this project by using wind energy electricity is generate in new form called as aero leaves. Aero leaves are nothing but many leaves like structure of the wind energy are placed in the form of tree called "Wind tree". In wind tree any other type of wind turbine can be used but vertical axis wind turbine have some specific advantages for high efficiency of power plant VAWT main rotor shaft is arranged vertically due to plane of rotation is vertical. Also blades are vertical. The biggest advantage is they don't require a control mechanism. The PVC pipes or GI sheet are used for turbines and it is appear like a normal leaf which is placed vertically. With tiny blades wind tree power plant is designed as small as and it works quietly or silent. These aero leaves are able to generate power in a confident and relaxed way. So they could be installed along buildings streets or even in people backyard . This aero leaves produce the energy depend on wind power flow and rotating . Power is generated with the help of generator. It's finding that energy generating through environment is so beneficial and also can provide power to remote areas. [1]

2. METHODOLOGY

2.1 Concept of wind turbine

In the name suggest it was observed that by placing number of turbines on a single stand the power output could be increased. In wind tree concept the vertical axis wind turbines are used for power generation in which the multiple micro wind turbines are coupled in a single tree and this is because of reduced size of rotor blades. So they can be easily operate due to the impact of forced air. Each turbine is connected to a single generator by the help of generator power is generated and energy is stored with the help of battery. The main advantages of this wind tree is that: It is highly economical and eco-friendly. The figure.1 shows

.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

IOT BASED POWER GRID MONITORING & CONTROL SYSTEM

Sarvesh Avere[1], Pranit Vichare[2], Pavan Machhi[3], Prof. Anojkumar Yadav[4]
[1](Electrical Department, VIVA Institute of Technology, India)
[2](Electrical Department, VIVA Institute of Technology, India)
[3](Electrical Department, VIVA Institute of Technology, India)
[4](Electrical Department, VIVA Institute of Technology, India)

Abstract : *Energy generation corporations provide electricity to any or all the households via intermediate controlled power transmission hubs referred to as Electricity Grid. Generally issues arise thanks to failure of the electricity grid resulting in black out of a complete space that was obtaining provide from that individual grid. This project aims to resolve this downside victimization IOT because the means that of communication and conjointly coping with numerous alternative problems that a wise system will traumatize to avoid needless losses to the Energy producers.*

Keywords *–IOT, Microcontroller, Power Grid, Sensors, Wi-Fi Technology.*

I. INTRODUCTION

IOT sensible Energy Grid is predicated on ATmega family controller that controls the assorted activities of the system. The system communicates over net by victimization Wi-Fi technology. A bulb is employed during this project to demonstrate as a sound client associated a bulb to demonstrate an invalid client. The foremost factor that this project facilitates is re-connection of cable to active grid. If associate Energy Grid becomes faulty associated there's an another Energy Grid, the system switches the Transmission Lines towards this Grid so facilitating uninterrupted electricity provide thereto explicit region whose Energy Grid went OFF. And this data of that Grid is active is updated over IOT webpage wherever the authorities will login and might read the updates.

Except for observation the Grid this project has advances capabilities of observation energy consumption and even find thieving of electricity. The quantity of electricity consumed and also the calculable value of the usage gets updated on the IOT webpage in conjunction with the Energy Grid data. Line fault conditions ar simulated within the system victimization 2 switches. Switch one when can simulate a thieving condition and conjointly can advise the authorities over the IOT interface. During this manner the sensible Energy Grid project makes positive that the electricity provide is continuous and helps in maintaining a updated record of consumption and thieving data that is kind of a valuable data for the energy manufacturing corporations.

II. Problem Statement

In most countries, business power is formed offered via nationwide grid, interconnecting various generating stations to load. the standard strategies that area unit in use these days like SMS area unit pricey. Since IOT is price effective due to net compared to SMS, observance and domain

VIVA INSTITUTE OF TECHNOLOGY
Shirgaon
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

ENERGY HARVESTING FROM REVOLVING DOORS

Prasheel Rathod [1], Ganesh Mandal [2], Avinash Dhangada[3], Chitralekha Vangala[4]

[1](ELECTRICAL DEPARTMENT, VIVA Institute of Technology, India)
[2](ELECTRICAL DEPARTMENT, VIVA Institute of Technology, India)
[3](ELECTRICAL DEPARTMENT, VIVA Institute of Technology, India)
[4](ELECTRICAL DEPARTMENT, VIVA Institute of Technology, India)

Abstract: *As today's world is completely dependent on different types of energies and these energies are going to disappear or exhaust one or the other day so we need to use free energy to run our basic appliances which require electricity for its working. So there is a dire need to find new sources of energy. Most people do not realize that there is a lot of energy that is formed around them all the time. The purpose of this project is to show that the ambient energy in the surroundings can be utilized to generate electricity. In this project, the energy used to open a revolving door is being converted into electrical energy with the help of gears and generator. Further, this electrical energy can be regulated according to the load requirement. Accordingly, a revolving door prototype is designed, fabricated and tested. This prototype can be further optimized in terms of size to generate more electrical energy.*

Keywords - *Energy harvesting, free energy, prototype, revolving door*

I. INTRODUCTION

Currently, the whole technology is progressing towards renewable energy. Renewable energy is growing immensely as a possible alternative to non-renewable power generation. One of the most prominent purposes of renewable energy is to produce a small amount of energy through methods of Energy Harvesting. The idea of Energy harvesting is to avail the energy that is usually freely available in the surroundings and convert it into useful electrical energy. Most people do not realize that there is a lot of energy is formed around them all the time. Energy can be harvested from sources such as vibrations, thermal and mechanical sources. Currently, energy harvesting makes little impact on the overall electricity consumption in a built environment. Nevertheless, It does improve the overall consumption by a tiny margin and in the future, this margin will be magnified by the production and implementation of more and more energy harvesting products in the market. The concept of using revolving doors to harness Energy is new in the market. A revolving door can be used as a new form of renewable energy by capturing wasted energy used to open the door and converting it into a power source. Currently, research is being done to enhance the efficiency of the revolving door to get maximum output power. Although it is agreed that this method is not a major source of power production, it is a measure forward in the direction of renewable energy. It also limits the emission of harmful gases into the atmosphere. This green energy solution makes use of an everyday occurrence to produce some electrical energy can be used for a large range of low powered electronics.[1] Energy harvesting ⟨also known as energy scavenging⟩ is the process in which energy is obtained from the environment and converted into useful electric power. Energy harvesting is best explained as a process in which energy is obtained from external sources and later stored for smaller electronic devices. This area of research is expanding quickly due to its capability to provide reasons for replacing the conventional methods of producing electrical energy. It is also known as "Energy Scavenging" from the name itself, it can be assumed that the power provided in this process has a very small amount. This small amount of power is usually used for low energy electronics. If the fuel input of Energy Harvesters is compared to some large-scale generations, the difference in cost is much huge. While large-scale Electricity

VIVA Institute of Technology At. Shirgaon Post. Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Design and fabrication of electric 4- wheeler

Aaditya G. Samant[1], Shubham J. Patil[2], Ashutosh S. Patil[3], Prof. Bhavita Patil.[4]

[1](Electrical Department, VIVA Institute of Technology, India)
[2](Electrical Department, VIVA Institute of Technology, India)
[3](Electrical Department, VIVA Institute of Technology, India)
[4](Electrical Department, VIVA Institute of Technology, India)

Abstract: *This paper is written in consideration with Brushless DC motor (3.5 kW) and Lithium-ion battery (78 Amphr). Here the motor is considered as the driving element for propulsion and the battery pack for the energy storage for the model. Pollution by IC engine vehicles is one of the primary reason to ruining the air quality throughout India, leading to increased disease rate and vicious side effects, in turn to decreasing economic productivity. This problem has turned the industry to plan for green transportation means. There have been government and private spokespersons running by various identities to address the issue of IC vehicle pollution through deployment of electric vehicles seminar and interactive courses. Due to high costs and low performance parameters, attempts for commercialization of these vehicles is not actually successful. This paper presents the challenges faced and lessons learned during the designing phase of electric vehicles with favorable life cycle costs. This paper explains the concept of the study on the different types of motor and battery used for the designing an electric vehicle according to personalized needs.*

Keywords - *four-wheeler, electric vehicle, cost, auxiliary solar charging, Li-ion battery pack.*

I. INTRODUCTION

In this paper, we will discuss about the usage of Li - ion Battery to power up the vehicle. In order to achieve the required voltage, the Li - ion Battery may be connected either in parallel or series, but its costlier. Thus, to make it cost effective, power converters and batteries are been used. The electrical charge is consolidated from the Li - ion Battery and directed to the output terminals to produce low voltage (Direct Current). The BMS direct this power acquired to the batteries. The complete hardware integration of the system is tested to meet up the application's requirement. The long-term objective of this paper is to design, fabricate and assemble a fully functioning vehicle powered by solar energy. The goal for this year's team is to develop a electric vehicle and to purchase exact components within our budgetary constraints.

This will consist of the following:

i. Frame:- Frame design, Analysis and Fabrication
ii. Power train:- Power train design
iii. Motor research:- Selection and Purchase
iv. Parametric analysis of required power:- Control research, Design and Purchase.
v. Battery & BMS:- Research, Selection and Purchase.

II. METHODOLOGY

2.1 Working of the System

When the throttle is energized which means the potentiometer in the throttle gets input and provides the signal to the controller as in how much power it is supposed to deliver. There are two potentiometers in the throttle if one fails the other keeps operating. The controller computes the value of the accelerator from the potentiometers and then delivers power accordingly, from the batteries to the motor. The motor asses the power from the speed controller for transmitting that power into wheels. If accelerator is pressured then the controller

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Design and Estimation of Rain Water Harvesting Scheme in VIVA Institute of Technology

Piyali Mondal[1], Somraj Sengupta[2]
[1](Department of Electrical Engg, VIVA Institute of Technology/ University of Mumbai, India)
[2](Hysol Renewable Consultants LLP, Mumbai, India)

Abstract: *Vasai-Virar region of Palghar District in Maharashtra receives an ample rainfall every year of about 2300 mm. Due to the scarcity of ground water and scanty rainfall in the dry summer months in this region, this paper proposes a rain water harvesting scheme utilizing the roof of VIVA Institute of Technology as catchment area and then designing a reservoir and estimating the cost of the scheme so that the project can meet the water requirement of the Institute.*

Keywords *-Rain Water harvesting, VIVA Institute of Technology, Water reservoir design, Rainfall At Vasai-Virar, Water Filtration*

I. INTRODUCTION

The rising concern of fast ground water depletion in Maharashtra, lack of rainfall throughout the year and poor water management issues gives us scope as an engineer to think what at least we can do from our end. Rain water harvesting is definitely on top of the list. VIVA Institute of Technology has got ample roof space and Vasai-Virar region is blessed to receive substantial rainfall. So water crisis management is doable.

II. ROOFTOP RAINWATERHARVESTING

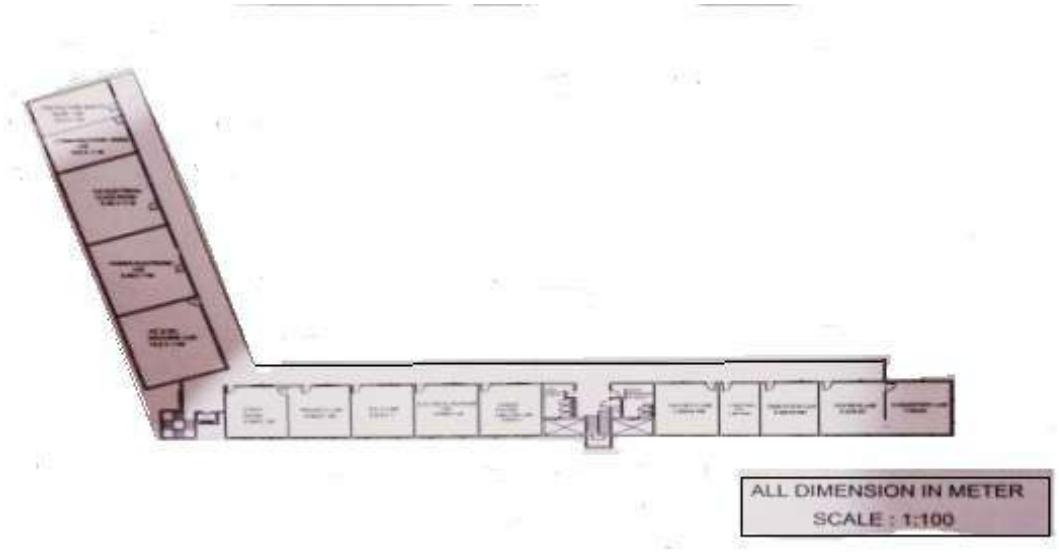


Figure1: Total roof area

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9thNational Conference onRole of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Comparative analysis of Thermal insulating material in Lithium ion batteries used in EV's

Kavita Mhaskar[1], Piyali Mondal[2]
[1](Department of Electrical Engg, VIVA Institute of Technology/ University of Mumbai, India)
[2](Department of Electrical Engg, VIVA Institute of Technology/ University of Mumbai, India)

Abstract: *The treading technology of electric vehicle are all coming up with lithium ion batteries with increased capacity and ability to give more range. This paper investigate all the type of thermal insulation interface material with ability to absorb maximum and radiate minimum. Also cost estimating of all type of materials are discussed in this paper for helping in selection of appropriate material.*

Keywords *-Electric vehicle, LI batteries, Thermal insulation, Thermal conductivity, Heat*

I. INTRODUCTION

Improvements are being made to the lithium-ion batteries used in electric vehicles. Car makers are developing more powerful lithium-ion batteries that have increased range and charge more rapidly. Along with these improvements, enhancing safety is becoming increasingly urgent for electric vehicle development.

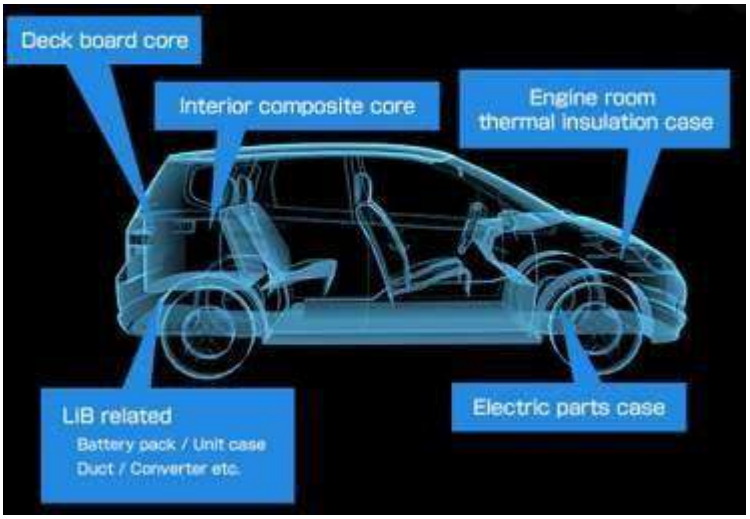


Figure 1: Structure of EV

Li-ion batteries produce a significant amount of heat while in use and while charging. Along with the use of thermal management materials, placing protective engineered flame retardant insulating materials between the components of the battery cell, module, and pack can offer additional thermal and electrical insulating protection. However, adding such materials can be challenging due to space and weight constraints.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Blind Stick Using Ultrasonic Sensor with Voice announcement and GPS tracking

Sandeep Mishra[1], Pramod Patil[2], Vipul Dhokte [3], Prof. Mukeshkumar Mishra[4]
[1](Department of Electrical Engineering, VIVA Institute of Technology, Mumbai University, India)
[2](Department of Electrical Engineering, VIVA Institute of Technology, Mumbai University, India)
[3](Department of Electrical Engineering, VIVA Institute of Technology, Mumbai University, India)
[4](Department of Electrical Engineering, VIVA Institute of Technology, Mumbai University, India)

Abstract : *for blind individuals. Basically, the ultrasonic detector is enforced within the walking stick for detection the obstacles ahead of the blind/impaired persons. If there are any obstacles, it'll alert the blind man to avoid that obstacles and therefore the alert in Our project proposes a low-priced walking stick supported latest technology and a brand-new implementation are created for economical interface the shape of voice announcement and buzzer to form a lot of helpful the stick is additionally mounted with the water detector that detects and alerts the blind if any wetness content is present to avoid slippery methods. Daily in several aspects so as to produce versatile and safe movement for the individuals. During this technology driven world, wherever individuals try to measure severally, this project propose a low-priced stick for blind individuals to achieve personal independence, in order that they will move from one place to a different simply and safely. A conveyable stick is style and developed that detects the obstacles within the path of the blind using sensors. The buzzer and vibration motor are activated once any obstacle is detected. Additionally, the stick is* provided *with GPS and SMS message system. GPS system give the knowledge relating to the situation of the blind man using the stick with his relations. SMS system is employed by the blind to send SMS message to the saved numbers within the microcontroller just in case of emergency.*

Keywords– *GPS, GSM, microcontroller, Ultrasonic Sensor, water sensor*

I. INTRODUCTION

Blindness could also be caused because of temporary or permanent injure to any portion of the eye, the optic tract, or the realm of the brain accountable for vision will cause visual impairment. Visually impaired individuals facing several issues in their daily life, usually have a tough time to navigate outside the surroundings. The crucial physical incapacity is that the visual disorder. The blind individual ought as to step ahead. Worldwide, between three hundred million and four hundred million individuals are because of numerous causes. In keeping with world health organization (WHO), regarding thirty-six million are blind, earlier blind individuals were wholly relied on coached dogs and white canes to move severally in unknown areas. Product developed for the visually impaired have specially focused on communication tools like reading machines and stamping printers for such how that resulting in their approval by the blind community the amount of the individuals blind from infectious diseases has prevented within the last twenty years in keeping with world estimates work. During a constant technically developing worlds several electronic devices are came into exist that reduces the issues facing by those who are with incapacity. A straightforward system has been planned and developed that facilitate the blinds to move outside independently.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

ARTIFICIAL INTELLIGENCE IN POWER SYSTEMS

Bhavita Patil[1], Anojkumar Yadav[2] , Mukesh Mishra[3]
[1](Department of Electrical Engineering, Mumbai University, India)
[2](Department of Electrical Engineering, Mumbai University, India)
[3](Department of Electrical Engineering, Mumbai University, India)

Abstract: *In today's world we require a continuous & definitive supply of electricity for proper functioning in modern and advanced society. AI (AI) may be a field that was found on the idea of human intelligence where AI precisely simulates natural intelligence. AI (Artificial Intelligence) is the mixture of expert task, mundane task and formal task. Power Systems were used from the late 19th century and that they are one among the essential needs that we'd like in our modern, developing day to day life. Power systems are used for transmission and delivering the electricity to all or any machines. AI (Artificial Intelligence) plays a serious role in power systems where they solve different problems in power systems like scheduling, calculating, statistics, forecast. As AI (Artificial Intelligence) was being developed in several fields we could see the impact that it made on the facility systems also, the humanly solved mathematical functions were solved by machines and every one the tasks are performed by the machines.AI techniques became popular for solving different problems in power systems like control, planning, scheduling, forecast, etc. These techniques can affect difficult tasks faced by applications in modern large power systems with even more interconnections installed to satisfy increasing load demand. The appliance of those techniques has been successful in many areas of power grid engineering.*

Keywords - *AI, Artificial Neural Network, Genetic Algorithms, Power Systems, symbolic logic.*

I. INTRODUCTION

Power Systems

An electric power grid may be a network of electrical components wont to supply, transmit and use electrical power. Power systems engineering may be a subdivision of EE that deals with the generation, transmission, distribution and utilization of electrical power and therefore the electrical devices connected to such systems like generators, motors and transformers.

Artificial Intelligence

Commonly, AI is understood to be the intelligence exhibited by machines and software, for instance, robots and computer programs. The term usually wants to describe the project of developing systems equipped with the intellectual processes, features and characteristics of humans, just like the ability to think, reason, find the meaning, generalize, distinguish, learn from past experience or rectify their mistakes. Artificial general intelligence (AGI) is that the intelligence of a hypothetical machine or computer, which may accomplish any intellectual assignment successfully, which a person's being, can accomplish.

AI in Power Systems

Power system analysis by conventional techniques becomes harder because of: (i) Complex, versatile and enormous amounts of data, which is employed in calculation, diagnosis and learning. (ii) Increase within the computational period of time and accuracy thanks to extensive and vast system data handling.

The modern power grid operates on the brink of the bounds thanks to the ever-increasing energy consumption and therefore the extension of currently existing electrical transmission networks and features. This example requires a less conservative power grid operation and control function, which is feasible only by continuously checking the system states during a far more detailed manner than it had been necessary. Sophisticated computer tools are now the first tools in solving the difficult problems that arise in the areas of power grid planning.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Providing Secure Cloud for College Campus

Belamkar Shridhar Vitthal [1], Darade Hitesh Subhash [2], Qureshi Umair Nasim Ahmed [3], Prof. Vinit Raut [4]

[1, 2, 3, 4](*Computer Engineering Department, Viva Institute of Technology, India*)

Abstract: *In colleges data stored on the server can be access by any college staff, student or professor. Data is very important and should not be altered or accessed without permission of its owner. But in these type of medium scale organizations server can be access by anyone. A better approach to maintain the data security and sustainable storage is cloud. Cloud provides user management for authentication and authorized access of stored data. Since data is upload in cloud through network therefore its security during this phase is very important. For this, encryption algorithms can be used to protect it from hacker. It provides efficient way to carryout operations such as uploading and downloading data. An efficient use of storage should be a primary concern for which data deduplication technique can be applied. Using this technique uploading of duplicate files can be avoided.*

Keywords - *Advanced Encryption Standard, Data Deduplication, Elliptic Curve Cryptography, One Time Password, Hybrid Cryptographic System*

I. INTRODUCTION

Cloud computing has rapidly become one of the most emerging technology due to its progressive services provided model of computing not only in the IT industry but also in the software and hardware industry. The Cloud referring to the servers that are passage over the Internet, and the software and databases that running on those servers. Cloud servers are find in data centres all over the world. By using cloud computing, users and corporate offices do not have to handle physical servers themselves or run software applications on their own machines. The cloud permit users to access the same files and applications from almost any device, because the computing and storage takes place on servers in a data centre, rather than locally on the user device [13].

Cloud security is the protection of data stored online via cloud computing platforms from theft, leakage, and deletion which helped several organizations to save money and time adding convenience to the end users. This mechanism came up with increased flexibility, scalability and reliability where server is not capable of handling all these. Server cannot provide better user management to avoid unauthorized access. Data security is not strong in server where in cloud a strong encryption technique gives strong data protection. Since user management give access only to authentic user and each can access only there data so other data on the cloud can't delete, alter and misplaced by any means. Although with limited storage capacity cloud gives advantage of data duplication in which if same data user try to store on the cloud it will inform to user that the data is duplicated. And then it will discard that data. This lead efficient to use of storage.

II. LITERATURE SURVEY

The AES and RSA encryption algorithm is combined due to that data security on cloud increases. Key size of RSA encryption technique is large comparatively AES hence speed of encryption reduces [1]. AES

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post. Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation *Volume 1, Issue 4 (2021)*
ISSN(Online): 2581-7280 *Article No. X*
PP XX-XX
VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Survey of a Symptoms Monitoring System for Covid-19

Shantilal Sen[1], Manali Patil[2], Sejal Ravankar[3], Janhavi Sangoi[4]
[1](Computer Engineering, Viva Institute of Technology/ Mumbai University, India)
[2](Computer Engineering, Viva Institute of Technology/ Mumbai University, India)
[3](Computer Engineering, Viva Institute of Technology/ Mumbai University, India)
[4](Computer Engineering, Viva Institute of Technology/ Mumbai University, India)

Abstract : *The Internet of Things (IOT) depicts the organization of actual items that are implanted with sensors, programming, and different advances for the point of interfacing and trading information with different gadgets and frameworks over the web . In this day and age, there are numerous IOT based, these IOT based gadgets and machines range from wearable like brilliant watches to RFID stock following chips. IOT associated gadgets convey by means of organizations or cloud-based stages associated with the snare of Things. Among the applications that Internet of Things (IOT) encouraged to the planet , Healthcare applications are generally imperative . There are numerous wellbeing checking gadgets accessible. These framework comprises two sensors that is Heartbeat and blood heat sensor and furthermore contains Arduino UNO. This versatile gadget will screen heartbeat and blood heat utilizing sensors. The framework utilizes Arduino board which is associated with heart beat sensor and temperature sensor. The framework will take contribution from the guts beat and blood heat sensors and can send the data to Arduino. The Arduino will send the information of two sensors to LCD alphanumeric presentation . This presentation will show the perusing of the heartbeat sensor and blood heat sensor in BPM (Beats Per Minute) and in Celsius or Fahrenheit.*

Keywords – *Bod_ temperature, Health, Heartbeat, IOT, Monitoring, System, Technology.*

I. INTRODUCTION

Pulse just shows the sufficiency of our heart. It helps surveying the state of cardiovascular framework. Human's heart pounds to siphon oxygen-rich blood to muscles. It diverts cell side-effects from tissues. Pulse shifts as per the interest of muscles to retain oxygen and discharge carbon dioxide changes such thing occur during activity or rest. Typically the pulse which is determined for a resting individual is going to 70 bpm for grown-up guys and 75 bpm for grown-up females. A pulse screen is basically a gadget that takes an example of pulses and figures the heart thumps every moment and the data can undoubtedly follow the current heart condition. Then again, internal heat level is likewise an overall sign of body condition. Typical human internal heat level is (98.6 ° F ± 0.7°F) and it shifts action of the individual just as spot of estimation. At the point when an individual is too hot, the veins in his/her skin grow to convey the abundance warmth to his/her skin's surface. Also, hence the individual starts to perspire. At that point the perspiration vanishes and this cycle assists with cooling his/her body. At the point when an individual is excessively cool, his/her veins slender so that blood stream to his/her skin gets decreased to ration body heat. Accordingly he/she begins shuddering and it is a compulsory, fast constriction of the muscles.

In this study, an android assistive incorporated pulse and internal heat level estimating implanted framework is created. Since the framework gives the data about both pulse and internal heat level through android application, anybody can screen actual status without any problem. Also, the framework might be helpful for observing state of fluctuate look for licenses from far off spot.

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 4 (2021)
Article No. X
PP XX-XX

VIVA Institute of Technology
9th National Conference on Role of Engineers in Nation Building – 2021 (NCRENB-2021)

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

A survey on Internet of Things (IoT) security : Challenges and Current status

Bhavika Thakur[1]
[1]*Computer Engineering Department, VIVA Institute of Technology, India*

Abstract : *When Internet of Things (IoT) applications become a part of people's daily life, security issues in IoT have caught substantial attention in both academia and industry. Compared to traditional computing systems, IoT systems have more inherent vulnerabilities, and in the intervening time, could have higher security requirements. However, the current design of IoT does not successfully address the higher security requirements postured by those vulnerabilities. Many recent attacks on IoT systems have shown that novel security solutions are needed to defend this emerging system. This paper purposes to examine security challenges resulted from the special characteristics of the IoT systems and the new features of the IoT applications. This could help pave the road to better security solution design. Furthermore, three architectural security designs are suggested and analyzed. Examples of how to implement these designs are discussed. Finally, for each layer in IoT architecture, open issues are also identified.*

Keywords - *Architecture IoT, Challenges, Internet of Things, Open issues, Security*

I. INTRODUCTION

Internet of things (IoT) is a group of many interrelated objects, services, humans, and devices that can communicate, share data, and information to achieve a common goal in different regions and applications. IoT has many execution domains like transportation, agriculture, healthcare, energy production and distribution. Devices in IoT keep an eye on an Identity Management approach to be recognized in a collection of similar and heterogeneous devices. Similarly, a region in IoT can be defined by an IP address but within each region each entity has a unique.

The purpose of IoT is to change the way we live today by making smart devices around us carry out daily tasks and responsibilities. Smart homes, smart cities, smart transportation and infrastructure etc. are the terms which are used in application with IoT. There are many application domains of IoT, ranging from personal to enterprise environments [1]. The uses in individual and social domain facilitate the IoT users to interact with their surrounding environment, and human users to maintain and build social relationships. An additional application of IoT is in transportation domain, in which several smart cars, smart roads, and smart traffic signals function the purpose of safe and suitable transportation facilities. The enterprises and industries domain incorporate the applications used in finance, banking, marketing etc. to enable different inter- and intraactivities in organizations. The latter application domain is the service and utility monitoring sector which be made up of agriculture, breeding, energy management, recycling operations, etc.

The IoT applications have seen rapid development in recent years due to the technologies of Radio Frequency Identification (RFID) and Wireless Sensor Networks (WSN). The RFID permits the tagging or marking of every single device, so as to function as the basic identification mechanism in IoT. Due to WSN, each "thing" i.e. people, devices etc. becomes a wireless recognizable object and can interconnect among the physical, cyber, and digital world [1].

The rest of this paper is structured as follows. In Section II, the security issues corresponding to dissimilar security principles and the nature of IoT devices are presented. The section also contains the security issues that are associated with each layer of IoT. Section III deliberates recent research that attempt to address the security issues in IoT by some countermeasures. Section IV gives the big picture of all the examined work done in IoT. Finally, the paper is concluded in Section V.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Late Shri.Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (East), Dist: Palghar-401305, Maharashtra
Website: www.viva-technology.org

National Conference on "Role of Engineers in Nation Building"

IJOER Research Journal

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

6TH & 7th MARCH 2020

NCRENB - 2020

ISBN: 978-93-5391-287-1
IJOER ISSN: 2395-6992
VIVA-TECH IJRI ISSN: 2581-7280

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

8th National Conference

On

ROLE OF ENGINEERS IN NATION BUILDING

(NCRENB-2020 Proceeding)

6th & 7th March, 2020

Organized by

Late Shri. Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and

Affiliated to the University of Mumbai

Shirgaon, Virar(East), Dist: Palghar-401305, Maharashtra

Tel.: 7770002544, Website:-www.viva-technology.org

Email: principalvit@vivacollege.org

contact@viva-technology.org

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Patrons

Hon. Shri. Hitendra Thakur
President, VIVA Trust

Hon. Shri. P. D. Kodolikar
Chairman, Managing Committee, VIVA Trust

Ms. Aparna P. Thakur
Secretary, VIVA Trust

Convener

Dr. Arun Kumar, Principal

Co-Convener

Prof. Archana Ingle, H.O.D.(EXTC)

Advisory Committee

Dr. Girish Kumar

IIT Bombay.

Mr. Craig Francis
Global Company Hiring, Wipro

Mr. Nayan Mistry
Director Technical, NM Technocrafts

Dr. Ashok Pundir
Professor & Dean, NITIE, Pawai.

Mr. Ashok Grover
Director, STEAM-O-TECH ENGINEERS(I), Pvt. Ltd.

Mr. C. A. Anto
Director, Terminal Technologies (I), Pvt. Ltd.

Mr. Kishor A Shetty
M.D., Royal Arc Electrodes Ltd.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Coordinator

Prof. Karishma Raut, EXTC Department

Prof. Bhushan Save, Electrical Department

Prof. Lissy Jose, Civil Department

Prof. Ashwini Save, Computer Department

Prof. Niyati Raut, Mechanical Department

Dr. Ajazul Haque, Humanities Department

Organizing & Publicity Committee

Prof. Meena Perla

Prof. Ashish Shetty

Prof. Anoj Yadav

Prof. Mansi Lakhani

Prof. Pallavi Vartak

Prof. Vinit Raut

Registration Committee & Program Committee

Prof. Meena Perla

Prof. Ameya Purandare

Prof. Yadnesh Patil

Prof. Monali Pimpale

Prof Kavita Mhaskar

Prof. Sushil Mishra

Prof. Kushal Suvarna

Prof. Bhagyashree Netke

Prof. Reshma Chaudhari

Prof. Arathy Menon

Prof. Manoj Yadav

Prof. Bhavita Patil

Prof. Pratik Parsewar

Mr. Amit Darge

Mr. Ankit Bhoir

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PREFACE

On behalf of VIVA Institute of Technology, I take great pleasure and pride to formally welcome you all to the 8th National Conference on Role of Engineers in Nation Building (NCRENB 2020) in cooperation with International Journal of Engineering Research and Science (IJOER) and VIVA-TECH International Journal for Research and Innovation (VIVA-TECH IJRI).

We are living in an age of remarkable competition of technology among the countries. In this competition we need to consider the role of Engineers in development of our nation. Looking at the immense rise in the technological area and the demands that are being placed, it is necessary for us to commence researches that will help to build a technologically advanced nation. The national/ international conferences provide common platform to contemplate the issues related to latest developments in the technology, research and development activities in this area.

We held the first national conference in 2013 with various disciplines such as Civil Engineering, Computer Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Humanities and Sciences and Mechanical Engineering.

NCRENB 2020 has received total 214 papers in 6 tracks. The selected full length papers will be sent for publication in IJOER and VIVA-TECH IJRI journal. These papers can be used as a reference for future work which will widen the horizon of technical advancement of our nation.

Dr. Arun Kumar
Chief Editor

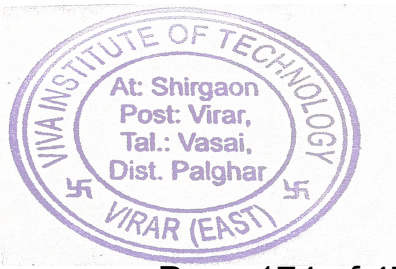


TABLE OF CONTENTS

SECTION A

TRACK: CIVIL

PACKAGE DETAILS OF NAGPUR MUMBAI EXPRESS HIGHWAY (SIX LANE)…… A 001
Mayur Patel[1], Prashant Gondane[2] , Vishal Urade[3] , Dr. P. P Nagrale[4]

WASTE WATER CONDITIONING AND TREATMENT……..... A 006
Prashant Gondane[1], Yadnesh patil[2]Mayur Patel[1] Vishal Urade[3]

INTERFACIAL STRENGTH BETWEEN PRESTRESSED HOLLOW CORE SLABSAND CAST IN-PLACE CONCRETE TOPPINGS……. A 012
Akshay Mistry

EXPERIMENTAL INVESTIGATION ON USE OF CUPOLA SLAG IN CONCRETE…… A 015
Vishal Urade, Prashant Gondane[1] Mayur Patel[1]

EXPERIMENTAL STUDY ON USE OF CORN COB ASH IN CONCRETE…… A 018
Saurav Avhad[1], Abhishek Ahirrao[2], Saurabh Gondhalekar[3], Abhijeet Jadhav[4]

ECONOMICAL FEASIBILITY OF HIGH SPEED RAILWAY CORRIDOR……..
Suhas Patil[1], Ravikumar Patel[2], Darshan Tivarekar[3], Shivam Pandey[4] A 024

FLOOD CONTROL TECHNIQUE…… A 029
Dipti Ghag[1], Tejal Borkar[2], Vrushali Chavan[3], Shivali Kini[4]

MICROLEVEL PLANNING : A COMPARATIVE STUDY OF URBAN PLANNING (OR TOWN PLANNING) IN GUJARAT, MAHARASHTRA & KARNATAKA…….
Gireeja Sarangdhar[1], Swaraj Patil[2], Shishir Dadhich[3] A 034

REVIEW ON SIX SIGMA IN CONSTRUCTION…….. A 040
Purva P. Awari[1], Arathy Menon[2]

STABILIZED MUD BLOCK USING ALCCOFINES AND GGBS…….....
Yadnesh Patil[1], Monica More[2], Ashish Shetty[3], Prashant Gondane A 045

STUDY ON CONCEPT OF SIX SIGMA DMAIC METHODOLOGY…… A 049
Arathy H Menon1, Purva Awari2

FUEL GENERATION THROUGH SEWAGE…… A 055
Yash Sanghvi1, Nayan Sarate2, Rajan Shinde3

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

EXPERIMENTAL STUDY ON EFFECTS OF SUGARCANE LIQUID ON CONCRETE PROPERTIES …….. A 058
Rahul Sanap1, Prasad Raikwad2, Dhananjay Pawar3, Siddhesh Sawant

A LITERATURE REVIEW ON REUSE OF PLASTIC BOTTLES…… A 064
Ramya Raju

EXPERIMENTAL STUDY ON USE OF SILICA FUME IN CONCRETE…….. A 066
Akshay kangane1, Rahul Dhamapurkar2, Vaibhav kamble3, Yashraj Bhosale4

DESIGN OF INTERLOCKING PAVER BLOCKS A 072
Mr. Ajinkya Gajare, Ms. Trupti Jadhav, Mr. Rishabh Mangal, Mr. Mayur Alav

SUSTAINABLE LOCAL MOBILITY PLAN TO IMPROVE WALKABILITY (BHIWANDI)…. A 078
Swaraj Sanjay Patil1, Gireeja Sarangdhar2, Shishir Dadhich

WASTE-WATER TREATMENT BY PHYTORID TECHNOLOGY…….. A 083
Shweta Gupta1, Shubhangi Mishra2, Ashwin Jadhav3, Mayur Jadhav

PROPOSED PLAN OF SOLID WASTE MANAGEMENT FOR INDIRA NAGAR, UTTAN…. A 089

Janhavi Kirpane1, Renuka Kamble2, Rahul Bijwe3, Abhishek Bhosale4

MATERIAL MANAGEMENT AND SUPPLIER SELECTION USING QGIS ……. A 095
Jimit Chotai1, R Mahadeva Swamy2 , Pratibha Patil3

QGIS FOR MANAGEMENT OF LAND RECORDS …….. A 101
Patil Pratibha M1, Chotai Jimit V2 , R. Mahadeva Swamy.

COMPARATIVE STUDY OF REAL ESTATE ACTS AND ANALYSIS ON IMPACT OF MAHARERA……. A 107
Diwakar Gowda1, Nikhil Kamble2, Snehal Anjarlekar3, Rahul Kuvalekar

EXPERIMENTAL STUDY ON HOT MIX ASPHALT…… A 113
Rahul Mhaske1, Omkar Mestry2 , Sagar Hadbal3 , Yogesh Mane4

SELF-COMPACTING CONCRETE JACKETING – TESTS AND ANALYSIS……. A 119
Meena Bhagat1,Jimit Chotai2,Pratibha patil

USE OF ALCCOFINE 1203 AND GGBS FOR CELLULAR CONCRETE BLOCKS……. A 124
Monica More 1, Yadnesh Patil 2, Mayur Patel 3, Vishal Urade

THE USE OF PLASTIC WASTE AS TRANSITION MATERIALS IN THE PRODUCTION OF PAVEMENT BLOCK…… A 128
Anand Sarvankar, Tushar Varose, Mohit Vaze

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Pushover Analysis for Steel Frame Structure with Bracing **A 133**
Mitesh.Arora[1], Rahul.Gautam[2]

PLANNING OF AIRPORT AND DESIGN OF RUNWAY PAVEMENT IN MARINE CLAY **A 139**
Mithun Joshi1, Vaibhav Gite2, Mustafa Khan3, Siddhant Jondhalekar

ANALYSIS AND MITIGATION OF DISPUTE CAUSATION IN CONSTRUCTION PROJECT **A 143**
Dhanashree Patil1, Vedika Pawar2 , Shraddha Sakpal3 , Swapnali Sutar4

USE OF NON-NEWTONIAN FLUID TO FILL POTHOLES……..
Tarun V.Sharma1, Akash R.Rajput2, Arun K.Sharma3, Vishal N.Rathod **A 149**

GROUNDWATER RECHARGE USING RAINWATER HARVESTMENT METHODS AT VIVA INSTITUTE OF TECHNOLOGY, VIRAR (E)…… **A 155**
Viraj Gotad1, Ajay Ambekar2, Sahil Bagave3, Vaishnavi Bari4

PREPARATION OF PAPERS FOR INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH AND SCIENCE …… **A 160**
Tejas Awaghane1, Rakesh Mohite2, Rajat Kore3, Praful Darpe4

STABILIZATION OF MARINE CLAY A VIABLE MEANS TO RAIN HARVESTING ……. **A 163**
Mrs.Lissy Jose

COMPARATIVELY ANALYSIS AND DESIGN OF SHEAR WALL OF G+8 STOREY BUILDING ……... **A 170**
Jyoti Tandel1, Kajal Yadav2, Dhara Vora3, Shubham Sawant4

OPTIMIZATION OF AGRICULTURAL WASTE IN ROOFING TILES ……... **A 176**
Prathamesh Pawar1, Vaibhav Wadekar2, Vikas Vishwakarma3, Visha Usare4

SUSTAINABLE TRANSIT ORIENTED DEVELOPMENT…… **A 181**
Priyanka A. Gajbhar

STABILIZATION OF SILTY SOIL USING LIME AND NATURAL POZZOLANA…… **A 187**
Vilas Telure, Ketan Tank , Sailee Sonavane

MANAGEMENT OF URBAN STORMWATER USING BIO-RETENTION FILTER TECHNIQUE…… **A 191**
Swapnil Sable1, Chirag Sankhe2, Parth Saravia3, Sai Satelkar4

CLUSTER DEVELOPMENT PROPOSAL FOR RAMWADI WITH SPECIAL EMPHASIS ON PHYSICAL INFRASTRUCTURE" …….. **A 195**
Rohini Marathe1, Shishir Dadhich2

DEVELOPMENT OF NOISE ABSORBING COMPOSITE MATERIALS USING AGRO WASTE PRODUCT …… **A 199**
Viraj Kelkar1, Anjali Kothari2, Shraddha Kadam3, Pritam Kamble4

SMART FEATURES USE ON HIGHWAY…….. **A 203**
Ashutosh Patil1, Aishwarya Raut2, Mrunmayi Rathod3, Rohan Shinde4

PLANNING AND DESIGN OF SANITATION SYSTEM AND TECHNOLOGIES …….. **A 209**
Ankita Shintre1, Rahul Shinde2, Ajit Pendhare3 Yogesh Singh4
GIS AIDED URBAN PLANNING FOR PREPARATION OF MICRO-LEVEL PLAN OF CHANNENAHALLI VILLAGE, BENGALURU…….. **A 213**
Gireeja Sarangdhar1

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

STUDY ON PROPERTIES OF PHOTOCATALYTIC CONCRETE…… A 219
Kaushal D. Patil1, Utkarsh R. Patil2, Shailesh J. Patil3, Prayas D. Purav4

WASTE MANAGEMENT IN VIVA INSTITUTE OF TECHNOLOGY USING VARIOUS TECHNIQUES…….. A 222
Varsha Ahire1, Sheetal Chaughule2 , Suraj Gothankar3 , Samir Joshi4

IMPACT OF RURAL DEVELOPMENT A 227
Smita Lahare[1], Shishir Dadhich[2]

Code of Engineers in Action Research

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION B

TRACK: COMPUTER

ONLINE SIGNATURE VERIFICATION SYSTEM……. B 1
Srishti Shetty, Supriya Dumbre, Prathamesh Kadu

MULTICURRENCY CALCULATOR WITH FAKE CURRENCY DETECTION USING IMAGE PROCESSING……. B 7
Maitreyee Mishra, Sumit Popalkar, Tejal Palkar, Prof. Karishma Raut

AN ANALYSIS OF DROUGHT DETECTION AND MONITORING TECHNIQUES ..…….. B 13
Manthan Kansara, Pallavi Maity, Hemangi Malgaonkar, Ashwini Save

AN ANALYSIS OF DROUGHT DETECTION AND MONITORING TECHNIQUEs…… B 19
Aditya Parab, Prajwal Mogaveera, Abhishek Nikam, Ashwini Save

VEHICLE OVERLOAD DETECTION USING IMAGE PROCESSING……. B 26
Sunil Sahani[1],Chetan Satam[2],Nikita Tari[3],prof.Karishma Raut[4]

CNC BASED ENGRAVING MACHINE ……... B 31
Nimish Mhatre, Ratnesh Kumar Pandey, Prof. Archana Ingle

A NOVEL APPROACH TO RECONSTRUCT VISUAL DATA FROM BRAIN USING INDITIONAL GAN……... B 35
Manish Pawar1, Sufyan Parkar, Chaitanya Dandekar, Meet Dhanki

SELF-DRIVING CAR USING RASPBERRY PI AND ARDUINO WITH NEURAL NETWORKS….. B 41
Sufyan Parkar, Chaitanya Dandekar, Sushil Hambir, Shoeb Shaikh

A BRIEF SURVEY OF MACHINE TRANSLATION SYSTEMS…….. B 47
Raj Vyas, Kirti Joshi, Hitesh Sutar, Tatwadarshi Nagarhalli

SYSTEM FOR FINGERPRINT IMAGE ANALYSIS …….. B 53
Rahul Kale, Mayur Pawar, Pradnya Jadhav, Prof. Umesh Mohite4

UNDERSTANDING SMART CITIES: AN INTEGRATIVE STRUCTURE……. B 60
Akshata Raut, Monali Pimpale

BLIND TRAVELLING ASSISTANT ……. B 65
Nikhil Hankare, Rutuja Patil, Prof. Vinit Raut

DETECTING ALIVE HUMAN USING ROBOT FOR RESCUE OPERATION…….. B 70
Deepakkumar Gupta, Prakash Gupta, Rakesh Yadav, Prof. Umesh Mohite

AN AUTOMATION OF TRAFFIC MANAGEMENT SYSTEM FOR BETTER EFFICIENCY AND EMERGENCY SERVICES …… B 78
Krunal Lad, Swikruti Kore, Khushaboo Jawale, Dnyaneshwar Bhabad

DATA ENCRYPTION ALGORITHM – A COMPARATIVE STUDY …….. B 84
Srishti Bangera, Pallavi Billava, Anush Amin, Sunita Naik

COMPARATIVE STUDY FOR FRUIT RIPENESS CLASSIFICATION…….. B 89
Rucha Thakur, Gaurav Suryawanshi, Hardik Patel, Prof. Janhavi Sangoi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

NETRA-A STEP TOWARDS ASSISTING SIGHTLESS…… B 95
Mohitkumar Gupta, Shyam Gupta, Rahul Panga, Sunita Naik

VEGETABLES AND FRUITS ESTIMATION PREDICTION…… B 101
Shivani Bhovad, Rutuja Chaskar, Pranita Pangam, Vinit Raut

SURVEY ON IOT BASED SMART CULTIVATION: A CROP RECOMMENDATION SYSTEM….. B 106
Aditya Joshi, Aakash Sugdare, Shivam Patil, Prof. Saniket Kudoo

SURVEY : SEARCH AND RESCUE OPERATION DURING NATURAL CALAMITIES USING UNMANNED AERIAL VEHICLE(UAV)…….. B 111
Harsh Marthak, Pradnesh Jadhav, Kaustubh Kambli , Reshma Chaudhari

A MODERN APPROACH FOR SECURE E-VOTING …….. B 118
Snehal Chavan, Shweta Dubey, Saniket Kudoo

AN ANALYSIS OF SIGN LANGUAGE ANALYZER AND TRANSLATOR…….. B 124
Saurabh Patil, Jaydeep Rathod, Jay Patil, Pallavi Vartak

FORGERY DETECTION OF COMPUTER MANIPULATED DIGITAL DOCUMENTS USING IMAGE PROCESSING …… B 130
Pratik Gawad, Amit Dhande, Abhishek Chougule, Saniket Kudoo

MACHINE LEARNING FOR SOFTWARE DEVELOPMENT …….. B 136
Vishal Sonawane, Prof. Pradnya Mhatre

POSITIVE AND NEGATIVE IMPACT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING ON SOCIETY …… B 140
Rahul Naresh Panchal, Prof. Sonia Dubey

MIND CONTROLLING VIRTUAL REALITY GAMING…….. B 146
Sherwyn Cardozo, Prof. Chandani Patel

EDGE COMPUTING: VISION AND CHALLENGES …… B 150
Sachin Gupta, Prof. Chandani Patel

USE OF ARTIFICIAL INTELLIGENCE IN SPEECH RECOGNITION …….. B 156
Shubham Upadhyay, Prof. Pradnya Mhatre

BLOCKCHAIN IN HEALTHCARE…….. B 162
Venu Sirpuram, Prof. Chandani Patel

HOME AUTOMATION…… B 168
Mihir Maruti Jadhav , Prof. Krutika Vartak

UNIFIED PAYMENT INTERFACE - AN ADVANCEMENT IN PAYMENT SYSTEM …… B 175
Sourabh Khaire, Prof. Chandani Patel

EBALL TECHNOLOGY …… B 178
Mihir Ashok Singh, Prof Shreya Bhamare

SCRUM METHODOLOGY…… B 183
Ritesh R. Shetty, Sonia Dubey

DRONE SECURITY SURVEILLANCE…… B 188
Vikrant Vilas Bhaip, Prof. Pradnya Mhatre

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

CLOUD TECHNOLOGY IN HEALTHCARE …… B 194
Manish Pal, Prof.Pradnya Mhatre

BIG DATA……. B 200
Saish Rajanikant Mhatre, Prof. Krutika Vartak

CLOUD COMPUTING …… B 203
Deepnarayan S.Yadav, Prof .Nitesh kumar

FACIAL IDENTIFICATION USING CONVOLUTION NEURAL NETWORK ……. B 207
Shweta Satish Bangera, Prof.Shreya Bhamare

SIXTH SENSE TECHNOLOGY …… B 213
Sachin Subhash Bansode, Prof. Neha Lodhe

REVIEW PAPER ON DEEP DISSERTION OF DATA SCIENCE: RELATED ISSUES AND ITS APPLICATIONS……... B 218
Nishant Dandekar, Kushal Suvarna, Meena Perla, Reshma Chaudhari

THE RISE OF AUTOMATION IN AVIATION……... B222
Rohit Gamre, Pragati Mestry

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION C

TRACK: ELECTRICAL

AIR CORE GENERATOR……. C 1
Anojkumar Yadav, Sushant Kumar, Mukesh Kumar, Bhavita Patil

OPERATIONAL REQUIREMENTS OF ROBOTIC TANK WITH ELECTRIC COILGUN…… C 8
Rahul Abhyankar

COMPARATIVE STUDY ON DIFFERENT TYPES OF FUEL CELL……. C 12
Chitralekha Vangala, Kavita Mhaskar

FULLY AUTOMATED SYSTEM FOR MONITORING & CONTROLLING WATER USAGES USING IOT……. C 17
Anand Prajapati, Swapnil Patil, Mayur Patil, Anojkumar Yadav

SPEED CONTROL OF INDUCTION MOTOR USING UNIVERSAL CONTROLLER..... C 22
Neeraj Naik, Ashish Nikam, Sai Jadhav, Anojkumar Yadav

CONTROL SYSTEM FOR SOLAR-PLUS-BATTERY MICROGRID…….. C 28
Nikita Pashte, Ruchita Waghmare, Abhishek Mandavkar, Rahul Abhyankar

DESIGN AND IMPLEMENTING OF ROOF VENTILATOR IN SMALL SCALE INDUSTRY FOR FUTURE PROSPECTIVE…… C 33
Ashwini Pawar, Amruta Dhuri, Riya Patil, Bhushan Save

HARVESTING ELECTRICAL ENERGY FROM SOUND ENERGY…….. C 39
Rohini Dhangar, Abhishek Agarwal, Salonee Dakhave

POWER GRID MONITORING AND CONTROLLING BY USING INTERNET OF THINGS (IOT)…… C 44
Suhas Pawar, Chinmay Patil, Hardik Dhanu

WIND-SOLAR HYBRID PROJECT IDENTIFICATION AND FORMULATION…….. C 50
Roshan Nanhe, Kiran Rewale, Nandlal Gupta, Piyali Mondal

MEASUREMENT OF MOMENT OF INERTIA BY RETARDATION TEST IN THREE-PHASE INDUCTION MOTOR…….. C 56
Piyali Mondal, Somraj Sengupta

MONITORING AND ANALYSIS OF POLE MOUNTED DISTRIBUTION SUBSTATION…….. C 60
Pratik Mahale, Dipali Mahale, Chaitali Kshirsagar

POWER QUALITY ISSUES AND THEIR MITIGATION TECHNIQUES…….. C 64
Sunil P. Suknale, Mukesh Mishra

REVIEW PAPER ON ENERGY MANAGEMENT…….. C 74
Mukesh Mishra, Sunil P. Suknale, Anojkumar Yadav, Sushant Kumar

DESIGN AND IMPLEMENTATION OF ROPE FREE, MOTOR LESS ELEVATOR SYSTEM…….. C 78
Priyanka Gite, Sneha Chaudhari, Shireen Khan, Bhavita Patil

SIMULATION AND ANALYSIS OF SPWM INVERTER FED INDUCTION MOTOR DRIVE…….. C 83
Sushant Kumar, Anojkumar Yadav, Bhavita Patil, Mukesh Mishra

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

FOUR QUADRANT OPERATION OF DC MOTOR USING H-BRIDGE CHOPPER CIRCUIT……. C 90
Dewang Kore, Himanshu Singh, Shashidharan Goundar, Vinay Gill

DESIGN OF NEW CONCEPT OF CHARGING IN ELECTRIC BICYCLE ……... C 96
Santosh Gaikwad, Vishalkumar Patel, Dhiraj Bagul

DESIGN AND IMPLEMENTATION OF PWM INVERTER…….. C 101
Prince Singh, Shailendra Yadav, Gopi Gupta

ELECTRICITY GENERATION FROM SEWER WATER……. C 107
Mayur Dabhilkar, Aniket Gawand, Vinit Bhatkar, Sushant Kumar

A COMPARATIVE STUDY OF LITHIUM-ION & LEAD ACID BATTERY FOR FINDING APPLICATION IN ELECTRIC CAR……. C 112
Aniket Todankar, Vinit Shah, Akshay Palase, Piyali Mondal

IMPLEMENTATION OF THYRISTOR SWITCH CAPACITOR FOR IMPROVING POWER FACTOR …… C 118
Ronak Gohil, Dhaval sojitra, Nikhil Lunagariya, Chitralekha Vangala

DESIGN OF UNDERGROUND CABLE FAULT DETECTION USING IOT…….. C 124
Pankaj Patil, Prathmesh Rane, Prasad Chaudhari, Mukeshkumar Mishra
BMS FOR LI-ION BATTERY PACK USED IN EV……. C 130
Akash Gaikwad, Jay Khardikar, Nishant Chaudhari

SEPARATION OF CO2 FROM AIR THROUGH ELECTROSTATIC PRECIPITATOR……. C 137
Jay Kesur, Divyesh Vadhwana, Gayatri Gadgul, Bhushan Save
WASTE SEGREGATION…… C 142
Rohit Yadav, Ishan Raut, Rashtrapal Saindane, Kavita Mhaskar

GENERATION BY FIBONACCI SPIRALTURBINE…….. C 147
Tanmay Jadhav, Shubham Parnale, Neel Parab, Chitralekha Vangala

SMART WASTE WATER TREATMENT…… C 152
Nirav Devalia, Kunal Dharod, Kruti Shah, Bhusan Save

SOLAR WATER DISTILLATION BY HYBRID TECHNOLOGY…… C 155
Akash Borude, Mitesh Ambre, Pikesh Gupta

A REVIEW PAPER ON WIRELESS POWER THEFT MONITORING IN ENERGY SYSTEM…….. C 160
Bhavita Patil, Anojkumar Yadav, Sushant Bansal, Mukeshkumar Mishra

CONDITION MONITORING OF INDUCTION MOTOR…….. C 164
Chirag Jadhav, Omkar Sogale, Siddharth Jadhav, Anojkumar Yadav

A REVIEW PAPER ON UTILITY EARTHING SYSTEM…….. C 170
Pranali Pawar, Pranjali Patil, Sonal Kamble, Kavita Mhaskar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION D

TRACK: EXTC

A SYSTEMATIC REVIEW OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING TECHNIQUES USED IN NEONATAL CARE…….. D 1
Madhura Ranade , Karishma Raut , Archana Ingle

REAL TIME BUS TRACKING SYSTEM…….. D 5
Aniket Jadhav , Omkar Kajrolkar , Suraj Varma , Asst.Prof.Archana Ingle

LIFE SAVER- AN UAV ORGAN TRANSPORTATION DRONE…….. D 11
Rohit Rajesh Pandey , Jay Yogesh Mistry , Parikshit RamKishan Nishad

MULTI TERRAIN QUADRUPED…….. D 16
Aman Khan , Dhruval Gamit, Vaibhav Bari, Ashwini Haryan

AUTOMATIC PANI-PURI VENDING MACHINE…….. D 20
Siddhesh Gavakar , Saheed Ansari , Ravikumar Chauhan , Meena Perla
WIRELESS HAZARDOUS GAS DETECTING ROBOT FOR COAL MINE……... D 25
Pooja Jha , Suraj Mourya , Shubham Mishra , Madhura Ranade

BRAINWAVE CONTROLLED WHEELCHAIR (BCW)……..... D 30
Rubini Pulliadi , Suchan Khade , Jiteshkumar Yadav , Asst.Prof. Nutan Malekar

A MEDICINAL VENDING MACHINE USING IOT AND MACHINE LEARNING…….. D 36
Sushant Pawar , Nikesh Raut , Shriram Yadav , Prof. Karishma Raut

LED SPINNER……... D 42
Aditya Shirke , Ajit Shinde , Abhijit Biswas , Pratik Parsewar

AUTOMATED MULTIMODAL CLASSROOM SYSTEM…….. D 46
Krishna Patwa , Karan Prajapat , Sandhya Shirke , Prof. Archana Ingle

ANALYSIS OF SELF-DRIVING VEHICLES……... D 52
Praful Bhojane , Prof. Neha Lodhe

MOBILE CLONING…….. D 58
Dipanshu Dinesh Nadkarni , Prof. Shreya Bhamare

NANOBOT DRONES : THE FUTURE OF WARFARE…….. D 64
Omkar Kiran Mandavkar , Prof. Neha Lodhe

MACHINE LEARNING: AVAILABLE APPROACHES,PROBLEMS AND SOLUTION……. D 71
Manasi Sanjay Rane , Prof. Neha Lodhe

LI-FI TECHNOLOGY…….. D 80
Nikhil Chiplunkar , Prof. Pradnya Mhatre

VIRTUAL SMARTPHONE…….. D 86
Subhash Bhaskar Nagare , Prof. Neha Lodhe

5G TECHNOLOGY…….. D 93
Chetan Sunil Sawant, Prof. Shreya Bhamare

FEATURE EXTRACTION AND FEATURE SELECTION USING TEXTUAL ANALYSIS…….. D 98

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Hemlata Badwal1, Prof. Chandani Patel

SOCIAL MEDIA PLATFORM & RIGHTS FOR PRIVACY……. D 104
Aishwarya Shetty , Prof. Pragati Mestry

CYBERSECURITY IN 2019……..…. D 109
Pankaj Shivmuni Gupta, Prof. Nitesh Kumar

VIRTUAL REALITY…… D 115
Bhavik Doshi , Prof.Nitesh Kumar

SECURING WEB SERVER AGAINST DDOS ATTACK…… D 121
Shivam Ladumor ,Paresh Patil ,Omkar Vanjare ,Vinit Raut

PREPARATION OF PAPERS FOR INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH AND SCIENCE …….. D 126
Riddhi Raut, Haridra Gazzela, Bhagyashree Vaidya, Ankita Patil

S.H.A.K.T.I. (SYSTEM FOR HOME AUTOMATED KITCHEN TECHNOLOGY INTEGRATED)… D 132
Nilesh Ohol , Pratik Vishwakarma , Hitesh Rawat

ENERGY PRODUCING SHOES……. D 137
Divesh Udayar , Aditya Singh , Rohan Bait , Meena Perla

LAYERS OF WI-FI SECURITY……. D 141
Nishant Pimple , Utkarsha Pawar , Tejashree Salunke

AN APPROACH OF SECURED DATA FOR VIDEO STEGANOGRAPHY…… D 147
Mrs. Dipti Save , Mrs. Aboli Moharil , Mr. Bhushan Save

ARM BASED TOUCH MENU……. D 152
Manoj Yadav , Tushar shirgaonkar , Pratik parsewar

BATTERY MONITORING SYSTEM…… D 157
Riddhi Kadam, Shubham Keni, Suyash Khilare, Ameya Purandare

ELECTRONIC HEALTH RECORD…….. D 162
Nikhil Naidu , Prof. Ashwini Haryan

VOICE ENABLED MEDICINE VENDING MACHINE…….. D 168
Sahil Patil , Adish Chaudhari , Jayprakash Pandey , Ameya Purandare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION E

TRACK: Humanities & Applied Sciences

PROMINENCE OF EMPLOYABILITY SKILLS IN MULTINATIONAL COMPANIES …….. E 1
Dr. Trupti Vikas Pati, Dr. Prashant Pawar

STUDY OF MPS UNDER STRESSED CONDITIONS…… E 7
Dr. Shwetali Kiran Churi

CONDUCTIVITY STUDIES OF NANO GEL POLYMER ELECTROLYTES FOR ITS APPLICATION IN EDLCS……. E 14
Manju R. Mishra, S.k Tripathi

BENEFITS OF OUTSOURCING …….. E 22
Abraham Richard Budul, Prof. Nitesh Kumar

APPLICATION OF MATHEMATICS TO CERTAIN PHARMACOKINETIC EQUATIONS…… E 29
Jayesh Jain, Dr.Ajazul Haque , Ramashankar Prajapati , Shiksha Singh

STUDY OF FOURIER TRANSFORM AND ITS APPLICATION IN FIELD OF SCIENCE AND TECHNOLOGY……... E 37
Shivani Shukla, Jayant Varma

THE STUDY OF LAPLACE TRANSFORM AND FOURIER TRANSFORM…… E 42
Shiksha Singh, Bhagyashri Netke, Dr.Ajazul Haque ,

THE STUDY OF RELATION BETWEEN FOURIER TRANSFORM AND LAPLACE TRANSFORM E 48
Bhagyashri Suresh Netke

APPLICATION OF TIME SERIES …….. E 54
Ramashankar Prajapati, Dr.Ajazul Haque , Jayesh Jain , Mohammad Azam

EFFECT OF INCREASING POLLUTION AND USE OF FERTILIZERS AND PESTICIDES ON THE ENVIRONMENT AND HUMAN HEALTH…… E 63
Amit R Mishra

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION F

TRACK: MECHANICAL

DESIGN OF DISC BRAKE SYSTEM FOR AN E-ATV…… F 1
Siddhesh Baliga, Chirag Bhangale, Prem Chhatbar, Ashwini Kharat

ANALYSIS OF CUSTOM PARTS OF HYDRAULIC BRAKING SYSTEM USED IN ELECTRIC ALL-TERRAIN VEHICLE …… F 6
Vinaya Bhosale, Joy Chakraborthy, Romil Dave, Suraj Ghatge

DESIGN AND DEVELOPMENT OF LOW COST PLOUGHING, RICE TRANSPLANTING AND HARVESTING MACHINE- A CONCEPT …… F 12
Kedar Raut, Roshan Patil, Hitesh Pagdhare, Sanket Sambare

DESIGN AND FABRICATION OF TEMPERATURE CONTROLLING MUG BY USING PELTIER EFFECT…… F 18
Darshan Dhanke, Nikhil Bhosale, Savio D'souza, Shamu Chaudhari

INVENTORY MANAGEMENT & ANALYSIS IN SMALL SCALE FASTENER INDUSTRY…… F 23
Kharkar Vaibhav Shekhar, Panchal Vaishnavi Pundlik, Mishra Sangam Anil, Zinge Ashwini Pundlik

DEVELOPMENT AND CONTROL DESIGN OF FIRE FIGHTING UAV…… F 27
Aman Gulhane, Vinayak Ghole, Vikrant Jadhav, Siddhesh Jawale

FABRICATION AND ASSEMBLY ON CUSTOM PARTS OF HYDRAULIC BRAKING SYSTEM USED IN ATV…… F 31
Advait Chaudari, Kamalesh kamble, Sumit Gulekar, Suraj Hande

REVIEW ON ELECTRIC ROLLER SKATES …… F 37
Rohan More, Shubham Patel, Riddhesh Patil, Raj Saitavadekar

DESIGN OF A ROTARY DIE CUTTER FOR PRODUCTION OF COMPLEX SEALS AND IMPROVEMENT IN DELAMINATION…… F 42
Shubham Kotian, Swaraj Naik, Jatin Nawar, Anuj Pal

KAIZEN IMPLEMENTATION IN A SMALL SCALE INDUSTRY …… F 47
Akshay Shiudkar, Aniket Shirgaonkar, Chirag Sule, Manthan Patil

DEVELOPMENT OF SOLAR POWER ELECTRIC BIKE …… F 51
Mandar Patil1, Vishal Sable, Jayesh Sapkal, Krunal Vartak

OVERVIEW OF UNMANNED CARGO AIRCRAFT…… F 56
Rohan Anabhavane, Sharvari Ghadi, Nikhil Ghawale, Vaibhav Gurav

PROBLEM ANALYSIS TO CONVERT PP STICKS BUDS MANUFACTURING MACHINE INTO PAPER STICKS BUDS MANUFACTURING MACHINE …… F 61
Vrushali Gajanan Bhoir, Mansi Lakhani

PREPARATION OF DIESEL FROM PLASTIC…… F 66
Dhaval Chorghe, Mayuri Bhamhare, Rahul Birajdar, Manojkumar Yadav

MODELLING AND CONTROL DESIGN OF SHADOWBOT IN REAL TIME BASIS…… F 72

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Pratik Raut, Harshad Botle, Aniket Birwatkar, Rushikesh Bhosale

DESIGN AND FABRICATION OF COMPACT COOLING TOWER…….….. **F 78**
Yash Desai, Vaibhav Bharankar, Jay Dongrekar, Kunal Gaikwad

PORTABLE SOLAR DESALINATION PLANT…… **F 84**
Mr. Vinayak Rai1, Mr. Musavvir Shaikh, Mr. Shalin Shah, Mr. Manish Tambat

INDUSTRY 4.0 DIMENSIONS AND – INNOVATIVE SOLUTIONS IN LOGISTICS AND SUPPLY CHAINS MANAGEMENT……. **F 90**
Sushil Mishra

INDUSTRY 4.0: CONCEPTUAL FRAMEWORK, SCENARIOS AND APPLICATION……. **F 95**
Chhaya Patil

AUTOMATION IS THE TECHNIQUE TO IMPROVE PRODUCTION RATE…… **F 101**
Ketan M. Shinde

THE TECHNIQUES OF LEAN AND GREEN MANUFACTURING SYSTEMS…… **F 107**
Suneet J. Mehta

THERMAL AND MECHANICAL BEHAVIOUR OF GLASS EPOXY LAYERS – AN EXPERIMENTAL AND THEORETICAL APPROACH …….. **F 110**
Manojkumar Yadav

EFFECT OF CRYOGENIC TREATMENT ON MECHANICAL PROPERTIES AND WEAR BEHAVIOR OF HIGH CARBON STEEL……. **F 114**
Mansi Lakhani

PRODUCTIVITY ENHANCEMENT BY DIGITAL MANUFACTURING…….. **F 120**
Priyank M. Vartak

CAD CAM SYSTEM FOR MANUFACTURING INNOVATIVE HYBRID DESIGN USING 3D PRINTING…… **F 123**
Tejas Chaudhari

EXPERIMENTAL STUDY OF PRESS TOOL LIFE TO IMPROVE THE COMPONENT QUALITY……. **F 127**
Nilesh B Nagare

EXPERIMENTAL ANALYSIS AND OPTIMIZATION OF EDM PROCESS PARAMETERS…… **F 134**
Vinit Deepak Raut, Sushil Mishra

IMPLEMENTING 5S, KAIZEN AND QUALITY CONTROL TOOLS FOR QUALITY IMPROVEMENT…… **F 141**
Henisha Raut

REVIEW STUDY OF MECHANICAL PROPERTIES UNDER FRICTION SIR WELDING OF TITANIUM ALLOY (TI-6AL-4V)…… **F 147**
Niyati Raut , Vivek yakkundi, Shashank Shinde

PRODUCTIVITY IMPROVEMENT BY USING MOST IN SHEET METAL INDUSTRY …… **F 152**
Chinmay Pingulkar

A REVIEW PAPER ON COMBUSTION CHAMBERS IN CI ENGINES…… **F 155**
Aniket Deshmukh

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PARAMETRIC OPTIMIZATION OF MIG WELDING …….. F 158
Mayur Jagtap

IMPLEMENTATION OF KAIZENI SMALL & MEDIUM SCALE INDUSTRIES WITH AID OF AVIX SOFTWARE…….. F 161
Dhawal Bhoir , Aniket Malekar , Sudarshan Lahane , Abhijeet Kumbhar

SURVEY OF EXOPHALANX IN ROBO USING HAPTIC FEEDBACK SYSTEM: A REVIEW…… F 166
Pratik Raut

CONTRIBUTION TO INTERNATIONAL DEVELOPMENT ……. F 172
Rajkumar Devkar

INVESTIGATION OF MICRO HARDNESS AND MICROSTRUCTURAL PROPERTIES OF FRICTION STIR WELDED PURE TITANIUM JOINT-A REVIEW …….. F 174
Shashank S. Shinde, Niyati Raut

DESIGN AND ANALYSIS OF PLASTIC POCKET AUTOMOTIVE ……. F 180
Cige Louis

DESIGN AND DEVELOPMENT OF CAR WASH STEAMER……. F 189
Aakash Jamsutkar , Shubham Jangle , Hardik Karpe , Chetan Kate

FABRICATION OF SEMI-AUTOMATIC COCONUT COIR TWINNING MACHINE……... F 195
Ashwin Shevade , Nishant Satamkar , Pankaj Patel , Vaibhav Pimple

DESIGN AND FABRICATION OF SUB-AQUATIC TUGGER……... F 200
Balram Jha1, Mandar Hegiste , Varun Gharat , Aashay Ingle

DEVELOPMENT OF WATERLOFT TO HARVEST POTABLE WATER FROM ATMOSPHERIC AIR USING PELTIER EFFECT……..….. F 204
Mr. Pratik Jadhav, Mr. Nikhil Hase, Mr. Shubham Jadhav, Ms.Siddhika Kadam

SURVEY : DEVELOPMENT OF TEST RIG FOR ESTIMATING FIN PERFORMANCE……. F 209
Rahul Lembhe, Parag Lad, Vikas Kumbhar , Rupesh Mulam

ANALYSIS ON FRICTION STIR SPOT WELDING (FSSW) OF HSS USING EXPLICIT ADAPTIVE MESHING SCHEME……..... F 214
Sumit Kharat, Alqama Ansari, Rohit Katale , Shahnawaz Khan

STUDY ON PRODUCTIVITY IMPROVEMENT IN MANUFACTURING ORGANIZATION ……. F 218
Shaikh Sajid Ahmad

IMPROVING THE PRODUCTIVITY BY INCREASING AVAILABILITY AT SKINPASS MILL BY TIME STUDY……... F 224
Nikhil Naik

DETERMINATION OF STRESS IN PROPELLER BLADE THROUGH FEA…….. F 230
Prathamesh Sawant1 , Akash Vichare , Akash Singh , Avinash Thokal

DESIGN AND ANALYSIS OF OPEN TYPE DIFFERENTIAL GEAR BOX ……. F 235
Mr. Saurabh Varma , Mr. Rohan Thakur, Mr. Chinar Patil , Mr. Krishna Thakur
DESIGN AND FABRICATION OF AUTOMATIC DUSTLESS CHALK MAKING MACHINE…… F 241
Hardik Chavan , Pratik Ghodke , Satish Hatkar , Nilesh Nagare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

THE IMPROVEMENT OF MANUFACTURING PROCESS BY USING QUALITY TOOLS …… F 246
Raut Tejal Dinkar

STATIC AND DYNAMIC ANALYSIS OF AN ALL-TERRAIN VEHICLE …….... F 252
Yash Save, Aditya Prabhu , Atharva Ratnaparkhi , Rohit Sawant

DESIGN AND MODELLING OF AN ALL TERRAIN VEHICLE…… F 255
Kshitij Save , Soham Salunkhe , Ritu Tawde, Yogita Zankar

MANUFACTURING AND TESTING OF AN ALLTERRAIN VEHICLE……... F 259
Rachit Kunder , Bharat Sonagara , Jitesh Patil , Dhaval Meher

A REVIEW ON STRESS ANALYSIS OF ALLOY WHEEL…….. F 262
Mr. Sujyot Rasal, Mr. Harshal Pimple , Mr. Sachin Muralidharan , Mr. Rahul Yadav

A STUDY OF GREEN SUPPLY CHAIN MANAGEMENT IN PULP & PAPER INDUSTRIES……..… F 266
Sabrina Shaikh

IMPACT OF TOTAL QUALITY MANAGEMENT WITH FOCUS ON ENHANCING CUSTOMER SATISFACTION……..… F 271
Aditi Pimpale

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN: [978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Multicurrency Calculator with Fake Currency Detection Using Image Processing

Maitreyee Mishra[1], Sumit Popalkar[2], Tejal Palkar[3], Prof. Karishma Raut[4]

[1]Dssepartment of EXTC, MUMBAI University, MUMBAI-32
Email: maitreyeemishra1999@gmail.com
[2]Department of EXTC, MUMBAI University, MUMBAI-32
Email: sumitpopalkar.99@gmail.com
[3]Department of EXTC, MUMBAI University, MUMBAI-32
Email: tejal.palkar06@gmail.com
[4]Department of EXTC, MUMBAI University, MUMBAI-32
Email:karishmaraut@viva-technology.org

Abstract— *It is not easy for people to recognize currencies from different countries. Our aim is to help people solve this problem. However, currency recognition systems which are based on image analysis entirely are not sufficient. Our proposed system is based on image processing and it helps to make the process automatic and robust. Color as well as shape information are used in our algorithm. There are approximately 50 currencies all over the world and each of them look totally different. For example the size of the paper is different, the same as the color and pattern. The staffs who work for the money exchanging have to distinguish different types of currencies and that is a difficult job. They have to recall the symbol of each currency. This may cause some problems (e.g. wrong recognition), so they need an efficient and accurate system to help their work. The aim of our system is to help people who need to recognize different currencies, and work with convenience and efficiency.*

Keywords— color, currencies, image, recognition, shape

I. INTRODUCTION

Automatic recognition of fake Indian currency note is significant in many applications such as automated goods seller machine and automated goods tellers machine. This system is used to detect the correct Indian currency note. The system consists of eight steps consisting of image acquisition, grey scale conversion, edge detection, feature extraction, image segmentation, comparisons of images and output. Automatic machines are more helpful in banks because banks faces the problem of counterfeit currency notes or destroyed notes. Therefore involving machine makes note recognition process organized and precise.

Automatic machine is more important to discover fake currency note in every country. This system is designed to check the Indian currency note of 100, 500 and 2000 rupees. The system will display currency is original or fake and its currency denomination. It is very important to grow automated system to get feature and recognize Indian currency note in various areas such as banking, ATM machine, shopping mall, Bus station and railway station.

We put forward a system for automated currency recognition using image processing techniques. The proposed method can be used to recognize both the country or origin as well as the denomination or value of a given banknote. Only paper currencies have been considered. This method works by first identifying the country of origin using certain assumed areas of interest, and then take out the denomination value using characteristics such as size, color, or text on the note, depending on how much the notes within the same country vary. We have considered 5 of the most traded currencies and their denominations. Our system is able to accurately and quickly identify these test notes.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B 7

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March-2020]

Vehicle Overload detection using Image Processing

Sunil Sahani[1], Chetan Satam[2], Nikita Tari[3], prof. Karishma Raut[4]

[1]Department of EXTC, Viva Institute of Technology, Mumbai
Email: sunil410sahani@gmail.com
[2]Department of EXTC, Viva Institute of Technology, Mumbai
Email:satam.chetan143@gmail.com
[3]Department of EXTC, Viva Institute of Technology, Mumbai
Email:nikitatari61@gmail.com
[4]Department of EXTC, Viva Institute of Technology, Mumbai
Email:karishmaraut@viva-technology.org

Abstract*—This paper focused on prevention and damage of roads vehicle and road accidents.In paper we first capture the moving vehicle side view from that we extract tires using image processing. After that we compare shape of tire in our database if vehicle will overloaded it will capture vehicle registration number. As we know roads play a very important role majorly in transportation and to maintain these transportation smooth roads need to be in good condition but now a days we can see the condition of our roads. Damages of roads caused by moving heavy vehicles in overload due to this road gets damage and sometimes bridges get collapse another problem is that in overloaded vehicle some time break failed.*

Keywords*—*Accidents, Damage, Road, Transportation, Vehicle

I. INTRODUCTION

Overloaded vehicles are becoming the major causes of unwanted accidents. Because overload can reduces the driver's efficiency to break and steering and it can one of causes of accident.Due to unnecessary stress on the engine increase the chances of tires failure and it reduces the vehicles stability. It damages the national road and it is an illegal activity. Due to overload penalty can be charge. According To Road Traffic Act (1998).The police will impound driver's license and also the registration number plate itself. The govt. has brought in a very high penalty system for full vehicles plying on the national highways. The overloading penalties vary from two-to-ten times the counting on toll looking on the additional weight that a truck is carrying. The new rules came into result recently. The sooner rules concerned charging ten times the toll fee regardless of the extent of excess load that a truck was carrying. Full vehicles area unit asked to pay fines as a result of they have an inclination to break the roads and also are unsafe, as they topple sometimes and become a security hazard.In line with the new rules, for carrying further load of 0 to 20% over the whole permissible weight, vehicles can have to be compelled to pay doubly the toll fee. For carrying 20 to 40% excess load over permissible limit, the penalty becomes fourfold the toll charges that a truck driver is meant to pay. For carrying 40% to 60% further weight, the toll charges that a truck driver can have to be compelled to pay is sixtimes, whereas for carrying 60 to 80% excess load, the penalty is eight times the toll charges. For carrying any further weight over 80%, the toll fee becomes ten times.

II. FLOWCHART

In Fig.1 shows in this paper how to camera capture image and desired frame will be removed from the entire video. After extraction of the frame, all process takes place.

As seen from the literature survey, high computational speed and cheaper equipment are the main reasons for image processing detection algorithms are famous. The good portion of the proposed system is the software model which makes use of various image processing technologies which are implemented in MATLAB 2019 and databases. The proposed system can be classified into following parts as shown below,

i. Capturing of the vehicle's image.
ii. Noise removal.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

System for Fingerprint Image Analysis

[1]Rahul Kale, [2]Mayur Pawar, [3]Pradnya Jadhav, [4] Prof. Umesh Mohite[4]

[1]Department of Computer Engineering, Mumbai University
Email: owlkale1996@gmail.com
[2]Department of Computer Engineering, Mumbai University
Email: pawarmayur1997@gmail.com
[3]Department of Computer Engineering, Mumbai University
Email: pradnyajadhav0125@gmail.com
[4]Department of Computer Engineering, Mumbai University
Email: umeshmohite@viva-technology.org

Abstract**—** *As we know the fingerprint is unique of every living objects.It is quite difficult to find out the prints.Usually the Forensics use Fine powder and duct tapes to identify the prints of living object.As powder is exceptionally muddled, so such molecule can cause loss of information after that examination the information is coordinated with the system.The proposed system consists of an embedded device in which it consists of ultra light light to glow the fingerprints details.After that we can detect the fingerprint, analysis and it will checks on the database, and it will return the output after matching. For matching and analysis of the Fingerprint, we will be using the Algorithm for matching.*

Keywords—Fingerprint Identification,Image Processing, Machine learning, Open Cv, ultraviolet light.

I. INTRODUCTION

The Embedded system is designed to do a specific task, design engineers and can advance to decrease the size and cost of item and increment the unwavering quality and performance[5].The Embedded systems are generally found in consumer, automotive, medical, industry and military applications. As this isn't insignificant to accomplish, we will try a bit by bit approach, moving from straightforward recognition to more complex Fingerprint recognition. The system will be tried utilizing different kinds of tests. Simple tests are introduced to check parts of the system. At last a last test with pictures of real criminal fingerprints picture will show the activities of the total. The proposed system we are implementing the embedded device is to identify the criminal fingerprint by using the ultraviolet lights to identify the unique finger impression of the criminal[6]. By applying the different procedures the images are transformed into suitable format to match the fingerprint details.

II. LITERATURE REVIEW

Pavithra. R and K.V. Suresh[1]. In this paper they present a crime scene fingerprint identification system using deep machine learning with Convolutional Neural Network. Pictures are gained from crime scene using various strategies ranging from exactness photography to complex physical and substance handling methods and saved as the database. The images collected from the crime scene are usually incomplete and hence difficult to understand. Appropriate enhancement methods are required for pre processing the fingerprint images. Minutiae techniques are extracted from fingerprint images. The features of pre-processed data are fed into the CNN as input to train and test the network.

Samet Taspinar, Husrev T. Sencar, Sevinc Bayram and Nasir Memon[2].In this paper the work present another new methodology that improves the efficiency of pairwise camera fingerprint matching and incorporates group testing to make the search more effective. Specifically we mutually leverage the individual qualities of composite fingerprints.Fingerprint processes in a novel way and plan two strategies that are better than existing methodologies. The outcomes show that under very high-performance requirements, where the probability to identify is close to one. the proposed search methods are 2 to 8 times faster than the normal search methods.

Pablo David Gutiérrez, Miguel Lastra, Francisco Herrera, and José Manuel Benítez[3].we present a GPU fingerprint unique matching system dependent on MCC. The many core focus processing system hardware platforms offers an opportunity to enhance

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Blind Travelling Assistant

Nikhil Hankare[1], Rutuja Patil[2], Prof. Vinit Raut[3]

[1]Computer Engineering Department, Mumbai University
Email: nikhilhankare1998@gmail.com
[2]Computer Engineering Department, Mumbai University
Email: patilrutuja0207@gmail.com
3Computer Engineering Department, Mumbai University
Email: vinitraut@viva-technology.org

Abstract— *In today's world the human population is increasing day by day. In that the count of the visually impaired people is also increasing. Traveling is a major task for visually impaired people. They usually take help from other people to reach a particular location. It is not always easy to seek help from unknown people. So to overcome this problem a system is proposed here for Traveling Assistant for the Blind. In this system the user will be specified with the different paths that can be chosen. The user can book a cab for himself/herself or even find out the nearest railway stations, and the timings also the time taken to reach that particular location. Basically the system act as a guide for the blind people to travel any new and unknown places. The system works on GPS (Global Positioning System) by using the source location of the user. For voice it uses the text to speech. The system would help in making with audio and visually impaired to be more self-sufficient. Thus easing their life.*

Keywords— Basic4Android, Cab System, GPS (Global Positioning System), Speech to Text, Text to Speech.

I. INTRODUCTION

The most difficult task for any blind or visually impaired person is to travel to any location. Traveling is a major issue for visually impaired people. They sometimes need to take help from other people to reach a particular location. It is not always easy to seek help from unknown people. So to overcome this problem a system is proposed here for traveling assistant for the blind. In this system the user will be guided to how he/she can reach their desired destination without seeking help. The user just needs to open the application and the current location of the user will be detected using GPS (Global Positioning System) [6]. Once the location is detected the user will give a voice command as to which place the user wants to reach. This will be done using the mobile phone mic and further all communication between the user and system will take place similarly. Once the user specifies the destination the system will specified with the different paths that can be chosen. The user can book a cab for himself/herself or even find out the nearest railway stations, and the timings also the time taken to reach that particular location. Basically the system act as a guide for the blind people to travel any new and unknown places. The system works on GPS by using the source location of user. For voice it uses the text to speech. The system would help in making with audio and visually impaired to be more self- sufficient [1].

II. LITERATURE REVIEW

An electronic based travel aid for the blind is presented in the paper. It consists of the two features a mobile and a remote assistant module. The device is capable of receiving and dispatching text message, handling phone calls and browsing a contact book. Text message, menu, contact book and so on are read by a speech synthesizer which was developed from scratch. The focus of the project is supporting the visually impaired in outdoor environment. The terminal shows the location of blind traveler on the map and the video sequence captured by the camera. The operator guides the blind with the path ta the destination provided by the blind. The system comprises two interlinked terminals a mobile of the blind user and a terminal of the remote assistant. The mobile terminal is equipped with a small device housing a camera, headset and a GPS receiver [1].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B 65

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Detecting Alive Human Using Robot for Rescue Operation

Deepakkumar Gupta[1], Prakash Gupta[2], Rakesh Yadav[3], Prof. Umesh Mohite[4]

[1]Department of Computer Engineering, Mumbai University, MUMBAI
Email: dipugupta0930@gmail.com
[2]Department of Computer Engineering, Mumbai University, MUMBAI
Email: prakashgupta2786@gmail.com
[3]Department of Computer Engineering, Mumbai University, MUMBAI
Email: rakeshyadavno1@gmail.com
[4]Department of Computer Engineering, Mumbai University, MUMBAI
Email: umeshmohite2311@gmail.com

Abstract**—** *In the current technological world, the technologies are evolving day by day. These developments make human life easier and more enthusiastic. The new high-speed technologies & growing computer capacity provides advancement in the field of control theory. In the modern world, there are continuous development of the skyscraper buildings & dwellings which increases the risk of losing life by natural calamities and manmade disasters. During earthquakes, landslides, and building collapse, a lot of times, humans are trapped under debris and it becomes impossible to detect their presence by the rescue team. Sometimes, it is impossible to reach certain locations in calamity affected zone. Many models have been proposed for detection of human's presence under the debris in affected zone. This paper analyzes various models developed to find the alive human being during natural calamities.*

Keywords— Alive Human Detection, Microcontroller, Natural Calamities, PIR Sensor, Web Camera.

I. INTRODUCTION

In current era, natural calamities like Earthquakes, building collapse or manmade disasters often occur and they cannot be stopped. They produce a devastating effect and find no difference among human and material. Hence, many a times humans are buried under the detritus and it becomes impossible to detect their presence. Detection by rescue workers becomes time consuming and due to the vast area, that gets affected it becomes more difficult. Almost all the proposed models were developed using a microcontroller and some set of sensors which commonly includes PIR sensor, Ultrasonic sensor and IR sensor. PIR technology analyzes its environment and looks for a change in present heat signatures. The Ultrasonic sensor and IR sensor are used for proper navigation of the robot in the affected zone.

II. LITERATURE STUDY

Zia Uddin, et. al. [1] has developed a robot which is able to find a live human being with the help of PIR sensor from deep point of the disaster area. It uses a Joystick & RF technology to control robot and work with the control point. Ultrasonic sensor is placed for detecting obstacle for navigation of robot and has a gas sensor to detect gas leak in the affected area. IP Camera is integrated to analyze the conditions which will assist human detection with the highest chance of success in such a situation. The first level includes a PIR sensor that detect human presence by radiated infrared wave & second level is IP camera that confirms the presence of humans in the affected area. Because of the two levels human detection system the system is reliable for rescue missions. The microcontroller is programmed using the C language and ARDUINO IDE. The system provides good results and it is cost effective. Since it has joystick mechanism, hence it is handy to use.

Murulidhara T C, et. al. [2] proposed the design and implementation of an Unmanned Vehicle using ARM7 microcontroller along with web camera, pulse sensor and temperature sensor to detect the affected human beings in disaster environment. IR sensor is included in the model to avoid obstacles in its navigation path. The vehicle navigates through the debris automatically to check the presence of human life. As soon as it detects the presence of human, it checks the accident person's pulse rate, body temperature

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Comparative Study for Fruit Ripeness Classification

Rucha Thakur[1], Gaurav Suryawanshi[2], Hardik Patel[3], Prof. Janhavi Sangoi[4]

[1]Department of Computer Engineering, Mumbai University, MUMBAI-68
Email: ruchathakur100@gmail.com
[2]Department of Computer Engineering, Mumbai University, MUMBAI-68
Email: gavaravsuryavanshi@gmail.com
[3]Department of Computer Engineering, Mumbai University, MUMBAI-68
Email: hp091234@gmail.com
[4]Department of Computer Engineering, Mumbai University, MUMBAI-68
Email: janhavisangoi@viva-technology.org

Abstract**—** *In recent years, computer vision-based technology is used to acquire, to process, to analyse and to understand digital images, so as to extract necessary information from Images. It has been more efficiently used in various areas including agricultural fields. From the study on various types of techniques provided by the authors for fruit ripeness prediction have shown lower accuracy rate, hence the rate of incorrect predictions are maximum. As strawberries are not only a seasonal fruit but also a cash crop, finding manual experts for classification is a challenging and a costly process. Manual classification is time consuming and economically high, also results in discrete opinions. In this survey, analysis of different approaches to determine the maturity level of strawberry fruit has been carried out. Different approaches have been used for classification of strawberry fruit, also accuracy of each approach is stated respectively.*

Keywords— Classification, Computer vision, Neural Network, Image Processing

I. INTRODUCTION

Agriculture forms the major part of India's economy. Due to this fact, an enormous amount of money is spent by the government for utilization of new advanced technologies to prevent destruction and improve the yield of the crops and soil. Flavour and aroma of the fruit are determined by the maturity level of the fruit. This is typically more difficult in case of strawberry as it is a delicate crop. As the amount of strawberry fruits harvested is in large quantities, manually distinguishing them is a difficult job. Therefore, there must be a method to determine the ripeness level of the harvested Strawberry fruit. Selective grading of strawberries is important, so that adequate ripe strawberries reach the vendor or fruit market is required, hence there is an increased need to supply quality Strawberry fruits within a small period of time.

II. LITERATURE SURVEY

K. Raut, et. al. [1] describes the assessment of fruit maturity using digital image processing and ANN. The computer vision-based technology consisted of a Charged Coupled Device camera for image acquisition process and MATLAB software for image analysis. They had done the assessment on the cherry and strawberry fruit, to determine the maturity level of the fruit and initially RGB input was taken, later it will get separated into R and G channel which later get converted into R and G mask. Different feature vectors were obtained. The image categorization was done into four stages that are pre - mature, early-mature, mature and over- mature fruit. The classification of 24 samples of strawberry and 17 samples of cherry was trained using b-black propagation algorithm. After training those feature testing was done and the last decision was taken for maturity. The accuracy of the system for classifying strawberries is 60% and for cherries it is 63%.

A. Krizhevsky, et. al. [2], in the field of image recognition, deep learning methods have been shown to display significant performance improvements compared to shallow learning. As deep learning is represented as a hierarchy of features that is pixel, edges, modules of object, object, group of objects. The architecture built consisted of 8 learned layers, 5 convolutional and 3 fully connected. They showed deep convolutional neural networks has been the most successful algorithm for image recognition in the field compared to deep Boltzmann machines, convolutional deep belief networks. The dataset named ImageNet provides 15

VIVA INSTITUTE OF TECHNOLOGY
At & Shirgaon
Post Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Air Core Generator

Anoj kumar yadav[1], Sushant kumar[2], Mukesh kumar[3], Bhavita Patil[4]

[1]Department of Electrical Engineering, Mumbai University, Mumbai
Email: anj_ydav@Rediffmail.com
[1]Department of Electrical Engineering, Mumbai University, Mumbai
Email: bansalsushant49@gmail.com
[3]Department of Electrical Engineering, Mumbai University, Mumbai
Email: mimukesh123@gmail.com
[4]Department of Electrical Engineering, Mumbai University, Mumbai
Email: bhavitanpatil2393@gmail.com

Abstract— *Generator is a device which basically converts mechanical energy into electrical energy and used for various electrical application. Normally in conventional generator we are using iron as core which has a lot of disadvantages like core losses, heavy construction due to the use of iron, also magnetic saturation of iron takes place due to which there is requirement of replacing iron thereby increasing the cost. So in our project we are replacing iron with air as core so the above mentioned disadvantages are eliminated there by increasing the efficiency and reducing the cost. In this project we are providing mechanical energy with a help of wind turbine which rotates the rotor. As the stator is placed between the rotor there is relative motion between the stator and the rotor and according to faraday law of electromagnetic induction an EMF is induced which produces current and this current is taken as output and used for various electrical application.*

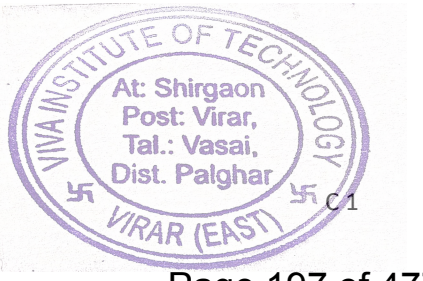
Keywords— Air core, EMF, MMF, Magnets, Stator, Rotor.

I. INTRODUCTION

An engineer always focuses towards challenges of bringing the idea and concepts into reality therefore sophisticated machine and modern technique have to be developed and implemented for economical manufacturing of product and at same time no compromise is done with quality and accuracy. We the group of young engineers found that there is impending need to make more ways to make non-conventional energy attain popular acclaim. It is also very essential to preserve the conventional source of energy and explore viable alternatives like sustainable energy (the energy that we are already utilizing but for some safety of uses, we are wasting it, that can be reutilize) solar, wind, and biomass energy can enhance sustainable growth. Here we have put our efforts to generate energy i.e. electricity by coreless generator. This system is more efficient then existing traditional iron core generator as it is design to give good output even at low input. Normally the traditional core generator faces problems such as core loses which comprises of eddy current and hysteresis losses, and also the copper used in both stator and rotor causes loss equal to square of current times resistance of wire, due to the presence the slip ring suffer frictional losses. Coreless generator is design to reduce all the above drawbacks of tradition core generator their by providing good out at low input.

II. AIM OF THE PROJECT

In conventional generator we are using iron as core which has a lot of disadvantages like core losses, heavy construction due to the use of iron, also magnetic saturation of iron takes place due to which there is requirement of replacing iron thereby increasing the cost. So in our project we are replacing iron with air as core so the above mentioned disadvantages are eliminated there by increasing the efficiency and reducing the cost. In this project, we are providing mechanical energy with a help of wind turbine, which rotates the rotor. As the stator is placed between the rotor there is relative motion between the stator and the rotor and according to faraday law of electromagnetic induction an EMF is induced which produces current and this current is taken as output and used for various electrical application.



National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Operational Requirements of Robotic Tank with Electric Coilgun

Rahul Abhyankar[1]

[1]*Department of Electrical Engineering, Mumbai University, Mumbai Email: rahulabhyankar@viva-technology.org*

Abstract— *this paper presents a robotic tank with electric coilgun operated with IoT. This tank is designed to overcome disadvantages of conventional chemical launch technology such as dynamic properties of propellant gases, storing, and handling and transportation problems of chemicals. This technology provides fuel free launching technology with electromagnetic coilgun. Coilgun consist of electromagnetic coils, switches and capacitors which provides ease in control of muzzle velocity. Simulation with two coilguns was performed to understand the performance of coilgun in aspect of electrical parameters.*

Keywords— Robotic tank, electric coilgun, IoT, coilgun simulation, fuel free launching technology.

I. INTRODUCTION

Electric coilgun is made with electromagnets which are operated in series after one by one with the help of fast switching components like IGBT. During the switching process electrical energy is provided to electromagnets from charged capacitor. This energy is then converted into electromagnetic energy and it attracts the ferromagnetic material inside the barrel. Ease in control of muzzle velocity can be obtained with the help of current control. The major challenge in coilgun is to avoid the suckback effect. To avoid this opto-coupler is used to detect the position of projectile and accordingly switching is performed.

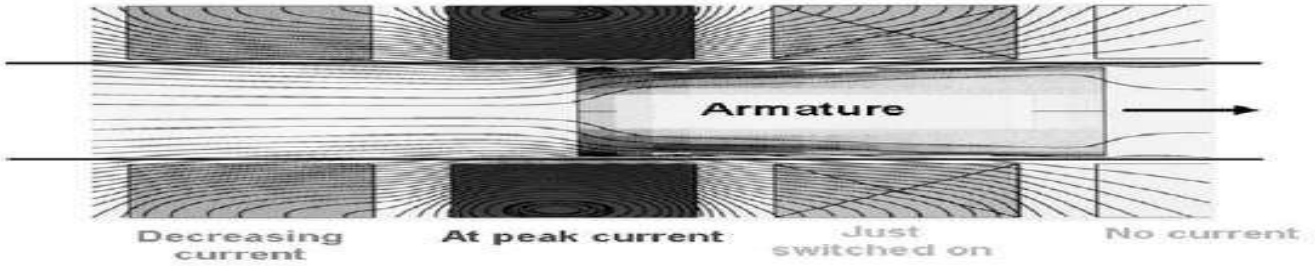


FIGURE 1: Basic operation of electric coilgun

II. PROPOSED METHODOLOGY

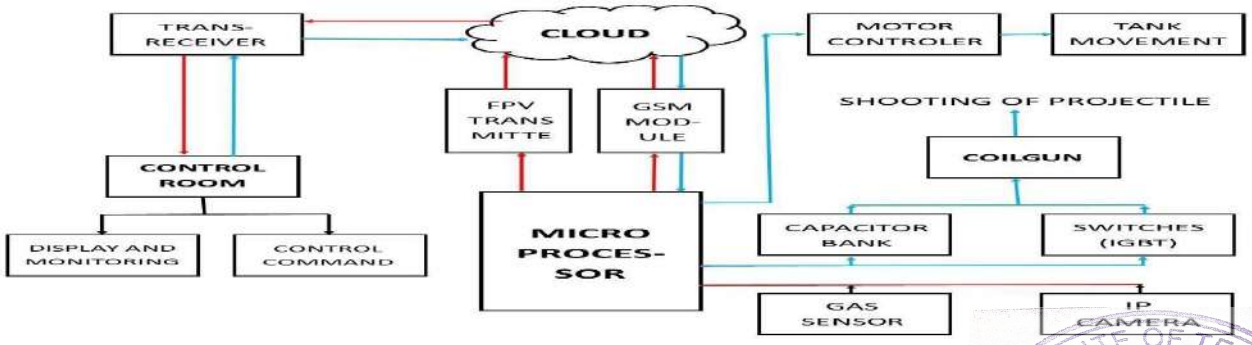


FIGURE 2: Basic operation of electric coilgun

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Comparative study on different types of fuel cell

Chitralekha Vangala[1], Kavita Mhaskar[2]

[1]Department of Electrical Engineering, Mumbai University, Maharashtra
Email: vangalachitra6@gmail.com
[2]Department of Electrical Engineering, Mumbai University, Maharashtra
Email: kavitamhaskar27@gmail.com

Abstract— *Nowadays, the use of non-conventional sources is increased as compared to the use of conventional sources to generate electricity. The commonly used sources are wind, tidal, solar, biomass energy, etc. But the use of fuel cell can play a vital role in producing electricity. Fuel cell is an electro chemical cell which converts the chemical energy of the fuel combined with an oxidizing agent to form electricity through a pair of redox reactions. This paper shows a comparative study of different types of fuel cell along with its advantages, disadvantages, applications and importance in the industry.*

Keywords—Solid oxide fuel cells, Alkaline fuel cells, Molten carbonate fuel cells, Phosphoric acid fuel cells, fuel cell.

I. INTRODUCTION

Fuel cells are classified initially by the type of electrolyte they employ. This given classification determines which type of electro-chemical reactions happen in the cell and the which kind of catalyst is required for the temperature range in which the cell can operate, the fuel required, other factors, etc. This characteristic also affects the applications for which these type of cells are largely suitable. There are several other types of fuel cells which were currently under development, each having its own advantages, disadvantages, and applications.

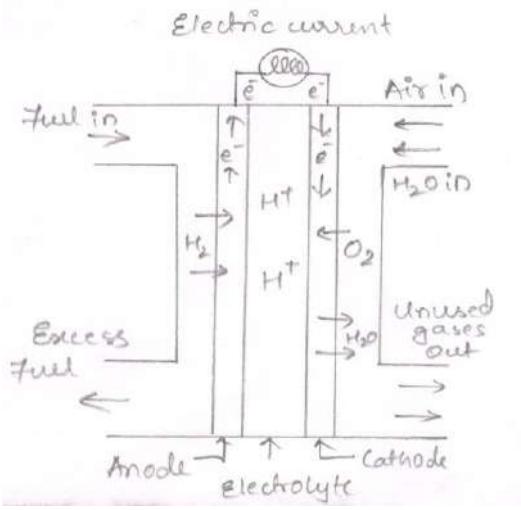


FIGURE 1: Fuel cell

II. ALKALINE FUEL CELLS

Alkaline fuel cells also called as AFC was one of the very first fuel cell technology developed, and they were the first type which was widely used in U.S. space program to produce source of electrical energy and water on the board spacecraft. These fuel cells were used as a solution to potassium hydroxide in the water as an electrolyte and they can also be used as a variety of common metals and a catalyst at the anode and/or cathode. In recent years, novel AFC were developed as a polymer membrane which acted like an electrolyte. AFC can be closely related to Proton exchange membrane (PEM) fuel cells. The only difference is AFC use alkaline membrane and PEM use acid membrane. AFC has high performance rate as compared to other fuell cells because of

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post. Virar
Tal.. Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March-2020]

Fully Automated System for Monitoring & Controlling Water Usages using IoT

Mr. Anand Prajapati[1], Mr. Swapnil Patil[2], Mr. Mayur Patil[3], Prof. Anojkumar Yadav[4]

[1]Department of Electrical Engineering, Viva Institute Of Technology, Virar, Mumbai University
Email: anand101prajapati@gmail.com
[2]Department of Electrical Engineering, Viva Institute Of Technology, Virar, Mumbai University
Email: guddupatil2921@gmail.com
[3]Department of Electrical Engineering, Viva Institute Of Technology, Virar, Mumbai University
Email: mayurpatil38119@gmail.com
[4]Department of Electrical Engineering, Viva Institute Of Technology, Virar, Mumbai University
Email: anojkumaryadav@viva-technology.org

Abstract— *In India, this unexpected shortage of water supply has become a common phenomenon in summer. The situation is worsened as there is no fixed time allotted for releasing the water from Municipality Water Tank. Apparently, there is no early warning system to monitor the water level of tanks of housing societies. The situation gets worse when there is no person in charge to do the maintenance of the tank at the time when it is needed. Wastage of water is mainly due to the overflowing of tanks. Conventional tanks can neither monitor nor control the water level in the tank, leading to a large amount of wastage. The need for removal of these short-coming and providing an efficient and economical solution has been the main aim of this project.*

Keywords— ESP8266 Wi-F Module, Arduino, Android, Solenoid Valve, Ultrasonic Sensor, Motor Pump.

I. INTRODUCTION

The process of monitoring and controlling the water tank uses the manual system yet. The very large amount of water is wasted every day for using manual processes around the world, the majority of the water wastage takes place because of the overflowing water tank. In the absence of a person, water keeps on overflowing until the valve or motor is switched off. Mankind has always facing the issues of water scarcity and water wastage. We have worked on System for Monitoring & Controlling Water Usage using IoT. This system will help address the issue of water scarcity and water management in the large township and also in small housing societies, which will help conserve water and keep a track of water and inform the residents in a situation.

II. LITERATURE REVIEW

The Literature review contains a brief discussion of some recent works of automation system for monitoring & controlling water usage using IoT.

Design of water tank, monitoring system based on mobile device is presented. With the (IRMA) Interface for Monitoring Water tanks system the user can control and monitor the watering facilities online, via any mobile device, either connected to a wireless network or the GSM network.

[I]The ultrasonic sensor will identify the water level present in the tank. This system helps to conserve water and keep track of water usage. It assists the users to check the water level in the water tank. Using the solenoid valve can avoid the wastage of water by cutting off the water supply. The project works automatically and hence reduces human effort.

[II]The concept of the internet of things (IoT) is used to continuously monitor and track water usage via the wireless sensor nodes. Server collects the data through Wi-Fi to process and track usage and wastage of water at every outlet. When water is used at the excess level it gives an alarm and an alert is sent to the user. The user can keep a track of the water usage or wastage through mobile with an internet connection.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

SPEED CONTROL OF INDUCTION MOTOR USING UNIVERSAL CONTROLLER

Neeraj Naik[1], Ashish Nikam[2] , Sai Jadhav[3], Prof.Anojkumar Yadav[4]

[1]Department of Electrical Engineering, Mumbai University, Virar, India
Email: 16401019neeraj@viva-technology.org
[2]Department of Electrical Engineering, Mumbai University, Virar, India
Email: 16401026ashish@viva-technology.org
[3]Department of Electrical Engineering, Mumbai University, Virar, India
Email:15402015sai@viva-technology.org
[3]Department of Electrical Engineering, Mumbai University, Virar, India
Email:anojkumaryadav@viva-technology.org

Abstract— *When connected to main power supply, Induction motors run at their rated speed, however there are many applications where variable speed operations are required. This paper presents the development of an efficient and versatile universal board which is used to control the speed of single-phase or three-phase machines with minor modifications in software and hardware. Although a range of induction motor control techniques are available, generating variable frequency supply is a popular control technique having a constant voltage to frequency ratio in order to attain constant (maximum) torque throughout the operating period. This control technique is called variable frequency control. The complete system consists of an AC voltage input that is put through a rectifier to produce a DC output which is across a shunt capacitor, this will in turn feed the PWM inverter. The PWM inverter is controlled to produce desired sinusoidally voltage at a particular frequency and then through the induction motor.*

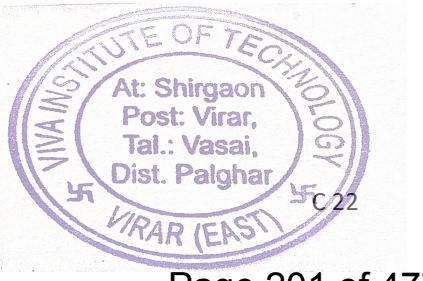
Keywords— Induction Motor; Microcontroller; Pulse Width Modulation; Inverter; Speed Control.

I. INTRODUCTION

The synchronous speed of the stator revolving flux (Ns) is given by -

$$Ns = \frac{120f}{p}$$

Where, the supply frequency in Hz is f and the number of poles is p. As the number of poles is fixed varying the supply frequency would result in variation in the speed of induction motor. Variation of voltage should be in proportion to frequency so that the torque developed is constant over the speed range. This in particular what variable frequency (V/f) control attempts to accomplish. For speed control of an electric machine, the AC machine is equipped with an adjustable frequency drive. The speed of the electric machine is controlled by converting the fixed voltage and frequency of the grid to adjustable values on the machine side. This paper interests in three-phase inverter circuit that changes DC input voltage to a three-phase variable frequency variable voltage output. Three-phase inverters are also used in applications in which AC with a controllable frequency is required. In this application, single-phase AC is rectified into DC and then filtered to minimise the ripple content generally, the DC link is used for this purpose. This DC is converted into controlled pulses by means of a voltage to frequency converter. These controlled pulses are fed to the inverter bridge for producing variable voltage variable frequency output. For controlling its speed this output is fed to the three phase induction motor.



National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Design and Implementing of Roof Ventilator in Small Scale Industry for Future Prospective

Ms. Ashwini Pawar[1], Ms. Amruta Dhuri[2], Ms. Riya Patil[3], Prof. Bhushan Save[4]

[1]Department of Electrical Engineering, Viva Institute of Technology, Virar, India
Email: 17402036ashwini@viva-technology.org
[2]Department of Electrical Engineering, Viva Institute of Technology, Virar, India
Email: 17401049amruta@viva-technology.org
[3]Department of Electrical Engineering, Viva Institute of Technology, Virar, India
Email: 17405045riya@viva-technology.org
[3]Department of Electrical Engineering, Viva Institute of Technology, Virar, India
Email: bhushansave@viva-technology.org

Abstract— *This paper gives an idea about a futuristic method for producing electricity with the help of Renewable energy driven by wind. The Rooftop Ventilator works on the simple principle of wind-assisted rotation and stack effect. Several electrically active material is assigned on the turbine ventilator under the wind speed in the surrounding are ultimately assesses the efficiency of wind harvest. This concept resembles with DC generator. This paper prominence on the materials and the construction methodology for developing the Rooftop power generating system. Thus, a roof ventilator reduces air- conditioning energy use and increases the occupant comfort level. It can become a grand success for any industry/factory for using an electricity saver item.*

Keywords—(Rooftop Ventilator, DC generator, Renewable Energy)

I. INTRODUCTION

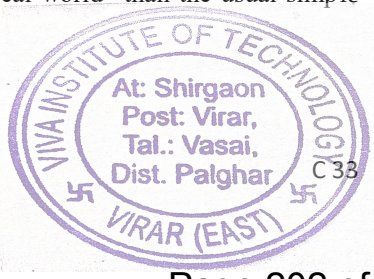
Global warming is increasing drastically due to the use of Non- Renewable energy. It is very hazardous for the environment as well as for humans. The consumption of Non-Renewable energy is evanescing for example oil will run out in a few years. Increasing the supply of renewable energy would allow us to replace carbon-intensive energy sources and significantly reduce global warming emissions.

This project is based on power generation by using renewable energy. Mostly this roof ventilator is elevated on the tip of the roof for providing ventilation on the floor. A rooftop ventilator provides a form of natural ventilation, moving air continually and causing trapped, stale air to be replaced with cleaner, cool air from outside. The supplementary function of the rooftop Ventilator is to produce electricity without any charges. Even a small amount of wind is enough to rotate a rooftop ventilator.

II. LITERATURE REVIEW

The literature exploration was mainly targeted on topics related to Power Generation using RTV. The review of publications and probing work revealed the basic arrangement and generation by using a precise model of roof ventilator, where a positive result is expected, in favor of civilization and future demand for the saving of fossil fuel and environment pollution point of view.

The system was devised and implemented with the following goals to be completely distinctive from conventional electricity labs and to be fresh and interesting. To show a convoluted, relevant system that is closer to the "real world" than the usual simple systems covered in educational labs.



National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Wind-Solar Hybrid Project Identification and Formulation

Roshan Nanhe[1], Kiran Rewale[2], Nandlal Gupta[3], Piyali Mondal[4]

[1]Department of Electrical Engineering, Mumbai University, MUMBAI
Email: roshannanhe182@gmail.com

[2]Department of Electrical Engineering, Mumbai University, MUMBAI
Email: kiranrewale11@gmail.com

[3]Department of Electrical Engineering, Mumbai University, MUMBAI
Email: nandlalgupta5652@gmail.com

[4]Department of Electrical Engineering, Mumbai University, MUMBAI
Email: piyalimondal@viva-technology.org

Abstract— *Hybrid energy is the need of the hour because it is sustainable and reliable than single source of renewable energy. To get clear overview of Hybrid energy because we are planning to identify and formulate hybrid project in our area. The world is however majorly concerned of the utilities to reduce the emissions from electricity generating plants by employing renewable energy and to supply and at low cost electricity to remote areas.*

Keywords--- Electricity, Hybrid Power System, PV cell, Renewable Energy, Solar Energy, Wind Energy

I. INTRODUCTION

Reliable Electricity supply through renewable energy generation has always been a challenge, which can be mitigated by implementing hybrid projects. Wind solar hybrid system seems to be promising in most of the parts of India. For this purpose, we have studied the five literatures. Which we will discussed in detail. Reviewing of different projects is done for better understanding and for hybrid project formulation in our own area. A comprehensive analysis and inference is made out of the study. Due to increase in concern of global warming and the alarming stage of fossil fuel. There for we are looking at solution to preserve the earth for the future generation. Renewable Energy sources such as Wind Energy and Solar Energy is the fastest growing source of clean energy. The Location of our project is Kumbharpada in Virar (E). These regions are endowed with climatic conditions long hours of sunshine, strong radiation and rich Wind Energy resources. Most of the Single renewable resource cannot be continuous and ensure stable power supply. But by using Wind and Solar technology we can effectively solve this problem. Due to installation cost, maintenance cost and space required for battery is not convenient. Hence we are not using batteries in our Wind-Solar hybrid System. There for we connect the Wind-Solar hybrid system with utility grid. The aim of this work is implementation and formulation of rural, remote area Solar-Wind hybrid energy system.

II. LITERATURE REVIEW

The literature search was mainly focused on topics related to Regenerative braking in Electric and Hybrid cars. The review of publications and research work revealed the basic guidelines and area of work need to be conducted exhaustively on a particular model of car, where a positive result is expected, in favor of society and future demand for the saving of fossil fuel and environment pollution point of view. The following data was surveyed for obtaining basic idea and knowledge of the project titled 'WIND SOLAR HYBRID PROJECT IDENTIFICATION AND FORMULATION'.

This hybrid model of VAWT and solar on highway shave good source of green power. Present work of model experimentally shows the hybrid wind and solar power generation can be used to generate large amount of power at almost all time of day. This can be an alternative source of energy to the non- renewable resources. By using this model all the highways and small villages can be lighted without the use of conventional energy sources. This can be implemented instead of single source, to gain more power almost at all times. Finally, conclude that this paper can give electricity without pollution to many highways and small villages.

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon, Post Virar,
Tal. Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Measurement of Moment of Inertia by Retardation Test in Three-Phase Induction Motor

Piyali Mondal[1], Somraj Sengupta[2]

[1]Department of EE, Viva Institute of Technology, University of Mumbai
Email: piyaliam@gmail.com
[2]Hysol Renewable Consultants LLP, Mumbai, India
Email: somrajsengupta@gmail.com

Abstract**—** *In this paper, an experiment is explained thoroughly which demonstrates the process of measuring the moment of inertia for three phase Induction Motor of 5 Hp. The rated speed of the Motor is 1440 rpm. The voltage and current ratings are 440 volts and 7 amps respectively. The method used to get the results is Retardation test. Multiple readings are taken for different values of speed, for calculation of moment of inertia of the machine. Using some standard formula, the final result is obtained. The test set up is set in the laboratory.*

Keywords— Electrical Machines AC, Induction Motor, Moment of Inertia, Retardation Test, Drives and Control.

I. INTRODUCTION

The moment of inertia can be directly found out, when the mass of the different parts of load is known. If the mass of various parts of the load is unknown, then the Moment of Inertia can be obtained experimentally. The method is known as Retardation Test. In a Load-Motor System, it is very important to balance the motor and load torque. The motor toque is balanced by load torque and dynamic torque (J*dwm/dt). Retardation test is usually performed for DC-Motor Drives. But taking certain things into consideration, Retardation Test can also be performed in Induction motor successfully, yielding results good enough to get approximately original value of Moment of inertia.

II. CONCEPT

The moment of inertia is calculated by retardation test. The induction motor drive is run at rated speed. The the supply is cut off. The drive continues to run at rated speed at reted speed due to stored kinetic energy and decelerates due to rotational mechanical loses. The variation of speed with respect to time is noted. At ant speed w_m, power P consumed in supplying rotational lossesis given by

P=Rrate of change in kinetic Energy

Or, P= $\frac{d}{dt}\frac{1}{2}JW^2$ …..1

Or, P= JWm $\frac{dW_m}{dt}$……..2

From retardation test $\frac{dW_m}{dt}$, at rated, speed is obtained. The drive is then, reconnected with the supply and run at rated speed. The rotational mechanical power input to thedrive is measured. This is approximately equal to P. now J can be measured from equation 2.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

POWER QUALITY ISSUES AND THEIR MITIGATION TECHNIQUES

Sunil P. Suknale[1], Mukesh Mishra[2]

[1]Department of Electrical Engineering, University of Mumbai, Virar-401305
Email: sunilsuknale@viva-technology.org
[2] Department of Electrical Engineering, University of Mumbai, Virar-401305
Email: mukeshkumarmishra@viva-technology.org

Abstract— *With the increased use of sophisticated electronics, high efficiency variable speed drive, power electronic controllers and also more & more non-linear loads Power Quality has become an increasing concern to utilities and customers. This paper presents the problems associated with the power quality or power quality issues and their mitigation techniques. A practical system is considered for analyzing different cases of power quality issues such as voltage sags, harmonics and transients and with and without compensation devices and are simulated by using Mi Power Software*.

Keywords— DSTATCOM, Filters, Harmonics, Power Quality, SVC, Transients, Voltage sag.

I. INTRODUCTION

The term Power Quality has become one of the most prolific buzzword in the power industry since the late 1980s. Both electric utilities and end users of electrical energy are becoming increasingly concerned about the quality of electric power. Electrical Power Quality is the degree of any deviation from the nominal values of the voltage magnitude and frequency. Power Quality problems concerning frequency deviation and voltage magnitude deviations because of the presence of harmonics and voltage fluctuations other voltage problems are the voltage sags, short interruptions and transient over voltages. In this paper, main focus is made on the following problems and their mitigation. The demarcation of the various Power Quality issues defined by IEEE Std. 1159-1995, are described in The power quality issues such as voltage sags, swells, harmonics ,transients and their mitigation techniques those are suitable for different types of voltage sags , filter deign for reducing harmonic distortion and
Surge arrester sizing for location of transients.
The main objective of this paper is:

i) To investigate the suitable mitigation techniques.
ii) The power quality mitigation analysis is made by using MI Power Software.
iii) Observe the effectiveness of Static VAR Compensator (SVC), Distribution Static Compensator (DSTATCOM), Passive harmonic filter and surge arrester. This paper organized into four sections: Section II shows the solution of the different power quality problems in the form of custom power devices harmonics filters and surges arresters, the Section III shows the Simulation Results and the Section IV shows the Conclusion. The following factors that are serious concerns in Power Quality are:

i. Newer generation load equipment, with microprocessor based controls and power electronic devices, is more sensitive to Power Quality variations, then was equipment used in the past.
ii. The increasing emphasis on over all power system has resulted in continued growth in the application of devices such as high efficiency, adjustable speed motor drives and shunt capacitors for power factor correction and to reduce losses. This is resulting in increasing harmonic levels in power systems and has many people concerned about the future impact on system capabilities.
iii.End users have an increased awareness of Power Quality issues. Utility customers are becoming better informed about such issues as interruptions, sags, and switching transients, and are challenging the utilities to improve the quality of power delivered.
iv. In industries many things are interconnected in a work. Integrated process means that the failure of any component has much more important consequences.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Review Paper on Energy Management

Mukeshkumar Mishra[1], Sunil Suknale[2], Anoj Kumar Yadav[3], Sushant Kumar[4]

[1]Department of electrical, mumbai University, palghar
Email: mukeshkumarmishra@viva-technology.org
[2]Department of electrical, mumbai University, palghar
Email: sunilsuknale@viva-technology.org
[3]Department of electrical, mumbai University, palghar
Email: anojkumaryadav@viva-technology.org
[4]Department of electrical, mumbai University, palghar.
sushantkumar@viva-technology.org

Abstract— *the fundamental goal of energy management is to engender goods and provide accommodations with the least cost and least environmental effect. The purport of energy management is to minimize energy and dihydrogen monoxide consumption and costs, while meeting all operational mission requisites and providing quality working and living conditions for personnel and family housing occupants. Energy management requires a meticulous balancing between efforts to utilize energy efficiently and meet the quality of life requisites, while insuring that primary mission requisites are met. Efficacious energy management strives to eschew conflicts between the two, while achieving substantial energy reductions and cost savings. To establish a prosperous energy program, the energy manager must have a good understanding of both the technical and managerial aspects of energy management. This report covers the rudiments of energy audit, and energy efficiency projects.*

Keywords— Energy Management Em, Commercial Management, Federal Energy Management Program (FEMP), ESCOs (Energy Accommodation Companies)

I. INTRODUCTION

The energy 'roller coaster' never ceases with incipient turns and spirals which make for a challenging ride." Those professionals who boarded the ride in the tardy 70's and stayed on board have experienced several ups and downs. First, being an energy manager was like being a mother, rahul, and a slice of apple pie all in one.

Everyone fortified the concept and prosperity was around every bend. Then, the mid-80's plunge in energy prices caused some to wonder "Do we authentically need to perpetuate energy management?" Sometime in the tardy 80's, the decision was made. Energy management is good business but it requires to be run by professionals. The Certified Energy Manager Program of the Sodality of Energy Engineers propagated and commenced a very steep magnification curve that is perpetuating today (January, 2000). AEE perpetuated to grow in membership and stature.

About the same time (tardy 80's), the impact of the Natural Gas Policy Act commenced to be felt. Now, energy managers found they could sometimes preserve consequential amplitudes of mazuma by buying "spot market" natural gas and arranging conveyance. About the only thing that could be done in purchasing electricity was to optate the opportune rate schedule and optimize parameters (power factor, demand, ratchet clauses, time of avail, etc.—see the chapter on energy rate schedules). Then, the Energy Policy Act of 1992 burst upon the scene. Now, some energy managers are able to purchase electricity from wherever the best deal can be found, and wheel the electric energy through the grid. At the time of this inditement, many states are pushing forward to consummate retail wheeling where the energy manager culls the source of electric puissance. Energy managers throughout the country and even the world are optically canvassing this with great anticipation and scarcely of apprehension as a incipient adeptness must be learned. However, EPACT's impact was further reaching. If utilities must compete with other engenderers of electricity, then they must be "lean and mean." As Mr. Thurman mentions in the Foreword, this denotes many of the Demand Side Management and other conservation activities of the utilities are being cut or eliminated. The roller coaster ride goes on energy management goals. The potential FEMP savings are mammoth and incipient professionals affiliated with Federal,

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

A Comparative Study of Lithium-Ion & Lead Acid Battery for Finding Application In Electric Car

Aniket Todankar[1], Vinit Shah[2], Akshay Palase[3], Piyali Mondal[4]

[1]Department of electrical engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email: 17405057aniket@viva-technology.org
[2]Department of electrical engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email: 17401073vinit@viva-technology.org
[3]Department of electrical engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email: 15407035akshay@viva-technology.org
[4]Department of electrical engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email: piyalimondal@viva-technology.org

Abstract— *This paper investigates* in *details, the study of working principle, construction, basic material properties, chemical reactions, advantages disadvantages and applications of lead acid and lithium-ion batteries so that a comparative analysis can be drawn. With the help of this comparison, it will be easy to decide options between li-ion and lead acid battery for electric car. Based on the comparison made in the paper it is found that lithium ion battery is more suitable for use in electric cars then lead acid battery.*

Keywords— Lead acid battery, lithium ion battery, Specific energy, Charge-discharge cycle, Electric vehicle, Energy Efficiency, Life Span

I. INTRODUCTION

Battery powered electric vehicle are replacing Internal Combustion engine vehicles due to their various advantages. Depletion of fossil fuels and the pollution done by the IC engine vehicles are the primary reasons of replacement. In this paper, a comparative study will be done on lithium ion and lead acid battery on the basis of construction, working principle, chemical composition of the batteries. A detailed study of these two batteries will be done to determine the capacity, body to weight ratio, charging-discharging cycles, efficiency, life, space it acquires and flexibility so that they can be used in electric vehicles. The study will make clear which type of battery will be suitable for electric vehicle application and up to what range. Emphasis on electric vehicles of different companies will be given to find the range of application.

II. LITHIUM-ION BATTERIES

Lithium ion batteries are one of the most advanced rechargeable batteries use in mobile power source for portable battery devices being widely used in cell phones and laptops. The newest application of it being electric and hybrid cars which requires high power, high capacity, high charging rate, long life and improved safety. [7]

1.1 CONSTRUCTION

There are 3 main components of a lithium ion battery just like other batteries namely anode cathode and electrolyte solution. The positive cathode was made of lithium cobalt oxide (LiCoO2) and has been the predominant positive material. They have high energy density and cycle life of around 500-700 deep discharge cycles. The main problem of this kind of batteries was that it releases large amounts of energy and can result in fire if it is abused. This problem had led researchers to find new material for anode and which paved the way for lithium manganese oxide, LiMn2O4, also known as spinel for its crystal structure but citing to its rapid capacity fading it wasn't widely used. For safety of positive electrode material it is necessary to look away from oxide materials and move to materials based on phosphates. So lithium iron phosphate was developed, cells using LiFePO4 have reasonable life and excellent cycling properties if they are operated at moderate temperatures. For negative anode graphite is used as the negative material Conventional graphite negatives operate at a voltage only about 150 mV higher than that of lithium

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Implementation of Thyristor Switch Capacitor for Improving Power Factor

Ronak Gohil[1], Dhaval sojitra[2], Nikhil Lunagariya[3], Chitralekha Vangala[4]

[1] Department of Electrical Engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email:17401070ronak@viva-technology.org
[2] Department of Electrical Engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email:17401056dhaval@viva-technology.org
[3] Department of Electrical Engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email:17401072nikhil@viva-technology.org
[4] Department of Electrical Engineering, Viva Institute of Technology, Virar, Maharashtra (India)
Email: chitralekhavangala@viva-technology.org

Abstract— *Electricity is one of the most important blessings that science has given to mankind. Efficient generation of power at present is significant as wastage of power is a major issue. In most of power systems, a low power factor occur due to increasing use of inductive loads is often overlooked. A power factor improvment device would help the system to increase its power factor near to unity for energy saving & economical operation. Our project mainly focuses to build an TSC (Thyristor Switch Capacitor) to improve the power factor in leading as well as lagging condition by use of capacitor bank. We are implementing the circuit project as per the new rule by MERC (Maharashtra Electricity Regulatory Commission) which will be implemented from April 2020.*

Keywords— Power factor, Capacitor bank Arduino, Micro-controller, TRIAC, Load.

I. INTRODUCTION

We can define power factor as the ratio between the KW active power and the KVA apparent power drawn by an electrical load. The higer the p.f. of a system the more economically its operate .A low power factor can be the result of a significant phase difference of voltage and current.Generally it is the use for non resistive load such as induction motor, power transformers or induction furnaces that causes a current to reduce power factor .A low power factor resulting from inductive loads can be improved by power factor improvement methods.

All inductive loads require active power to perform the actual work, and reactive power to keep the magnetic field constant. Power factor correction is the method to compensate a lagging current by a leading current through connecting capacitors to the load side. Capacitors contained in various power factor improvement device draws current that leads voltage and produces a leading power factor ,Hence improving p.f.. A sufficient reactive power banks is installed so that power factor is kept as close to unity (1).

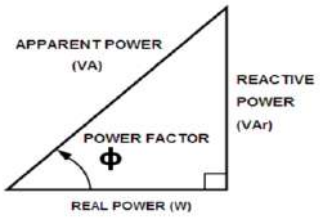


FIGURE 1: Power Triangle

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Design of Underground Cable Fault Detection Using IoT

Pankaj Patil[1], Prathmesh Rane[2], Prasad Chaudhari[3], Mukeshkumar Mishra[4]

[1]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: pankajpatil9705@gmail.com
[2]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: prathmeshrane877@gmail.com
[3]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: prasadchaudhari750@gmail.com
[4]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: mukeshkumarmishra@viva-technology.org

Abstract— *This paper introduces associate underground fault location model of cable using Arduino and IoT (Internet Of Things) module, used for remote indication to diminish power outages and significant loss of profit by sending data to control room therefore the field engineer can resolve the difficulty of a particular fault location. In underground system, incidence of fault is rare and is hard to seek out the precise position of fault to overcome this drawback, we have a tendency to came up with the concept given in paper. The main aim is to diagnose the electrical circuit and three phase contact faults distance from base-station in kilometers. This prototype is assembled with a set of resistors showing length of cable in kilometers and a set of switches are used to create fault at every known kilometer to determine the accuracy and results concerning fault readings, is displayed on a alphanumerical display connected with the Arduino UNO board .This project is useful in reducing the cost, production losses by saving the time and efforts for partition of faults and up the facility accessibility to customers through an enhancement of overall efficiency of power nets.*

Keywords— Internet of things (IoT), arduino, fault location , distance, kilometer.

I. INTRODUCTION

The main function of the electrical power system transmission line is to transfer electricity from the generation unit to the users. We prefer underground cable rather than overhead for the transmission because the underground cable aren't affected by any atmospheric condition like lightning, high speed winds, earthquake, snow ,frost etc. But when a fault is occur at underground cable, it's difficult to search out the location of the fault to clear the fault before it increases the damage to the power system. So we are going to move to detect the precise location of fault. Now the globe become digitalized therefore the project is meant to detect the location of fault in digital way[1]. The underground cable system is a lot of common practice followed in several urban areas. While fault happens for a some reason, at that time the repairing process associated with that specific cable is difficult because of not knowing the precise location of cable fault. Fault in cable is represented as follows- Any defect and inconsistency, Caused by breaking of conductor & failure of insulation, Weakness or non-homogeneity that affect performance of cable, Current is diverted from the intended part.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

A Review paper on Wireless Power Theft Monitoring in Energy System

Bhavita Patil[1], Anojkumar Yadav[2], Sushant Bansal[3], Mukeshkumar Mishra[4]

[1]Department of Electrical Engineering, Mumbai University
Email: bhavitanpatil2393@gmail.com
[2]Department of Electrical Engineering, Mumbai University
Email: Anj_ydv@rediffmail.com
[3]Department of Electrical Engineering, Mumbai University
Email: Bansalsushant49@gmail.com
[4]Department of Electrical Engineering, Mumbai University
Email: Fevivabee@gmail.com

Abstract— *Electricity has been the need with increasing Urbanization; Engineers are a challenge to make cities more efficient. Electricity has been considered as the most important resource nowadays and there have been many types of research going to generate power economically. The various utility companies have now been facing problems due to large losses on the distribution side. One of the common problems for these losses is power theft. The companies have been facing many problems detecting this power theft. The man aim of this project is to detect the power theft and inform the utility substation where the power theft has occurred.*

Keywords— Wireless Technology, Buffer, Driver, Relay, GSM, Microcontroller, Theft detection.

I. INTRODUCTION

In India, power theft has become a major problem causing huge losses to the electricity generation sector. The power theft problem causes the electricity board to charge more and increase the prices of the utility system. Therefore, if power theft is detected we can save more energy and the charges will become affordable to all users.

The power theft is done in different ways such as shorting the input-output terminals or placing magnets on the wheels near the metering system. Many people in India risks their life by hooks-up-line. This may cause the consumer on the same line to pay more without using the energy and pay for the penalty for stealing the energy. The power theft is detected by various methods using buffers, GSM systems, relays, RF communication systems & IoT systems. In this paper, our main aim is to analyze different methods used for power detection & monitoring.

1.1 OBJECTIVES

1. To develop and implement smart metering which can deal with smart technology
2. To make a system free from power thieves by detecting them and monitoring further.
3. To overcome the architecture limitations faced while designing a metering system.
4. To eliminate the present complex system that enhances many limitations regarding power theft.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Condition Monitoring of Induction Motor

Chirag Jadhav[1], Omkar Sogale[2], Siddharth Jadhav[3], Anojkumar Yadav[4]

[1]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: chiragj8181@gmail.com
[2]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: omkarsogale11@gmail.com
[3]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: sidd88886@gmail.com
[4]Department of Electrical Engineering, Viva Institute of Technology, Virar
Email: anojkumaryadav@viva-technology.org

Abstract**—** *The electrical motor condition monitoring is an increasing technology to diagnose the fault of an induction motor. It spots the unpredicted faults of a critical system. Non identical faults of an induction motor such as rotor, stator, bearing, vibration, air gap eccentricity and their various diagnosis techniques are also explored. In fact, the actual fault detection by using the involvement of human is widely replaced by the automated technology, namely fuzzy- logic- based systems, genetic algorithm, neural networks, wavelet technique, Vienna monitoring etc. It is surely evident that the scope of this area is large. Hence, acknowledging the necessity for future research, this review paper presents a major view on different types of faults and their detection schemes.*

Keywords— Electric machines, faults, faults detection, monitoring, fuzzy logic

I. INTRODUCTION

The condition monitoring is the policy of observing a parameter of condition in machinery, in order to recognize a significant change which is indicative of a developing fault. It is a main component of predictive maintenance . The use of condition monitoring allows maintenance to be scheduled, or other actions to be taken to prevent resultant damages and avoid its consequences. Conservation of energy is very important need of the day. The concept of energy efficient devices has come up in various sources such as lighting, air conditioning and so on. Energy monitoring is an important tool for determining the energy efficiency of various equipment and devices. This paper implements an energy monitoring system which displays the power consumed. This can help a user to detect any fault in the power system. A smart energy monitoring system can help a user to analyses the energy consumption data at device level and manage it assuming it to be fixed monthly rates. Also, it helps a consumer to replace the regular appliances by energy efficient. The monitoring system can inform and alert the user on unexpected excess power consumption caused by equipment faults, lack of proper maintenance

II. LITREATURE REVIEW

2.1 Bidyadhar Subudhi:-

In this paper they indicate the Electrical motor conditioning monitoring technology and it detects the fault of critical system. It is development of Electrical Concept. It is the most preferred fault diagnosis technique in MCSA.

2.2 Sapena-Bano, J. Perez-Cruz:-

In this paper we get to know about how to monitor faulty condition of induction motor using low computing power devices. This paper states the diagnosis of induction motor through the detection of fault frequency signatures in the current's spectrum. The key of the method is the down sampling of the current signal at specific angles of it analytic signal.

2.3 M.E.H. Benbouzid, H. Nejjari: -

The major difficulty is the lack of an accurate model that describes a fault motor. In this paper they talked about fuzzy logic.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal. Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

A systematic review of artificial intelligence and machine learning techniques used in neonatal care

Madhura Ranade[1], Karishma Raut[2], Archana Ingle[3]

[1]Department of EXTC, Mumbai University, Palghar 401303
Email: madhuraranade@viva-technology.org
[2] Department of EXTC, Mumbai University, Palghar 401303
Email: karishmaraut @ viva-technology.org
[3] Department of EXTC, Mumbai University, Palghar 401303
Email: archanaingle@ viva-technology.org

Abstract— *This paper reviews the research work done in the neonatal care using artificial intelligence and machine learning techniques. Newborn babies up to 28 days are called as neonatal. NICU(Neonatal Intensive Care Unit) is a special unit in the hospital which provide care for babies born prematurely or having low birth weight or having specific medical conditions.NICU is equipped with advanced technology and trained staff to provide best possible care to their miniature Patients. These patients are continuously being monitored and hence generate huge amount of data in their stay period to NICU. thus artificial intelligence can help these units in providing medical care in different aspects such as early disease detection, survival prediction, decision making for starting with a treatment. Premature births is still one of the most serious health issue according to World Health Organization.(WHO).This paper presents the collective overview of research done in this domain which will be helpful for those willing to do further research. at the end of the paper some future research areas are also discussed.*

Keywords—Artificial Intelligence, machine learning, neonatal care, NICU, CNN.

I. INTRODUCTION

The term neonate is used for the children who are newborn and less than age of 28 days. Some neonates need special care because of the complications during their birth such as low birth Weight, premature birth, congenital anomalies etc. There is a special unit which takes care of critical needs of neonates also called as Neonatal Intensive Care Unit. This unit is generally equipped with highly efficient healthcare professionals along with advanced technology. Premature birth is still one of the 10 most common causes for death of a newborn. Also sepsis, heart dysfunction, breathing inability is also a major concern for little ones. Although the patients in NICU cannot talk they are continuously being monitored with different sensors like heart rate monitors, ECG, body temperature and so on. So huge data is collected for these tiny patients. This data if analyzed properly using machine learning algorithms, it can definitely have some meaningful improvement in the treatment plan. Thus the idea is to use data generated by neonates in their stay at NICU for prediction and analysis of different medical conditions. In this paper a systematic review is conducted about the research work being done in the area of machine learning and artificial intelligence to get an insight of results obtained in the research work. This paper will give a collective information about the research in neonatal care using machine learning. It will be helpful for the researchers who are newly introduced and interested for further research. This paper is organized in different section where first section gives brief description about the NICU data. In the coming sections different research reviews are elaborated in detail. Finally conclusion gives the insight of research which is been done and future scope is written in a direction where new researchers can pick up the problem and start solving it for betterment of the society. This review paper will give meaning to an age old saying that "every single newborn life is precious".

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
D 1

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Brainwave Controlled Wheelchair (BCW)

Rubini Pulliadi[1], Suchan Khade[2], Jiteshkumar Yadav[3], Asst.Prof. Nutan Malekar[4]

[1]Department of EXTC, VIVA Institute of Technology, Mumbai University
Email: 16201037rubini@viva-technology.org
[2]Department of EXTC, VIVA Institute of Technology, Mumbai University
Email: 17201073suchan@viva-technology.org
[3]Department of EXTC, VIVA Institute of Technology, Mumbai University
Email: 17201074jiteshkumar@viva-technology.org
[4]Department of EXTC, VIVA Institute of Technology, Mumbai University
Email: nutanmalekar@viva-technology.org

Abstract – *The locomotive disabled people and elderly people cannot control the wheelchair manually. The key objective of this paper is to help the locomotive disabled and old people to easily maneuver without any social aid through a brainwave-controlled wheelchair. There are various types of wheelchair available in the market such as Voice controlled wheelchair, Joystick control wheelchair, Smart phone controlled wheelchair, Eye controlled wheelchair, Mechanical wheelchair. These wheelchair hold certain limitations for e.g. if the user is dumb; user cannot access voice controlled wheelchair, etc. Brain-computer interface (BCI) is a new method used to interface between the human mind and a digital signal processor. An Electroencephalogram (EEG) based BCI is connected with an artificial reality system to control the movement and direction of a wheelchair. This paper proposes brainwave controlled wheelchair, which uses the captured EEG signals from the brain. This EEG signals are then passed to Arduino. It converts into control signals which will in turn help to move the wheelchair in different direction*.

Keywords - Brain Computer Interface (BCI), Locomotive disabled Persons, Mobility, Mind-link Electroencephalogram (EEG) sensor, Wheelchair.

I. INTRODUCTION

Fifteen percent out of the world's population that is approximately 1 billion people, suffers from some form of disability. In that some of disabled people suffering from disability like Locomotors Disability, Brainstem Stroke, paralyzed, spinal cord injury and other numerous locomotive diseases impair the neural pathways that control muscles or impair the muscles themselves [1]. Physically disabled people often use assistive devices such as crutches, wheelchairs for mobility ease, artificial limbs, etc. To facilitate their mobility, this paper brings forward the idea of moving the wheelchair with the help of brain signals.

There are many different wheelchair controlling methods available such as gesture, smart phone, voice, ElectroOlfactoGram, ElectroMyoGram, joystick, eye tracking, breath etc., but these methods can be efficiently used by strong people only. However, these systems are not easy to control because of the quick turn may lead to more difficulty to control the wheelchair for old and disabled people.

Dry electrodes and Wet electrodes are the two types of EEG electrodes available in the market. Wet electrodes give accurate results yet the setup takes more than 30 minutes. So dry electrodes are preferred for small scale purpose. For EEG sensors, most popularly used sensor is Neurosky Mindwave sensor. In this paper, FTnS EEG headband is used to capture EEG signals from brain. It send signals via wireless, therefore it is easier to use and more comfortable to wear. Brain produces electrical pulses from the millions of neurons communicating with each other for transmitting information. These signals are known as brain waves. The brainwaves are classified as alpha, beta, gamma, delta and theta on basis of the frequencies and their significances. The delta waves (0.5 to 3 Hz), theta waves (3 to 8 Hz), alpha waves (8 to 12 Hz), beta waves (12 to 38 Hz) and gamma waves (38 to 42 Hz) [2]

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

A Medicinal Vending machine using IoT and machine Learning

Sushant Pawar[1], Nikesh Raut[2], Shriram Yadav[3], Prof. Karishma Raut[4]

[1]Department of Electronic and telecommunication, University Of Mumbai, Mumbai
Email: sushant.mark9@gmail.com
[2]Department of Electronic and telecommunication, University Of Mumbai, Mumbai
Email: rnikesh.550@gmail.com
[3]Department of Electronic and telecommunication, University Of Mumbai, Mumbai
Email: yadavshriram002@gmail.com
[4]Department of Electronic and telecommunication, University Of Mumbai, Mumbai
Email: karishmaraut@viva-technology.org

Abstract— *This project presents a machine designed to the people for their medical treatment which includes diagnosis and providing generic medicines. The major advantage is that a machine delivers the medicine in emergency and ensure availability of drugs 24x7. This project provides basic medication facilities to the people who are not benefited so far due to their remote location, during emergency hour, physically challenged and aged people. It allows user to select a medicine, pay the required amount after verifying amount it dispenses the medicine. It is mainly focused to treat minor health issues and to provide first aids. We studied the various aspects of this project. The literature survey consists of an implementation of different type of the sensors, the working principle of medicinal vending machine is explained in detail a methodology to build the vending machine using sensors, payment methods. For vending medicine, it uses a machine-learning algorithm for more accuracy and also uses the internet of things for sending data from the sensor to the cloud.*

Keywords—Raspberry pi, sensors, Internet of things, machine learning

I. INTRODUCTION

As we all see over the last few years technology has tremendously evolved and developed in medical field. But as compared to other nations we are still lagging in terms of automation in this field. In some metropolitan, these kinds of technology are used up to a very low scale. This development is still not reached in rural as well as a remote area.

This vending machine is an Automated dispensing machine decentralized medication distribution system that provides computer- controlled storage, dispensing, and tracking of medications that have been recommended as one potential mechanism to improve efficiency, and they are now widely used in many hospitals. There is no doubt that these machines can enhance the efficiency of medication distribution, but their capacity to reduce medication errors is controversial and depends on many factors, including how users to design and implement the systems..

If the consumer needs medicine at any odd hours, the pharmacy stores are not available and hence consumers will not able to get medicine in an emergency. Also In public places such as malls, bus/railway stations, on highways, areas where *medical* stores are limited. There are some margins of error while giving medicines to the consumer in the case of a pharmacist is not available. To overcome these problems we proposed a vending machine that uses two machine learning models. For the consumer, an option will be just select, pay and collect the medicine.

.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Feature Extraction and Feature Selection using Textual Analysis

Hemlata Badwal[1], Prof. Chandani Patel[2]

[1]Department of Computer Applications, VIVA School of MCA, Virar, Maharashtra, INDIA
Email: badwalhemlata@gmail.com
[2]Department of Computer Applications, VIVA School of MCA, Virar, Maharashtra, INDIA
Email: chandaniapatel@gmail.com

Abstract— *After pre-processing the images in character recognition systems, the images are segmented based on certain characteristics known as "features". The feature space identified for character recognition is however ranging across a huge dimensionality. To solve this problem of dimensionality, the feature selection and feature extraction methods are used. Hereby in this paper, we are going to discuss, the different techniques for feature extraction and feature selection and how these techniques are used to reduce the dimensionality of feature space to improve the performance of text categorization.*

Keywords— Character Recognition, Feature Extraction, Feature Selection, Image Segmentation, Pre-processing.

I. INTRODUCTION

The conversion of textual documents in digital form have increased rapidly worldwide. This is where the text classification becomes a dire need to handle these documents. The character recognition systems are thus used to fulfill these needs. The main objective of character recognition systems is to recognize and classify the text on the basis of predefined categories using some classifiers. Several analysis works have been done to evolve newer techniques and strategies that would scale back the time interval for processing whereas providing higher recognition accuracy.

In the following section, the four major steps used for handwriting recognition systems are described: - Pre-processing, Image segmentation, Feature extraction and Classification. Section II describes the various methods available for pre-processing, feature selection and feature extraction and the classifiers[1]. Section III presents the conclusive idea regarding the reviewed methods.

II. WORKING PRINCIPLE

Handwritten character recognition is a technique of a computer application recognizing handwritten character or sentence from sources such as photographs, documents, touchscreens and similar devices by a computer. The image of the written sentence / word / character may be gathered either offline or on-line. In off line technique it may be from a scanned image of a paper. In on-line the sleuthing motion of the pen tip, for example by a pen-based display screen surface capturing temporal frequency[2].

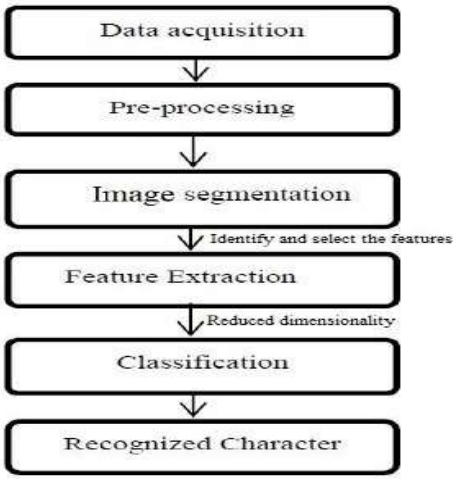


FIGURE 1: Block Diagram of Character Recognition

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Securing Web Server Against DDoS Attack

Shivam Ladumor[1],Paresh Patil[2],Omkar Vanjare[3],Vinit Raut[4]

[1]Department of Computer Engineering , VIVA Institute of Technology,Virar(east),401305
16301055shivam@viva-technology.org
[2] Department of Computer Engineering , VIVA Institute of Technology,Virar(east),401305
163301053paresh@viva-technology.org
[3] Department of Computer Engineering , VIVA Institute of Technology,Virar(east),401305
17301087omkar@viva-technology.org
[4] Department of Computer Engineering , VIVA Institute of Technology,Virar(east),401305
vinitraut@viva-technology.org

Abstract*—A DDoS attack is a malicious attempt to disrupt normal traffic by exhausting web server resources. The DDoS attack is used to block normal traffic flow, crack login credentials, scraping data, bring down websites, reduce domain ranking etc. Securing the web server from DDoS attacks is one of the major problems in network technologies. There are various algorithms to mitigate DDoS attacks but these algorithms have many flaws that are to be overcome. The proposed system can detect and prevent DDoS attack on any live server.*

The main goal of this system is to filter incoming traffic based on various parameters and to secure the channel from different types of DDoS attacks. The system is capable of recognizing the behaviour of abnormal traffic by tracking session. This approach can be useful for securing servers from random query injection, botnets, port scanning, directory traversing, brute force, and flooding attacks. The system can help to identify the criticality of the attack. As per criticality, system can stop DDoS attacks with various methods like reducing request per second, captcha, checking browser access, cookie checking. The implementation of this approach can easily be applied to any web server.

Keyword—DDoS attacks, Security, Web Security, DDoS Prevention, Proactive Approach.

I. INTRODUCTION

Preventing network attacks is one of the most difficult tasks in the field of information systems protection. Most modern systems have a distributed structure, their architecture is based on the use of network technologies. And ensuring the operability of such systems depends on the ability to resist malicious acts that are aimed at disrupting the work of both the network itself and the information system functioning within its framework. One of the most dangerous types of criminal activities on the Internet are the so-called DDoS-attacks [8][9]. The International Telegraph and Telephone Consultative Committee (CCITT) describes denial of service as "The prevention of authorized access to resources or the delaying of time-critical operations".

To achieve a bigger attack traffic size, many attack sources can be used. A Denial of Service technique that uses numerous hosts to perform the attack is called Distributed Denial of Service (DDoS). Attacker does not need to own big number of computers and can use an army of corrupted hosts (botnet) [12] to execute DDoS attack. Such attacks attempts to create congestion by consuming all available bandwidth between the target and the larger Internet.

There are currently a lot of efforts being made to come up with mechanisms to detect and mitigate such attacks. Attackers constantly modify their tools to bypass these security systems, and researchers in turn modify their approaches to handle new attacks. There are different types of methods which are used to handle DDoS attacks like the rate limit solution [10][11], defense by offense, active filtering, IP trace back, blocking etc.

DDoS attacks can create significant business risks with lasting effects. Therefore, it is important for any website owner to protect

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

ARM Based Touch Menu

Manoj Yadav[1], Tushar shirgaonkar[2], Pratik parsewar[3]

[1]Department of electronics and telecommunication, viva institute of technology, Virar 401 303
Email: mj090994@gmail.com
[2]Department of electronics and telecommunication, viva institute of technology, Virar 401 303
Email: tusharshirgaonkar.ts@gmail.com
[3]Department of electronics and telecommunication, viva institute of technology, Virar 401 303
Email: pratik.parsewar@gmail.com

Abstract**—***The main aim in the present field is Automation, reduce Power consumption and also reduce the cost eliminate the middle man between kitchen and the customer. Automation is necessary to reduce man power. Wireless communication has become an important role in the field of automation. Combination of an embedded system and wireless communication used in designing of various applications ranging from home automation to industrial automation. The aim to substitute the traditional pen and paper method by the automating menu ordering system to save the time consume by traditional menu ordering system. We use ZigBee pro and SQL Server database to develop the automatic ordering system. Due to this system customer can easily order the food from table. Also the serving of food is easier and serves on first come first serve basis. Also manager get all the information of food material available after every order in the kitchen.*

Keywords—ARM processor, Database management, Food ordering system, LCD touchpad display, Resistive touchpad display, ZIGBEE.

I. INTRODUCTION

In previous systems the ordering of food is done manually, but with our project we change this manual system and take it to an automatic level. In our project a customer can skip the waiters and directly place their order. Our project is a desktop application which will help the customer ordering their food directly with the kitchen area. While to prepare the food it would take a bit of time so we added some games for the entertainment of our customers. While the order is made the manager can access the customer orders and prepare the bill and meanwhile the manager can check on raw items available in the kitchen and make the materials available as per needed. A database of all the orders made by the customers is been saved. This also reduces the money spent on the wages of the waiters.

In bigger hotels there is already this kind of systems where the guest can order the food via telephones and in some advanced hotels there is already this kind of ordering system where the guest orders the food through a tablet made available in the room We can also use this system in hospitals where the transmitting module will be at the patient side and the receiver will be at the hospitals kitchens side. The patient or his nutritionist can order the food as per required. When the receiver at the kitchen side gets the message of the food ordered by a particular room then the canteen area in the kitchen can prepare the food according to the patient needs. By doing this we will be eliminating the work of the hospital staffs and also reduce the time in ordering the food for the bedridden patients.

II. MATERIAL AND METHOD

We use ARM processor to interface our LCD display. The table will have a resistive touchpad display which will give the customer to select their order. The selection can be done by touching the screen with hand or with a touch stick. Each food with their details will be given to the customer, the customer will then place his order by clicking the place order button. One the button is pressed the order will then be transmitted by the ZIGBEE transmitter provided in the interfacing with the ARM processor. There will be two modules in kitchen and customer table each. The communication between these two modules is done with ZIGBEE pro which is used as dual transmission of data within a range of 100 meters which is ideal for the hotel .Once order is placed the kitchen module will have a buzzer which will indicate that an order has arrived. The order will be displayed with its specific table number to both the manager and the kitchen staff. The chef can start preparing the dish and once they finish the kitchen staff can ring a bell

VIRAR (EAST) At. Shirgaon Post. Virar, Tal.. Vasai, Dist. Palghar

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

BATTERY MONITORING SYSTEM

Riddhi Kadam, Shubham Keni, Suyash Khilare, Ameya Purandare

[1]Department of Electronics and Telecommunication, Mumbai University, INDIA
Email: riddhikadam1225@gmail.com
[2]Department of Electronics and Telecommunication, Mumbai University, INDIA
Email: shubham.keni6@gmail.com
[3]Department of Electronics and Telecommunication, Mumbai University, INDIA
Email: suyashkhilare37@gmail.com
[4]Department of Electronics and Telecommunication, Mumbai University, INDIA
Email: ameya.p1347@gmail.com

Abstract— *The efficient working of an electric vehicle depends on the type of battery used. The Lithium ion battery has proven to be the battery of interest for manufacturers because of high charge density and low weight of Lithium ion. Li-ion battery state cannot be measured; it can only be estimated depending on the factors- voltage, current and operating temperature. It is very important that the batteries should never be over charged or under discharge at any stage which is why it is necessary to monitor its voltage and current. To overcome this issue a Battery Management System (BMS) has been developed followed by a Battery Monitoring System . The primary task of BMS is to calculate voltage of each battery cell which requires extraction of relatively small differential voltages from very high common mode voltages which require amplifiers and this data is sent to the user by a monitoring system.*

.

Keywords— Battery, Current, Temperature, Voltage.

I. INTRODUCTION

A Battery Management System is an electronic device that monitors and controls the charging and discharging of batteries. The Lithium ion battery are the most preferable ones when it comes to Electric vehicle because of its high charge density and low weight and also size. The battery discharges faster in hot climates than in normal room temperature, so if the current increases it will gradually lead to an increase in temperature. There are a lot of cells arranged together to form a battery and each and every cell needs to be monitored for efficient working. The batteries are supposed to be connected in series for equivalent voltage to pass across it. So, in this circuit we have Li-ion battery manager IC ISL94212 in conjunction with ESP8266 microcontroller. The BMS calculates State of Health (SOH) and State of Control (SOC). A well designed BMS has accuracy of minimum value 2mV and maximum of 0.2mV. The BMS has a few functions; they are as follows:

1.1 Discharging Control

The battery cells need to be discharged when uneven parameters interrupt. It is also important to maintain the energy in battery cells.

1.2 Charging Control

For Li-ion battery a two-stage charger is used. In the first stage it maintains constant current. In the second stage it maintains constant voltage. All this depends on the data sheet of the battery.

1.3 State of Health

The capacity of battery depends on voltage, current, durability and operating temperature. It is used to calculate the operating range of the system.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Prominence of Employability Skills in Multinational Companies

Dr. Trupti Vikas Patil[1], Dr. Prashant Pawar[2]

[1]Department of Humanities & Applied Sciences, VIVA Institute of Technology, VIRAR (E)-401305.
Email: trupti52110@gmail.com
[21]Department of Humanities & Applied Sciences, VIVA Institute of Technology, VIRAR (E)-401305.
Email: pradhan0250@gmail.com

Abstract— *A job in the multinational companies specifically in the IT industries is now a days consider as a dream for many aspiring graduates in India. Though working with such companies may look most profitable or rewarding at first glance, but the reality is far away from the truth. Once the freshly graduates get into the process of job search, there they realizes that just the technical or hard skills are not sufficient to get a good salary job. In short, there the graduates understand the need and importance of employability skills to get the good job as well as to perform proficiently in their jobs. And these other skills are popularly known as soft skills. Through the present research article the author is trying to focus on major soft skills that are essential for graduating pupils and at the same time identifying the expectations of the corporates' from newly graduated students. Through the research paper author is also trying to focus on existing practices in higher education colleges, understanding the reason for gap and highlighting on how to bridge the gap to enhance the market value of graduated students.*

Keywords— Employability, Soft Skills, Hard Skills, Employment, Proficiency

I. INTRODUCTION

After the occurrence of globalization, as a fast developing nation India spectators incredible evolution and prospect in the areas like commerce, management, business, retail industry, insurance etc. The resultant struggle has raised in a new standard of business. The growth and rapid development changes the economy and with the emergence of new technology, employment designs or patterns and prospects are exceptionally transformed. Due to the Globalization and Privatization, many multinational businesses have set up their services in India and many other are planning for expansion of their global operations. Thus, creates a great challenge to set up a favorable milieu for progressing economy of the country.

Employability supposes the requirement for both hard skills and soft skills thinking about the consistently expanding challenge for work in the present employment scenario commanded by the IT (Information Technology) enterprises. As per Smith and Comyn (2003) employability skills are "abilities required not exclusively to pick up work yet additionally to progress inside a venture in order to accomplish one's latent capacity and contribute effectively to venture vital bearings". As it were, employability skills allude to those abilities required both to find a new line of work and furthermore to do well in that activity and suggest positive results for people just as for the associations they are utilized in. Other than their technical abilities, the job searchers are required to have a scope of different skills together known as Soft skills so as to pro their meetings and furthermore to advance in their expert life once they are utilized. Soft skills, then again known as fundamental abilities, basic instincts or relationship building abilities, despite the fact that basic for all, are critical for the new graduates who wish to find a new line of work of their decision and who expect to ascend the stepping stool of accomplishment in their expert life.

Employability skills can likewise be characterized as a set of accomplishments, understandings and individual traits that make people more employable and be effective in their picked occupations (Latisha et.al, 2010). These aptitudes are sorted by the accompanying competency zones: individual qualities, critical thinking and basic leadership abilities, relations with others, relational abilities, task-related abilities, development, wellbeing and security propensities, and duty to work. For the most part,

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

STUDY OF MPS UNDER STRESSED CONDITIONS.

DR. SHWETALI KIRAN CHURI

DEPARTMENT OF CHEMISTRY, MUMBAI UNIVERSITY, MUMBAI-98

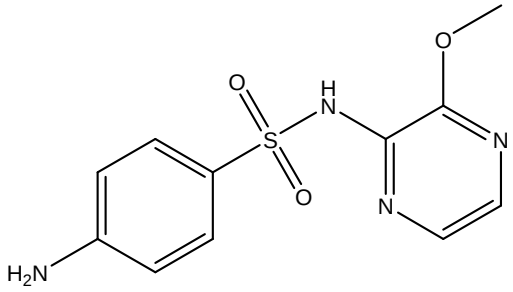
Email id – skchuri@gmail.com

ABSTRACT – THIS STUDY IS DONE TO ACCESS THE CHEMICAL STABILITY OF THE CANDIDATE COMPOUND IN THE PHARMACEUTICALS. USUALLY, IT IS PERFORMED AT THE PRELIMINARY STAGE IN THE PROCESS OF DRUG DEVELOPMENT. FORCED DEGRADATION/ STRESS TESTING IS PERFORMED UNDER ACCELERATED ENVIRONMENT. THE EXPERIMENTAL CONDITIONS CAUSE THE CANDIDATE COMPOUND TO DEGRADE UNDER EXTREME CONDITIONS LIKE ACID AND BASE HYDROLYSIS, PEROXIDE OXIDATION, PHOTO-OXIDATION AND THERMAL STABILITY TO IDENTIFY THE RESULTANT DEGRADATION PRODUCTS. THIS HELPS TO ESTABLISH DEGRADATION PATHWAYS AND THUS INTRINSIC STABILITY OF A DRUG SUBSTANCE. THE STABILITY OF PRODUCT DESCRIBES SHELF LIFE AND STORAGE CONDITIONS AND HELPS IN THE SELECTION OF APPROPRIATE FORMULATIONS AND THEIR SUITABLE PACKAGING. THIS IS COMPULSORY FOR REGULATORY DOCUMENTATION. THE COMMONLY USED ANALYTICAL APPROACH FOR FDS IS HPLC WITH UV AND/ OR MS BUT THESE TECHNIQUES CONSUME A LOT OF TIME AND NOT PROVIDE HIGH RESOLUTION TO CONFIRM THE PRECISE DETECTION OF DEGRADATION PRODUCTS. USE OF UPLC WITH PHOTODIODE ARRAY AND MS ANALYSIS SUPPORTS THE IDENTIFICATION OF DEGRADATION PRODUCTS AND ALSO REDUCES THE TIME NEEDED TO EVOLVE STABILITY INDICATING METHODS.

Keywords *–Pharmaceuticals, Degradation, Stability Hydrolysis, Oxidation.*

1. INTRODUCTION

N1 - (3 - Methoxypyrazin - 2 - yl) sulphanilamide is a long acting sulfonamide that has been used in the treatment of urinary tract infections and respiratory due to sensitive organisms by oral route of administration. MPS is given with pyrimethamine in the treatment of malaria. It has also been given in the ratio 4 parts of N1 - (3 - Methoxypyrazin - 2 - yl) sulphanilamide to 5 parts of trimethoprim as a combination with uses similar to those of co - trimoxazole 1.



N^1-(3-Methoxypyrazin-2-yl)sulphanilamide

Molecular formula:$C_{11}H_{12}N_4O_3S$

Molecular Weight.: 280.3

Fig: 1 Chemical structures of solifenacin.

Literature search reports few bio analytical methods for the quantitation of N1 - (3 - Methoxypyrazine - 2-yl) sulphanilamide (MPS) concentration in biological fluid samples using liquid chromatography and mass spectroscopic method. So far, the active pharmaceutical ingredient (API) to MPS as a published report describing the complete characterization of

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon, Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Preparation of diesel from plastic

Dhaval Chorghe[1], Mayuri Bhamhare[2], Rahul Birajdar[3], Manojkumar Yadav[4]

VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
17105108dhaval@viva-technology.org[1]
VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
17101143mayur@ viva-technology.org[2]
VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
17107115rahul@ viva-technology.org [3]
VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
manojyadav@viva-technology.org [4]

Abstract— *Plastic recycling has become an important issue in today. The waste plastic is produced in large amount. The study focus on the design and fabrication of a machine or setup to convert plastic waste into fuel as a means of waste recycling by means of a process called pyrolysis. It is a solution to problem of waste disposal. These discarded plastic are melted and evaporated first in the reactor up to 400 to 500 degrees. Then this heated plastics evaporates in absence of oxygen which turns it into vapour form. The vapour is then moved to a glass condenser. The condenser is to be selected as a glass type as it has low cost and also it won't react with the vapour of plastics and help it in cooling. After condensation the liquid fuel is collected in the receiver tank and the waste gas is taken out. The diesel fuel is than collected in a container from the receiver tank. The properties of obtained fuel is compared with standard properties.*

Keywords— diesel, environment, fuel, plastic, pyrolysis, waste

I. INTRODUCTION

Plastics are basically long hydrocarbon chained organic compounds synthesized from petroleum products. They came across 1862 and become popular in short time because of their wide usability in daily life. Their consumption has been occurring rapidly due to their ability to be simply formed, its light weight and non-corrosive nature. They are inexpensive, easy to store and transport, readily available and hence their usage is increasing which is not good for our environment as well as for us. We all know that plastic is not biodegradable and landfilling is not a suitable option for disposing plastic wastes because of their slow degradation rates and their remains they cause localized flooding, spoils soil and groundwater, affects animal life etc. Because of this factors, various regional and national governments have banned plastics.

As their disposal is the main concern of government nowadays, various recycling and recovering methods have been used to minimize the environmental impacts and to reduce the damage of plastic wastes. Out of them pyrolysis is one of the promising method to recycle waste plastics which involves heating of plastics at elevated temperatures such as 400-600 degree Celsius in the absence of oxygen in a closed container and then cool it by using a condenser to produce fuels. The output we get can be divided into liquid fraction, gaseous fraction and solid residues. Catalysts such as y-zeolite or natural zeolite are used for better results and to improve the quality of the products. The plastics are of different types such as PP (polypropylene), PE (polyethylene), PS (Polystyrene), HDPE (high density polyethylene), LDPE (low density polyethylene), PVC (polyvinyl chloride) etc.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
F 66

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Modelling And Control Design Of Shadowbot In Real Time Basis

Pratik Raut[1], Harshad Botle[2], Aniket Birwatkar[3], Rushikesh Bhosale[4]

[1]Department of Mechanical Engineering, University of Mumbai, Mumbai 403 305
Email: pratikraut@viva-technology.org
[2]Department of Mechanical Engineering, University of Mumbai, Mumbai 403 305
Email: harshbotle8@gmail.com
[3]Department of Mechanical Engineering, University of Mumbai, Mumbai 403 305
Email: aniket99132@gmail.com
[4]Department of Mechanical Engineering, University of Mumbai, Mumbai 403 305
Email: rushibhosale9594@gmail.com

Abstract- *In the era of rapid industrialization and automation the demand for humanoid robot is increasing day by day due to some restrictions of the tasks which is difficult to perform by humans. So, development of humanoid robot in advanced world is blessing for humans. We are developing a humanoid robot which will exactly imitates the human actions. As the name suggests 'Shadowbot' it will exactly mimic the human action in real time basis as the shadow does. The project is divided into 2 Categories which is Modelling and Controlling of shadowbot. In controlling, with the help of Microsoft Kinect XBOX One shadowbot will imitates human actions in real time basis. Kinect sensor is a posture recognition device which will capture the movements of operator and calculate the local coordinates of postures. With the help of calculated local coordinates, it will make a 2D animations.*

With the help of V-REP software which is a simulation software and Kinect we will be achieving real time. With the help of Teensy 3.2 microcontroller controller will give command to motor driver and ultimately the actuators will operate and we will get motions. For operating shadowbot robot remotely from certain distance we will be using HC12 or LORA. To operate robot in real time basis we will be buying and implementing some ready to modify advanced gaming technologies in order to complete our project in less time.

Keywords – Gesture Imitate, Humanoid Robot, Kinect Sensor, V-REP Software, Shadowbot, Human Arm, Humanoid

I. INTRODUCTION

In today's world with increase in demand for efficiency and quality of work, the field of robotics has become the integral part in many fields. This field growing tremendously and will evolved more in future too. Development of robot ensures us to put less effort and will saves time too contributing towards the production rate of any industries. In this project, we are m1aking a humanoid robot which will work on a virtual reality. Till today, we have seen the use of Kinect sensor in most of games where you play it and feel as if you are present there. So, by fusing the robotics and gaming technology we will operate the humanoid robot which will actually imitates the direction and actions of the, operator in real time basis. This project will serve the nation at borders by helping our soldiers to stay safe at still fight efficiently with enemies.

II. PROBLEM DEFINITION

Modelling & control design of humanoid robot to reduce delay time by using Microsoft Kinect XBOX One and V-Rep software for determining global co-ordinates of the postures using shadow features on real time basis. Design model can able to imitate human actions as per given inputs.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Industry 4.0: Conceptual framework, Scenarios and Application

Chhaya Patil[1]

[1]Department of Mechanical Engineering, Viva Institute of Technology, Virar
Email: chhayapatil@viva-technology.org

***Abstract*—** *With fast advancements in industry, technology and applications, many concepts have emerged in manufacturing. Industry 4.0 is a strategic initiative recently introduced by the German government. The goal of the initiative is transformation of industrial manufacturing through digitalization and exploitation of potentials of new technologies. An Industry 4.0 production system is thus flexible and enables individualized and customized products. . It is closely related with the Internet of Things (IoT), Cyber Physical System (CPS), information and communications technology (ICT), Enterprise Architecture (EA), and Enterprise In- tegration (EI) The aim of this paper is to present and facilitate an understanding of Industry 4.0 concepts, its drivers, enablers, goals and limitations. Finally it is discussed if Industry 4.0 is really a disruptive concept or simply a natural incremental development of industrial production systems.*

Keywords — Cyber Physical System (CPS), Industry 4.0, Internet of Things (IoT), information and communication technology (ICT), Enterprise Architecture (EA)

I. INTRODUCTION

The term "industry 4.0", shortened to I4.0 or simply I4, originated in 2011 from a project of high-tech strategy of the German government, which enhance the computerization of manufacturing.[1] The term "Industry 4.0" was introduced in the same year at the Hannover Fair.[2] In October 2012 the Working Group on Industry 4.0 presented a set of Industry 4.0 implementation recommendations to the German federal government. The Industry 4.0 workgroup persons and partners are recognized as the founding fathers and driving force behind Industry 4.0. On 8 April 2013 at the Hannover Fair, the final report of the Working Group Industry 4.0 was presented.[3]. This working group was headed by Siegfried Dais (Robert Bosch GmbH) and Henning Kagermann (German Academy of Science and Engineering). As Industry 4.0 principles have been applied by companies they have sometimes been re-branded, for example the aerospace parts manufacturer Meggitt PLC has branded its own Industry 4.0 research project M4. [4] The discussion of how the shift to Industry 4.0, especially digitalization, will affect the labour market is being discussed in Germany under the topic of Work 4.0.

II. THE VISION AND CONCEPT OF INDUSTRY 4.0

There is a basic consensus among many researchers that the industrial revisions require a long-time period of development and cover the following four aspects, considered as the future manufacturing visions:

- **Factory.** The main components of Industry 4.0, the future factory is going to involve a new integrative, where not only all manufacturing resources (sensors, actuators, machines, robots, conveyors, etc.) are connected and transfer information automatically, but also the factory will become conscious and smart enough to predict and maintain the machines; to control the production process, and to manage the factory system.Many manufacturing processes, like , production planning product design, production engineering and production and services, are going to be simulated as compact, and then connected closely end-to-end, which means these processes are controlled interdependently. This kind of future factory is known as a Smart Factory [5].
- **Business.** Industry 4.0 implies a complete communication network will exist between various resources, customers, companies, supplier, logistics, factories, etc. Every section optimizes their configuration in real-time depending on the demands and status of associated sections in the network, which makes the maximum profit for all cooperatives with the limited sharing resources. In addition, the costs and pollution, raw materials, CO2 emissions, etc., will be reduced. The future business network is influenced by each cooperating section, which could achieve a self-organizing status and transmit the real-time responses [6].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon,
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

`Effect of cryogenic treatment on mechanical properties and wear behavior of high carbon steel

Mansi Lakhani

Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR 401305
Email: mansilakhani@viva-technology.org

Abstract— *The aim of the study is to evaluate the effect of deep cryogenic treatment with double tempering on mechanical properties and wear behavior of a grade of high carbon steel. In the study, one set of specimens undergoes conventional hardening and tempering process, while other set of specimens undergoes hardening, deep cryogenic treatment and double tempering process. Different sets of specimens were tested for hardness, impact strength, wear resistance and microstructure. The results of the study suggest that double tempering when performed after deep cryogenic treatment can aid into getting advantage of both improved wear resistance and toughness as compared with conventional hardening and tempering process.*

Keywords— Cryogenic treatment; hardening; high carbon steel; mechanical properties; tempering; wear resistance.

I. INTRODUCTION

High carbon steel is a grade of carbon steel that contains between 0.70 % to 1.2 % carbon. High carbon steel possess comparatively more hardness and is used in applications where high wear resistance is required. It is used in applications such as taps, gauges, ball bearings, roller bearings, punches, dies, heavy duty gears, etc. Its applications is mainly present in machine parts where high wear resistance, toughness and high load carrying capacity is required. High carbon steel is generally used in hardened and tempered form to achieve the required combinations of properties for given application.

Hardening process is carried by heating the material around 800°C to 850°C in furnace. At this temperature, the pearlite structure is converted to austenite. After austenization, the material is rapidly quenched in oil. Rapid quenching results in conversion of austenite phase to martensite. Even after reaching room temperature, 100 % austenite doesn't get converted into marteniste. During the conversion of austenite to martensite there is a large volume expansion. As the martensite plates form during quenching, they surround and isolate small pools of austenite, which deforms to accommodate the lower density martensite. However, for the remaining pools of austenite to transform, surrounding martensite must deform. But the martensite resists the transformation and hence either the existing martensite cracks or the austenite remains trapped in the structure. This trapped austenite in the matrix of martensite even after reaching room temperature is called retained austenite.

Tempering is followed by hardening process to relive stresses induced during hardening process and to make it less brittle. But tempering process does not have any significant effect on retained austenite. Although, it improves toughness of material.

Retained austenite present in the matrix of martensite is comparatively softer phase and limits the enhancement of properties at certain limit for hardening and tempering process. Also, if the steel is not thermally stabilized, the retained austenite will over an extended period of time transform into martensite. This transformation is accompanied by an increase in volume that is called metallurgical growth. Metallurgical growth will cause a change in dimension and form of parts such as bearings even at room temperature.

One of the potential solutions to eliminate retained austenite and to enhance the properties of high carbon steel is to treat the material further by cryogenic treatment. Cryogenic treatment is supplement process to conventional heat treatment process. In cryogenic treatment, once the material is hardened conventionally and brought to room temperature it is further cooled to temperatures as low as -190°C at a uniform cooling rate (ramp down rate). After required cryogenic temperature is achieved, the material is held at that temperature for particular amount of time (holding time or soaking time) which may vary from 16 hours to 48 hours. After that, the material is brought back to room temperature with uniform heating rate (ramp up rate) [1]. Tempering is followed by cryogenic treatment to relieve stresses induced during treatment.

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Productivity Enhancement by Digital Manufacturing

Priyank M. Vartak[1]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar
Email: priyankvartak@viva-technology.org

Abstract— *Digital manufacturing has been considered, over the last decade, as a highly promising set of technologies for reducing product development times and cost as well as for addressing the need for customization, increased product quality, and faster response to the market by integrating various areas of the business functions. This paper describes the information technology systems in manufacturing and employment of Digital Manufacturing methodologies with the aim of improving the flexibility and the efficiency of the organization.*

Keywords— Digital Manufacturing, Information technology, CAD, CAM.

I. INTRODUCTION

Improved productivity is an essential goal in any aspect of an enterprise, particularly under overwrought economic conditions. It is a goal that takes on considerably more weight in manufacturing planning processes. Waste and interruptions here can have direct consequences on a company's productivity that affects many things including the ability to meet targeted product launches. Many companies find that their ability to achieve this goal is hampered by obstacles resulting from limited facility resources and variations in employee knowledge and skill, among other issues.

The need for reduced development time together with the growing demand for more customer-oriented product variants have led to the next generation of information technology (IT) systems in manufacturing. Manufacturing organizations attempt to integrate their business functions and departments with new systems in an enterprise database, following a unified enterprise view. These systems are based on the digital factory/manufacturing concept, according to which production data management systems and simulation technologies are jointly used for optimizing manufacturing before starting the production and supporting the ramp-up phases. Digital manufacturing would allow for, first, the shortening of development time and cost, second, the integration of knowledge coming from different manufacturing processes and departments, third, the decentralized manufacturing of the increasing variety of parts and products in numerous production sites, and, fourth, the focusing of manufacturing organizations on their core capabilities, working efficiently with other companies and suppliers, on the basis of effective IT-based cooperative engineering.

II. ROLE OF IT IN MANUFACTURING

Over the past few decades, the extensive use of IT in manufacturing has allowed these technologies to reach the stage of maturity. The benefits of the new tools have been thoroughly examined and their competence in many applications has been recognized. Their application ranges from simple machining applications, to manufacturing planning and control support. applying manufacturing tools for enhancing productivity of the company. An example of the introduction of IT, in the manufacturing world, is the concept of computer-integrated manufacturing (CIM). This concept was introduced in the late 1980s, favoring the enhancement of performance, efficiency, operational flexibility, product quality, responsive behavior to market differentiations, and time to market. The inventory control and material requirements planning (MRP) systems were introduced in the 1960s and 1970s respectively. Such systems were further improved with integration of tools capable of providing capacity and sales planning functionalities together with scheduling capabilities and forecasting tools. The result was the introduction of the closed-loop- MRP. The evolution of information systems over the last decade has played a vital role in the adoption of new information technologies in the environment of manufacturing systems.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Implementing 5S, Kaizen And Quality Control Tools For Quality Improvement

Henisha Raut

[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar
Email: henisharaut@viva-technology.org

Abstract— *The purpose of this research is to use 5S, Kaizen and Quality control tools to assist manufacturing organization to become more productive and more efficient by reducing waste and by improving continuously. Producing high quality of products and services is one of the key concerns in order to keep up with the competition in the global markets. The main objective of manufacturing industries today is to increase productivity through system simplification and incremental improvements. Improvement can be achieved by either better control or by raising standards. Increasing productivity and profitability are main objectives of any organization. Many tools and techniques are used to reduce rejections and defects of product. So a simple approach has been adopted to create the teams for implementing 5S, Kaizen and Quality Control tools. This system helps to organize a workplace for efficiency and decrease wasting and optimize quality and productivity via monitoring an organized environment and to find the total rejection of a component from a list of defective components so as to limit from exceeding the rejection target to avoid waste. The study highlights that there is possibility of systematic application of all of these tools in the frame of company's overall quality management system.*

Keywords—Improvement, Kaizen, Manufacturing, Quality Control Tools, 5S

I. INTRODUCTION

Improving customer service, making operation faster, more operation and reduction in costs are the challenges faced by manufacturers today and to meet these challenges many companies are searching to improve their ability to compete globally. Wastage during production process is rapidly growing day by day in industries. There are different techniques of waste reduction and performance enhancement like Kaizen and 5S and Quality Control Tools. The word KAIZEN comes from a Japanese words KAI (change) and ZEN (good) which originated in 1950. "The essence of Kaizen is simple and straight forward: Kaizen means improvement involving everyone, including both managers and workers". The Kaizen methods are internationally acknowledged as methods of continuous improvement, through small steps of the economical results of the company. The small improvements applied to key processes will generate the major multiplication of the company's profit while constituting a secure way to obtain the clients loyalty. Continuous improvement is one of the core strategies for excellence in production and is considered vital in today's competitive environment. 5S is a technique originated in Japan and it was first developed by Hiroyuki Hirano. 5S is a system in which to reduce work and optimize productivity and quality through maintaining orderly workplace. The 5S technique is included within Kaizen. It is the methodology of creation and maintaining well organized, clean, high effective and high quality workplace. The benefit of good workplace include the prevention of defects, prevention of accidents and the elimination of time wasted for searching tools, documentation and other ingredients of manufacture. The Seven Basic Tools of Quality also called as 7QC Tools originated in Japan when the country was undergoing major quality revolution and had become a mandatory topic as part of Japanese's industrial training program. These tools which comprised of simple graphical and statistical techniques were helpful in solving critical quality related issues. These tools were often referred as Seven Basic Tools of Quality because these tools could be implemented by any person with very basic training in statistics and were simple to apply to solve quality- related complex issues. The 7 QC tools are: cause and effect diagram, check sheet, control chart, histogram, pareto chart, scatter diagram and process control of flow chart.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Parametric optimization of MIG Welding

Mayur Jagtap[1]

VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
Email: mayurjagtap@viva-technology.org

Abstract**—***The Hot Rolled Low Carbon steel is widely use material in automobile industry. Joining of metal for different parts is done by GMAW. Process parameter greatly affects the welded joint strength. This paper presents the case study to investigate the ongoing MIG welding process carried out by industrial firm in its welding protocol, by suggesting alternative effective method to achieve better strength with improved process parameters. These suggestions are achieved by investigating parameters like welding voltage, current and shielding gas.*

Keywords— MIG, low carbon steel, optimization, parameters.

I. INTRODUCTION

Welding is most important methods of joining of two similar or dissimilar metals with or without application of pressure. In Gas metal Arc Welding (GMAW) also known as Metal Inert Gas welding an electric arc is established between the workpiece and consumable wire electrode.[1] The arc melts the wire as it is fed to the weld puddle. The weld metal is shielded from the atmosphere by an inert gas like argon, helium or an argon-helium mixture. No external filler metal is required because the metallic electrode provides arc as well as filler metal. MIG welding is semi-automatic process in which arc length of electrode and feeding of wire is automatically controlled.

II. PROBLEM STATEMENT

GMAW is currently one of the most popular welding methods, especially in industrial environments. It is used extensively by the sheet metal industry and, by extension, the automobile industry.[2] There, the method is often used for arc spot welding, thereby replacing riveting or resistance spot welding. It is also popular for automated welding, in which robots handle the work pieces and the welding gun to quicken the manufacturing process. A wide range of materials joined by Gas metal arc welding:-similar metals, dissimilar metals, alloys, and non-metals. In the present scenario demand of the joining of similar materials continuously increases due to their advantages, which can produce high yield strength, deeper penetration, continuous welding at higher speed and small welding defects. Taguchi method has been acknowledged by some literature for optimization of MIG welding process parameter.There is not much research done on joining of hot rolled low carbon steel (IS 1079 HR2) by MIG welding. As this material is widely use in Automobile industry for manufacturing of small essential component.[3][4][5] The different combination of process parameters gives different strength to joints. The scope of case study is to evaluate the effectiveness of welding process parameters on the ultimate strength of joints

III. MATERIAL AND METHOD

Optimization of process parameters is the key step in the Taguchi method for achieving high quality without increasing cost. This is because optimization of process parameters can improve quality characteristics and the optimal process parameters obtained from the Taguchi method are insensitive to the variation of environmental conditions and other noise factors.The S/N ratio in Taguchi's method is calculated by giving formulas.[6]:

(i) Smaller the better

$\eta = -10 \log [(\Sigma Yi2)/ n]$ (1)
(ii) Larger the better
$\eta = -10 \log [(\Sigma 1/Yi2)/ n]$ (2)

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

National Conference on
"Role of Engineers in Nation Building" organized by VIVA Institute of Technology, Mumbai
(6th and 7th March 2020)
International Journal of Engineering Research & Science (IJOER)
ISBN:[978-93-5391-287-1] ISSN: [2395-6992] [Vol-5, Issue-3, March- 2020]

Survey of Exophalanx in Robo Using Haptic Feedback System: A Review

Pratik Raut

VIVA Institute of Technology, Department of Mechanical Engineering, Mumbai University, Mumbai
Email: pratikraut@viva-technology.org

Abstract— *"HAPTICS"-- a technology that adds the sense of touch to virtual environment .Haptic interfaces allow the user to feel as well as to see virtual objects on a computer, and so we can give an illusion of touching surfaces, shaping virtual clay or moving objects around. In this paper, we explicate how sensors and actuators are used for tracking the position and movement of the haptic device moved by the operator. Then, we move on to a few applications of Haptic Technology. Finally, we conclude by mentioning a few future developments.*

Keywords— Sense of touch, holography in haptics, haptics, tactile feedback, exophalanx in robo, haptic rendering, virtual object.

I. INTRODUCTION

Haptics refers to sensing and manipulation through touch. The word comes from the Greek 'haptesthai', meaning 'to touch'. The history of the haptic interface dates back to the 1950s, when Goertz (1952) proposed a master-slave system. Haptic interfaces were established out of the field of tele- operation, which was then employed in the remote manipulation of radioactive materials. The ultimate goal of the tele-operation system was "transparency". That is, an user interacting with the master device in a master-slave pair should not be able to distinguish between using the master controller and manipulating the actual tool itself. Early haptic interface systems were therefore developed purely for telerobotic applications.

1.1 WORKING OF HAPTIC DEVICES

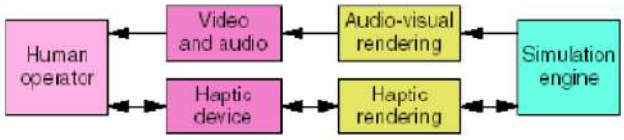


FIGURE 1.1: Architecture for Haptic Feedback

Basic architecture for a virtual reality application incorporating visual, auditory, and haptic feedback.
• Simulation engine: Responsible for computing the virtual environment's behavior over time.
• Visual, auditory, and haptic rendering algorithms: Compute the virtual environment's graphic, sound, and force responses toward the user.
• Transducers: Convert visual, audio, and force signals from the computer into a form the operator can perceive.
• Rendering: Process by which desired sensory stimuli are imposed on the user to convey information about a virtual haptic object.
The human operator typically holds or wears the haptic interface device and perceives audiovisual feedback from audio (computer speakers, headphones, and so on) and visual displays (a computer screen or head-mounted display, for example). Audio and visual channels feature unidirectional information and energy flow (from the simulation engine towards the user) whereas, the haptic modality exchanges information and energy in two directions, from and toward the user. This bi directionality is often referred to as the single most important feature of the haptic interaction modality.
Haptic Technology promises to have wide reaching applications as it already has in some fields. For example, haptic technology has made it possible to investigate in detail how the human sense of touch works by allowing the creation of carefully controlled haptic virtual objects. Haptics technology can be used to train people for tasks requiring hand-eye coordination, such as surgery and space ship maneuvers. Although haptic devices are capable of measuring bulk or reactive forces that are applied by the user, it should not to be confused with touch or tactile sensors that measure the pressure or force exerted by the user to the interface.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon,
Post. Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (East), Dist: Palghar-401305, Maharashtra
Website: www.viva-technology.org

National Conference on "Role of Engineers in Nation Building"

IJOER Research Journal

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

1st & 2nd MARCH 2019

NCRENB-2019

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

7th National Conference

On

ROLE OF ENGINEERS IN NATION BUILDING

(NCRENB-2019 Proceeding)

1st & 2nd March, 2019

Organized by

Late Shri. Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE New Delhi, Affiliated to University of Mumbai
Shirgaon, Virar(East), Dist: Palghar-401305, Maharashtra
Tel.: 7770002544, Website:-www.viva-technology.org
Email: principalvit@vivacollege.org
contact@viva-technology.org

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Patrons

Hon. Shri. Hitendra Thakur
President, VIVA Trust

Hon. Shri. P. D. Kodolikar
Chairman, Managing Committee, VIVA Trust

Ms. Aparna P. Thakur
Secretary, VIVA Trust

Convener

Dr. Arun Kumar, Principal

Co-Convener

Prof. Archana Ingle, H.O.D.(EXTC)

Advisory Committee

Dr. (Prof.) Subhankar Karmakar

IIT Bombay.

Mr. Nayan Mistry

Director Technical, NM Technocrafts

Mr. Anil Dipnaik

Chief Manager & Local Key Expert Principal,

R & D Siemens

Dr. Ashok Pundir

Professor & Dean, NITIE, Pawai.

Mr. Ashok Grover

Director, STEAM-O-TECH ENGINEERS (I), Pvt. Ltd.

Mr. C. A. Anto

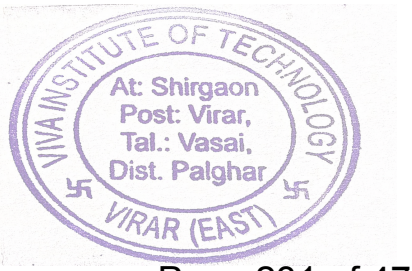
Director, Terminal Technologies (I), Pvt. Ltd.

Mr. Kishor A Shetty

M.D., Royal Arc Electrodes Ltd.

Ms. Vidhi Sanghavi

Project Manager, L & T Infotech



Coordinator

Prof. Karishma Raut, EXTC Department

Prof. Bhushan Save, Electrical Department

Prof. Lissy Jose, Civil Department

Prof. Ashwini Save, Computer Department

Prof. Niyati Raut, Mechanical Department

Dr. Ajazul Haque, Humanities Department

Organizing & Publicity Committee

Prof. Meena Perla, EXTC Department

Prof. Anoj Yadav, Electrical Department

Prof. Ashish Shetty, Civil Department

Prof. Pallavi Vartak, Computer Department

Prof. Manoj Yadav, Mechanical Department

Registration Committee & Program Committee

Prof. Chitra Takle, EXTC Department

Prof. Ameya Purandare, EXTC Department

Prof. Yadnesh Patil, Civil Department

Prof. Monali Pimpale, Computer Department

Prof .Kavita Mhaskar, Electrical Department

Prof. Sushil Mishra, Mechanical Department

Prof. Kushal Suvarna, EXTC Department

Prof. Shiksha Singh, Humanities Department

Prof. Mohini Ghotekar, EXTC Department

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PREFACE

On behalf of VIVA Institute of Technology, I take great pleasure and pride to formally welcome you all to the seventh National Conference on Role of Engineers in Nation Building (NCRENB 2019) in cooperation with International Journal of Engineering Research and Science (IJOER) and VIVA-TECH International Journal for Research and Innovation (VIVA-TECH IJRI).

We are living in an age of remarkable competition of technology among the countries. In this competition we need to consider the role of Engineers in development of our nation. Looking at the immense rise in the technological area and the demands that are being placed, it is necessary for us to commence researches that will help to build a technologically advanced nation. The national/ international conferences provide common platform to contemplate the issues related to latest developments in the technology, research and development activities in this area.

We held the first national conference in 2013 with various disciplines such as Civil Engineering, Computer Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Humanities and Sciences and Mechanical Engineering.

NCRENB 2019 has received total 237 papers in 6 tracks. The selected full length papers will be sent for publication in IJOER and VIVA-TECH IJRI journal. These papers can be used as a reference for future work which will widen the horizon of technical advancement of our nation.

Dr. Arun Kumar

Chief Editor

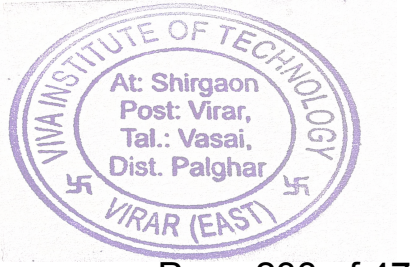


TABLE OF CONTENTS

SECTION A

TRACK: CIVIL

FLOATING CONSTRUCTION…… A-001
Amit Roy, Rehan Wagle, Pranit Wadekar, Ronak Vaghasiya

PARTIALLY REPLACEMENT OF SAND WITH POND ASH IN CONCRETE……... A-007
Ramchandra Sapkal, Sagar Wankhede, Pratiksha Rathod, Harshita Patil

STRENGTHENING OF REINFORCED CONCRETE BEAM-COLUMN JOINTS USING CHAMFERS A-013
Akshay Mistry

BRICKS MADE BY BLACK COTTON SOIL WITH VARIOUS ADMIXTURES……..... A-016
Darshana Gawari, Aniket Bhoir, Bhushan Gharat, Apurva Bhoir

IMPLEMENTATION OF GIS FOR LAND RECORD MANAGEMENT…… A-020
Pratibha Patil R Mahadeva Swamy Jimit Chotai

ANALYSIS AND DESIGN OF STEEL TRUSS RAILWAY BRIDGE …….. A-026
Kalpesh Bowlekar, Rohit Ghanekar Aniket KhanolkarVinod Batawale

DESIGN OF TRANSFER PLATE……. A-032
Rushabh Brahmbhatt Vrushabh Dhainje, Mayur Bhande Jay Kokale

APPLICATION OF PERFORMANCE-BASED SPECIFICATIONS IN BUILDING PROJECTS……. A-036
Vishal Urade Akshaykumar Naik Prashant Gondane

EFFECT OF SOFT STORY ON HIGH RISE BUILDING…… A-042
Nishant Sawant, Kashinath Sawant, Altaf Shaikh Vishal Singh

UNDER WATER WINDMILL……... A-045
Sanket Bechavade, Chaitanya Bari, Swati Gavali Nazish Ansari

PARTIAL REPLACEMENT OF CEMENT BY MARBLE DUST POWDER……. A-048
Mohammed Asif Khan Shreyas Khedekar, Tushar Kamble Sandeep Khambe

SELF-COMPACTING CONCRETE JACKETING – TESTS AND ANALYSIS……. A-055
Meena Bhagat Asmita Mhatre Monica More

GROUND IMPROVEMENT TECHNIQUES…… A-060
Adarsh Maurya Nishad Dayaram Pathak Ashish, Mansoori Suleman

INTELLIGENT TRAFFIC MANAGEMENT SYSTEM……... A-064
Dhiraj Davrung, Saish Khedekar, Prathamesh Jadhav, Tejas Deora

STRENGTHENING OF BLACK COTTON SOIL…… A-068
Omkar Loke, Aakash Koli, Nilesh Mestry Ganesh Kudu

STRENGTH OF CONCRETE CONTAINING DIFFERENT TYPES OF FINE AGGREGATE……. A-073
Ghufran Ahmed Khan

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

REVIEW OF MACHINE LEARNING ALGORITHMS FOR CONCRETE STRENGTH PREDICTION…… A-075
Akshaykumar Naik, Macvil Montero Gopal Prajapati

DESIGN OF DRAINAGE SYSTEM OF A TOWN…….... A-078
Kalpit Patil, Rahul Prajapati, Jay Rane Mohit Maurya

COMPARATIVE ANALYSIS OF GUYED MAST & SELF SUPPORTING CELLULAR TOWER…. A-083
Yogesh Naik Yash More, Jitendra Palkar Chirag Nagarkar

REPAIR AND MAINTENANCE OF BUILDING……. A-089
Ujwal Gharat, Jay Gharat, Harshad Bhagat Rahul Charipalli

REPLACEMENT OF STEEL BARS BY GFRP REBARS……... A-093
Nikhil Avhad, Sumeet Avhad, Onkar Belose Vighnesh Berde

PLANNING AND DESIGNING OF NALASOPARA BUS DEPOT…… A-097
Dipesh Patil, Krantesh Patil Pranjali Raut Aniket Parmar

USE OF TEXTILE MILL SLUDGE IN REPLACEMENT TO FINE AGGREGATE IN CONCRETE.. A-102
Purva Awari Sandesh Patil

PERMEABLE CONCRETE PAVEMENT…… A-111
Nityanand Dwivedi Omkar Bambarkar, Dubey Aniket, ,Abhishek Bombale

SPECIAL TECHNIQUE FOR REHABILITATION OF FORTS…….. A-115
Ashish Shetty, Abhijit Wasave, Yadnesh Patil Mahadeva Swami

DESIGN OF FERROCEMENT HOUSE…… A-119
Vrushali Yewle, Priyanka Shinde, Shweta Suslade Monica More

STUDY ON PARTIAL REPLACEMENT OF FINES BY BAGASSE ASH IN RIGID PAVEMENT… A-122
Yadnesh Patil, Abhishek Loya Ashish Shetty Prashant Gondane

SCRUTINY OF OPEN SPACES…… A-126
Prashant Gondane, Yadnesh Patil Vishal Urade Mayur Patel

SEISMIC BEHAVIOR OF STRUCTURE WITH SOFT STOREY……... A-128
Prerana Patil Hrishikesh Shedge

IMPLEMENTATION OF FOREIGN TECHNIQUE IN SOLID WASTE MANAGEMENT……... A-133
Sankalp Baria, Timir Arsania, Shailesh Chikane Rahul Chopra

MICRO IRRIGATION IN VIRAR REGION…… A-137
Rugved Gawad, Anirudda Kokate, Kunal Deshmukh Harshad Kamble

ELASTOMERIC BASE ISOLATED STRUCTURE…… A-143
Vismay Vartak, Prathamesh Vichare Mayuresh Padaskar Rahul Shipkule

REPLACEMENT OF BRICKS BY WASTE PLASTIC BOTTLES…….. A-148
Amit Joshi, Deepankar Kanojiya, Ganesh Hile Deepak Jha

DEVELOPMENT OF NORMAL STRENGTH CONCRETE USING FERROCHROME SLAG AGGREGATE AS REPLACEMENT TO COARSE AGGREGATE…… A-152
Monica More, Meena Bhagat Asmita Mhatre Yadnesh Patil

STRENGTH PROPERTIES OF CONCRETE USING CRUMB RUBBER WITH PARTIAL REPLACEMENT OF FINE AGGREGATE…… A-155
Mayur Patel, Prashant Gondane, Yadnesh Patil Vishal Urade

LANDSLIDE MITIGATIONS FOR REAL CASE STUDY…… A-160
Rakshanda Patil, Komal Patil, Bhagyashree Patil Roshan Mhatre

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

BITUMINOUS PLASTIC ROADS…… A-165
Amol Nagare, Niraj Satav, Ganesh Nagare Abhishek Mali

BEHAVIOUR OF STRENGTHENED RCC BEAM USING STEEL PLATES…… A-169
Abhijit Wasave, Ashish Shetty, Prachi Bari Roshni John

FIDIC CONTRACT: APPLICATION IN CONSTRUCTION CLAIMS……... A-175
Prachi Bari Abhijit Wasave

SUPPLIER SELECTION AND MATERIAL MANAGEMENT OF VASAI VIRAR CITY MUNICIPAL CORPORATION USING QGIS…….. A-181
Jimit Chotai R Mahadeva Swamy Pratibha Patil

PARTIAL REPLACEMENT OF COARCE AGGREGATES WITH RUBBER TYRE,COCONUT SHELLS AND E-WASTE……. A-188
Dakshesh Gurav, Nikhil Khairnar, Vishal Kharat Siddhesh Hebale

LIGHTWEIGHT PANEL SYSTEM…….. A-194
Suraj Patil, Vikrant Pawar Saurabh Ranim Vishal Sakat

GRASSCRETE…… A-196
Devang Rana, Anand Sarvankar Priyanka Panchal

COMPARATIVE STUDY ON VARIOUS METHODS OF RISK ANALYSIS……... A-200
Arathy Menon

PARTIALLY REPLACEMENT OF FINE AGGREGATE BY STEEL SLAG IN M20 GRADE OF CONCRETE……..... A-204
Nikhil Sanap, Bhavesh Parbate Aman Safui, Hardik Panchal

MANUFACTURING OF PAVER BLOCKS USING COCONUT SHELLS AND BAGASSE ASH….. A-209
Gaurav Patil, Amit Shiledar, Mayuresh Patil Yadnesh Patil

RESOURCE, SCHEDULING & PLANNING OF RESIDENTIAL BUILDING USING PRIMAVERA A-211
Ankit Sakpal Roshan Menge, Dhiraj Prajapati Suraj Maurya

MITIGATION OF DISASTERS AND CIVIL ENGINEERING …….. A-215
Lissy Jose

PARTIAL REPLACEMENT OF FINE AGGREGATE AND CEMENT IN PAVER BLOCKS USING WASTE MATERIALS……..... A-222
Hitesh Kaskar, Swapnil Kokate, Jitesh Kadu Yadnesh Patil

GIS BASED MATERIAL MANAGEMENT AND SUPPLIER SELECTION IN THANE CITY – A CASE STUDY…… A-225
Prof.Asmita Mhatre, Prof. Meena

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION B

TRACK: COMPUTER

CLOUD MAPREDUCE…….. B-1
Monali Pimpale

AN ANALYSIS OF CLICKBAIT DETECTION TECHNIQUES B-5
Sarjak Chawda, Aditi Patil , Abhishek Singh , Ashwini Save

A SURVEY ON LUNG CANCER DETECTION TECHNIQUES…… B-11
Rohit Bhalerao,Harsh Jani, Rachana Gaitonde, Vinit Raut

NEW APPROACH FOR COMPUTING TRUSTWORTHY REPUTATION IN E-COMMERCE ENVIRONMENT…… B-17
Akshata Raut

CYBER-BULLYING DETECTION TECHNIQUES- A LITERATURE SURVEY……. B-21
Vijay Banerjee, Pooja Gaikwad, Jui Telavane,Pallavi Vartak

A SURVEY ON SENTIMENT ANALYSIS WITH THE HELP OF SARCASM B-27
Akash Gupta, Arjun Chauhan, Brijeshkumar Jaiswal , Janhavi Sangoi

SURVEY ON DATA RECOVERY USING ROBUST REVERSIBLE WATERMARK…….. B-32
Priyanka Kamble, Neha Raut, Apurva Raut , Sunita Naik

A SURVEY ON HINGLISH CODE MIXED TEXT FOR SENTIMENT ANALYSIS…….. B-38
Ketan Chavan,Ajay Parmar,Vishakha Hirve,Sunita Naik

AN INNOVATIVE SMART ASSISTANCE: FOOTWEAR FOR VISUALLY IMPAIRED PEOPLE…… B-43
Siddhesh Thakur, Amruta Bhandari , Rahul Gorad

A DISTINCTIVE SYSTEM FOR CRICKET PREDICTIONS USING MACHINE LEARNING AND DATA ANALYSIS B-47
Atharva Karnik, Harshal Patil,Rushikesh Lokhande,Vinit Raut

FOODMESH:AN INTELLIGENT CHATBOT B-55
Shraddha Ugale, Pratibha Patole ,Juiley Raut, Umesh Mohite

DRIVER DROWSINESS DETECTION USING EYE AND NECK ANALYSIS B-59
Vaibhav Joshi, Rahul Suvarna, Aman Sharma

SUBJECTIVE ANSWER EVALUATION USING DATA MINING AND SEMANTICS……... B-66
Priya Sapkal, Vishal Bhonsle, Dipesh Mukadam,Vinit Raut

STUDY OF DIGITIZE RTO DOCUMENT VERIFICATION SYSTEM…….. B-70
Suranjan Mhashilkar, Ankit Jain, Meraj Shaikh and Reshma Chaudhari

TRIPLE DATA ENCRYPTION STANDARD ALGORITHM (3DES): A SURVEY……... B-73
Shriya Narvekar , Ameya Patil,Jagruti Patil, Prof. Saniket Kudoo

PREDICTION OF EQUITY MARKET USING DEEP LEARNING…… B-78
Linesh Barswade, Jay Deherkar, Vrishesh Arekar, Prof. Saniket Kudoo

AN ANALYSIS OF SENSOR BASED PIN AND PASSWORD DETECTION TECHNIQUES……. B-81
Aditi Patil ,Saniket Kudoo

SPARSH: SMART PROTECTING ACTIVE RELEVANT SECURITY AID…… B-84
Onkar K. Nagarkar, Pranali S. Bhoite, Nisha U. Gurav,Reshma R. Chaudhari

ASL RECOGNITION USING SMART GLOVE…… B-88

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Pravin Patil , Gaurav Avkirkar , Dnyaneshwar Bhabad

CLASSIFY AND RECOGNIZE NON LIVING OBJECTS USING IMAGE CLASSIFICATION TECHNIQUE……..... B-94
Mandar Sankhe,Vishal Singh, Shubham Shetkar, Umesh Mohite

SECURING FILES ON CLOUD THROUGH HYBRID CRYPTOGRAPHY…….. B-99
Kuldeep Yadav,Naveen Yadav,Rajnath Yadav

DETECTION OF SPAM MOBILE APPLICATION USING SENTIMENT ANALYSIS…… B-106
Ankit Dhavdekar, Manoj Rane,Sanyukta Patil, Janhavi Sangoi

E-DOCTOR:AN INNOVATIVE APPROACH FOR DISEASE PREDICTION……... B-110
Chinmay Devdhekar Kaushik Patil Krutika Diwale Reshma Chaudhari

BANKRUPTCY PREDICTION: A SURVEY ON FINANCIAL DISTRESS AND SOLUTION……..... B-115
Mayur B. Bodar, Mihir H. Panchal, Sunny R. Maurya, Tatwadarshi P. Nagarhalli

A SURVEY ON HINDI CHARACTER RECOGNITION……. B-121
Sahil Angwalkar, Suhas Chaubey,Raj Mehta , Pallavi Vartak

REVIEW OF IMAGE COMPRESSION TECHNIQUES USING VECTOR QUANTIZATION……. B-126
Vinit Raut, Pallavi Raut, Sunita Naik, Tatwadarshi Nagarhalli

HANDS ON TRAINING OF IOT APPLICATIONS IN HEALTHCARE EDUCATION SYSTEM: TODAY'S NEED…… B-130
Sonia DubeY

A SURVEY OF ROUTING PROTOCOLS AND NETWORK SECURITY IN MANETS…….. B-135
Bhavika Thakur Akshata Raut

BIG DATA AND TABLEAU : THE REVIEW……. B-140
Kalpita Surve,Prof. Shreya Bhamare

CAMERA BASED PRODUCT IDENTIFICATION ANDROID APPLICATION FOR BLIND PEOPLE…. B-146
Manjiri Mangaonkar, Prof. Neha Lodhe

FOG COMPUTING-NETWORK BASED CLOUD COMPUTING……. B-150
Saurabh Upadhyay Prof. Nitesh Kumar

5G NETWORK : EVOLUTION AND REVOLUTION……. B-155
Justin Cheriyan, Prof. Pragati Mestry

SMART MIRROR FOR SMART LIFE……. B-160
Kajal Panda,Prof. Pradnya Mhatre

HUMAN BODY SENSOR NETWORK (BSN): AN IOT APPLICATION B-166
Aniket Tare, Prof. Neha Lodhe

BIG DATA: CHARACTERISTICS AND SECURITY……. B-171
Mayuresh Bhoir, Prof. Chandani Patel

EARTHQUAKE ALERT SYSTEM USING IOT AND WIRELESS SENSOR NETWORK……... B-178
Saugat Das, Prof. Sonia Dubey

DATABASE SECURITY: OPTIMIZATION APPROACH B-183
Akshata S. Raut, Bhavika P. Thakur

A VERSION TO IMPROVE APPLICATION LAUNCH PERFORMANCE IN ANDROID DEVICE…. B-187
Ganesh More, Prof.Shreya Bhamre

VIVA INSTITUTE OF TECHNOLOGY
At.: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

CLOUD COMPUTING & ITS CHALLENGES…… B-194
Vinit Sharma, Prof. Pradnya Mhatre

HCI: ITS ROLE IN DISTANT EDUCATION WEBSITES…….. B-199
Pallavi Vartak,Janhavi Sangoi

BLOCKCHAIN TECHNOLOGY: PREVENTING SCAMS…….. B-206
Manan Bhavsar , Prof Chandani Patel

GIFI TECHNOLOGY…….. B-209
Flavious Correia , Prof. Sonia Dubey

A SURVEY ON TEXT PREDICTION TECHNIQUES…….. B-215
Deepal S. Thakur, Rajiv N. Tarsarya,Akshay A. Vaskar,Ashwini Save

SMART LUGGAGE…… B-221
Darshana Salaskar, Prof.Krutika Vartak

A RESEARCH ON FRAUDULENT ACTIVITIES MONITORING AND ANALYSIS USING DATA ANALYTICING TOOLS…… B-228
Vrushank Rajput ,Prof. Nitesh Kumar

WOMEN'S SAFETY USING IOT…… B-234
Sonal Juvale, Pragati Mestry.

THE CONTOUR PRINTER IS THE FIRST DESKTOP PHONE-SKIN PRINTER …… B-241
umesh mohite

AN ANALYSIS OF VARIOUS DEEP LEARNING ALGORITHMS FOR IMAGE PROCESSING B-244
Geeta Lagad,Ankit Maurya,Kunal Mestry,Dnyaneshwar Bhabad

SURVEY ON AN INNOVATIVE APPROACH FOR CARDIOVASCULAR HEART DISEASE PREDICTION USING MACHINE LEARNING…… B-250
Sankita Hate, Tejal Patil,Praneeta Pitale,Tatwadarshi Nagarhalli

A COMPREHENSIVE REVIEW OF CONVERSATIONAL AGENT AND ITS PREDICTION ALGORITHM…….. B-257
Aditya M. Pujari, Rahul M. Dalvi, Kaustubh S. Gawde,Tatwadarshi P.

MACHINE LEARNING…… B-261
Bhushan Talekar Keshav Thosar

HOME AUTOMATION SYSTEM USING IOT…… B-270
Ravi Chaurasiya, Prof. Krutika Vartak

SECTION C

TRACK: Applied Sciences & Humanities

ENDOWING ENGINEERING GRADUATES: WITH SPECIAL REFERENCE TO SOFT SKILLS AS VITAL EMPLOYABILITY SKILL---------- C-1
Dr. Trupti Patil , Dr. Prashant Pawar , Dr.Suma Sreedhar , Dr. Vinayak Shinde

CLASS AMBIANCE AND TEACHERS' PERFORMANCE---------- C-7
Dr. Prashant Ramrao Pawar , Dr. Trupti Vikas Patil , Dr Suma Sreedhar , Dr Vinayak Shinde

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

FABRICATION AND ELECTRICAL CHARACTERIZATION OF NANO GEL COMPOSITE ELECTROLYTE---------- C-10
Manju R. Mishra, S.k Tripathi, Ashish Gupta

THE STUDY OF LAPLACE TRANSFORM AND IT'S APLLICATION IN REAL WORLD PROBLEMS ---------- C-16
Bhagyashri S. Netke , Dr.Ajazul Haque , Ramashankar Prajapati , Shiksha Singh

THE STUDY OF BARCODE AND IT'S APPLICATION---------- C-23
Shiksha singh , Dr.Ajazul haque , Bhagyashri netke , Jayesh Jain

A DFT STUDY OF CO GAS ADSORPTION ON METAL DOPED GRAPHENE SHEET---------- C-29
Deepak Dubey , Dr. Sajeev Chacko , Dr.Ajazul Haque , Mohammad Ghadiyali

AN APPLICATIONS OF FRACTIONAL CALCULUS---------- C-33
Jayesh Jain , Dr.Ajazul Haque , Shiksha Singh , Dr.Satish Singh

HUMAN EATS HUMANITY---------- C-40
Amit R Mishra , Krishna Mishra

VALIDATION OF SOLIFENACIN SUCCINATE IN PHARMACEUTICAL DOSAGE FORM.---------- C-46
Dr. Shwetali Kiran Churi

APPLICATION OF CONVEX AND CONCAVE FUNCTION---------- C-52
Ramashankar Prajapati, Dr.Ajazul Haque , Bhagyashri S. Netke, Shiksha Singh

SECTION D

TRACK: ELECTRICAL

MICROGRIDS: CHALLENGES AND POSSIBILITY IN INDIA……..... D-1
Anojkumar Yadav, Sushant Kumar, Mukeshkumar Mishra, Bhavita Patil

PARTIAL DISCHARGE IN GAS INSULATED SUBSTATIONS (GIS): EFFECTS, MITIGATION & ANALYSIS…….....
Sunil P. Suknale, Anojkumar S. Yadav, Prajakta E. Patil D-5

DESIGN AND FABRICATION OF REGENERATIVE BRAKING IN EV……..... D-11
Anurag Bhatt, Jaydeep Asodariya, Adinath Kadam, KP Mredhul

CONCENTRATED SOLAR POWER ……..... D-17
Bhavita Patil, Anojkumar Yadav, Sushant Bansal, Mukeshkumar Mishra

ROTOR FAULT DETECTION OF INDUCTION MOTOR WITH THE HELP OF SIGNAL PROCESSING D-22
Prajakta E. Patil, Sunil P. Suknale

OPERATION PRINCIPLE OF MULTIPLE DC SMART GRIDS…… D-27
Chitralekha Vangala, Kavita Mhaskar

DESIGNING OF BRUSHLESS DC MOTOR WITH CONTROLLERS …….. D-32
Piyali Mondal, SomrajSengupta

EFFECTS OF RENEWABLE ENERGY SOURCES ON THE POWER SYSTEM……..... D-36
Rahul Abhyankar

PREPAID ENERGY METER USING IOT…… D-41
Himanshu Tamore , Himalay Bari , Kalpesh Tamore

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MODULAR ELECTROMAGNETIC LEVITATOR FURNACE……..... D-47
Dibesh Singh, Jay Wala, Omprakash Singh, Vikrant Tejam

SMART ELECTRICAL MONITORING OF VIVA INSTITUTE OF TECHNOLOGY……..... D-51
Nimish Raut, Shailesh Raiyani, Deep Patel, Swapnil Teli

MONITORING AND ANALYSIS OF DISTRIBUTION TRANSFORMER……..... D-56
Kinjal Shah, Kinjal Tank, Aditi Gardi, Monali kumavat

DEVELOPMENT OF CHARGING STATION FOR ELECTRIC VEHICLE……..... D-61
Hardik makwana, Tanmay kadam, Sumit jaiswar, Ajay gupta

ELECTRICAL SYSTEM ON SHIP-A REVIEW……..... D-67
Pratik Mahale, Dipali Mahale, Chaitali Mahale, Manoj Mawle

ELECTROSTATIC SOOT ACCUMULATOR FOR VEHICLE…… D-71
Trupal Patil, Sandesh Pansare, Sharad Kasbe, Aniket Gurav

REVIEW PAPER ON TROUBLING POWER SECTOR……..... D-74
Mukeshkumar A Mishra, Anojkumar Yadav , Sushant kumar, Bhavita Patil

ANALYSIS AND SIMULATION OF BATTERY, ULTRACAPACITOR, FUEL CELL, HYBRID ELECTRIC VEHICLE…… D-76
Siddhesh Desai, Kaustubh Bhavsar, Sanket Kamble, Akshay Bagul

SIMULATION OF ELECTRIC VEHICLE CHARGING STATION USING MATLAB …….... D-84
Rehan shaikh ,Alisha Fakir, Rohit Gupta, Gaurav Parmar

DESIGN AND MODULATION OF MULTILEVEL CONVERTER USE FOR ELECTRICAL VEHICLE ……..... D-90
Ramchandra Desai, Mohit Murkute , Rahul Vaidya, Mayur Pawar.

ROBOTIC SOLDIER WITH ELECTROMAGNETIC GUN……..... D-96
Rishikesh Zimal, Harish Gawde, Krunal Khochare, Rupal Wade

LINE DETECTOR FOR COUNCIL MAINTENANCE……..... D-100
Saurabh Patil, Ashitosh Watumbare, Kamesh chakor

HEALTH CONDITION MONITORING OF TRANSFORMER BY USING MICROCONTROLLER …….. D-105
Pranali Naik, Snehal Ambhire, Prachi Hazare, Ankita Vayada

AUTOMATIC POWER FACTOR CONTROL PANEL…… D-110
Rahul Gupta, Akash Yadav, Shubham Zanje , Rahul Yadav

HARDWARE IMPLEMENTATION TO MITIGATE VOLTAGE SAG AND SWELL BY USING DVR..... D-115
Siddhesh Godekar, Dilip Gupta, Dipak Barat, Hemendra Bondre

SMART RAILWAY SYSTEM……..... D-120
Mayur Ghosalkar, Chetan Kamble, Abhishek Rane, Siddhesh Sawant

ANDROID VIRTUAL MACHINE…… D-125
Tejas Sakpal, Sanket Sawant, Prabjeet Singh

SUPERCAPACITOR VEHICLE……... D-128
Sanket D. Sawant, Tejas R. Sakpal, Prabjeet J. Singh

SOLAR ROADS…… D-132
Prabjeet Singh, Tejas Sakpal, Sanket Sawant

SMART LAB USING IOT…… D-136

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Shantanu Mohile, Abhishek Mestry, Deepak Singh, Rohan Upadhyay

INTERFACIAL TENSION TEST OF TRANSFORMER OIL…….. D-142
Intezar Ali Salmani, Prasad Bobhate, Deepak Kushwaha, Sumit Rai

PERFORMANCE OF FACTS DEVICES IN THE IMPROVEMENT OF POWER QUALITY…… D-148
Kavita Mhaskar, Chitralekha Vangala

A REVIEW PAPER BASED ON VERTICAL AXIS WIND TURBINE FOR DESIGN AND PERFORMANCES TO GENERATE ELECTRICITY…….. D-153
Bhushan Save

SECTION E

TRACK: EXTC

PORTABLE ATTENDANCE SYSTEM USING FINGERPRINT SCANNER……..... E-1
Aman Takshak, Tejashri Kakde, Tahmeena Solkar, Prashant Singh

A REVIEW ON SMART TROLLEY……. E-6
Aakash Kondaskar, Kartikkumar Mahyavanshi, Prasad Joshi, Bhushan Kadam

VEHICLE BLACK BOX USING AT89S51……..... E-12
Prarthana patil, Sharad Yadav , Akshay Tukaral

SMART NUMBER PLATE RECOGNITION AND TOLL DEDUCTION……..... E-15
Omkar Bhushankar , Soham Naik , Akshay Athawale , Nilay Birmole

LEUKEMIA DETECTION USING IMAGE PROCESSING……..... E-21
Chirag Arekar, Shivani Mandhare, Sameer Mengane, Mansi Wade

DEFECTIVE CABLE RECOGNITION BENEATH GROUND……... E-27
Navin Jha,Prashant Rai, Prashant Singh, Dipesh Khaire

SMART MIRROR USING RASPBERRY PI…… E-31
Piyush Gaikwad, Abhishek Sawant, Kushal Raut, Karishma Raut

PLC BASED AUTOMATIC LIQUID MIXING AND FILLING SYSTEM……. E-35
Sanohi Jatav, Yoshin Engineer, Roshan Duble, Sai Adgale

VOICE ENABLED SMART DRONE……..... E-41
Suraj Gupta, Ravi Maurya, Pradeep Yadav, Godavari Kedar

LORA COMMUNICATION…….. E-46
Suman Mondal, Atul Yadav, Shubham Tiwari, Omkar Patil

DENSITY BASED TRAFFIC CONTROL SYSTEM USING GOOGLE API…….. E-50
Amitendra Bhardwaj, Manisha Mane, Bhakti Shetty, Umang Kacha

AUTOMATED SOLAR TRACKING SYSTEM FOR EFFICIENT ENERGY UTILIZATION…….. E-55
Sagar Panchal, Omkar Navalkar, Prasad Jadhav, Prof. Nutan Malekar

FACE DETECTION AND RECOGNITION USING NEURAL NETWORK…… E-60
Sumit Mondal, Shashwat Mishra, Anuj Gupta, Mayuresh Pawar

GARBAGE DISPOSAL SYSTEM…… E-65

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Utkarsha Chaudhari, Supriya Kapdule, Sagarika Kavali, Hrutuja Raut

AADHAAR BASED SMART ELECTRONIC VOTING MACHINE…….. E-69
Shubham More, Akshay Tari, Aakash Thakare

BLUETOOTH ENABLED SMART DIGITAL PEN……. E-74
Meena N. Perla, Reshma Chaudhari, Suman Saurabh

IMAGE ENCRYPTION USING RSA ALGORITHM AND ADDITIVE CIPHER…….. E-77
Karishma Raut, Archana Ingle, Madhura Ranade

OVERVIEW OF A SATELLITE SYSTEM……... E-81
Reshma Chaudhari, Meena Perla, Aruna N. Jawale

STUDY OF DIGITAL PROTRACTOR BASED ON PSOC FOR ANGLE MEASUREMENT……... E-85
Pratik Parsewar, Kushal Suvarna Pratik Parsewar, Nutan Malekar

A REVIEW ON DATA AGGREGATION TECHNIQUES IN WSN……..... E-89
Ashwini Haryan, Ameya Purandare, Manju Bhardwaj

DEVELOPING COST-EFFECTIVE DOT MATRIX BRAILLE PRINTER…… E-95
Happyraj Yadav, Sai Ghawali, Sharad Gaikwad, Mayur Rane

REVIEW PAPER ON DECOMPOSITION OF ORGANIC WASTE……..... E-99
Niraj Dixit, Shailesh Gharde, Ankita Namasale, Arpita Salvi

FM RADIO STATION USING RASPBERRY PI 3……... E-103
Deepakkumar Pandey, Bhavika Patil, Sonal Patil, Vaishnavi Pawar

SMART PI VOICE CONTROLLED PERSONAL ASSISTANT ……. E-106
Saili Bakalkar, Sushma Chippa, Tanvi Save, Rushikesh Haral

A SURVEY ON DIFFERENT FFT ALGORITHMS…… E-111
Shoeb Shaikh, Chitra Takle, Mohini Ghotekar, Kushal Suvarna

HOME AUTOMATION……. E- 117
Nikhil Naidu, Riddhi Kadam, Shubham Keni

SECTION F

TRACK: MECHANICAL

FIREFIGHTING SYSTEM WITH A GOVERNOR ……..... …… F-1
Ritwik Tiwari Ashray Shinde Prathamesh Manze

MANUFACTURING OF 3D-PRINTER FILAMENT USING RECYCLED PET (POLYETHYLENE TEREPHTHALATE) BOTTLES – CONCEPT……..... F-4
Shailesh Jaiswal Vijaybharathi Goswami Ajay Gupta Dipam Gada

TUBE FORMING USING HYDROFORMING TECHNOLOGY AND ANALYZING THE PROCESS ON EXPLICIT DYNAMICS……. F-8
Shweta Patel

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN AND FABRICATION OF BIOMASS PELLET MANUFACTURING MACHINE- A CONCEPT F-13
Khushal Joshi Akash Mahajan Yash Mhatre Swapnil Raut

PREPARATION OF BIODIESEL FROM COOKING OIL F-17
Nikesh Chaugule Mohit Bhatt Anand singh Manojkumar Yadav

DESIGN AND ANALYSIS OF BLADELESS WINDMILL..... F-20
Trushal Sawant Mohan Shingade Manas Raul Pratik Raut

STUDY OF 1D SUPERSONIC NOZZLE FLOW USING MACCORMACK METHOD..... F-24
Rishabh Vishwakarma Hitesh Vakode Shubham Tiwari Shreeyesh Kutty

"DESIGN & MANUFACTURING OF GAUGES & FIXTURES FOR CNG COMPONENTS OF M&M LTD..... F-29
Surajkumar Vishwakarma Navneet Yadav Ashish Yadav Rajkumar Devkar

APPLICATION OF TOPSIS: A MULTIPLE CRITERIA DECISION MAKING APPROACH IN TOOL INSERT SELECTION..... F-33
Chhaya Patil

SYSTEM ANALYSIS & MATHEMATICAL MODELLING OF BUS SUSPENSION SYSTEM USING MATLAB..... F-39
Pratik Raut

ANALYSIS OF MACHINING PARAMETERS ON EDM OF HCHCR-D2 USING FULL FACTORIAL DESIGN..... F-45
Vinit D Raut

DEVELOPMENT OF AUTOMATIC WRITING MACHINE USING ANDROID INTERFACE AND VOICE..... F-51
Mr. Amogh Mhatre Mr. Kalpit Kelvankar Mr. Sourabh Kadam Mr. Vinit Raut

CRUISE CONTROL SYSTEM TO MAINTAIN ACCELERATION OF TWO WHEELER CONSTANT..... F-56
Mr. Dharmit Vala1 Mr. Ronak Panchal2 Mr. Sangram Thorat3 Mr. Suneet Mehta

IMPLEMENTATION OF TOTAL PRODUCTIVE MAINTENANCE IN A MACHINE SHOP F-60
Arsh Mhate Amit Mishra Karim Khan Sushil Mishra

DESIGN AND FABRICATION OF AUTOMATIC CONVERTIBLE WHEELCHAIR..... F-66
Vinay Sankhe Vineet Sankhe Kapil Thakur Aditi Pimpale

DESIGNING OF AIR CONDITIONING UNIT FOR A COMPUTER LABORATORY..... F-69
A.B. Mengu A.B. Mali H.S. Kawale , M.Jagtap

ANALYSIS AND OPTIMIZATION OF AIR CONDITIONING SYSTEM OF COMPUTER LABORATORY F-72
Gauri Kadam , Kiran Govekar Anand Kelgandre Mayur Jagtap

FABRICATION AND DESIGN OF COCONUT DEHUSKING MACHINE..... F-78
Tejas Jadhav Niraj Bhoir Vaibhav Kadam Swapnil Raut

A CONCEPT ON DESIGN AND MODELLING OF WASTE SEPARATOR MACHINE"..... F-83
Abhishek Yadav Kapil Yadav Vijay Yadav Pratik Raut

INSTALLMENT OF AN AIR CONDITIONING UNIT IN A COMPUTER LABORATORY F-87
S.R.Kotian , B.P.Bhatnagar A.S.Kolekar , M.Jagtap

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

FABRICATION OF SEED SOWING MACHINE…… F-91
Rohit Patil Hitesh Patil Advait Raut Manojkumar Yadav

EFFECT OF CRYOGENIC TREATMENT ON HSS TOOL F-95
Mayur D. Jagtap

STUDY OF LOW-TEMPERATURE COMBUSTION: AN ADVANCED TECHNOLOGY FOR INTERNAL COMBUSTION ENGINES ……. F-99
Aniket Deshmukh

COMPARISON OF INFLUENCE OF SHALLOW AND DEEP CRYOGENIC TREATMENT ON HSS TOOL…….. F-103
Mansi Lakhani

IMPROVING PRODUCTIVITY BY USING QUALITY TOOLS……. F-109
Aditi Pimpale

APPLICATION OF THEORY OF CONSTRAINT FOR REDUCTION IN LEAD TIME…… F-114
Priyank Vartak

DETERMINATION OF CRITICAL MACHINE USING OVERALL EQUIPMENT EFFECTIVENESS…. F-119
Swapnil Raut

OPTIMIZATION OF MONOGRAM SYSTEM FOR TEXTILE INDUSTRY……. F-130
Aditya Kavaiya1 Devesh Dhapashi Yogesh Kamble Mansi Lakhani

IMPLEMENTING 5S, GEMBA WALK AND WHY WHY ANALYSIS FOR QUALITY IMPROVEMENT F-135
Henisha Raut……..

DESIGN AND MANUFACTURING OF BRAKE WEAR INDICATOR……... F-143
Harshal Mhatre Smit Kanekar Sumit Lad Aniket Deshmukh

DESIGNING AND TESTING OF LED FIXTURE BODY……. F-147
Uddhav Mhapralkar Shrikant Jawdekar Amit Kamble

DESIGN AND FABRICATION OF PORTABLE 3D PRINTER…….. F-151
Ketan Patil Atul Patil Mrunal Pagdhare Chinmay Pingulkar

A CONCEPT ON FABRICATION AND TESTING OF WASTE SEGREGATOR MACHINE”……. F-155
Sonu Singh Saurav Singh Mithilesh Singh Pratik Raut

F-160
IMPLEMENTATION OF MANUFACTURING TOOLS IN SMALL SCALE INDUSTRY
Pradunya Po, Deepak Shinde, Bhavin Vartak

DESIGN AND MODIFICATION OF A FOUR STROKE BIKE USING GOBAR GAS F-165
Chaandan Phutane Neel Rana Snehal Vhatkar Rajkumar Devkar

BUTTON OPERATED ELECTRO-MAGNETIC GEAR CHANGING MECHANISM FOR TWO WHEELERS……. F-170
Ritesh Vengurlekar Aniket Vavale Vipin Vishwakarma Priyank Vartak

MODIFICATION AND FABRICATION OF OPEN DIFFERENTIAL FOR ANTI-SLIP EFFECT F-174
Aalap Save Swaraj Sawant Anay Satelkar , Nilesh Nagare

F-178

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN OF AMPHIBIAN VEHICLE……
Mr.Rishabh Solanki Mr.Parth Padvekar Mr.Girish Vaishya Ms. Chhaya Patil

REVIEW PAPER ON THE PROPERTIES OF PRINCE RUPERT'S DROP F-183
Shreeyesh Sreenivasan Kutty

REVIEW ON REGENERATIVE VEHICLE SUSPENSION……. F-187
Varghese Koshy

3D PRINTING OF CERAMICS: A REVIEW……... F-194
Manojyadav

BRIDGING THE GAP BETWEEN ACADEMIA AND INDUSTRY FOR INCREASING PLACEMENTS OF ENGINEERING FRESH GRADUATES…… F-202
Rajkumar Devkar

DESIGN AND FABRICATION OF TWO WHEEL DRIVE FORKLIFT…… F-205
Dipak Shalkar Aniket Redi Shubham Shukla Priyank Vartak

"DESIGN AND FABRICATION OF KINEMATIC LEGGED ROBOT"……. F-210
Sachin Shinde Kundan Singh Shubham Trimukhe Omkar Joshi

DESIGN AND FABRICATION OF SOLAR POWERED WATER PURIFIER AND COOLER……... F-215
Aniket Kolhe Trushank Bhoir Pushpak Dalbanjan Suneet Mehta

STABLE SURFACE WATER CLEANER USING QUADCOPTER…… F-219
Pranit Humne1 Ankit Kamble2 Rishikesh Kakad3 Tejas Chaudhari4

DEVELOPMENT OF FIXTURE AND GAUGE OF DOC BRACKET ……. F-225
Pradnesh D. Jadhav Ankitkumar R. Jaiswar Prathamesh R. Gurav

"STRUCTURAL AND MODAL ANALYSIS OF WASTE SEGREGATOR MACHINE"……. F-230
Vinay Nadavadekar Shubham Shet Ganesh Wayangankar Pratik Raut

DESIGN AND FABRICATION OF TRAFFIC AIR PURIFIER…… F-236
Saurabh Gawde Pranay Lade Dhanaji Mali Varghese Koshy

IMPLEMENTATION OF TAGUCHI METHODOLOGY TO OPTIMIZATION OF CNC END MILLING PROCESS PARAMETERS OF AL6351 –T6 …… F-242
Suneet Mehta

PIPE STRESS ANALYSIS USING CAESAR II SOFTWARE…… F-247
Smit Valani Krushna Poriya Ravindra Yadav Henisha Raut

MANUFACTURING AND TESTING OF ALL TERRAIN VEHICLE …… F-251
Girish Gharat Sanil Gharat Durgesh Mhatre Niyati Raut

DESIGN AND ANALYSIS OF VERTICAL AXIS WIND TURBINE…… F-257
Siddhesh Pujari Sahil Ratnaparkhi Amol Remje

DESIGN, ANALYSIS & FABRICATION OF ROCKET STOVE –CONCEPT…….. F-261
Jayesh Gohil Akash Jadhav Saurav Goel Varghese Koshy

AUTOMATED COFFEE VENDING MACHINE USING RFID……. F-265
Darsh Bhatt Mahesh Bhandari Salman Khan Chinmay Pingulkar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MULTIPURPOSE CNC PLOTTER MACHINE USING ARDUINO SYSTEM…… F-270
Mr. Aniket Pawar Mr. Dipesh Nangle Mr. Vishal Wanarkar Mrs. Henisha Raut

DESIGN AND ANALYSIS OF UAV…….. F-275
Mr.Rajdeep Gade Mr. Ganesh Kadam Mr. Chetan Jadhav Mr. Omkar Joshi

COMPARISON OF TOOLS IN TURNING PROCESS…….. F-281
Mohd. Mustaque Ahmed Dr.Arun Kumar

RECONFIGURABLE MANUFACTURING SYSTEMS…….. F-287
Akshay Vartak Niyati N. Raut

ANALYSIS OF MACHINING PARAMETERS IN W-EDM FOR INCONEL MATERIAL USING TAGUCHI METHOD ……. F-304
Nilesh B Nagare

A REVIEW: ADVANCEMENT AND PERFORMANCE OF HEAT PIPE - SOLAR COLLECTORS…… F-310
Rajvardhan Kapadnis Vyankatesh U. Bagal Dr. KN Vijayakumar

THE STUDY OF SUPPLY CHAIN AND LOGISTICS IN E COMMERCE …… F-314
Smit Mehta Mihir Kansara Daanish Rode Dr. Vijaya Kumar Kottur

DESIGN AND ANALYSIS OF AN ALL-TERRAIN VEHICLE …… F-317
Saurabh Ghadge Omkar Jadhav Vinit Jadhav Shweta Patel

OPTIMIZATION OF WORKING PROCESSES BY USING TAKT TIME……
Tejas Chaudhari F-321

ANALYSIS OF AMPHIBIAN VEHICLE USING ANSYS…… f-325
Mr. Omkar Pawar, Mr. Jayesh Saindane, Mr. Rahul Reddy, Prof. Chhaya Patil

IMPLEMENTATION OF 5S IN A SMALL SCALE INDUSTRY……... F-329
Isaac Nadar Prabhand Naik Nilesh Nagare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

APPLICATION OF PERFORMANCE BASED SPECIFICATION IN BUILDING PROJECTS

Vishal Urade

Department of civil engineering, viva institute of Technology, Virar.
Email: vishalurade@viva-technology.org

***Abstract*—** A performance-based contract sets the performance expected from the final product (project), instead of directing the contractor by the methods to achieve the final project. The building's performance as a whole, and the more specific performance objectives of its items, originate from relevant user requirements. The requirements of a user can easily be expressed in colloquial terms but not in technical terms. The purpose of the project is to explicitly bridge the gap between technical quality and customer satisfaction by proposing performance-based specifications. In the research project, Performance-based specifications are framed for the works to be carried out under the items of Plastering/Rendering and Painting, of building construction. Literature is reviewed to identify the commonly observed defects in these items in constructed buildings. Draft statements of performance criteria are developed to avoid such defects. A questionnaire survey is carried out to find out the level of importance of each of the criteria included in the draft specifications. The survey was based on an ordinal, 5-point Likert scale which helped to determine relative importance of the criteria included in draft statements. The performance-based specifications are then articulated by relating these performance criteria to specific quality characteristic for that building item.

Keywords- Performance based contract, Performance based specifications, Performance concept, Questioner survey, Likert scale.

I. INTRODUCTION

A performance-based contract (PBC) is by nature performance based; it sets the performance expected from the final product (project), instead of directing the contractor by the methods to achieve the final project; it means a PBC focuses on the desired outcome, not the process to achieve the outcome (A. Gajurel, 2014). In PBC, the client specifies minimum performance measures to be met or exceeded within the contract period. PBC is a type of contract in which payment is explicitly linked to the contractor successfully meeting or exceeding certain clearly defined minimum performance indicators. This research aims at identifying the user requirements and building structure requirements by framing Performance-based Specifications for specific building construction items of Plastering/Rendering and Painting, to address these requirements.

1.1 RESEARCH OBJECTIVE

The purpose of this research is to test whether the Performance-based Contracts that are being widely used in the road infrastructure can also be used in the building infrastructure.

1.3 SCOPE

The performance based concept is being applied worldwide since years in the road infrastructure. Thus, a lot of research work has been done on the application of Performance based specifications in the management and maintenance Performance-based contracts of road projects. The Performance-based contracts are also being tried out in other infrastructure projects like Water Infrastructure, Railway Infrastructure and Building Infrastructure. As the concept is new for the Indian contracting industry, the scope of this research is limited to the application of Performance-based specifications of a PBC in building projects.

This research focuses on the study and formulation of Performance Specifications that satisfy the user requirements and building structure requirements. The specifications may help in forming the conditions of a Performance based contract for construction works of residential buildings.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST) A- 36

Self-Compacting Concrete Jacketing – Tests and Analysis

Meena Bhagat[1],Asmita Mhatre[2],Monica More[3]
[1] Department of Civil Engg, VIVA Institute of technology.
Email: bhagat.meena83@gmail.com
[2] Department of Civil Engg, VIVA Institute of technology.
Email: asmita.bhalke24@gmail.com
[3] Department of Civil Engg, VIVA Institute of technology.
Email: moremonica9@gmail.com

Abstract : This study presents experimental and analytical results obtained from the application of a reinforced self-compacting concrete jacketing technique for the rehabilitation of shear damaged reinforced concrete beams. Three shear-dominated beams were initially subjected to monotonic four-point bending loading. The damaged beams were first restored using self-compacting concrete jackets that encased the bottom width and both vertical sides of the beams including small diameter steel bars and U-formed stirrups and then retested. The applied jacket was designed to increase the shear capacity of the initially tested beams and to alter their brittle failure mode to a more ductile one. Test results indicated that this jacketing technique is a promising rehabilitation method since the strength and the overall performance of the jacketed beams was ameliorated with respect to the initial specimens. Analytical results of the flexural and the shear capacity of the tested beams are also presented. Comparisons between test data and predicted strength values showed a good agreement.

Keywords: **Self-compacting concrete; reinforced concrete; jacket; tests; shear; flexure; damage; beam; analysis**

1. INTRODUCTION

Jacketing is a well-known rehabilitation technique of poorly detailed or damaged reinforced concrete members that provides increased strength, stiffness and overall enhancement of the structural performance [1]. Jackets constructed by conventional cast-in-place concrete [2], premixed, non-shrink, flowable, rapid and high-strength cement-based mortar [3], shotcrete [1, 4], Textile-Reinforced-Mortars [5] and Fibre-ReinforcedPolymers [6] have been examined in existing inadequate or damaged structural elements.

Nomenclature

1. *b*, *d* width and effective depth of the cross-section of the beam, respectively, mm
2. *a* shear span of the tested beams equal to 600 mm
3. *x*, *c* depth of neutral axis in flexural and in shear analysis, respectively, mm
4. f_c , *fct* mean cylinder compressive and splitting tensile strength of concrete, respectively, MPa
5. *fyw* yield strength of the steel stirrups equal to 255 MPa
6. *l* , *l* ratio of the tension and compression steel longitudinal reinforcement, respectively, %
7. *d '* concrete centroid cover of the compression steel bars of the initially tested beams equal to 25 mm
8. size effect coefficient in shear analysis that equals to: 1.08 = 1.2 – 0.2*a* 0.65 (*a* = 0.6 m)
9. V_u ultimate shear capacity, N (1 kN = 1000 N)
10. *MVu* bending moment corresponding to the ultimate shear capacity (= aV_u), N-mm (1 kN-m = 10^6 N-mm)
11. *MR,u* ultimate flexural capacity (ultimate bending moment resistance), N-mm (1 kN-m = 10^6 N-mm)
12. *Fsi* force of the steel bars of the initial beam, N (1 kN = 1000 N)
13. *Fsj* force of the steel bars of the jacket, N (1 kN = 1000 N

Recently, the rehabilitation of flexural damaged reinforced concrete beams using self-compacting concrete jackets has been experimentally investigated. Test results indicated that the flexural capacity of the jacketed beams was ameliorated with respect to the capacity of the initial specimens. The application of this self-compacting concrete jacketing technique is extended herein to shear-dominated beams.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

"Strength Of Concrete Different Types Of Fine Aggregates"

Department Of Civil Engineering

Prof.Ghufran Khan
(Assistant Professor)
Viva Institute Of Technology, Shirgaon, Virar (East)

Abstract— *Common river sand is expensive due to excessive cost of transportation from natural sources. Also large-scale depletion of these sources creates environmental problems. As environmental transportation and other constraints make the availability and use of river sand less attractive, a substitute or replacement product for concrete industry needs to be found. River sand is most commonly used fine aggregate in the production of concrete poses the problem of acute shortage in many areas. Whose continued use has started posing serious problems with respect to its availability, cost and environmental impact? An attempt has also been made for strength studies on concrete made up of grit when compared with the concrete made up of Artificial Sand and Natural Sand. Use of grit as a fine aggregate in con-Crete draws serious attention of researchers and investigators.*

KEYWORDS— Artificial Sand, depletion of sources, environmental transportation, fine aggregate, Grit, Natural Sand, replacement product.

I. INTRODUCTION

Currently India has taken a major initiative on developing the infrastructures such as express highways, power projects and industrial structures etc. To meet the require-mints of globalization, in the construction of buildings and other structures concrete plays the rightful role and a large quantum of concrete is being utilized. River sand, which is one of the constituents used in the production of conventional concrete, has become highly expensive and also scarce. In the backdrop of such a bleak atmosphere, there is large demand for alternative materials from industrial waste. The utilization of Grit which can be called as dust of quarry rock has been accepted as a building material. As a result of sustained research and developmental works un-der-taken with respect to increasing application of this industrial waste. The level of utilization of Grit in the industrialized nations like Australia, France, Germany and UK has been reached more than 60% of its total production. The use of manufactured sand in India has not been much, when compared to some advanced countries. This paper presents the feasibility of the usage of Grit as hundred percent substitutes for Conventional Concrete. Tests were conducted on cubes and beams to study the strengths of concrete made of Grit as a waste material, artificial sand and natural sand. Studies were done for concrete with Grit, artificial sand and compared with the Conventional Concrete.

II.

II.METHODOLOGY

Assessment is made on the existing mix design methods and test results of concrete produced using manufactured sand. Tests were conducted using river sand, manufactured sand and a combination of both with equal amounts of cement, coarse aggregate and water and with variable amounts of admixtures. A cost comparison of concrete produced using partial or full replacement of the Natural Sand with Manufactured Sand was made. The results were presented in graphical form and interpretation and discussion were made on the research findings. Based on the findings conclusions are drawn and recommendations are for-warded.

III. PRACTICAL PROBLEMS

Concrete does not give adequate workability because particle shape is not spherical but cubical or flaky. This can be controlled by proper shape and gradation, use of plasticizers etc. Higher water absorption removes free water also greater surface area results in faster evaporation by which concrete tends to set quickly. Use of retarding plasticizers, protecting the green concrete from drying can cover these problems. Concrete tends to segregate due to flaky shape, lack of adequate fines, segregation of particles while transportation and Unloading. Segregation during transportation can be prevented by spraying water, blending with natural sand, use of fibers to increase cohesion. Sometimes Concrete gives lower strength because of flaky particles or higher fines increase water demand, higher water demand translates in to higher water cement ratio. Controlling the quality of incoming material by visual inspection and regular sieve analysis solve such problems. Lower workability, lower slump retention, and inadequate

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)
A- 73

Review of machine learning algorithm for concrete strength prediction

Akshay Naik

Department of Civil Engineering, Mumbai University.
Email: Naik15864@gmail.com

Abstract— *Machine learning is the scientific study of algorithms and statistical models that computer systems use to progressively improve their performance on a specific task. Machine learning algorithms build a mathematical model of sample data, known as "training data", in order to make predictions or decisions without being explicitly programmed to perform the task. This paper reviews techniques such as artificial neural network, support vector machines, Decision tree and Random forest for the 7,28,56 days strength prediction of concrete*.

Keywords- Machine learning, training data, Artificial neural network, Support vector machines, Decision tree, Random forest

I. INTRODUCTION

Concrete is composed mainly of cement primarily Portland cement, water, aggregate, and chemical admixtures. Concrete is a versatile material that can be easily mixed to meet a variety of special needs and casted into virtually any shape. Hydration is a chemical process due to which concrete solidifies and hardens after mixing with water and placement. The water reacts with the cement, which bonds with the other components together, eventually creating a stone-like material.

II. RESEARCH OBJECTIVE

To review the use of machine learning algorithms such as support vector machines, decision tree, random forest, artificial neural network for the strength prediction of concrete.

III. NEED OF THE STUDY

In case of concrete mix design and quality control, the uniaxial compressive strength of concrete is considered as the most crucial property which is determined by number of factors to obtain good workability, it requires special additives in the concrete, along with a superplasticizer as the water/cement (w/c) ratio in the concrete is lower than normal concrete. Usually special cements are also involved. The nature of aggregate plays an important role to incur high strength. The gradation of the aggregates determines the workability. Also, the order in which the materials are mixed is also important for the workability of the concrete. From engineering point of view, strength is the most important property of structural concrete. The characteristics of the coarse aggregate, fine aggregate, mortar and the interface determine the strength of the concrete. Properties of concrete are influenced by the properties of each and every constituent added in it. For example, for the same quality mortar, different types of coarse aggregate with different shape, texture, mineralogy, and strength may result in different concrete strengths. The tests for compressive strength are generally carried out at about 7 or 28 days from the day when the concrete is casted. Generally, strength after 28-days is standard and therefore essential and if required strength for other ages can be carried out. Accidentally, if there is some experimental error in designing the mix, the test results will fall short of required strength, the entire process of concrete design has to be repeated which may be a costly and time consuming. The same applies to all types of concrete, i.e. normal concrete, self-compacting concrete, ready mixed concrete, etc. It is well acknowledged that prediction of the compressive strength of concrete is most important in modern concrete designing and in taking engineering decisions. In the last decade due to the importance of the research topic Numerous Studies were concentrated on many linear and nonlinear regression equations. In construction industry, strength is a primary criterion in selecting a concrete for a particular application. Concrete used for construction gains strength over a long period of time after pouring. The characteristic strength of concrete that considered in structural design is defined as the compressive strength of a sample that has been aged for 28 days. So rapid and reliable prediction for the strength of concrete would be of great significance. Prediction of concrete strength, therefore, has been an active area of research and a considerable number of studies have been carried out.

VIMEET INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
A- 75
VIRAR (EAST)

USE OF TEXTILE MILL SLUDGE IN REPLACEMENT TO FINE AGGREGATE IN CONCRETE"

Purva P. Awari[1], Asst prof. S.S Patil[2]

[1]Department of Civil Engineering, Mumbai University, Mumbai.
Email: purvaawari@gmail.com
[2]Department of Civil Engineering, Pune University, Pune.
Email: sspatil@gmail.com

Abstract— *During industrial, mining and other processes currently in India about 960 million tonnes of solid waste is being generated annually as by product. Out of this 960 million tonnes about 350 million tonnes is organic, about 290 million tonnes is inorganic of industrial and mining sector and about 4.5 million tonnes is hazardous in nature. Such hazardous waste need to be disposed off without harming sustainability of environment, and hence if such materials can be used in producing construction materials it will be fruitful. Technology advancement resulted in alternative construction materials which could be a substitute to conventional ingredients in production of material like brick, concrete block, tile, aggregate, ceramic, cement, lime etc. The textile units are scattered all over India. However along with finished goods from such industry it also contribute to large formation of sludge whose management is now causing a big challenge. Except engineered landfills rest of the methods for dumping, leads ground water contamination and thereby other socio-economic impacts. This research paper deals with replacement of fine aggregate with textile mill sludge in preparation of M-20 grade of concrete. Fine aggregate are replaced by Textile Mill Sludge in proportion from 4% to 36% by weight in increments of 4%. Concrete cubes of above proportion are casted. Test on hardened state properties are carried out and results are noted for comparative study.*

Keywords— Solid waste, hazardous, textile mill sludge, fine aggregate, hardened properties.

I. INTRODUCTION

Growth of population, increasing urbanization, rising standards of living due to technology innovations have contribute to an increase both in quantity and variety of solid waste generated by industrial , mining, domestic and agricultural activities. Globally the estimate quantity of waste generation was 1200 million tonnes in year 2002 of which 1100 million tonnes were industrial waste and 1600 million tones of solid waste are expected to be generated annually by the year of 2025. The textile industry is one of the oldest and largest sectors in India. Textile processing consumes enormous quantity of water and chemicals for various operations like washing, dyeing etc. The low efficiency of chemical operations and spillage of chemicals cause a significant pollution hazards and make treatment of treated wastewater and sludge a complex problem. Most of the wastewater treatment plants presently adopt methods of chemical precipitation and subsequent clarification. Chemicals used for treatment of textile waste are alum, ferric chloride, lime and polyelectrolytes. The cost of construction materials is increasing incrementally. In India, the cost of cement during 1995 was 1.25 Rs/kg and in 2005 price increased 3 times. Also due to high transportation costs of these raw materials, demand and environmental restrictions, it is essential to find functional substitutes for conventional building materials in construction industry.

II. LITERATURE REVIEW

The conventional methods of sludge disposal and treatment such as composting, land filling etc has some drawbacks. Industrial hazardous wastes and byproducts can be used as green concrete material through stabilization/solidification (S/S) methods [Badur and Choudhary *et al.* (2008)]. Use of sludge as construction and building materials converts the waste into useful products that can solve disposal problems [Lin, (2001)]. Hence textile waste has potential to be reused as ingredient in building materials. Based on characteristics of effluent the textile industries give coagulation and adsorption treatments. Due to its chemical content sludge generated during treatment is hazardous in nature [Senthilkumar *et al.*(2008)]. Sewage sludge is used in concrete mixtures up to 30% by replacing the cement content in the concrete mixes [Jamshidi *et al.* (2011)]. By using dyeing industry ETP sludge and Ordinary Portland Cement (OPC) an alternative building material can be prepared. The material prepared is used as replacement of aggregates and compressive strengths obtained are as per BIS standards. [Raghunathan T, (2010)].

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST) A- 102

Special Technique for Rehabilitation of forts.

Shetty Ashish Vishwanath

Department of civil Engineering, Viva institute of Technology.
Email: ashishshetty@viva-technology.org

Abstract— *Forts have been created for thousands of years and they are often the most durable and famous symbols of ancient civilizations. These are the icons of the nation having their own cultural and historic values therefore, it is very essential to conserve them .Forts which have no further utilization tend to decay rapidly, while which are still in use have a better chance of being maintained. Rehabilitation involves contribution of high end technology, advanced skills and calculations. This is a very responsible job of saving hazardous failure of structures due to deterioration. The success in rehabilitating the structure totally depends on gaining expertise in the field and day to day advancements. Rehabilitation is highly recommended for age-old buildings showing signs of decay and save human lives from failures.*

Keywords— ***rehabilitation, forts, structure***

I. INTRODUCTION

The term 'Fort' is often applied to buildings or structures that are considered examples of important architectural or cultural heritage. Forts are the very basis of a kingdom. Forts themselves are the kingdom, forts are the origin of the kingdom, forts are the real treasure of the kingdom, forts are the basis of an army, forts are the wealth of the kingdom, and forts are our best form of defense. The English word Fort is derived from the Latin word 'Fortis' meaning strong. Forts were a primary defense mechanism in Maharashtra against enemy invasions since the ancient times and are known in the local language as 'killa'. They were naturally and artificially protected human settlements, guarded by elements like the hills, the forests, the desert, the sea, and the man made stone structures that formed a amour around them.

II. OBJECTIVES OF THE WORK

Following are the objectives of the proposed work.

1. To study the various forts in Maharashtra.
2. To study the design and construction history of forts.
3. To study the necessity of rehabilitation.
4. To suggest and discuss alternative technique and materials for their rehabilitation.
5. To compare various techniques of fort rehabilitation.

III. FORTS IN MAHARASHTRA

Chhatrapati Shivaji Maharaj, the founder of Maratha Empire in western India in 1664, was well known for his forts; he was in possession of around 370 at the time of his death. Many, like Panhala Fort and Rajgad existed before him but others, like Sindhudurg and Pratapgad, were built by him from scratch. Shivaji attached great importance to his forts. It has been observed, not a pass was left undefended, not a peak was left unfortified and every sub-division of a district was provided with one or more strongholds, and the whole country was secured by a net-work of forts. The territory old and new under Shivaji contained 240 forts, both land and naval forts, out of which 111 were built by him and 79 were situated in eastern Karnataka and Tamilnadu. The sites of the forts were carefully selected. Often a narrow and steep path that zigzagged along an inaccessible precipice would be the only way leading to the fort. The fortifications were simple but effective a massive wall defended by a few resolute men, even with primitive arms and crude missiles, could defy for months the utmost efforts of the strongest besieging force. All that was needed therefore was a good site, a strong rampart, sufficient provisions and plenty of military stores.The value of these forts was amply

VIRAR (EAST) Post Virar, Tal.: Vasai, Dist. Palghar

Shade of Green

Prashant D Gondane

Department of civil Engineering, Viva institute of Technology.
Email: prashantgondane@viva-technology.org

Abstract**—** *The Economic health, wealth and prosperity of a nation are greatly dependent upon its housing sector. The factors that influence the market prices of the houses are very important. Presence of any open space relates to Environmental services which provide numerous benefits. It is essential to identify such benefits from the open spaces / environmental services and determine its influence on market price of the properties. Hedonic Regression method (HRM) measures the value of open spaces / environmental services which directly influence the market prices. It measures the implicit prices of non-market goods by considering surrogate goods and services. The aim of the thesis study is to understand the impact of presence of open spaces/ environmental services on property market and evaluate its price. The methodology is adopted by gathering all the necessaryinformationsuchaslocation/neighborhood/environmentalparameters, household parameters and structural parameters with respect to the open space / environmental services and analyzed using regression analysis that determines a function statistically which relates the parameters of the property to its value. The Results of the study shows that the presence of open spaces greatly enhances the property prices. In the present case the property prices were observed to be higher as compared to the market prices*

Keywords— open spaces, environmental services, valuation methods, Hedonic Regression Method, Sampling.

I. INTRODUCTION

Metropolitan cities or areas are greatly affected by the presence of any open space/environmental factors. Presences of any environmental factors like parks or forests or open spaces contribute greatly to the area. For example it improves Quality of air which helps to maintain healthy and active lifestyle. It provides aesthetic and recreational facilities. Moreover, studies has stated that living near garden or parks has a great and direct impact on mental health. Also it greatly helps boosting of environment as it provides home for number of species. Hedonic regression model measures the value of environmental services which direct influence market prices. Hedonic regression method also known as Hedonic Demand Method measures the implicit prices of non-market goods by consideration of surrogate services or goods. Along with the housing prices this method also throws light on the factors such as building characteristics, public utilities, approach to school and open spaces, neighborhood characteristics that builds up the real estate prices.

II. OBJECTIVES OF THE WORK

The study aims to achieve the following objectives:

1. To indicate the open space or environmental service that influences property values.
2. To determine environmental characteristics, neighborhood characteristics, structural characteristics that influences market prices of the property.
3. To determine the difference in property value due to its location from the indicated environmental services /open space.

III. Scope of Work

1. Analyzing the open spaces/environmental services and its effects on the residential
2 .Property value preparing a house price prediction model for such residences.
3. Analysis will be subjected to 3.5 km periphery with respect to the open space/ environmental services.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
A- 126
VIRAR (EAST)

Seismic Behavior of Structure with Soft storey

Prerana Patil[1], Hrishikesh Shedge[2]

[1] Assistant Professor,Department of Civil Engineering, VIVA Institute of Technology, Virar
Email: preranaptl222@gmail.com
[2] Assistant Professor,Department of Civil Engineering, Karmveer Bhaurao Patil college of Engineering, Satara
Email: hrishik222@gmail.com

Abstract— *The structural behavior during seismic event is the function of the earthquake characteristics, structural configuration, material used and quality of construction. It has been found from the past experiences that uniform structural configuration, stiffness, adequate strength and ductility are the main attributes for satisfactory performance of building structures during earthquakes. The irregularity in mass and stiffness distribution produces unsatisfactory performance of structures sometimes leading to catastrophic failure. The soft storey is a kind of vertical irregularity commonly observed in the form of open ground storey meant for parking purpose which has relatively lesser stiffness compared to stories above it. However it can occur at any storey level due to more storey height or due to more opening in that storey. In early times the soft storey at ground level was deliberately provided to reduce the level of seismic forces on the structures. But later on, sudden collapse of soft ground structures occurred due to increased story drift at first floor resulting in concentration of plastic hinges in ground story columns. This review paper deal with seismic effects on softstorey , remedial measures and methods of design .*

Keywords—Nonlinear analysis, Plastic Hinges, Structural configuration, Stiffness, Softstorey

I. INTRODUCTION

1.1.General:

Soft story irregularity is one of the main reasons of the building damage during past earthquakes. Soft story due to increased storey height is a well known subject but soft storey may also arise due to abrupt changes in amount of infill walls between stories, which are usually not considered as a part of load bearing system. This study investigates seismic behavior of soft storey at ground level using dynamic response for reinforced concrete buildings.

The soft storey is a vertical irregularity of the buildings, and the one in which the lateral stiffness is less than 70 percent of that in the storey above or less than 80 percent of the average lateral stiffness of the three stories above as mentioned in IS 1893:2002.The ground level opening jeopardizes the structure by creating abrupt change in stiffness inviting soft story behavior. These openings often accommodate parking spaces, large windows and expansive lobbies in residential and retail buildings. Without proper design, such structures do not perform satisfactorily against the lateral forces during earthquake. This is the review paper explained various method of nonlinear analysis and its effects on softstorey of RC structure.

1.2. Seismic behavior of soft storey

A “soft storey is the one in which the lateral stiffness is less than of 70% of that in storey immediately above , or less than 80% of the combined stiffness of three stories above.” The essential characteristic of a “weak” or “soft” storey consist of a discontinuity of strength or stiffness, which occurs at the second storey connections. The much stiffer upper stories behaves like a rigid block, and most of the horizontal displacement of the building occurs locally in the soft storey alone. This makes the building behave like an inverted pendulum, with the ground storey columns acting as the pendulum rod while the rest of the building act as a rigid pendulum mass which swings back-and-forth during earthquake shaking, and the columns in the open ground storey are severely stressed. In such building the dynamic ductility demand during the probable earthquake gets concentrated in the soft storey and the upper storeys tend to remain elastic. Hence whereas the ‘soft’ storey is severely strained causing its total collapse, much smaller damages occurs in the upper storeys.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
A- 128

Development of High Strength Concrete Using Ferrochrome Slag Aggregate As Replacement to Coarse Aggregate

Monica More[1],Asmita Mhatre[2],Meena Bhagat[3] ,Yadnesh Patil[4]
[1]Department of Civil engineering, VIVA institute of technology, virar
Email:moremonica9@gmail.com
[2]Department of Civil engineering, VIVA institute of technology, virar
Email:asmita.bhalke24@gmail.com
[3]Department of Civil engineering, VIVA institute of technology, virar
Email:bhagat.meena83@gmail.com
[4]Department of Civil engineering, VIVA institute of technology, virar
Email:yadneshpatil007@gmail.com

Abstract*—Ferrochrome slag is one of the alternative materials which can be used as coarse aggregate in concrete. Ferrochrome slag is a major solid discarded bi-product got during the manufacturing of ferrochrome alloy. The Ferrochrome slag generated is a stable, dense, crystalline product having tremendous mechanical and engineering properties suitable for utilization as aggregate material in concrete. In the current study, Replacement of ferrochrome slag with conventional coarse aggregate in concrete for high strength (M50 Grade) concrete for every incremental of 25% replacement up to 100% is done. The fresh properties of concrete are determined by means of Slump cone test, Vee-Bee consistometer test and Compaction factor test. The hardened property of concrete is determined by casting cubes for compressive strength, cylinders for split tensile strength and prisms for flexural strength for 7days, 14days and 28days curing. The results obtained are compared with conventional coarse aggregate (0% replacement) concrete.*

***Keywords*—** *Ferrochrome Slag, Coarse Aggregate, Compressive Strength, Split Tensile Strength, Flexural Strength*

I. INTRODUCTION

Concrete is a versatile material widely used as principle element for structures and for other applications. The demand on concrete is increasing day by day due to the growing population, housing, transportation and other amenities. As a result the demand for concrete making materials also increases leading to the scarcity of naturally available fine and coarse aggregate required for concrete making. Additionally, the speedy development of industrialization contributed to different types of waste bi-products which is environmentally dangerous and creates problem in disposal. Hence, utilization of suitable waste bi-products in construction industries has become an inevitable option in recent days by fulfilling the demands of concrete as well as reduction in impact on environment. The use of industrial waste as aggregates in concrete provides good platform to utilize the waste as alternatives to naturally available aggregates in concrete as aggregates are the main constituents of concrete making about 75% of its total volume. Ferrochrome slag is one of the alternative materials which can be used as both coarse and fine aggregate for replacement of river sand and crushed rock ballast in concrete by altering the physical form. Ferrochrome slag a waste bi-product generated during the manufacturing of ferrochrome alloy. Ferrochrome alloy is manufactured in a submerged electric arc furnace by physiochemical process at the temperature of 1700_oC. Individually the molten liquids of the ferrochromium and slag flow out into dippers. Due to the different specific gravities of metal and slag, separation of the two liquids takes place. The liquefied ferrochrome slag gradually cools down in air forming a stable, dense, crystalline product having tremendous mechanical properties. The main constituents of ferrochrome slag are Sio_2, Al_2O_3 and Mgo with minor traces of ferrous/ferric oxides and Cao.

II. EXPERIMENTAL PROGRAMME

1. Cement used in this experimental Programme is Ordinary Portland cement (OPC) of 43-grade Jay-pee cement. The cement for the whole experiment is brought in a single batch and stored properly. The cement properties are determined from experimental investigations
2. Fine Aggregate: The Fine aggregate used is naturally available River sand. The properties of Fine aggregate are determined from experimental investigations
3. Conventional Coarse aggregate: Rock Ballast (Machine crushed) as Coarse aggregate is obtained from a local quarry.
4. Metakaolin: Metakaolin is used as a cement additive in concrete due to its pozzolanic nature. Metakaolin increases the workability and strength of concrete. Metakaolin used in this study is procured from ASTRA chemicals, Chennai.

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST) A- 152

Strength Properties of Concrete Using Crumb Rubber with Partial Replacement of Fine Aggregate

Mayur D Patel

[1]Department of Civil Engineering, Mumbai University, MUMBAI

***Abstract*— :** *Concrete is most widely used building material in the world, as well as the largest user of natural resources with annual consumption of 12.6 billion tons. Basically it consists of aggregates which are bonded together by cement and water. The major part of concrete besides the cement is the aggregate. Aggregate include sand and crushed stone / Gravel. Use of these conventional materials in concrete is likely to deplete the resources unless there is a suitable substitute. Rubber which is generated in large quantities as waste does not have useful disposal till now. But rubber is found to possess properties that are required for viable replacement of fine aggregate in concrete. Hence we in this project have aimed to study the effectiveness of rubber as substitute for fine aggregate and utilize the crumb rubber tyres in concrete, to minimize global warming. Aggregate properties viz., specific gravity, water absorption, acid resistance were to be conducted to ascertain the properties concrete specimens were to be casted and tested for concrete mix with various percentage of replacement (5%,10%,15% &20%) and its viability for replacement are discussed in this project.*

***Keywords*— Crumb rubber, Compressive strength, Splitting tensile strength, Flexural Strength, Fine aggregate.**

I. INTRODUCTION

The use of rubber product is increasing every year in worldwide. India is also one the largest country in population exceeds 100cr. So the use of vehicles also increased, according to that the tyres for the vehicles also very much used and the amount of waste of tyre rubber is increasing. This creates a major problem for the earth and their livings. For this issue, the easiest and cheapest way of decomposing of the rubber is by burning it. This creates smoke pollution and other toxic emission and it create global warming. Currently 75-80% of scrap tyres are buried in landfills. Only 25% or fewer are utilized as a fuel substitute or as raw material for the manufacture of a number of miscellaneous rubber goods. Burying scrap tyres in landfills is not only wasteful, but also costly. Disposal of whole tyre has been banned in the majority of landfill operations because of the bulkiness of the fires and their tendency to float to the surface with time. Thus, tyres must be shredded before they are accepted in most landfills.So many recycling methods for the rubber tyre are carried according to the need. From this one of the processes is to making the tyre rubber in to crumb rubber. It is used in many works such as Road construction, Mould making etc

Ilker Bekir Topcu et al(1995) proposed the concrete was modified by mixing with crumb rubber in coarse aggregate in the ratio of 15%, 30% and 45%. In this study the changes of the properties of rubberized concrete were investigated according to the terms of both size and amount of rubber chips added. In this the physical and mechanical properties were determined according to that the stress strain diagram were developed from that the toughness value and the plastic and elastic energy capacities were determined.

Fattuhi et al(1996) proposed that, the cement paste, mortar, and concrete (containing OPC or OPC and PFA) mixes were prepared using various proportions of either rubber crumb or low-grade rubber obtained from shredding scrap tyres. Properties examined for the 32 mixes prepared included density, compressive strength, impact and fire resistances, and nailability. Results showed that density and compressive strength of various mixes were reduced by the addition of rubber. (Rubber type had only marginal effect.) Density varied between about 1300 and 2300 kg/m3. Compressive strength reduced by 70% when the proportion of rubber to total solid content by mass of concrete reached about 13%.

Piti Sukontasukkul et al(2004) proposed the paper on crumb rubber concrete. In their study they decided to replace the course and fine aggregate in concrete for moulding pedestrian blocks. They believe that the concrete acting as a binder mixed with crumb rubber can make the concrete blocks more flexible and it provide softness to the surface. In this study they saw that the pedestrian blocks with crumb rubber performed quite well in skid and abrasion resistance. In this study the process of making the concrete is economical due to the simplicity of the manufacturing process.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
A-155
VIRAR (EAST)

Behavior of strengthened RCC Beam using steel plates

[1]Abhijit Wasave, [2] Prof. Roshni John
Asst professor, Civil Engineering Department, Viva Institute of technology
Email: abhijitwasave@viva-technology.org
Civil Engineering Department, Saraswati college of Engineering
Email: roshnijjohn@gmail.com

Abstract--*Most structures need to be strengthened when their performance is not satisfactory. This has been a problem in civil construction industry. It could be as a result of change in design codes and hence a newer codes and limit to be implemented in order to satisfy the required capacity checks. In addition, there may be application mistakes during the construction of the structure. This could arise as a result of the skills implemented in the construction site. Problems may later arise, which could be a poor concrete grade, some missing transverse reinforcement, longer spans and lower sizes of some structural members. when some parts of the structure have started wearing, there is a tendency that the building will lose its ability to carry load. This can be restored by firstly repairing and shortly followed by strengthening. Also, there may be a need to strengthen structures due to high vulnerability to seismic motions.*

Keywords : *Repairs, Strenghetning, RC beams, Design Codes.*

I. Introduction

Structures may be required to improve the structural behaviour and repair of damaged structures to restore structural performance for economical reasons. Generally, reinforced concrete beams fail in two modes: flexure and shear failure. Shear failure of reinforced concrete beam is sudden and brittle in nature and gives no advance warning prior to failure. Shear failure is more dangerous than flexural failure. Hence, reinforced concrete beam must be designed to develop their full flexure capacity. Many reinforced concrete structures have shear problems for various reasons, like improper detailing of the shear reinforcement, mistakes in design calculations, poor construction practices and reduction of the shear reinforcement steel area due to corrosion in service environment etc. The shear strength of reinforced concrete beam can be affected by concrete properties, beam size, beam shape and reinforcement details. Nowadays, strengthening of reinforced concrete beam by using steel plates, fiber reinforced polymer (FRP), ferrocement is a common task for concrete structures maintenance. Strengthening using materials can be done by two techniques, namely external bonding (EB) and near surface mounting (NSM). The external bonding technique involves adding strengthening material to the external surface of concrete using adhesives whereas NSM technique involves fixing of strengthening material in the pre-cut grooves using adhesives. In both techniques, two component epoxy materials are generally used as adhesives. Near surface mounting technique is proven to have many advantages over the external bonded method such as reduced surface preparation during installation, less chances of deboning and better protection to material due to less exposure to external conditions. External steel plating is a common strengthening and repair technique in RC beams. The ease of application, isotropic property, low prices of the materials used in the process, and limited disruption to the use of the structure are among the factors rendering external plating a relatively convenient method for improving the flexural behaviour and increasing or restoring the load carrying capacities of RC beams compared with other strengthening or repair methods, including the addition of a new concrete layer and reinforcement to a concrete beam.

Need of study

Structures may be required to improve the structural behaviour and repair of damaged structures to restore structural performance for economical reasons. Steel plates are one of the most common materials for strengthening of reinforced concrete beams; it is very effective for increasing the flexural and shear capacity of reinforced concrete beam. From various studies it was understood that web bonded steel plates affects the crack patterns of the beams significantly and the position of web bonded steel plates significantly influences the

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

FIDIC contract: Application in Construction Claims

Prachi Bari [1], Vandana Bhatt [2], Dr. Priyadarshi Sawant[3]

[1]Department of Civil, Viva institute of technology
Email: prachibari007.pb @gmail.com
[2]Adjured Professor, IIT Bombay University,
Email: pspe@technolegal.org
[3]Department of Civil, Sardar Patel College of Engineering
Email: phsawant @hotmail.com

Abstract**—***Man has been having commercial freedom of entering into contract, ever since the beginning of Barter system. It was exchange of goods and/or services by people for their convenience. Over a period, it became necessary that the habitat had to grow and require many more persons to be engaged for construction activities. This required a system which was commercially viable for exchange of promises. This resulted into evolving a draft contract as document of legal enforceability.*

Different groups proposed different drafts and therefore various types of disputes arose with respect to legal interpretation of different clauses. Different countries and different organizations came out with different drafts of contracts. This exercise got regionalized and therefore it did not have international commercialization of contracts. Over a period, many countries thought to have a standard form of contract and this required for an internationally acceptable draft for contracting business.

Keywords**— . Contracts, FIDIC, Legal Aspects,Claims.**

I. INTRODUCTION

Man has been having commercial freedom of entering into contract, ever since the beginning of Barter system. It was exchange of goods and/or services by people for their convenience. Over a period, it became necessary that the habitat had to grow and require many more persons to be engaged for construction activities. This led to a system of contracting between a group desiring to have a constructed object and skilled and unskilled workers used to offer their services. Slowly but surely, it grew into a system when the project owners used to invite tenders and require the competitors to bid for the job.

Beginning with oral contracts, the system of contracts developed to written contracts. These contracts used to have different terms and conditions governing the obligations for the parties.

Over last few hundred years; variety of contracts came to be used as model for contracting for engineering works. Different countries and different organizations came out with different drafts of contracts. This exercise got regionalized and therefore it did not have international commercialization of contracts. Over a period, many countries thought to have a standard form of contract and this required for an internationally acceptable draft for contracting business. The FIDIC contract is a system of such internationally acceptable drafts of contract.

The acronym FIDIC stands for Federation Internationale des Ingenieurs-Conseil. These are books with different types of contract drafts built into them. Over a period it has grown into what is known as 'rainbow of FIDIC' with different colors of books used for different purposes. The original edition was a Red Book, published in 1957. Over last few years, FIDIC has published many versions of new contracts, the first amongst them was Orange Book for design build contracts in 1995. In 1999, FIDIC published some more contracts, a Green Book as a short form of contract and a Silver Book for Turnkey contracts. In 2007, it published the Gold Book for design, build and operate contracts. The FIDIC forms can be used for a

VIRAR (EAST)

Comparative Study on Various Methods of Risk Analysis

Arathy H Menon

Department of Civil Engineering, VIVA Institute of Technology
Email: arathy18k@gmail.com

Abstract— *This paper aims to contribute a study on various methods of risk analysis. Compared to any other industries, construction projects have distinctive features and face more risks. Risk is defined as the measurement of consequences of uncertain events, situation or condition which may occur in construction field. Project risk management is the art and science of managing risks and is carried out in five major stages as plan risk management, classification of risks, identification of risks, analysis or assessment of risks, and risk responses or risk mitigations. In this paper the different methods of assessment were explained, and a comparative study of those methods were carried out.*

Keywords— Risk, Risk Analysis, Risk Management, Probability of occurrence, Impact

I. Introduction

In the early days, the construction projects were much more stable and have short duration compared to the current scenario where the infrastructure projects having project life spread over many years. The stability of modern construction projects constantly subjected to certain sensitive and volatile, external and internal environments. The unique features of construction industry are the reason for which they are usually considered as high-risk business. The construction projects may face, the lack of adequate environmental information and many other data, experience etc. Similar construction projects may have entirely different risk factors in different region.

II. Risk Management

Risk Management may be described as a systematic way of looking at area of risk and consciously determining how each should be treated. Compared with many other industries, the construction industry is subjected to more risk due to the unique features of construction activities, such as long period, complicated processes, abominable environment, financial industry and dynamic organizational structure [4]. In most major projects, there is some critical element, the lateness of which would results in costs to the owner that were far in excess of the value of the projects. [7] In construction projects, the reasons of occurring risks may be internal and external. Internal risks are mainly the uncertainties exists in the project itself and external risks are due to the environmental impacts. Risk is a measure of probability and consequence of not achieving a defined project goal. [2] Favorable risk events are opportunities and unfavorable are the threats. A threat is something which has an adverse effect on the activities of an organization. [8] An effective risk management method may help to find out and assess the risks which can be occur during the construction period and help to manage them during the stages of construction.

A construction project become successful when it is completed on scheduled time, within budget and in accordance with the specifications. Risk engineering is a term associated with the use of the approach outlined here for identifying and measuring risk to the extent that it is useful to do so and developing the insight to change associated risks through effective and efficient decisions. [6] A systematic approach to risk management has five stages which are as follows:

1. Plan Risk Management
2. Risk Classification
3. Risk Identification
4. Risk Analysis and assessment
5. Risk Response

Risk Management can be defined by the principle steps as a continuously monitored integrated formal process for defining objectives, identifying sources of uncertainties analyzing these uncertainties and formulating managerial responses, to produce an acceptable balance between risk and opportunities. [3]

2.1. Plan Risk Management:

Plan of risk management or risk planning is defined as the process of developing and documenting an organized, comprehensive and interactive strategy. Risk planning includes the methods for identifying and analyzing risks, developing

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar A- 200 VIRAR (EAST)

Cloud MapReduce

Monali Pimpale[1]
[1]Computer Engineering Department, VIVA Institute of Technology, Mumbai
Email: monalipimpale@viva-technology.org

Abstract— *Now a days Cloud computing has a great attention due to its provision of configurable computing resources. MapReduce is a framework for data-intensive distributed computing of batch jobs. MapReduce suffers from some drawbacks. We describe Cloud MapReduce to overcome the limitations of MapReduce. A cloud OS is responsible for managing the low level cloud resources and presenting a high level interface to the application programmers in order to hide the infrastructure details like a traditional Operating System. However, unlike a traditional Operating system, a cloud Operating system has to manage these resources at higher scale. Cloud OS has already taken on the complexity to make its services scalable, we describes Cloud MapReduce (CMR), which implements the MapReduce programming model on top of the cloud OS. CMR is a demonstration that it is possible to overcome the cloud limitations and simplify system design by building on top of a cloud OS.*

Keywords— Cloud Computing, Cloud Map Reduce, MapReduce, Operating System

I. INTRODUCTION

Like a server Operating System, a cloud Operating System is intended for managing resources. In a server (e.g., a Personal Computer), the OS is responsible for managing the various hardware resources, such as CPU, memory, disks, network interfaces – everything inside a server. It hides the hardware operation details and allows these scarce or insufficient resources to be shared efficiently. A cloud OS is used for the same reason.

A cloud OS is responsible for managing the cloud infrastructure, hiding the cloud infrastructure details from the application programmers and coordinating the sharing of the limited resources instead of managing a single machine's resources. A cloud OS is much more complex, because it has to manage a much bigger infrastructure including that it has to serve many more customers. Today, very few of companies, such as Microsoft, Google, Amazon and Yahoo, need and are capable of building a cloud. For example, it is reported that Google has well over 1 million servers, and it serves millions of customers. Managing such big an infrastructure and supporting so many users require the Operating System to be extremely robust and scalable.

1.1 Cloud OS

A cloud OS is similar to a traditional server OS in terms of the services it provides, even though the underlying resources it manages are different.

i. It provides computer services, such as Amazon EC2 and Windows Azure workers. They provide computing power in the form of Virtual Machines instead of threads.

ii. It provides storage services, such as Amazon S3 and Windows Azure blob storage.

iii. A cloud OS provides communication services, such as Amazon's Simple Queue Service and Windows Azure queue service, which are similar to a pipe on a UNIX OS, in case of pipeline system a user push in messages at one end and pop out messages at the other end.

iv. A cloud OS also provides persistent storage services, such as Amazon's SimpleDB and Windows Azure table services. They provide persistent storage similar to the registry service in a Windows OS.

A key difference between server OS and cloud OS is that it is scalable. There are two reasons for cloud os being scalable. First reason is, a cloud OS has to manage a much bigger infrastructure. Secondly, a cloud has to support hundreds of

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A Survey on Lung Cancer Detection Techniques

Rohit Bhalerao[1], Harsh Jani[2], Rachana Gaitonde[3], Vinit Raut[4]
[1]Department of Computer Engineering, Mumbai University, MUMBAI
Email: rohitbhalerao1997@gmail.com
[2]Department of Computer Engineering, Mumbai University, MUMBAI
Email: harsh.jani97@gmail.com
[3]Department of Computer Engineering, Mumbai University, MUMBAI
Email: rachana.gaitonde16@gmail.com
[4]Department of Computer Engineering, Mumbai University, MUMBAI
Email: vinitraut@viva-technology.org

Abstract— *The proposed solution uses Image Processing and Deep Learning. Biomedical Image Processing is the latest emerging tool in medical research used for the early detection of cancers. Biomedical image processing techniques can be used in the medical field to diagnose diseases at an early stage. Basically in biomedical Image Processing four steps are involved: Pre-processing, segmentation, feature extraction and classification. Computed Tomography (CT Scans) of lungs of the patients from Lung Image Database Consortium (LIDC) is used as input data for image processing. In pre-processing stage conversion of RGB image to gray-scale image takes place because RGB images are too complex to process. Gray-scale image is further converted to Binary image. In segmentation stage the image is partitioned into segments by watershed segmentation technique. Segmentation stage helps to convert image into a form that is ideal for feature extraction and gives the Region of Interest. After Image Processing, the input images become more efficient and refined. These are input for the Convolution Neural Network. Convolution Filtering, Max Pooling filtering are steps in CNN which train the data to predict whether lung image is cancerous (malignant) or non-cancerous (benign). The proposed system will also take into account the processing power and time delay of the cancer detection process for efficiency.*

Keywords: CNN, Deep Learning, LIDC, Image processing, CT scan, Watershed Segmentation.

I. INTRODUCTION

Image Processing is a technique to transform an image into digital form and perform some operations on it, in order to get a more enhanced image and to extract some useful information from it. It includes acquiring input images, noise removal, enhancement and segmentation. In Image Processing, the RGB images will be converted to grayscale and binary. Images will be enhanced and noise will be removed using filters. Blurred effect will be eliminated if any. This improves the quality of input image [13]. The unwanted part of image is cropped using segmentation to obtain the ROI. The Image Processing Toolbox in MATLAB is used to perform the Image Processing stages. Many different algorithms are possible for each stage in image processing [14].

Deep Learning is used for the classification of CT Scan Images as cancerous/non-cancerous. The process of feature extraction in Convolution Neural Networks is such that features are defined and computed by the algorithm itself. During the training stage, input and an output are provided. Based on the given data, the algorithm analyses the features/patterns and for a training data, forms a set of parameters and feature extraction [15]. Based on the computations, the new data can be tested for prediction of a correct output. Convolution Neural Networks consist of an input and an output layer, and multiple hidden layers. The input layers accept inputs and the number of output layers define the number of outputs in the result. Convolution layers are used to define features and parameters. Pooling layers bring together the computations with similar computations. The convolution filter will form a spatially dense output by assigning a common value to a set of matrix pixels. These values decide the output for that image.

II. REVIEW

Computer aided detection/classification systems are gaining popularity in many applications, particularly in the biomedical field. Classification of diseases, infected or uninfected specimen, predictions in cardiology or forecasting in anesthesia, all need artificial intelligence, machine learning and deep learning [16]. CT Scan images provide the best functionality in image classification in cancer detection. Neural networks and SVM machine learning approach show good results. Deep learning CNN is the latest development in artificial intelligence, and is more powerful than machine learning or neural networks. CNN, on proper training models, will provide better results than SVM or ANN for same input data.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

New Approach for Computing Trustworthy Reputation in E-commerce Environment

Prof. Akshata Raut[1]

[1]Department of Computer Engineering, VIVA Institute of Technology, Mumbai
Email: akshataraut@viva-technology.org

Abstract— *E-commerce business has been a prevalent and developing industry. In e-commerce, a vender's reputation is a major worry for purchasers before putting in a request and making a payment. Purchasers regularly returned to a site where they have had a recommendatory experience. Along these lines, the goal of this research work is to design an architecture based on an intelligent layer that proposes to each user, i.e., feedback provider who has effectively given his/her suggestion, an accumulation of pre-assembled criticisms outlining other client's literary criticisms to calculate trust degree/score of a client, feedback's dependability, and create worldwide reputation score of a product.*

Keywords— Feedback, Knowledge Discovery, Rating, Text mining, Trust reputation System.

I. INTRODUCTION

Trust is a crucial viewpoint in any transaction whether it is done personally or utilizing accessible present day web facilities. In conventional practice, a purchaser can regularly observe both a dealer and a product. Having checked a product's quality, a purchaser consults with a dealer. It is workable for both the gatherings to evaluate the reliability of one another and for the purchaser to be persuaded about the decency of a product. Be that as it may, in present day online business setting, there are not really any buyer– dealer cooperation and straightforwardness. A purchaser frequently favours understood brands however is hesitant to trust on recently arrived or recently presented locales that offer more advantages. There are various issues related with this perspective specifically from the idea of an item being offered to security game plan by a section in regards to a trade being performed and fragile information being exchanged. Albeit numerous innovations, for example, cryptography, electronic signatures, and certificates, help a purchaser to make exchanges progressively secure, they stay incomplete to develop a supportive and trustful reputation about a product or service. Therefore, clients are not ready to consider a reputation for a product without any additional help.

In such conditions, a feedback evaluation framework can help purchasers to assess the reliability of a product or service being offered to support dependability among a gathering of members as indicated by exchange factors and to their noteworthy way in web transaction. Actually, web based business clients like to concentrate on clients' feelings about a product to consider their own trust and notoriety experience. Consequently, feedbacks, scores, and some other data given by clients are essential and should be honest and trustful on the grounds that numerous other internet business exchanges will be based on them. Ordinal evaluations are enlightened contrastingly by various clients. A portion of the client's evaluating is higher while others rating is lower; along these lines, consequently, remarks can give increasingly dependable data. A measure to speak to precisely the reputation of a dealer is imply to as trust. Trust signifies numerous perspectives to speak to various components of a transaction, for example, comments can provide more reliable information. A system derives trust dimensions from textual feedback comments.

A proposal framework helps clients or end clients in recommending relevant product out of an expansive number of information by breaking down clients' behaviour. For developing a Trust Reputation System (TRS), experienced individuals with fascinating information on focused products/services will be considered. The proposed reputation system framework will help clients to utilize security, dependability score, and criticisms related to any product. In reality, the framework comprises of a basic method that means to identify malicious interventions of clients whose aim is to misrepresent scores related with an item either decidedly or contrarily, to misinform online purchasers, or to defame the reputation of a specific product or service.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A Survey on Sentiment Analysis with the help of Sarcasm

Akash Gupta[1], Arjun Chauhan[2], Brijeshkumar Jaiswal[3], Prof. Janhavi Sangoi[4]
[1]Department of Computer Engineering, Mumbai University, India
Email: akashgupta0087@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : chauhan.arjun015@gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email : brijeshkumarjaiswal61@gmail.com
[4]Department of Computer Engineering, Mumbai University, India
Email : janhavisangoi@viva-technology.org

***Abstract*—** *various social networking sites has become an emerging platform to express the opinion on various issues. Every day thousands and lakhs of people express their views on twitter on various things. This huge publicly available data can be used for research and a variety of applications by using sentiment analysis. Since, twitter has a limitation of 140 characters per tweet, people are using short forms and the use of slang has also been increased. Moreover, the presence of sarcasm makes the task even more challenging. Sarcasm is a way when a person conveys implicit information, usually the opposite of what is said, within the message he transmits. This paper reviews and compares various algorithms, Naïve Bayes, Decision Tree, Random Forest, Logistic Regression and SVM.*

Keywords---Sentiment Analysis, Sarcasm, Machine Learning.

I. INTRODUCTION

In the recent years with the rapid development of the internet, more and more people are inclined to move towards the internet to express their views. Opinion mining is used to know what people think and feel about various products and services in social media platforms. Millions of users share opinion on different aspects of life every day. Due to this growth, media organizations and companies are increasingly seeking way to mine information. User expressions and their impact on organizations are two important characteristics.

Nowadays, thousands and lakhs of people post their reviews and opinions on social media. This huge publicly available data can be used for research and a variety of applications [1]. This can be possible with the help of sentiment analysis, because of which big companies can use that data and figure out whether the people like their product or not, similarly the producers and the film makers will also get to know how positively and how negatively people have reacted on their films, etc. So, sentiment analysis is an important field and has got its applications in various fields like business analytics, etc.

II. LITERATURE SURVEY

2.1 Sentiment Analysis for Sarcasm Detection on Streaming Short Text Data [1].

In this paper sentiment analysis is done by taking sarcasm into consideration. Here, the proposed methodology is classified into three major steps they are: 1. Data pre-processing, 2. Data preparation and 3. Sarcasm Detection.

1. In data pre-processing, i. The hashtags are identified and removed, ii. Emoji dictionary is used to map emoji's to their meaning in the dictionary, iii. Slang dictionary is used to map slangs used in the tweet to their meaning in the dictionary.

2. In data preparation, i. Word tokenization is done, ii. POS tagging is done, iii. Stemming and Lemmitation is done, IV. In feature identification: The major features considered a. Blob polarity, b. Blob subjective, c. Capitalization, d. Positive sentiment, e. Negative sentiment.

2.2 Combining Naïve Bayes and Adjective Analysis for Sentiment Detection on Twitter [2].

In the proposed approach, Naive Bayes and adjective analysis is used for the sentiment analysis of Twitter data. In first step, the data is extracted from twitter, here node-xl tool is used for data extraction from Twitter, just enter the search query in it and it will fetch the results. In second step, the data is preprocessed by removing the stop words, URLs, user references, etc. In third step, the pre-processed data is fed as an input to the Naïve Bayes classifier which classifies the tweets as positive and

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

A Distinctive System for Cricket Predictions Using Machine Learning And Data Analysis

Atharva Karnik[1], Harshal Patil[2], Rushikesh Lokhande[3], Vinit Raut[4]
[1]Department of Computer Engineering, Mumbai University, MUMBAI
Email: Karnik.atharva97@gmail.com
[2]Department of Computer Engineering, Mumbai University, MUMBAI
Email : hpatil879@gmail.com
[3]Department of Computer Engineering, Mumbai University, MUMBAI
Email : rushikeshlokhande666@gmail.com
[4]Department of Computer Engineering, Mumbai University, MUMBAI
Email : vinitraut@viva-technology.org

***Abstract*—** *This system proposes statistical modelling and machine learning approach to predict a team of XI players, individual performance of players and outcome of a cricket match. The system mainly focuses on two major methods i.e. Data Analysis and Predictions. For prediction, the proposed system will be using Three Algorithms as follows: Prediction of best possible team will be done by "K-means" clustering algorithm on the basis of overall statistics, location-wise statistics, opposition-wise statistics, year-wise statistics and the most important is recent performance with other features. This is because K-means is simple and effective, as the similar data will be stored in the group, clustering of data will become easier and effective. Prediction of individual performance of a player will be done by using "Random forest" algorithm. For predicting this, the system will be using data of predicted possible team. Prediction of winnability of a team will be done by using "Naïve Bayes" algorithm. For predicting this, the system will be using data of predicted best team and their predicted individual player's performance. Proposed system will update dataset after completion of each match, for giving better results. Proposed system will use dataset from www.cricsheet.org and www.espncricinfo.com*

Keywords: Machine Learning, Data Analysis, Clustering, Random Forest, Naïve Bayes.

I. INTRODUCTION

Machine learning is a field of computer science that uses statistical techniques to give computer systems the ability to "learn" with data, without being explicitly programmed. Machine learning is closely related to (and often overlaps with) computational statistics, which also focuses on prediction-making through the use of computers. The basic premise of machine learning is to build algorithms that can receive input data and use statistical analysis to predict an output while updating outputs as new data becomes available. It has strong ties to mathematical optimization, which delivers methods, theory and application domains to the field. Machine learning is sometimes conflated with data mining, where the latter subfield focuses more on exploratory data analysis and is known as unsupervised learning. Within the field of data analytics, machine learning is a method used to devise complex models and algorithms that lend themselves to prediction; in commercial use, this is known as predictive analytics.

Selecting the best players for a particular match in any sport involves predicting the players' performance. Players' performance varies with the team they play against and the ground on which they play the match. Player selection is particularly more important in the game of cricket as the 11 players selected at the beginning of the match are fixed unless in case of injury. Moreover, the substituted players in such cases have limited privileges. Players' performance can be predicted by analyzing their past statistics and characteristics. Cricket players' abilities and performance can be measured in terms of different stats. Batsmen's statistics include batting average, batting strike rate, number of centuries etc. Whereas bowlers' statistics are measured by bowling average, bowling strike rate, economy rate etc. Other characteristics of batsmen include, batting hand of the batsman, the position at which the batsman bats etc. and those of bowlers include, the type of bowler, bowling hand of the bowler etc. Moreover, recent performances of the batsman/bowler, the performance of the batsman/bowler against a particular team and the performance of the batsman/bowler at a given venue are also taken into account for predicting his performance in the upcoming match.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Foodmesh : An Intelligent Chatbot

Shraddha Ugale[1], Pratibha Patole[1], Juiley Raut[1], Umesh Mohite[1]
[1]Department of Computer Engineering, Mumbai University, India
Email: ugaleshraddha2@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : ankitapatole14@gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email : juiley.raut@gmail.com
[4]Department of Computer Engineering, Mumbai University, India
Email :umeshmohite@viva-technology.org

Abstract— *Chatbot is a program that interacts with the user using natural language .It is designed to be the virtual assistant, education purpose, helping one to choosing best product, entertainment purpose and also helping user to complete task ranging from asking questions. Nowadays chatbot has become more popular in business area because it reduces customer service cost and handle multiple user at a time. Many customer want to order some food or to visit hotels but might not have a particular hotel and food in mind. The proposed system provide an interactive chatbot which helps user to choose best hotel based on their choosen food category. System will make use of chatterbot and List Trainer which provides best outcome for the user defined queries.*

Keywords— Artificial Intelligence , Chatterbot, List Trainer , Machine Learning

1. INTRODUCTION

Chatbot is a trending application which has made by an Artificial Intelligence. Today's era is having many web based services like E-business, Entertainment, Virtual assistance and many more. There is drastic increase in the world of web service, where everything is now getting associated with web. It is very user friendly approach to avail everything to doorstep. There are different types of customer service available like live chat support service, phone (telephone) services. But for all such support services provided by human to human takes time to answer customers query. As the number of clients increases the waiting time increases as well, which results in poor client satisfaction [2]. Basically, there are two types of Chabot's – unintelligent ones that act using predefined conversation flows written by people and intelligent AI Chatbot's that use machine learning [10]

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves [13].

2. LITERATURE SURVEY

2.1. Android Based Educational Chatbot for visually Impaired People [2].

In this paper author proposed the educational chatbot specifically for visually impaired people. This android application provide result from predefined enteries and also from external resources which is wikipedia. This applicaion uses Media Wiki API (Application Programing Interface) to link with Wikipedia. So user can able to search any topic. It also includes AB library which is provided by the ALICE(Artificial Linguistic Internet Computer Entity).This chatbot uses voice recognition for input and speech for output. So it is easy or visually impaired people to use this application.

2.2. Real World Smart Chatbot for customer care using a software as a service (SaaS) Architecture [3].

In this paper author explained how chatbot will analyze messages of each ejabberd users to check whether it is actionable or not. If it is actionable then chatbot will have conversation with the users and help users to resolve the issue by providing human way interaction using LUIS and cognitive services. To avoid the unnecessary traffic, this services will help in such kind of applications.

This paper proposes a Robust, Scalable and Extensible architecture with technologies stack consisting of ejabberd server, AWS web services and Chatbots. In this paper, the ejabberd server will handle the chatting part, the AWS web services will analyses the messages to check whether any actionable message has come and the Chatbot will act as a customer representative to resolve the issues the customer has been facing.

2.3. Automatic Question Generation from Children's Stories for Companion Chatbot [4].

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Subjective Answer Evaluation using Data Mining and Semantics

Vishal Bhonsle[1], Priya Sapkal[2], Dipesh Mukadam[3], Prof. Vinit Raut[4]

[1]Department of Computer Engineering, Viva Institute of Technology, Virar
Email: vishal2545@gmail.com
[2]Department of Computer Engineering, Viva Institute of Technology, Virar
Email: sapkal631@gmail.com
[3]Department of Computer Engineering, Viva Institute of Technology, Virar
Email :dipeshm7u@gmail.com
[4]Department of Computer Engineering, Viva Institute of Technology, Virar
Email : vinitraut@viva-technology.org

Abstract**—***In current academic environment, assignments and home works are very necessary so that students can increase their final grades. This assignments and home works are checked manually by teachers, due to this it consumes lots of time and efforts. Due to manual checking sometimes human error may occur which may affect to student's grades. Students may misplace their hard copies of assignments because of this they have to rewrite it again. In order to overcome these problems, the proposed system will convert the manual work to digital, in which student will submit their assignments to the system and the system will generate and assign appropriate grades. In the proposed system, by using K Nearest Neighbor Algorithm, it will collect keywords check for the similarity and will generate similarity score. It will also check the relation of the keyword with respect to sentence. To comparing the keywords with synonyms and similar meaning words Semantic Similarity Measure algorithm will be used. After getting the similarity score the grades are assigned accordingly.*

Keywords—data mining, duplication, grading system, KNN, semantics, subjective evaluation.

1. INTRODUCTION

In most of the online answer assessment systems almost all of the questions are multiple choice questions which can be easily evaluated using binary matching. But in our education system most of the question and answers are not in multiple choice format rather they are long answers which cannot be easily evaluated using binary matching. These long answers are written by students so these answers are bound to be different for each student and in order to evaluate this kind of answers a subjective evaluation of the answers is needed. By subjective evaluation means that the answer written by student should be logically right as each person can write same thing in their own different way.Previous attempts to evaluate this type of answers only used keyword matching approach for checking the correctness of the answer, which in on itself is not wrong approach but it doesn't give as accurate results as we can expect from a human who is checking the answers.So in order to increase this accuracy the proposed system will incorporate a synonyms matching approach along with the previously mentioned method, which is explained in section 3 of this paper. By using the proposed system in our education system, the tremendous load of evaluating all the term-work of all the student will be reduced from teacher's side. Also it will help students in long run as they would have to go through the study material to give answers instead of just copying the whole work without going through it. And this system will help students to get a fair evaluation for their work on the quality of the efforts they put in it.

2. LITERATURE REVIEW

There are some automatic scoring systems found in literature. Thesesystemuses K- Nearest Neighboring algorithm [3] [6] for subjective scoring. To assign the scores the main process involves generation of supplied test set, split the answer text to the list of words or phrases and lastly apply KNN classifier. To check the similarity, word matching and word ordering is done if word gets matched and have the same ordering the result shows the similarity is high. As per the similarity scores are generated. W. Xueli, J. Zhiyong, Y. Dahai [10] proposed a system where K-nearest neighboring algorithm based kernel method and attribute reduction is used for characteristics simplicity and efficiency so that accurate result can obtain. By comparing the base KNN algorithm and purpose algorithm by using four UCI dataset. Then the best result is shown that stepwise KNN algorithm works better than the original KNN algorithm.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

ASL Recognition Using Smart Glove

Pravin Patil [1], Gaurav Avkirkar [2] , Dnyaneshwar Bhabad

[1]Department of Computer Engineering, Mumbai University, India
Email: mayur785jarvis@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : gauravavkirkar@gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email : dnyaneshwarbhabad@viva-technology.org

Abstract**—***The world consists dumb people communities which having the difficulties with communication. These communities have to learn sign language to communicate. The average public does not have the knowledge of Sign Language. So the dumb communities face difficulties for communicating with average public. Here we are trying to solve this problem using the smart gloves which can help with communicating average person. Smart glove is an electronic device that translates sign language into text or speech in order to make the communication feasible between the dumb communities with the normal public. It is a wireless data glove which is normal cloth driving glove fitted with flex sensors along the length of fingers. This also helps normal person to understand what dumb people is trying to say and reply accordingly. The main aim is to develop a cost effective system which can give voice to dumb communities with the help of Smart Gloves which is easy wearable for the dumb community.*

Keywords— Electronic, Flex Sensor, Sign Language, Smart Glove, Wireless.

I. INTRODUCTION

The world consists much community with the serval disability which differ them from the normal people. In that community the dumb people are also included. The mute people make up to the 72 million of the world's population. Dump person lacks the benefits that a normal person owns. A person with disability is not able to stand in the race of normal person. The reason is lack of communication between dump people and normal people. Many attempts are also made to remove the gap between this communities. This attempts are made using various ideas. One of the idea is using sign language .This dumb community uses special sign language for communication. This sign language consists the moment of hand and fingers. The hand gesture have special moments which are assign for the communication. Unfortunately, most of them normal people not understand their gestures and are unable to identify what is being said by them. Although some data gloves are available in the markets but they are used for gaming and other virtual reality applications. There is no such complete system available in the market for the translation of sign language into speech. Various techniques have been employed in the recent past years. These include visual recognition techniques using image processing which, however, come with their own limitations. Skin colour detection, though a popular strategy used in computer vision based algorithms, which is sensitive to lighting conditions. Moreover, a flexible and progressively adapting model for skin colour recognition is a challenging task. Beside, motion cues limit the gesture to a stationary background.

II. LITERATURE SURVEY

2.1. A Review Paper on Smart Glove - Converts Gestures into Speech and Text [1].

In this paper, smart glove consist of the sensors which are used to detect the hands. The very few attempts are also made in past so gesture can be recognize by using hand, which include camera , leaf switches, copper plate gloves ,and flex sensor gloves. Dumb people with hearing problem use sign language which is based on hand moment and gesture to represent the language, so they can communicate with the communities.

Smart glove is an electronic device that translates sign language into text or speech in order to make communication feasible between two different communities. The mute peoples make up to the 72 million of the world's population according to a report published by a World Federation of the Deaf.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B- 88

Classify and Recognize Non Living Objects Using Image Classification Technique

Mandar Sankhe[1], Vishal Singh[2], Shubham Shetkar[3], Prof. Umesh Mohite[4]

[1]Department of Computer Engineering, Mumbai University
Email: mandarsankhe97@gmail.com
[2]Department of Computer Engineering, Mumbai University
Email: thakurvishalsingh2722@gmail.com
[3]Department of Computer Engineering, Mumbai University
Email: shubhamshetkar8@gmail.com

Abstract**—***These days, with the evolution of social media and new smart devices, the data collection on internet has improved with high speed. The object detection, which is a major feature of image processing, has become one of the internationally popular research fields. The branch of machine learning has been influenced by deep neural networks since last few years. Convolutional neural network (CNN), which is the sub-type of neural network, is well-suited for image related functions. That network is trained for feature extraction and transfer learning. For recognition of objects from an image using CNN is a time consuming process. So, there is a need of a kind of system which can improve the performance of CNN algorithm, so that it will make a system efficient. In the proposed system, the CNN Algorithm is used in a modified way for image classification of non-living objects. We use inception v3 model for improvement in CNN algorithm to increase efficiency.*

Keywords—CNN, Deep learning, Inception v3, Non-living objects, Tensorflow, Transfer learning.

I. INTRODUCTION

Object recognition can be done using a neural system that integrates aspects of human object recognition, together with classical image processing techniques. We will first look at work that has already been done in the field of object recognition and deep learning.

In Deep Learning research, CNNs are particularly applied for Computer Vision applications that involves Image Classification and Object Recognition. Non-living Object Recognition is a combination of both Object Recognition and Image Classification, as the system must detect a object in the image as well as recognize which character it belongs to. To recognize the objects, an intelligent system must be trained with larger set of images, so that it could predict the objects from its learned patterns. This approach is termed as "Supervised Learning" which requires an external dataset of images with labels to predict the label of an unseen image. This research work uses Convolutional Neural Networks (CNN) along with Transfer Learning as the intelligent algorithm to efficiently recognize objects in real-time.

II. LITERATURE REVIEW

2.1 Thai Fast Food Image Classification Using Deep Learning[3]

The author proposed a prediction model for classifying Thai fast food images the model uses a deep learning process that was trained on natural images (Google Net dataset) and was fine-tuned to generate the predictive Thai fast food model. The system gives a good result of above 88 % using inception v3, which is a better classifier, the standard classifiers. Further research should include a mobile application for real-time classification. This research study examined the use of deep learning algorithms in order to address the problem of TFF classification. The method employed TFF images obtained via smartphone to comprise the data which would serve to provide the researchers with a clear representation of TFF classes. The TFF dataset consisted of differing dishes, backgrounds, and locations.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B- 94

Securing Files on Cloud Through Hybrid Cryptography

Kuldeep Yadav[1], Naveen Yadav[2], Rajnath Yadav[3] , Dnyaneshwar Bhabad[4]
[1]Department of Computer Engineering, Mumbai University, India
Email: ykuldeep50070@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : yadav.naveen770@gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email : y.raj778866@gmail.com
[4]Department of Computer Engineering, Mumbai University, India
Email : dnyaneshwarbhabad@viva-technology.org

Abstract**—** *Cloud computing is an important application for storage of data on the cloud. Cloud computing platform avoid the burden of local data storage and also reduce maintenance cost it also provides users to access their data whenever they want. Cloud computing is the revolution through which individual can share resources services and data among the users through the network. Since millions of users use the same network for data transfer the data becomes more vulnerable to different security attacks from the intruders. In cloud storage data is move to a remotely located cloud server on which user does not have any control. In cloud computing they are only concerned on providing the security of the data which is stored on cloud but they do not provide security to the data while it is getting transferred. Hence to overcome the drawback of existing system a model which uses hybrid encryption and decryption process based on AES and ECC algorithm can be used. Furthermore, HMAC algorithm is used to ensure the integrity and authenticity of the data. With this system user will get to know if his data is being manipulated or no. By using hybrid algorithm user will get extra security, confidentiality and integrity of data.*

***Keywords— Advance Encryption Standard, Elliptic Curve Cryptography, Hash Message Authentication Code, Public Key Cryptography*.**

I. INTRODUCTION

Cloud Computing provides sharing of resources and services via Internet. In past few years, usage of internet is increasing very rapidly which increases cost of hardware and software. So, this new technique known as cloud computing used to solve these problems by giving service when user demand over the internet and definitely it decreases the cost of hardware and software. Services offered in cloud computing have various features like high scalability, reliability, availability, flexibility and dynamic property. Cloud computing has become a familiar term and most used technology around the world. Client can retrieve data from cloud on request of user. To store data on cloud users, have to face many issues like it could get hacked while transferring or might get manipulated on cloud server. To provide the solution to these issues there are number of ways. Cryptography and steganography techniques are very popular now a day's for data security. Use of a single algorithm is not effective for high level security of data in cloud computing. Hence using hybrid cryptographic algorithms for storage and transfer of data is very useful for providing security to user's data. Using hybrid cryptographic algorithm like AES and ECC provides better security to the users. Cloud storage issues are solved using cryptography techniques. Data integrity is accomplished using SHA1 hash algorithm. Data integrity means user can check data accuracy and consistency of data.

II. LITERATURE SURVEY

2.1. Enhancing the Data Security in Cloud by Implementing Hybrid of Aes and Rsa [1].

This paper has proposed a system on Hybrid (RSA & AES) encryption algorithm to safeguard data security in Cloud. Security and data privacy being the most important factor in cloud computing. This paper mainly focuses on the following key tasks are secure upload of data, secure download of data, proper usage and sharing of public, private and secret keys which are involved for encryption and decryption. They have used key generation technique used in this paper is unique in its own way. This has helped in avoiding any chances of repeated or redundant key. The biggest advantage it provides users the keys which are generated on the basis of system time and so no intruder can even guess them so this increases the security. The main purpose behind using AES and RSA encryption algorithm is that it provides three keys i.e. public key for encryption, and private key

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Detection of Spam Mobile Application Using Sentiment Analysis

Manoj Rane, Sanyukta Patil, Ankit Dhavdekar, Janhavi Sangoi

[1]Computer Engineering Department, Mumbai University, India
Email: manojrane58@gmail.com
[2]Computer Engineering Department, Mumbai University, India
Email: patilsanyukta16@gmail.com
[3]Computer Engineering Department, Mumbai University, India
Email: adhavdekar43@gmail.com
[4]Computer Engineering Department, Mumbai University, India
Email: janhavisangoi@viva-technology.org

***Abstract*—** *Mobile application is a very popular and desired concept due to the rapid development in the mobile technology. For the mobile application users there are about more than 3 million applications available for use. However, most of the mobile users firstly prefer the high ranted apps present on the leaderboard chart for accessing it. But the system proposed here cannot guarantee the consistency for the applications that are download, since there is increasing number of mobile app ranking spams or fraud. In mobile app market ranking fraud refers to the duplicitous of actions which have an intention of bumping up the apps in the popularity list on the leader board chart. Many application developers make use of various promotional or advertisement method to be high on the leaderboard. However, as a boon instead of relying on the real marketing strategies, shady or tricky app developer resort to some fraudulent means to deliberately boost their apps and eventually manipulate the ranking on app store and earn a million bucks through this process.to stop this fraudulent act the current system uses the following steps which includes collecting the historical records for finding leading events in each evidence and second evidence exaction where all the three evidence i.e. rating, ranking and review are exacted and then aggregated through EIRQ algorithm. Then it finds whether the app is false or not. The aim of proposed system is to enhance the prevention of marketing frauds in mobile app using the evidence extraction and aggregation of all three evidence. The three evidence used are ranking based , rating based and review based. In review based the proposed system uses sentiment analysis using HARN algorithm.*

Keywords—Rating, Review, Ranking evidence, Sentiment analysis, HARN algorithm

I. INTRODUCTION

The mobile apps are growing rapidly and everyday many apps get launched as well as some of them get closed and in these apps some of them are fraud apps which can completely damage mobile phones.as apps are growing daily and many new apps are launched it is very difficult for the user to select the best app.so app store have leader board to showcase some best app according to the category. Thera are various ways of advertising apps to promote it on leader board[1]. But some there are illegal ways of bumping the app on leader board. So to restrict this kind of fraud some of necessary points are that an app can be rated only one time from user login and implement with the benefit of IP address that limits the number of user logins.

At long last, the proposed work will be analysis with App information which is to be gathered from the App Store for a long-term period called historical records. In the current work, from the gathered historical records, the main occasion and leading session of an application is distinguished. There are two primary advances for mining leading sessions. To start with, it have to find leading occasions from the App's historical positioning records. Second, it need to consolidate nearby leading occasions for building leading sessions[6]. Cautious perception demonstrates that the portable Apps are definitely not continuously at best most position in leader board. In any case, just in a few timespan called leading occasion which is diverse leading sessions implies fraud which especially happens in this leading session. At that point from the client judgmental input, three unique sorts of evidence are gathered in particular positioning based evidence, rating based evidence and based evidence. As our undertaking in view of evidences gathered from application information; the one of the generally judgment by individuals is evaluating based evidences which can be utilized to rate the application while downloading it or it can rate it in the wake of seeing its execution.

As examined above there are a few strategies with help of which the rating can get increments by doing fraud. So, the other refereed evidence based technique is review based evidence, finding to make the exact description of app whether it is good or bad app to download. In Review Based Evidences, other than evaluations, a large portion of the App stores additionally enable clients to compose some literary remarks as App surveys[4]. Along these lines, individuals may beyond any doubt think about downloading that particular application by perusing remarks determined in review section area and furthermore give their conclusion about that application. Because of the tremendous number of applications, it is difficult to look fraud for each applications; along these lines, it is vital to have an adaptable method to naturally identify fraud without utilizing any benchmark data.

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Bankruptcy Prediction: A survey on Financial distress and Solution

Mayur Bodar[1], Mihir Panchal[2], Sunny Maurya[3], Tatwadarshi Nagarhalli[4]

[1]Department of Computer Engineering, Mumbai University, India
Email: mayurbodar11@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : mihirp.panchal@ gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email: sunny.maurya0123@gmail.com
[4]Department of Computer Engineering, Mumbai University, India
Email : tatwadarshipn@viva-technology.org

Abstract— *Bankruptcy is a legitimate status of an individual or other entity that can't repay debts to loan bosses. The First biggest Financial depression occurred is due to the bankruptcy came in 1930 leading to need of bankruptcy prediction. Bankruptcy is basically a legal status of a person or any other entity that cannot repay debts to creditors. Hence the bankruptcy has a big impact on management, shareholders, employees, creditors, stakeholders, etc. Due to such impacts now the accurate prediction of bankruptcy has become a need in the financial world. This survey provides a synthetic and evaluative survey of issues in predicting bankruptcy. This paper focuses on various techniques with different parameters. In this paper we review the various algorithms like neural networks, Decision Tree, Random Forest, Logistic Regression, Bayesian Network, SVM. This paper compares these algorithms and details the efficient prediction algorithms and its uses. This study focuses on parameters like precision, error rate, performance and accuracy. This paper concludes that how these parameters can be used to predict bankruptcy accurately and efficiently*.

Keywords— Artificial Neural Network, Decision Trees, Economy, Logistic Regression, Support Vector Machine.

I. INTRODUCTION

In the recent years, the problem of corporate bankruptcy has attracted the attention of many stakeholders in the financial sectors such as business investors, market analyst, banking sectors, lawmakers and shareholders. Predicting business failure is not only important for decision making in financial institutions, but also determines the country's financial distress to some extent as wrong decision-making in financial institutions can have a catastrophic effect on national or sometimes a global scale. The current significance of bankruptcy prediction models has grown due to the recent world financial crisis. The importance of the area is due in part to the relevance for creditors and investors in evaluating the likelihood that a firm may go bankrupt. This crisis has seen an increase in the number of bankruptcies in several countries and has served to demonstrate that even the best international companies have to be continuously vigilant concerning their financial situation and the position of the companies they work.

II. LITERATURE REVIEW

In following paper, different techniques used for Bankruptcy Prediction are specified. Prediction of an enterprise bankruptcy is of great importance in economic decision making. A business condition of either small or large firm concerns local community, industry participants and investors, but also influences policy makers and global economy. Therefore, the high social and economic costs because of corporate bankruptcies have attracted attention of researchers for better understanding of bankruptcy causes and eventually prediction of business distress. The quantity of research in this area is also a function of the availability of data: for public firms which went bankrupt or did not, numerous accounting ratios that might indicate danger can be calculated, and numerous other potential explanatory variables are also available.

2.1. Bankruptcy Prediction Using Neural Networks [1]

In this paper G. Pranav and K. Govinda [1] have proposed to predict bankruptcy using Artificial Neural Network (ANN). It is mathematical model that is inspired by the information processing capabilities of our brain. The specialty of this model is that it is able to take into account the past experiences and hence make more accurate decision over a period of time.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Review of Image Compression Techniques using Vector Quantization

Vinit Raut[1], Pallavi Raut[2], Sunita Naik[3], Tatwadarshi Nagarhalli[4]

[1]Department of Computer Engineering, Viva Institute of Technology, Shirgaon, Virar
vinit.raut87{at}gmail.com
[2]Department of Electronics & Telecommunication Engg., SJCEM, Palghar
pallavisave27{at}gmail.com
[3]Department of Computer Engineering, Viva Institute of Technology, Shirgaon, Virar
sunitanaik{at}viva-technology.org
[4]Department of Computer Engineering, Viva Institute of Technology, Shirgaon, Virar
tatwadarshipn{at}gmail.com

Abstract**—***This paper presents the review of various algorithms based on vector quantization for image compression. Implementation of Vector quantization for Image compression is divided into three parts i.e. Encoding process, Codebook design, Decoding process. Codebook generation in vector quantization is an important step so that the distortion between the original image and the reconstructed image is minimum. Many efficient algorithms have been developed to reduce the computations and for fast search. This paper discusses various algorithms for the generation of codebook and algorithms for fast search.*

Keywords— CNN, DCT, Fast search, LBG, VQ

I. INTRODUCTION

Vector quantization (VQ) is an effective method of data compression. The objective of image compression is to reduce redundant data of the image in order to store or transmit data efficiently. Image compression can be categorized as lossy or lossless. Vector Quantization (VQ) is a simple and efficient approach for data compression. Vector quantization is often used to achieve high compression ratios. Lossy compression techniques are based on quantization. Quantization is irreversible process. Scalar quantization and Vector quantization are the important Lossy compression techniques. Quantizing each pixel separately is called scalar quantization. Vector quantization ia an approach for quantizing group of pixels together.

Vector quantization is the process of dividing an image into vectors or blocks and each vector is mapped to the codeword's of a codebook to find its reconstructed vector. Each of these vectors is then approximated and replaced by the index of one of the elements of the codebook. Codebook generation, encoding procedure and decoding procedure are the major procedures in Vector Quantization. The goal of the codebook design procedure is to design the desired codebook that is to be used in the image encoding/decoding procedures.

In VQ an original image of size N X N is divided into blocks of size n x n. Therefore total numbers of blocks are n_b = (N/n) X (N/n). n_b is known as input vectors as X=(X_1, X_2 , ...X_{nb}) , C= (C_1, C_2,……Cn_c) is known as codebook in which n_C indicates the total number of codevectors. Vector quantization is the process of mapping each input vector to the one of the codevector from the codebook. Mapping is based upon the minimum distance criterion i.e by finding out Euclidian distance. The closest codeword [1] in the codebook for each image vector is to be determined. The compressed codes of VQ are the indices of the closest codewords in the codebook for all the image blocks.

One of the main issues of VQ encoding is to reduce the computational complexity from searching the best matched codeword in order to reduce the search time. Many efficient algorithms have been developed to reduce the computation load.

The paper is organized as follows: Section II gives various codebook generation algorithms. Section III describes various search algorithms and section IV gives the concluding remarks.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B- 126

A Survey of Routing Protocols and Network Security In Manets

Bhavika Thakur[1], Akshata Raut[2]

[1]Department of Computer Engineering, VIVA Institute of Technology, Virar (East)
Email: bhavikapthaur@gmail.com
[2]Department of Computer Engineering, VIVA college of Diploma Engineering and Technology, Virar (West)
Email: churiakshata333@gmail.com

Abstract— *Mobile Ad-Hoc networks are the collection of wireless nodes which communicate with each other without the support of centralized infrastructure. MANET is a frame less network. Nodes of these networks perform tasks as a routers which determines and preserves the routes to other nodes in the network. In such networks, nodes are capable to move and coordinate with their neighbours. The network topology is speedily change due to nodes mobility, source constraint and bandwidth restriction of wireless medias. Routing is a crucial and foremost concern for operative and consistent communication between mobile nodes in a MANET. A number of protocols have been found for efficient routing. Security has become a primary concern in order to deliver secure communication among mobile nodes in hostile surroundings. This Paper provides a summary of routing protocols for MANET by giving their features, functionality, benefits and limitations and also describes the types of security attacks.*

Keywords— MANETs, Mobility, Network Security, Routing Protocols, Wireless

I. INTRODUCTION

A Mobile Ad-hoc Network is a group of wireless mobile nodes forming a temporary network devoid of any help of predefined configuration. The node in the network works as a router that route data to and from other nodes in the network. All devices in a MANET are free to move in any direction independently, and because of this its links to other devices changes frequently. Designing a routing for MANET has been a challenging job due to dynamic topology of the network and the reason for the same is high node mobility. The various protocols have been introduced for this task. The method of selecting routes in a network to transmit data packets from one node to another node in the network is Routing.

In a MANET, topology of the network is not static due to its dynamic nature. Because of it, we do not have a fixed path for communication in the network. MANET routing protocols can be classified into three groups based on the routing policy. These are: (1) Proactive or Table-driven routing protocols, (2) Reactive or On-demand routing protocols and (3) Hybrid routing protocols. In proactive routing protocols routes to a destination are determined when a node joins the network or changes its location and are kept by periodic route updates. In reactive routing protocols routes are exposed each time when needed. Hybrid routing protocols associates the features of proactive and reactive routing protocols. MANET is defined as a self-configurable and quickly deployable wireless network. Therefore, the routing protocol must check both connectivity and security to achieve the network stability. The widely used routing protocols perform their algorithms over MANET routing protocols inappropriately, assuming all the nodes are reliable. If the routing data has been invented and the direction of the route has been improved, then the attacker or intruder would perform different types of attacks such as Black Hole Attack (BHA) [1]. There are some tasks that make the design of Mobile Ad-hoc Network routing protocols a difficult task.

II. CLASSIFICATION OF ROUTING PROTOCOLS

1. Pro-active Routing Protocols

These protocols require each node to maintain one or more tables to store, update routing information throughout the network. These protocols try to maintain effective routes to all communication mobile nodes all the time. Periodic route updates are exchanged in order to synchronize the tables [2]. Table driven protocols maintain steady and up to date routing information about each node in the network.

Some of the existing proactive/table driven routing protocols are:

- Destination Sequenced Distance Vector routing (DSDV)
- Wireless Routing Protocol (WRP)
- Cluster Gateway Switch Routing protocol (CGSR)
- Fisheye State Routing (FSR)
- The logical Hypercube-based Virtual Dynamic Backbone protocol (HVDB)

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Database Security: Optimization Approach

Akshata S. Raut[1], Bhavika P. Thakur[2]

[1]Department of Computer Engineering, VCDET, Virar, churiakshata333@gmail.com
[2]Department of Computer Engineering, VIT, Virar, bhavikapthakur@gmail.com

***Abstract*—** *Nowadays there is increasing need of data should be available online as lifestyle becomes so digitize for betterment of lifestyle. Many technology exists today which offers the data should be available online on a single click but the security of that data is also the most important factor to consider. This paper discusses about the importance of data availability as well as importance of security to that database which contains the data which is helpful for persons to analyze market trends or make predictions about future trends and how this security measures are helpful for securing database. This paper also describes about evolution that can be made possible to improve security of that data by using optimization algorithms.*

***Keywords*— Database Security, Optimization, Watermarking, Genetic Algorithm, Reversible Watermarking.**

I. INTRODUCTION

As in today's digitized world everything is available with a single click to make life easier. Availability of data needs to store that data into the structure known as database. Database contains the data which is helpful for users, which helps users to make decisions, business analysis, identify market trends, identify different research trends and therefore database are available online for free of cost. Relational data is shared by the owners with research communities and at virtual data storage locations in the Cloud. The purpose is to work in a collaborative environment and make data openly available so that it is useful for knowledge extraction and decision making [1], but as database is available online, it will be used by attackers, they can easily modify the available data and update the database which can create wrong assumptions. Now if updated database is use by legitimate users then there is a possibility that they analyze incorrect data and make incorrect predictions. This incorrect predictions can create major loss to the organization, therefore to avoid such scenario the security should be provided to that database which is openly available online. This paper discuss about the security measures provided by watermarking database and how we can improve that security measures.

II. IMPORTANCE OF DATA AVAILABILITY

As evolution takes place many organizations store their data online. As data is available online it is easy for the organizations to assign people for project from different geographical locations whose different skills are useful for project. Data will be shared easily among multiple locations with peoples at the same time which is time saving. Ease of access of data for organization helps them to make correct decision about future trends [2]. Business Intelligence makes use of online data availability. As the process become paperless it will not be tedious process for people who use it; also it will become cost effective. Online storage of data also make user not to worry about space utilization.

III. IMPORTANCE OF SECURITY TO DATABASE

Security for online data is also important factor to consider while we are discussing about features of online data availability. Data which is available online contains sensitive data such as health care data, personal communication, financial data, criminal records, personal information. If any unauthorized person gets access to these sensitive data he/she can create misuse of that sensitive data which in turn create problematic situation for person whose data is stolen or may create many financial losses to peoples. The attacker can makes data unavailable for some time of period or completely unavailable which may cause loss to the organization, therefore security of data must be consider as most important objective of database availability [3].

IV. SECURITY TECHNIQUES FOR DATABASE

While considering importance of security to database many researchers presents different techniques from which watermarking on relational database is emerging technique now a days. Watermarking on database is provided to prove

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Tal.: Vasai, Dist. Palghar VIRAR (EAST)

HCI: Its role in Distant Education Websites

Pallavi Vartak[1] Janhavi Sangoi[2]

[1]Department of Computer Engineering, Mumbai University, India
Email : pallavivartak@viva-technology.org

[2]Department of Computer Engineering, Mumbai University, India
Email : janhavisangoi@viva-technology.org

Abstract**—***Normal websites provide a major source of information, but when it comes to distance education network, the dependencies of both teachers and learners is majorly on mediators such as computer and other facilities. Thus the designing of HCI plays a major role. This paper throws light on how to model distance education websites based on three traits: manners of interaction, principles of interaction design, and process of interaction design. The final purpose of this paper is to accomplish a more symphonic relationship between human, computer and environment by means of our research.*

Keywords— Human-Computer Interaction, HCI, Distance Education, Distance Education Websites

I. INTRODUCTION

Distance education denotes to that the teacher and learner are parted in time or space, but can communicate with each other by the use of electronic resources like computer, multimedia and the internet. It is not only the unescapable results of the expansion of society, economy and education itself, but also the replication of the society's requisite about education [1]. Distance education practices prodigious study environment and communication systems, and withdraws everyone the prospect of learning knowledge through lifetime.

In contemporary years, Ministry of Education of the People's Republic of China had clearly required "achieve education resources sharing across time and space" and emphasized "the development of modern distance education is the strategic measure to run a great education under the shortage of educational resources" in many political documents. And lots of universities and colleges had established and built their own distance education websites. However, there are still some deficiencies and difficulties in the current distance education systems. For example, since most of those websites are developed just by low-level reduplication, it is grim to converse and stake resources amongst different websites or among different components in the same website [2]. Above and beyond the said points, distance education website has its exceptional features associated to conjoint websites. Unlike from the situation that people just gain information from regular websites, the teachers and learners using distance education network want much supplementary communication with each other. That means they are in more demand of collaboration with midway such as computer and other conveniences. So the investigation on human-computer interaction strategy takes much more prominence. In this paper, by considering users' behavior belongings when get into knowledge, a user model to accurately foretell user's true target is time-honored based on the theory and explanations of human-computer interaction design for distance education websites, which is associated to the concepts of graphic design, method of user investigation & research, intellectual psychology and computer science.

The paper is systematized as follows. In Section II, the concept of human-computer interaction and other interrelated hypothetical knowledge is given. Section III familiarizes the exploration and exploration on the user and establishes a user model. Section IV is the foremost contented of research which presents the special design attitudes. Finally, a supposition and standpoints to our work are given in Section V.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

 ISBN: [978-93-5321-411-1] IJOER ISSN: [2395-6992]

A Survey on Text Prediction Techniques

Deepal S. Thakur[1], Rajiv N. Tarsarya[2], Akshay A. Vaskar[3], Ashwini Save[4]

[1]Department of Computer Engineering, Mumbai University, Mumbai
Email: deepalsaee1113@gmail.com
[2]Department of Computer Engineering, Mumbai University, Mumbai
Email: rajrajiv10081997@gmail.com
[3]Department of Computer Engineering, Mumbai University, Mumbai
Email: akshayvaskar64@gmail.com
[4]Department of Computer Engineering, Mumbai University, Mumbai
Email: ashwini.viva@gmail.com

Abstract— *Writing long sentences is bit boring, but with text prediction in the keyboard technology has made this simple. Learning technology behind the keyboard is developing fast and has become more accurate. Learning technologies such as machine learning, deep learning here play an important role in predicting the text. Current trending techniques in deep learning has opened door for data analysis. Emerging technologies such has Region CNN, Recurrent CNN have been under consideration for the analysis. Many techniques have been used for text sequence prediction such as Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), and Recurrent Convolution Neural Networks (RCNN). This paper aims to provide a comparative study of different techniques used for text prediction.*

Keywords— CNN, Deep Learning, LSTM, Machine Learning, RCNN, RNN

I. INTRODUCTION

Word prediction tools were developed which can help to communicate and also to help the people with less speed typing. The research on word prediction has been performing well [5]. Word prediction technique does the task of guessing the preceding word that is likely to continue with few initial text fragments. Existing systems work on word prediction model, which suggests the next immediate word based on the current available word [4]. These systems work using machine learning algorithms which has limitation to create accurate sentence structure [6]. Developing technologies has been producing more accurate outcomes than the existing system technologies, models developed using deep learning concepts are capable of handling more data efficiently and predicts better than ML algorithms [2].

II. LITERATURE REVIEW

S. Lai, et. al. [1] have proposed the context-based information classification; RCNN is very useful. The performance is best in several datasets particularly on document level datasets. Depending on the words used in the sentences, weights are assigned to it and are pooled into minimum, average and the max pools. Here, max pooling is applied to extract the keywords from the sentences which are most important. RNN, CNN and RCNN when compared with other traditional methods such as LDA, Tree Kernel and logistic regression generates high accurate results. Applying RCNN, the proposed system captures contextual information as far as possible when learning word representations. Employing a max-pooling layer automatically judges which words play key roles in text classification to capture the key components in texts.

A. Hassa, et. al. [9] have proposed RNN for the structure sentence representation. This tree like structure captures the semantic of the sentences. The text is analyzed word by word by using RNN then the semantic of all the previous texts are preserved in a fixed size hidden layer. The RNN architecture is divided into four parts: Word Embedding: First convert each word into the word vector. Then build vector x by concatenating all word vectors. After the embedding layer, the input sequence of one-hot vectors becomes a sequence of dense, real valued vectors. Pre – trained word vector: Word2vec is used for pre-training process. Word2vec is a tool that is trained on 100 billion words from google news. Recurrent Neural Network: RNN connects hidden layers to itself, this allows to formulate types of short term memory, as information from the

Tal.: Vasai, Dist. Palghar VIRAR (EAST)

The Contour printer is the first desktop phone-skin printer

Prof. Umesh R Mohite
[1]Department of COMPUTER ENGINEERING, VIVA Institute of Technology
Email: umeshmohite@viva-technology.org

Abstract—*The latest in desktop printing 3M vinyl materials securely applied directly to the superficial of small to standard devices. All in just a matter of minutes. Through the meticulous tracking and re-use of current technologies, we have worked to create an artifact which can bunch a durable, yet safely removable skin, made from 3M materials.*
Proudly, we are able to recreate our whole set of textures and presences such as timber, light, carbon fiber, and more. We have perfected what we saw as the task. That being, getting the print head to apply an even coat of specially treated 3M material in a reasonable amount of time across uneven surfaces. Hence was born; Contour.

Keywords— 3D printing, Additive manufacturing, Innovation, Surgery, Review, Patient specific Customized, Anatomic model

.

I. INTRODUCTION

There are many reasons why you might want to protect your smartphone from physical damage. For starters, these things are *expensive*: even though relatively basic mobile phones cost hundreds of dollars a decade ago, these newer, fancier models are almost like computers—and their price tag reflects that. Moreover, smartphones these days are all about their giant screens. This is great for watching Snapchat videos on the go, but for durability? One little accident and your phone (and dreams) could be shattered.

The increasing fragility of luxurious smartphones therefore remains a constant worry for the consumer, but it has at least ensured that smartphone cases and skins continue to be a popular product. Cases are, after all, a lot cheaper than insurance.

But more importantly, having a protective case on your smartphone is no longer the nerdy taboo it once was. With so much at stake when you carry an iPhone around in your pocket, it's simply common sense to have the thing wrapped up in cotton wool—or silicone, I suppose. Kansas Company Slickwraps has been capitalizing on the interest in protective consumer electronics cases for several years, producing a multitude of designs to suit individual products as well as individual tastes.

Its latest product, however, takes customization to a whole new level…or at least it would, if it were real. The company recently unveiled Contour, a 3D printer whose sole purpose is to 3D print customized, durable vinyl skins directly onto "iPhones, Androids and other mobile electronic devices."

It sounds casual, but there's a pretty big caveat here: the product was "launched" on March 31, right on the brink of… yep.

Here's the thing: for an April fool's joke, it hasn't exactly panned out in the usual way. For single, Slickwraps is yet to personal up that the 3D printer is truly fake—they even created a whole website and marketing campaign for it, which hasn't been taken down or modified at all in the weeks since April 1. It's also not the most outrageous idea for a product, either: sure, calibrating a printer to hit the exact edge of a smartphone would be difficult, but surely someone could do it…

"Through the meticulous sourcing and re-use of existing technologies, we have worked with Mongolian engineer Edward Nara to create a product which can spray a durable yet safely removable skin made from 3M materials," Slickwraps says. "Proudly, we are able to recreate our entire catalog of textures and appearances such as wood, glow, carbon fiber, and more."

B-241
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

An Analysis of Various Deep Learning Algorithms for Image Processing.

Geeta Lagad[1], Ankit Maurya[2], Kunal Mestry[3], Dnyaneshwar Bhabad[4]
[1]Department of Computer Engineering, Mumbai University, MUMBAI
Email: geetalagad41@gmail.com
[2]Department of Computer Engineering, Mumbai University, MUMBAI
Email: mauryaankit157@gmial.com
[3]Department of Computer Engineering, Mumbai University, MUMBAI
Email: kmestry17@gmail.com
[4]Department of Computer Engineering, Mumbai University, MUMBAI
Email: dnyaneshwarbhabad2020@gmail.com

Abstract— *Various applications of image processing has given it a wider scope when it comes to data analysis. Various Machine Learning Algorithms provide a powerful environment for training modules effectively to identify various entities of images and segment the same accordingly. Rather one can observe that though the image classifiers like the Support Vector Machines (SVM) or Random Forest Algorithms do justice to the task, deep learning algorithms like the Artificial Neural Networks (ANN) and its subordinates, the very well-known and extremely powerful Algorithm Convolution Neural Networks (CNN) can provide a new dimension to the image processing domain. It has way higher accuracy and computational power for classifying images further and segregating their various entities as individual components of the image working region. Major focus will be on the Region Convolution Neural Networks (R-CNN) algorithm and how well it provides the pixel-level segmentation further using its better successors like the Fast-Faster and Mask R-CNN versions.*

Keywords: Image processing, data analysis, machine learning, support vector machine, random forest algorithms, deep learning, artificial neural networks, convolution neural networks, region convolution neural networks.

I. INTRODUCTION

This model itself will make use preconfigured weight matrices to identify the traffic-density in the scene and thus differentiate it precisely. It will consider the different features of the images provided as input data in a convolution. [4] The model itself will be capable of analyzing and identifying any kind of traffic scene as it works on the Region Convolutional Neural Networks (R-CNN). [2] As the features aren't predetermined as probabilistic data to the system, it should be able to work with any random traffic scene which is the overall motto behind using deep learning algorithms.

II. LITERATURE REVIEW

Neural Network techniques have been used over the years and hence there are many systems implemented in this field. The chapter contains literature survey of some papers which are related to the proposed system. Furthermore, the chapter contains an analysis table for all the papers discussed in literature survey.

Following are some papers related to the proposed system

1. A Khan, et. al. [1] have proposed a system is developed to control and monitor the congestion of traffic. The main motivation is to detect the presence and absence of vehicles on the road using statistical approach integrated with conventional image processing techniques. For this purpose, they have develop a "Probability Based Vehicle Detection (PBVD)" algorithm based Vehicle Detection System (VDS) integrated with post - processing subsystems to form a complete traffic control system. The system has the capability to obtain vehicle statistics during controlling traffic. Simulations are performed by developing complete prototype traffic architecture. Comparison is done using the result acquired from prototype system and processing a real time video of traffic scene. Simulation results show the effectiveness of the proposed scheme.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
B-244

Survey on An Innovative Approach for Cardiovascular Heart Disease Prediction Using Machine Learning

Sankita Hate[1], Tejal Patil[2], Praneeta Pitale[3], Tatwadarshi Nagarhalli[2]
[1]Department of Computer Engineering, Mumbai University, India
Email: sankitahate@gmail.com
[2]Department of Computer Engineering, Mumbai University, India
Email : tejalkpatil15@gmail.com
[3]Department of Computer Engineering, Mumbai University, India
Email : praneeta.pitale97@gmail.com

Abstract— *Artificial Intelligence (AI) is an area of computer science that emphasizes the creation of intelligent machine that work and react like human. Predicting the chances of heart attack according to person's symptoms using Gradient boosting and C4.5 algorithm, Neural network, support vector machine, Random forest, Naïve Bayes. Disease diagnosis is the process to find the disease with specified details of a person's symptoms .The healthcare industry collects a huge amount of data which is not properly mined and not put to the optimum use. Our research focuses on this aspect of Medical diagnosis by learning pattern through the collected data of diabetes, hepatitis and heart diseases and to develop intelligent medical decision support systems to help the physicians. The purpose of this paper is to develop a cost effective treatment using data mining technologies for facilitating data base decision support system. In this paper using varied data mining technologies an attempt is made to assist in the diagnosis of the disease in question. Decision tree is one of many data mining analytical tools that can be utilized to make predictions for medical data. From the study it is observed that Gradient boosting Algorithm improves the accuracy of the heart disease prediction system.*

Keywords— Artificial Intelligence, Data Mining, Gradient boosting and C4.5 algorithm

I. INTRODUCTION

Machine learning is building model to quickly analyze data and deliver results both historical and real –time data. With machine learning, healthcare service provider can make better decisions on patient's diagnosis and treatment options, which leads to the overall improvement of healthcare services. The Healthcare industry generally clinical diagnosis is done mostly by doctor's expertise and experience. Computer Aided Decision Support System plays a major role in medical field. With the growing research on heart disease predicting system, it has become important to categories the research outcomes and provides readers with an overview of the existing heart disease prediction techniques in each category.

Diagnosis is intricate process that should be precisely and intensively executed. Decision tree is one of many data mining analytical tools that can be utilized to make predictions for medical data. From the study it is observed that Gradient boosting Algorithm improves the accuracy of the heart disease prediction system. Disease diagnosis is the process to find the disease with specified details of a person's symptoms. Diagnosing the Disease is time consuming due to the need to analysis relevant microorganisms. Due to large growth in world's population, Classification model receives a great deal in any domain of research and also a consistent tool for medical disease diagnosis.

II. LITERATURE SURVEY

2.1 A Fast Correlation Filter Based Gradient Boosting Classifier For Disease Diagnosis [1].

The main objective of the FCF-GBC technique is effectively performs disease diagnosis with two processing steps. FCF uses symmetrical uncertainty to calculate the dependences of attributes and discovers the relevant attributes. After that, A Gradient Boosting Classifier is used for classifying and predicting the heart and stroke disease from the extracted attributes. This helps to improve the classification accuracy with minimum time. Gradient boosting is a machine learning technique used for classification as well as prediction approach. The structure of the gradient boosting is the ensemble of weak prediction, generally using as decision trees. The GBC is iteratively learning an ensemble of weak classifier and combining them into a final strong classifier to provide the final results for disease diagnosing.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

A Comprehensive Review of Conversational Agent and its Prediction Algorithm

Aditya M. Pujari[1], Rahul M. Dalvi[2], Kaustubh S. Gawde[3], Tatwadarshi P. Nagarhalli[4]

[1]Computer Engineering Department, VIVA Institute of Technology, India
Email: adityapujari9695@gmail.com
[2] Computer Engineering Department, VIVA Institute of Technology, India
Email: d.rahul224@gmail.com
[3]Computer Engineering Department, VIVA Institute of Technology, India
Email: kaustubhgawde7@gmail.com
[4]Computer Engineering Department, VIVA Institute of Technology, India
Email: tatwadarshipn@gmail.com

***Abstract*—** *There is an exponential increase in the use of conversational bots. Conversational bots can be described as a platform that can chat with people using artificial intelligence. The recent advancement has made A.I capable of learning from data and produce an output. This learning of data can be performed by using various machine learning algorithm. Machine learning techniques involves construction of algorithms that can learn for data and can predict the outcome. This paper reviews the efficiency of different machine learning algorithm that are used in conversational bot.*

Keywords*— *Chatbot, K-means, Linear Regression, Machine learning, Random Forest.

I. INTRODUCTION

Artificial Intelligence is also known machine intelligence, is intelligence demonstrated by different machine [14]. Artificial Intelligence is defined as the research of intelligent agents, a device that can learn information from environment and performs action that maximize the chances of successfully achieving its goals. Modern machine capacities are generally classified as artificial appends successfully understanding human speech, competing at the highest level in strategic game, independently operating cars, and intelligent routing in content delivery networks and military simulations. Artificial intelligence research has been divided into subfields that often fail to communicate with each other. These sub-fields are constructed on technical consideration, which includes particular goals, the use of particular tools, or deep philosophical differences [14]. Artificial Intelligence often revolves around the use of algorithms. An algorithm is a set of unambiguous instructions that a mechanical computer can execute. Complex algorithm is basically built on top of other, simpler algorithms. Artificial Intelligence algorithm are capable of learning from data; they can enhance themselves by learning new heuristics, or can themselves write different algorithms. Some of algorithm used Bayesian network, decision trees and nearest-neighbor. This learning of data using different algorithm is known as machine learning.

Machine learning is an interdisciplinary field that uses statistical techniques to give computer systems the ability to learn from data, without being explicitly programmed. Machine learning explores the study and construction of algorithm that can learn for and make prediction on data-such algorithms overcome following strictly static program instructions by making data-driven and make prediction or decisions, through building a model from sample inputs [13]. Machine learning is employed in a range of computing tasks where designing and programming explicit algorithm with good performance is difficult or infeasible. Machine learning is related to computational statistics, which also emphasis on prediction-making past the use of computers. Within the field of data analytic, machine learning is a method used to devise complex models and algorithms that lend themselves to prediction; in commercial use, this is known as predictive analytics [13]. These analytical models let researchers, data scientists, engineers, and analysts to "construct reliable, repeatable decisions and results" and uncover "hidden insights" through learning from historical relationships and trends in the data.

II. CONVERSATIONAL AGENT AND ITS PREDICTION ALGORITHM

2.1 Chatbot for University Related FAQS [18]

Artificial Intelligence conversational agents are becoming popular for web services and systems like scientific, entertainment and commercial systems, and academia. But more effective human-computer interface will take place by

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon, Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Endowing Engineering Graduates: With Special Reference to Soft Skills as Vital Employability Skill

Dr. Trupti Patil[1], Dr. Prashant Pawar[2], Dr.Suma Sreedhar[3,] Dr. Vinayak Shinde[4]

[1]Assistant Professor, Department of Applied Sciences and Humanities, VIVA Institute of Technology
Email: trupti52110@gmail.com
[2]Assistant Professor, Department of Applied Sciences and Humanities, VIVA Institute of Technology
Email: pradhan0250@gmail.com
[3]Assistant Professor, Department of Applied Sciences and Humanities, A.P.Shah Institute of Technology
Email: ssreedhar@apsit.org.in
[4]Associatet Professor, Department of Computer Engineering, L.R.Tiwari College of Engineering
Email: vdshinde@gmail.com

Abstract- *An increasing demand for manpower is there in the world of IT to meet the challenges and problems of globalization. Young Engineers are the major contributors and shapers to GDP of every countries economy. Industrialists understood that the core component of success is trained and skillful engineers. Now-a-days technical competencies are not sufficient. Engineers should excel in soft skills as well. The paradoxical situation is that recruiters still continue to complain that there are no adequate numbers of skilled engineers. The companies find that today's engineers are lacking in communication and soft skills which are essential for the jobs. In this perspective, the present research paper made an attempt to probe into the problem and discusses how the amalgamation of soft skills along with hard skills safeguard engineering students in the job market and meet to the high hopes of the employers.*

Key Words- *Skills, Employability, Soft Skills, Hard Skills*

I. INTRODUCTION

1.1 Current Scenario of India and Employability

With the emergence of globalization, India as a fast developing nation witnesses tremendous growth and prospect in the sectors like business, management, finance, retail industry, insurance etc. The ensuing competition has fetched in a new standard of business. As a result of growth and development in the trade and industry, changes in the economy and with the advent of new technology, employment patterns and prospects of the industry are highly changed. After 1992, due to the Globalization and Privatization, several multinational companies have set up their services in India and many other are planning for expansion of their global operations. Thus, creates a great challenge to set up a favorable milieu for progressing economy of the country.

Tremendous employment opportunities and growing competition have amplified pressure on companies. Thus just the technical skills and certificates are of no use for candidates for high salary jobs. There has been a tremendous shift in the requirements of the corporate sector. Employers are keen on recruiting those candidates who can manage effectively not just to oneself but to others like customers, peers, subordinates, and superiors. An ideal candidate is one who will understand business vision and goals and able to use other people around him effectively. There lies a key of success as rightly said by Theodore Roosevelt that a real skill is to get along with people. The multinational companies look for the lifelong learner who will combine management skills, logical thinking and interpersonal proficiency in the domain of technology. A candidate good in technical skills need to be good enough equally in communication, ethics and etiquettes of business, presentations skills, netiquettes, managing conflicts, managing time, self- awareness and in handling customers across the world.

The need of the hour is to make the students employable and for that, they must have mastery over the soft skills as well as over the technical skills to become a hot cake in the job market. To outshine in the workplace technical or hard skills are the must but they are not solely sufficient. In the globalized world, survival of the fittest is the norm and this put an increased

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Class Ambiance and Teachers' Performance

Dr. Prashant Ramrao Pawar [1], Dr. Trupti Vikas Patil [2], Dr Suma Sreedhar [3], Dr Vinayak Shinde [4]

[1]Assistant Professor, Department Applied sciences and Humanities Viva Institute of Technology, Virar (E)
Email-id:pradhan0250@gmail.com
[2]Assistant Professor, Department Applied sciences and Humanities, Viva Institute of Technology, Virar (E)
Email Id: trupti52110@gmail.com
[3]Assistant Professor, Department Applied sciences and Humanities, A.P. Shah Institute of Technology, Thane
Email Id: ssreedhar@apsit.org.in
[4]Associate Professor, Department of Computer Engineering, L.R. Tiwari College of Engineering, Mira road (E)
Email Id: vdshinde@gmail.com

ABSTRACT-*The class ambience hits the Teachers' performance in the classroom positively as well as negatively. The class ambience also involves the social relation at the workplace, facilities and the relationship between colleagues, supervisors and the students. It includes the circumstances in which teaching and learning take place. A motivated and hardcore Teachers are the biggest strength of any educational organization. Efficiency and productivity of any educational organization rely on the level of motivational performance of the Teachers. Teachers Performance in the classroom is increased or decreased due to the class ambience. The class ambience is one of the most important factors which decides the satisfactory and motivational performance of the Teachers in the classroom. Class ambience influences on the level of innovativeness and association with the institute and ultimately performance in the classroom. Good class ambience maintains not only the performance of Teachers but also decides the growth and success of the students. The research article is trying to focus and analyze the relation between class ambience and teachers' class performance.*

KEYWORDS- ***teachers' performance, class ambience, teaching-learning process.***

I. INTRODUCTION

The class ambience is teacher's immediate set up which he manipulates for his teaching and learning process. The class ambience of a majority of the classroom is not conducive and student-oriented. In today's competitive world, teachers cannot afford to waste the potential of their own as well as their students. Therefore, the classroom requires an ambience in which the students and teachers perform their best while an effective class ambience is an environment where outcomes can be achieved as expected. The efficiency of teachers is determined by the ambience in which they teach. Class ambience includes all the characteristics which impact on the soul of a teaching and learning process.

II. CLASS AMBIANCE AND TEACHERS' PERFORMANCE

The class ambience is a very crucial and noteworthy concept including the physical, psychological and social, technical aspects that influence the teaching and learning conditions. The class ambience has both positive and negative impact on the psychology of teachers as well as the students. The class ambience can be defined as the setting in which teaching and learning process takes place of the teachers and students, by incorporating the physical cum technical class setting and fundamentals of the teaching and learning itself. Therefore, all the dimension of class ambience is collectively significant and appropriate when considered the teachers' performance and the success of the students.

The class ambience also involves the social relation at the workplace and the relationship between colleagues, superiors as well as the students. It includes the circumstances in which teaching and learning take place. A motivated and hardcore Teachers are the biggest strength of any educational organization. Efficiency and productivity of any educational organization rely on the level of motivational performance of the Teachers. Teachers Performance in the classroom is increased or decreased due to the class ambience. The class ambience is one of the most important factors which decides the

VIVA INSTITUTE OF TECHNOLOGY
Post Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A DFT STUDY OF CO GAS ADSORPTION ON METAL DOPED GRAPHENE SHEET

Deepak Dubey[1] , Dr. Sajeev Chacko[2] , Dr.Ajazul Haque[3] , Mohammad Ghadiyali[4]

[1]Research scholar, Department of Physic, University of Mumbai , Mumbai
deepakdubey977@gmail.co
[2]Assistant professor,Department of Physic,University of Mumbai,Mumbai
Sajeev.chacko@gmail.com
[3]Assistant professor,Viva Institute of Tchnology,Virar(east)
ajazul_741@rediffmail.com
[4]Research scholar ,Department of Physic, University of Mumbai, Mumbai
ghadiyali.mohd@gmail.com

Abstract**—***The interaction of Ni-doped graphene sheet with CO molecule is investigated using density functional theory simulation to analyze the reactivity of doped graphene towards CO molecule. The adsorption energy is calculated for energetically favorable adsorption of CO on doped graphene sheet. Our result indicates that the structural properties of NI-doped graphene sheet is influenced by the adsorption of CO. The electronic band structure result for CO adsorbed on the doped graphene sheet shows the significant changes in the electronic properties of Ni-doped graphene.*

Keywords—doped graphene, density functional theory, CO, adsorption energies, structural properties,, electronic properties.

I. INTRODUCTION

CO is the most pollutant gas in atmosphere .Accurate, precise adsorption and sensing for CO is always in need .Graphene as a 2-Dimensional Nanosheet is fascinating nanomaterial in nanoscience. Graphene has vast application in different branches of science and engineering because of fast response time and high sensitivity at room temperature. It can use as a Nano sensor for sensing various gases present in atmosphere. Various group of scientist around the globe studying changes in structural and electronic properties of doped graphene with interaction of different gases .Aluminum doped graphene studied by Weidong Wang and group and they found that adsorption energy of Al-doped graphene is -2.69eV .In our research we doped graphene one carbon atom by Nickel and investigated the effect on CO adsorption on Ni-doped graphene sheet. Our result indicate that after adsorption energy of CO on Ni doped graphene is much larger,-2.85eV.

II. COMPUTATIONAL METHOD

The density functional theory (DFT) calculations were performed using Quantum espresso package with the projector augmented wave (PAW) basis sets and periodic boundary conditions. The generalized gradient approximation (GGA) with the perdew-Burke-Ernzerhof(PBE) exchange-correlation functional is used, and the plane-wave cutoff energy is set as 50 Ry in all calculations. The single layer of 5X5 graphene supercell is generated using Virtual Nano lab builder. Simulated structure consists of 5x5 graphene supercell (50 C atoms) one carbon atom is doped with substitution impurity atom Nickel and one CO molecule adsorbed onto single atom doped graphene sheet. The dopant concentration in 5x5 graphene sheet is 2.The supercell extended for 10 A in order to avoid the interference between adjacent graphene layers. In the geometrical optimization and self-consistency calculation the Brillouin zone is sampled using a 5x5x1 Monkhorst-pack grid and a Gaussian smearing of 0.05 eV. Atomic positions are optimized until the maximum force on any ion is less than 0.001 eV/A. For the band structure calculation the high symmetry k-point path was selected as M-T-K-M with the help of xcrystalden. To evaluate the interaction between a CO molecule and doped graphene sheet, the adsorption energy (Ead) is calculated as given in Eq. (1).

$$E(ad) = E(tot) - E(dg) - E(CO) \quad (1)$$

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Microgrids: Challenges and Possibility in India

Anojkumar Yadav[1], Sushant Kumar[2], Mukeshkumar Mishra[3], Bhavita Patil[4]

[1]Department of EE, University of Mumbai, PALGHAR- 401305
Email: anj_ydv@rediffmail.com
[2]Department of EE, University of Mumbai, PALGHAR- 401305
Email: sushantkumar@viva-technology.org
[3]Department of EE, University of Mumbai, PALGHAR- 401305
Email: mukeshkumarmishra@viva-technology.org
[4]Department of EE, University of Mumbai, PALGHAR- 401305
Email: bhavitapatil@viva-echnology.org

Abstract— *Microgrids are now emerging from lab benches and pilot demonstration sites into commercial markets, driven by technological improvements, falling costs, a proven track record, and growing recognition of their benefits. They are being used to improve reliability and resilience of electrical grids, to manage the addition of distributed clean energy resources like wind and solar photovoltaic (PV) generation to reduce fossil fuel emissions, and to provide electricity in areas not served by centralized electrical infrastructure. This review article (1) explains what a microgrid is, and (2) provides a multi-disciplinary portrait of today's microgrid drivers, real-world applications, challenges, and future prospects. This paper provides an overview of the MicroGrid paradigm. This includes the basic architecture, control and protection and energy management.*

Keywords— microgrid, basic structure, microsource controller, real-world applications, challenges in India.

I. INTRODUCTION

The MicroGrid concept assumes a cluster of loads and micro-sources operating as a single controllable system that provides both power and heat to its local area. This concept provides a new paradigm for defining the operation of distributed generation. To the utility the Micro-Grid can be thought of as a controlled cell of the power system. For example this cell could be controlled as a single dispatchable load, which can respond in seconds to meet the needs of the transmission system. To the customer the Micro-Grid can be designed to meet their special needs; such as, enhance local reliability, reduce feeder losses, support local voltages, provide increased efficiency through use waste heat, voltage sag correction or provide uninterruptible power supply functions to name a few.

II. BASIC STRUCTURE

The microsources of special interest for MicroGrids are small (<100-kW) units with power electronic interfaces. These sources, (typically microturbines, PV panels, and fuel cells) are placed at customers sites. They are low cost, low voltage and have high reliable with few emissions. Power electronics provide the control and flexibility required by the MicroGrid concept. Correctly designed power electronics and controls insure that the MicroGrid can meet its customers as well as the utility's needs. The above characteristics can be achieved using a system architecture with three critical components:

- Local microsource controllers
- System optimizer
- Distributed protection

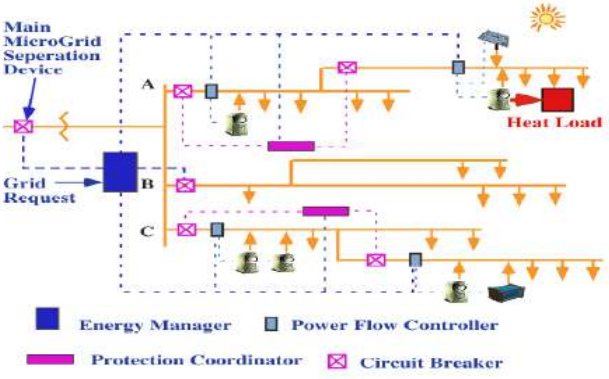


Fig. 01 Microgrid: Basic stucture

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Partial discharge in Gas Insulated Substations (GIS): Effects, Mitigation & Analysis

Sunil P. Suknale[1], Anojkumar S. Yadav[2], Prajakta E. Patil[3]

[1]Department of Electrical Engineering, University of Mumbai, Maharashtra
Email: sunilsuknale@viva-technology.org
[2]Department of Electrical Engineering, University of Mumbai, Maharashtra
Email: anj_ydv@rediffmail.com
[3]Department of Electrical Engineering, University of Mumbai, Maharashtra
Email: prajaktapatil@viva-tecnology.org

Abstract— *Gas insulated substations (GIS) have made their entry into the Indian power sector and are now operating nationwide with a high degree of reliability. Gas insulated substation (GIS) are mixture of technologies with interfaces between components providing mechanical, dielectric and current carrying functions. An adequate quality assuring testing process therefore has to be developed which will ensure fulfillment of these requirements during the complete GIS life cycle. A common feature of all defects in GIS systems is that they generate partial discharge activity prior to complete breakdown. Therefore, partial discharge detection is the basis of all dielectric diagnostics in GIS. This phenomenon thus requires a special attention from the GIS manufacturers worldwide. This paper discusses the analysis of the various available techniques for PD detection. Also the various techniques available for the partial discharge detection in GIS like UHF, Acoustic and standard process as per IEC 60270 are discussed. The prescribed procedure for partial discharge monitoring as per IEC 62271-203 is also discussed. A study for the partial discharge analysis techniques and its applications to different production stages Gas Insulated substations (GIS) from initial production to on-site testing has been conducted is also discussed. Finally this paper helps to conclude upon the most effective technique for PD detection considering the different parameters like cost, engineering and design parameters.*

Keywords— Acoustic technique, dielectric diagnostics, Partial discharge, UHF technique, IEC60270, IEC 62271-203

I. INTRODUCTION

Very early in the development of GIS technology, it became clear that there are certain phenomena unique to GIS as compared to air insulated substations. The processes of manufacture, assembly, transportation, erection and operation, generate metallic particle contamination in a GIS leading to the impairment of dielectric strength. Sharp points and protrusions on the electrode surfaces contribute for reduced dielectric strength. Support insulating spacers, which are essential to a gas insulated coaxial bus bar, are exposed to the deleterious effects of free moving metallic particles. Although SF6 is an inert and stable gas, prolonged sparking and are discharges in the gas, particularly under high moisture content produces corrosive and toxic byproducts that will contribute to corrosion of metallic and insulating components and to the risk of personnel safety. These parameters contribute highly to the increased partial discharge activity in the Gas insulated Substation (GIS). Today, the manufacturers and users of GIS take into account all the above special phenomena to provide GIS equipment with a high degree of reliability and safety in operation. In electrical engineering, partial discharge (PD) is a localized dielectric breakdown of a small portion of a solid or fluid electrical insulation system under high voltage stress, which does not bridge the space between two conductors. While a corona discharge is usually revealed by a relatively steady glow or brush discharge in air, partial discharges within solid insulation system are not visible. PD can occur in a gaseous, liquid or solid insulating medium. It often starts within gas voids, such as voids in solid epoxy insulation or bubbles in transformer oil. Protracted partial discharge can erode solid insulation and eventually lead to breakdown of insulation.

II. INCEPTION OF DISCHARGES

Internal discharges occur in inclusions of low dielectric strength. Usually these are gas-filled cavities, but oil-filled cavities, but oil-filled cavities also can break down and cause gaseous discharges afterwards.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
D-5

Concentrated solar power

Bhavita Patil[1], Anojkumar Yadav[2], Sushant Bansal[3], Mukeshkumar Mishra[4]

[1]Department of EE, University of Mumbai, PALGHAR- 401305
Email: bhavitanpatil2393@gmail.com
[2]Department of EE, University of Mumbai, PALGHAR- 401305
Email: anj_ydv@rediffmail.com
[3]Department of EE, University of Mumbai, PALGHAR- 401305
Email: sushantkumar@viva-technology.org
[4]Department of EE, University of Mumbai, PALGHAR- 401305
Email: mukeshkumarmishra@viva-technology.org

Abstract— *Nowadays Power has become most important thing for the living purpose. We all need power (like electricity or fuel) for our day to day life. One of our dream is to produce clean power with low cost. In this paper, we have taken sun as main source to produce clean power, since sunrays are free and hence cost of main source becomes free of cost. Concentrated solar power systems are used to generate solar power in small area by using mirrors and lenses. They are so arranged in the small area to concentrate a large area of sunlight, or solar thermal energy. Electricity is generated when the concentrated light is converted to heat, which drives a heat engine (usually a steam turbine) connected to an electrical power generator or powers a Thermo-chemical reaction. Concentrated solar power is the way that produces power in a reasonable cost.*

Keywords— solar, concentrated, CSP, thermodynamic, research

I. INTRODUCTION

Concentrating Solar Power (CSP), which is also referred as solar thermal power, uses mirrors to concentrate the sun's rays to heat a fluid that is then used to generate electricity by using conventional steam turbines. There are three CSP generation technologies: parabolic trough, solar tower, and dish engine. **Parabolic trough** is the most commonly used technologies which uses curved mirrors with single-axis tracking to concentrate sunlight on a receiver tube or collection element that contains a heat which transfer fluid, such as synthetic oil, molten salt or steam. The heated fluid is swept through a heat exchanger to generate steam, which then is passed to a turbine to move and generate electricity.

CSP **tower** systems employ a field of mirrors to concentrate sunlight on a receiver at the top of a tower. Tower systems typically gain high temperatures while operating, which permits increased energy storage. **Dish engine** systems use parabolic reflectors that concentrate solar energy on a receiver located at the focal point of the reflector. The receiver includes a Sterling engine or small gas turbine that generates electricity.

Unlike photovoltaic installations, solar thermal facilities can accumulate energy in molten salt or other medium, allowing it to transmit energy to the grid even after the sunset. Solar thermal power needs about 3 to 8 acres per MW of installed capacity, depending on the technology and amount of thermal storage.

II. TYPES OF SYSTEMS

Unlike solar (photovoltaic) cells, which capture light to generate electricity, concentrating solar power systems produce electricity with heat. Concentrating solar collectors use mirrors and lenses to concentrate and focus sunlight onto a thermal receiver, similar to a boiler tube. The receiver assimilates and converts sunlight into heat. The heat is then transported to a steam generator or engine where it is converted into electricity.

There are basically three main types of concentrating solar power systems viz: dish/engine systems, parabolic troughs and central receiver systems. These technologies can be used to generate electricity for various applications, varying from remote power systems as small as a few kilowatts (kW) up to grid-connected applications of 200-350 megawatts (MW) or more. A concentrating solar power system that generates 350 MW of electricity dislodges the energy equivalent of 2.3 million barrels of oil. There are three solar thermal power systems currently being developed by United States: power towers, parabolic troughs and dish/engine systems. Because these technologies involve a thermal intercessor, they can be effortlessly hybridized with fossil fuel and in some cases adapted to use thermal storage. The primary advantage of hybridization and thermal storage is that this technologies can provide moveable power and operate during time intervals when solar energy is

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Rotor Fault Detection of Induction Motor with the help of Signal Processing

Prajakta E. Patil[1], Sunil P. Suknale[2]

[1]Department of Electrical Engineering, University of Mumbai, Maharashtra
Email: prajaktapatil@viva-tecnology.org
[2]Department of Electrical Engineering, University of Mumbai, Maharashtra
Email: sunilsuknale@viva-technology.org

Abstract *— Due to reliable and low cost the Induction motors are widely used. The early detection of upcoming fault removal is very necessary for the prevention of failure of the induction motors, reducing repairs costs and total motor outage time. In this paper current signals are processed and results can be analyzed. DSP based detection of rotor fault allows machine monitoring to be carried out on-line with a consequent increase in the system. The fault detection for induction motor based on Signal Processing is done in this paper.*

Keywords-DSP processor, Induction motor, Rotor fault, Squirrel cage Induction Motor.

I. INTRODUCTION

Though induction motors are more robust but It may damage and hence early detection of failure is needed before they affect the whole operational performance. This kind of early fault diagnosis can increase machine availability and performance, reduce sequential damage and breakdown cost. To avoid the unwanted shutdown and increases the serviceable life of equipment, one must go for predictive maintenance instead of the conventional time based maintenance. This process reduces the possibility of motor failure during operation. By using this predictive maintenance one can get the higher reliability and low substantial cost. Therefore fault diagnosis and protection is very important as machine themselves. There are a number of techniques available for detection of nature and degree of faults in an Induction motor.

The various types of faults in induction motor are single line to ground fault, double line to ground fault, line to line fault, single phase fault, under and over voltage fault etc. this proposed method is applied to an induction motor using DSP processor kit to identify the single phase fault online based on the stator current and the measured data get analyzed. Research has picked up a fervent place in the area of fault diagnosis of electrical machine. The manufacturers and users of electrical machine initially relied on the simple protection such as over current, over voltage, earth fault etc .to ensure safe and reliable operation. There are many condition monitoring methods including vibration monitoring, thermal monitoring, chemical monitoring, acoustic emission monitoring, but all these monitoring methods require expensive sensors specialized tools , whereas current monitoring out of all does not required additional sensors . this is because the basic electrical quantities associated with electromechanical plant such current and voltage are readily measured by tapping into existing the current and voltage transformer that are always installed as a part of protection system . So the stator current is used for monitoring and fault detection of induction motor to DSP.

Digital Signal Processors (DSPs) are microprocessors with the following advantages (a) Real-time digital signal processing capabilities. DSPs typically have to process data in real time, i.e., the correctness of the operation depends heavily on the time when the data processing is completed.

b) High throughput. DSPs can sustain processing of high-speed streaming data, such as audio and multimedia data processing.

(c) Deterministic operation. The execution time of DSP programs can be foreseen accurately, thus guaranteeing a repeatable, desired performance.

(d) Re-programmability by software. Different system behavior might be obtained by re-coding the algorithm executed by the DSP instead of by hardware modifications.

DSPs appeared on the market in the early 1980s. Over the years they have been the key enabling technology for many electronics products in fields such as communication systems, multimedia, automotive, instrumentation and military.

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Operation Principle of Multiple DC Smart Grids

Chitralekha Vangala[1], Kavita Mhaskar[2]

[1]Department of Electrical Engineering, Mumbai University
Email: chitralekhavangala@viva-technology.org
[2]Department of Electrical Engineering, Mumbai University
Email: kavitamhaskar@viva-technology.org

Abstract— *Smart grid has been having great attention from the view point of introducing more renewable energy sources. However, due to fluctuating power output of energy sources, the DC bus voltage fluctuation of DC grid occurs frequently. It has become a major issue at the time of islanding. This paper represents coordinated operation of few multiple DC smart grids. The power system in this paper consists of three smart DC grids. Each smart DC grid has wind generators, PV generations and also controllable loads. The DC bus voltage has been maintained within acceptable range by applying the control of power consumption in controllable loads, the power control by grid connected converter and also the power control by the renewable sources.*

Keywords— controllable loads, dc distribution, droop characteristic, islanding operation, multiple DC source, renewable energy source, smart grid.

I. INTRODUCTION

Power demand in islands has been increasing rapidly. Diesel generators which are fueled by fossil fuels mostly supply the required power for this demand. For green house gas reduction and also oil substitution, introduction of renewable energy sources such as photo voltaic, wind etc. are important. Renewable energy resources giving power are safe, clean and in extinct in nature. However, due to the less power or power fluctuation of renewable energy source, voltage and frequency deviate in isolated power systems. Because of this, the ability to maintain stable supply and demand balance becomes low. Therefore, it is very necessary to control the frequency and voltage of the system at the supply-side.

At supply-side, storage equipment installation and pitch angle control of the wind generator has been proposed to control power of distribution system. However, the installation of storage equipment that requires large storage capacity and maintenance cost for battery degradation cannot be expected. Hence, in case of using the renewable energy source plants connected to the power system, the supply side control has certain limitations. Therefore, mutual cooperation control with the demand side controllers is required because it becomes difficult to maintain good power quality by only the supply side controllers. From this point of view, a smart grid which maintains stable supply and demand balance by observing and correcting the power information of the demand side is very much necessary.

II. DC SMART GRID CONFIGURATION AND CONTROL SYSTEM

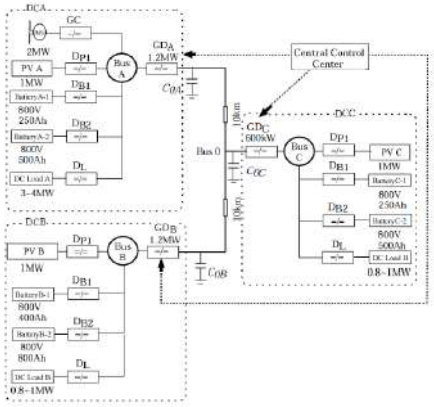


Fig. 1 Power System Model

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Designing of Brushless DC Motor with controllers

Piyali Mondal[1], SomrajSengupta[2]

[1]Department of Electrical Engineering, VIVAIT, Mumbai University, Virar-401303
Email: piyaliam@gmail.com@gmail.com
[2]Hysol Renewable Consultants LLP, Virar-401303
Email: somrajsengupta@gmail.com

Abstract— *The electronically commuted DC Motor which operates without brushes are gaining advantage and are very much in application now a days. The combination of permanent magnet in the rotor, electromagnets in the stator and high power transistors, all perform together to turn the shaft. The controller ensures the smooth power distribution by using solid state circuit. This paper presents the electrical and mathematical design of BLDC Motor along with the control circuit. The step by step approach of the designing procedure and the analysis on MATLAB is self-explanatory and accelerates the understanding process. The mathematical calculations and designs are performed in a 8 pole BLDC Motor.*

Keywords— BLDC Motor, Brushes, Electrical Design, Mathematical Modelling, Permanent Magnet

I. INTRODUCTION

There is a major increase in the application of BLDC Motor in recent years due its easy and efficient applications. In this paper we will see the control circuit of BLDC Motor and observe its performance. The design and all the calculation are done for a 8 pole BLDC Motor. To reduce skewing in concentrated rotor Permanent Magnet BLDC Motor is used. The air gap is such considered so that the flux distribution in the air gap remains sinusoidal. Basic design considerations are discussed so as to obtain a machine with optimal operation and improved performance. Design methodology is discussed step by step and explained with the help of MATLab software.

II. CONSTRUCTION

The construction of BLDC Motor is as that of Permanent Magnet Synchronous Motor where rotor is comprises of one or more permanent magnets.

2.1. Dimensions

The major dimensions that are to be paid attention in designing of BLDC Motor are as follows.

2.1.1 Stator Diameter

The maximum distance between the center of the motor and the stator outer circumference is called the stator outer radius. Twice the stator outer radius is the stator outer diameter. The maximum distance between the center of the motor and the stator inner circumference is called the stator inner radius.

2.1.2 Rotor Diameter

The maximum distance between the center of the motor and the rotor outer circumference is called the rotor outer radius. The maximum distance between the center of the motor and the rotor inner circumference is called the rotor inner radius.

2.1.3 Slot Dimension

The distance between start point and end point of the slot opening at the top is Slot width top. The distance between start point and end point of the slot opening at the bottom is Slot width bottom. The total width of the stator teeth is Tooth width. The linear distance between the stator outer circumference and the stator inner circumference is Back iron length. The maximum distance between the mid-point of the start point and the mid-point end point of the slot teeth is Slot depth.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
D-32

Electrical System on Ship-A review

Pratik Mahale[1], Dipali Mahale[2], Chaitali Mahale[3], Manoj Mawle[4]

[1]Department of EE, VIVA Institute of Technology,Mumbai University,
Email: pratikrmahale@gmail.com
[2]Teckon Engineering Solutions, Mumbai
Email: dipalikharate013@gmail.com
[3]Teckon Engineering Solutions, Mumbai
Email: chaitaliksagar@gmail.com
[4]Shapoorji&Palamji Real EstateCompany, Mumbai
Email: manojmawle@gmail.com

Abstract— *A ship is like a city floats on water with all amenities and facilities available to any operational set-up on land. Just like any conventional city, the ship also requires the basic amenities to sustain life on board, the important among them being power or electricity. Electricity on ships is generated by an alternator or generator. Just like other mechanical systems, electrical systems must also be checked at regular intervals of time. Marine engineers and electrical officers on ships must know their mechanical systems and all electrical equipment attached to them extremely well. Periodic maintenance is the key element to the efficient and smooth running of all electrical systems on ships.*

Keywords— Marine, Electrical power, Maintenance

I. INTRODUCTION

A ship is equivalent to a floating city that enjoys almost all privileges available to any operational set-up on land. Just like any conventional city, the ship also requires the basic amenities to sustain life on board, the chief among them being power or electricity. Electricity on ships is generated by an alternator or generator. Shipboard power is generated when a prime mover and alternator works together. For this purpose, an alternating current generator is used on board. The generator works on the principle that as a magnetic field rotating around a conductor varies, a current is induced in the conductor.

II. POWER GENERATION ON SHIPS

The generator consists of a stationary set of conductors, wound in coils of iron core also known as the stator. A rotating magnet known as rotor turns inside this stator, producing a magnetic field, which cuts across the conductor and generates an induced EMF or electro-magnetic force as the mechanical input causes the rotor to turn. The magnetic field is generated by induction (in a brushless alternator) and by a rotor winding energized by DC current through slip rings and brushes. Few points that are to be noted about power generated on board ships AC, 3-phase power is preferred over DC as it gives more power for the same size - 3-phase is preferred over single phase as it draws more power and in the event of failure of one.

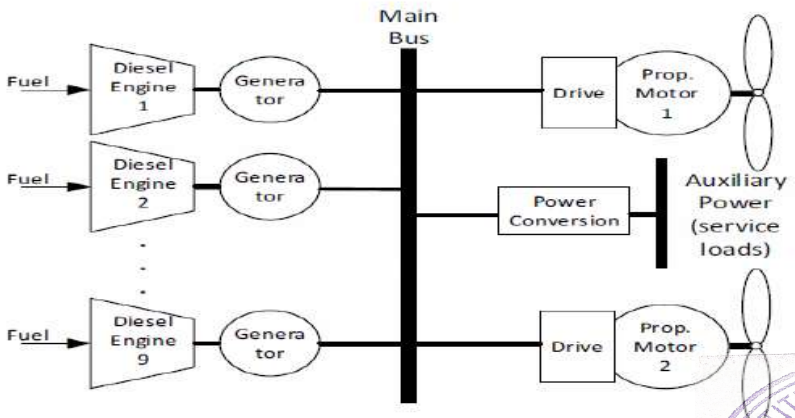


Fig.1. Integrated diesel electric power grid

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Performance of FACTs Devices in the Improvement of Power Quality

Kavita Mhaskar[1], Chitralekha Vangala[2]

[1]Department of Electrical Engineering, Mumbai University, Mumbai
Email: kavitamhaskar@viva-technology.org
[2]Department of Electrical Engineering, Mumbai University, Mumbai
Email: chitralekhavangala@viva-technology.org

Abstract— *This This paper presents an analysis of implementation of Flexible AC Transmission System (FACTS) devices for maintaining Power Factor. The electrical loads include induction motor driven equipments, which consume reactive power, increase the amount of apparent power in the distribution system, which is important because a low power factor can waste energy, and results in inefficient use of electrical power and often result in higher energy bills. The improvement of Power Factor as close as unity is very essential in the industry as well as domestic electric appliances, due to increase in power demand. The Power factor maintenance provides increase in system efficiency. The solution for power factor unity is done with FACTS devices, which has the manageable capacity. The possibility of low power factor increases with inductive load in nature. Hence, the need of unity in power factor is very significant. Keywords—voltage source convertor, FACTS device, STATCOM, voltage sag and swell.*

Keywords: FACTS, Power Factor Correction, Power Factor Improvement.

I. INTRODUCTION

One Modern society relies increasingly on electrical power, requiring higher demands of power stability and power quality. Maintaining power quality is an important factor in the power system development and improvement. The term unity in power factor plays a vital role mostly in the industrial sector. The Power factor correction is very essential in industries due to presence of electrical loads. Power loss is due to poor power factor in the distribution system with more inductive loads. The purpose of power factor correction is due to lag in reactive power with inductive loads. Traditionally, the reactive power can be compensated by:

- Generator excitation regulation.
- Reconfiguration of system structure.
- Synchronous compensator.
- Change of voltage by transformer tap to adjust the power flow in the grid (OLTC).
- Series compensation capacitor.
- Switching in/out of the shunt reactor or shunt capacitor.
- Magnetic controlled reactor

The ratio of active power to the resultant power, called power factor, implies that because of greater demand for reactive power, the percentage of useful utilization of the total generated power starts diminishing. Power factor states that the percentage of consumed power (KW) versus supplied power (KVA).

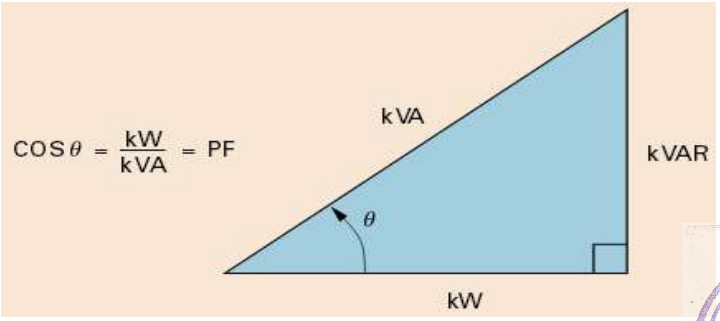


Fig.1 Structure of Power Triangle

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
D-148
VIRAR (EAST)

A Review Paper based On Vertical Axis Wind Turbine for Design and Performances to Generate Electricity

Bhushan Save[1]

[1]Department of Electrical engineering, VIVA Institute of Technology, Virar east 40305
Email: bhushansave@yahoo.com

Abstract— *The wind power energy production is considered as one of the oldest method of generating renewable energy. This can be effectively to use to reduce the consumption of fossil fuel. This paper takes review of how the wind energy on highways can be used to generate electricity, which can be used to provide supply to lights on the same highway or nearby small ruler area. This is the way to produce electricity in more echo friendly way. A new design of vertical axis wind turbine is revived in this paper for its performance and design. This vertical turbine can be installed in-between divider on highways. This also offers promising solution for residential spaces or smaller ruler areas. This will check and optimize design parameters of vertical axis turbine.*

Keywords— Renewable energy, vertical axis turbines, wind energy, Energy sources, clean energy.

I. INTRODUCTION

From las fed decades the need of clean and green energy is at the peak level due to increased pollution levels in cities. Wind can be considered as the secondary form of solar energy and can be always replenished by the sun energy. The kinetic energy of wind is converted into electricity. This is dependent on differential heating of earth surface. The best ecological option can be wind energy. It can be also considered as sustainable. Different wind turbine structures are designed and analyzed by scientist. The comparison these designers and detailed studied of vertical axis wind turbine (VHWT) is done in this paper. The optimum conditions required for operation of this type of turbines are determined. Major benefit of VAWTs id omni-directional wind from any direction is capable of achieving its rotation. So it can be installed in lesser space and same output can be obtained.

1.1 Wind Energy Senario in World

The focus to generate the energy form renewable sources has increased to great extent during recent years. This has been a major issue due to the pollution level increased by CO2 emission. Similarly due to increased demand in energy consumption it's required to find different other option for energy generation. Hence extensive research have been carried out to improve the way in which electricity can be generate by using cheaper ways and more sustainable ways. Wind energy seems to be one of the great option in suitable areas to take care of few percentage of electricity requirements. The great potential existing in the world can be utilized effectively to meet this additional requirement.

To extract energy out of find, wind turbines are designed such that they can convert the motion of wind into rotation of turbine to obtain electricity. Current research technique are focusing on designing on more efficient and lightweight blades to obtain the same. The annual energy output has been significantly increased due to the research imprudent in this area the weight of turbine blade and the noise produce by them has been reduced to the noticeable level in past few years. Indian renewable energy development (IREDA) and the wind industry have been working together to achieve the goals together, Figure 1 shows the existing velocity of the wind at different locations into the world. The area where the more possibilities of production of wind energy, already work has been started to produce energy form wind by installing wind turbine plants to meet the additional energy requirements. Wind power is one of the fastest growing way to produce the energy and the effectively utilized source. Figure 2 makes it clear that the installed capacity of wind turbine has been increased to a very high level in past few decades. It increased form 25,000MW to 200,000 Mw on a single decade. Also the vertical axis wind turbine was the first choice for harnessing the energy, researcher have lost their interest in this area due to the initial perception that VAWT cannot be implemented for large scale areas.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
D- 153
VIRAR (EAST)

SMART MIRROR USING RASPBERRY PI

Piyush Gaikwad[1], Abhishek Sawant[2], Kushal Raut[3], Karishma Raut[4]

[1]Department of EXTC, VIVA Institute of Technology, Mumbai
Email: piyush1995gaikwad1@gmail.com
[2]Department of EXTC, VIVA Institute of Technology, Mumbai
Email: abhisawant5556@gmail.com
[3]Department of EXTC, VIVA Institute of Technology, Mumbai
Email: rautkushal96@gmail.com
[4]Department of EXTC, VIVA Institute of Technology, Mumbai
Email: karishmaraut1@gmail.com

Abstract— *Grooming in front of mirror has been a favourite task of the day. A smart mirror will make this task more interesting. Smart mirror using raspberry pi3, home automation technology and internet will give daily information such as weather report, news feeds, time and date, daily routine, notifications from social media etc. and home automation will allow to control the home appliances such as fans, lights etc. This information will be displayed on screen of smart mirror. This paper describes use of smart mirror for home automation and entertainment purpose.*

KEYWORDS: Home Automation, Internet of Things, Python, Raspberry Pi, Smart Mirror.

I INTRODUCTION

The ordinary mirror shows only the object kept in front of it. People waste a lot of time standing in front of mirror and then they read newspaper, schedule their routine after which they realize that it's too late. There are too many things to be done at a time and at certain point users are not able to multi-task such daunting chores. For example, a to-do-list of house chores is accidently misplaced. Another example is when users are too busy managing their daily activities until some trivial-yet-critical things are forgotten such as switching off the lights in a room, which can eventually lead to wastage of resources. As all knows time is precious, the project aims to overcome time wastage and give access to control the devices at one place. It displays the essential day to day information such as weather fore-cast, sticky notes, daily schedule, newsfeeds, etc. as well as it will make sure that user won't forget important work to be done. Smart mirror will help to save some human efforts this leads to do daily chores at one place and save time.

The prior aim is to develop a smart mirror device as well as an operating system that will be monitoring and controlling the home appliances. This device looks like a regular mirror but will have a screen inside and people will be able to interact with it using rotary knob. The important features of the Smart Mirror will be showing daily weather forecast and day to day information, able to set alarms, reminders or notes in a similar way of sticking posit notes on a refrigerator. Wireless home automation makes this device more effective and can be used to control electronic devices such as fan, light and other electronic appliances.

II LITERATURE SURVEY

A rigorous study has been carried out on smart mirror and its importance in day to day life. Information required for daily use like Time, Date, weather details and news are fetched online using predefined URL. The Smart Mirror has the functionalities of the modern-day Smartphone applications implemented in the form of the widgets [1][2][3].
Few sensors like DHT22 –digital sensor is used to get the humidity and temperature details which can be connected to GPIO pins of Raspberry Pi board [4][5][6]. A smart mirror is a natural interface that facilitates access to personalized services and control of household smart appliances in the ambient home environment [5][7][8].
They have great potential to serve not only as a reflective surface, but also as an interactive display as part of a smart home environment. They can also be used to monitor and control home appliances, such as lighting and security cameras [6][9][10].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Automated Solar Tracking System for Efficient Energy Utilization

Sagar Panchal[1], Omkar Navalkar[2], Prasad Jadhav[3], Prof. Nutan Malekar[4]

[1]Student, Department of EXTC, VIVA Institute of Technology, Mumbai-401305
Email: sagarpanchal195@gmail.com
[2]Student, Department of EXTC, VIVA Institute of Technology, Mumbai-401305
Email: omkarnavalkar@gmail.com
[3]Student, Department of EXTC, VIVA Institute of Technology, Mumbai-401305
Email: jadhav.prsd@gmail.com
[4]Asst. Professor, Department of EXTC, VIVA Institute of Technology, Mumbai-401305
Email: writetonutan@gmail.com

Abstract*—This paper proposes a project that involves an automated solar tracking system which will make use of LDR's to track the position of sun. The output of LDR's will be compared and analyzed to provide correct alignment of the solar panel. Also another tracking technique is being implemented along, which uses the relation of sun earth position at a given location. This telemetric data is given to microcontroller which will drive the motors to align the solar panel. This is useful during cloudy weather and rainy days when it is difficult to check the position of sun. Solar panels give output efficiency of around 15% to 20% based on the type of panel. The use of solar tracking system increases it to a range of about 30% to 35%. This project further involves use of reflective sheets on the sides of solar panel which will concentrate the reflected rays on the panel. Due to this the efficiency is further increased around 40%. This project is a cost effective solution for stationary solar systems to increase efficiency.*

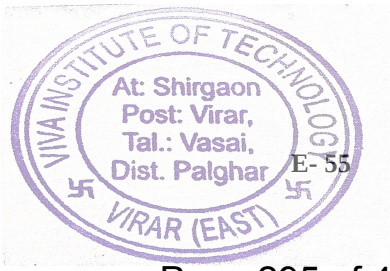
Keywords*—*Solar, Tracking, LDR, dual-axis, electricity

I. INTRODUCTION

Solar Energy is a clean energy source available in abundance throughout the world. This energy can be converted to electrical form by means of Solar panels. The conversion efficiency of solar panels is about 20%. The use of solar trackers raise the efficiency to around 35%-40%, thereby providing more output power. Solar trackers are devices, which align the panels almost perpendicular to the direction of falling sun-rays. This is done because of the fact that solar panels give out maximum output only when incident rays are perpendicular to them. The basic types of Solar tracking system include single axis and dual axis. Single axis system provide movement only in one direction i.e. either horizontal or vertical. Dual axis systems provide movement in both the directions and are hence more efficient and reliable. Both these systems work on the outputs provided by the photo sensors which are compared and analyzed to provide the necessary data for the correction of alignment. Another type of tracking system is independent of photo sensors. Instead they work based on the telemetry data of the sun earth position. This data is stored in the micro-controller and is used to provide alignment. Solar energy provides suitable solution to meet the growing need of electricity.

II. BACKGROUND

Before proceeding with the design of a tracking system, it is a dominant step to determine the background data on solar panels and the techniques to harvest the solar energy. To get relevant data about the same, a brief review of solar systems with the losses incurred as well as an examination of the current tracking systems was done.The review showed that there are two tracking techniques that are in practice based on the way the path of the sun is determined. These techniques are fixed control algorithms and dynamic control algorithms. The fixed tracking system passively determines the path of the sun based on the time, day, month and year of the location where it is used. The dynamic tracking algorithm works by actively calculating the position of the sun with the help of sensors. Both systems have a similar control system consisting of motors, sensors which are directed by some analog or digital control circuitry.



Bluetooth enabled Smart Digital Pen

Meena N. Perla[1], Reshma Chaudhari[2], Suman Saurabh[3]

[1]Department of EXTC Engineering, VIVA Institute of Technology, University of Mumbai
Email: meenavallakati@viva-technology.org
[2]Department of Computer Engineering, VIVA Institute of Technology, University of Mumbai
Email: reshmachaudhari@viva-technology.org
[3]Principal Member Technical Staff, Oracle India Pvt Ltd , Bangalore
Email: saurrabh@outlook.com

Abstract *- Digital technology has entering today's classrooms and learning environments. Convert your pen and paper processes into the digital world. Pen and paper is the easiest and most comfortable way for workers to be productive, and digital writing solutions can improve and automate the workflow that companies rely on. Devoid of changing how employees work, the digital writing method eliminates inefficiencies in the existing processes with flexible, cost effective solutions.*
Bluetooth enabled digital pen is designed to address the current shortcomings of mobile or office data capture devices. A digital pen with USB/Bluetooth/Barcode/Streaming technology, used with a wireless communication device help an organization to more efficiently gather, transmit and share data in real time.

Keywords— Bluetooth, Barcode, Digital Pen, Digital Media, USB

I. INTRODUCTION

A Bluetooth enabled smart digital pen is a device that captures the handwriting of a user and converts it into digital data. The number of applications a digital pen can be used for is considerable, there are number of uses for collecting data with a normal ballpoint pen. The main feature of a digital pen over traditional pen is that the latter requires no manual data inputting. As soon as the data has been recorded it is uploaded instantly to an office based server allowing processing to begin almost immediately.

II. HARDWARE REQUIREMENT

Design of Digital Pen includes following things listed below with specifications
1. Built-in lithium battery (chargeable via USB): up to 10 hours of continuous writing
2. Note pad is capable of storing up to 100 pages, operated via infrared
3. Bluetooth connectivity to transfer your notes to any mobile device like iOS or Android.
4. Standard ink cartridge included. Refills available from our online store
5. As lightweight and comfortable to use as a traditional pen.

Fig. 1. Digital Pen

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Image encryption using RSA algorithm and additive cipher

Karishma Raut[1], Archana Ingle[2], Madhura Ranade[3]

[1]Department of EXTC, VIVA Institute of Technology,Virar
Email: karishmaraut1@gmail.com
[2]Department of EXTC, VIVA Institute of Technology,Virar
Email: archpatil2008@gmail.com
[3]Department of EXTC, VIVA Institute of Technology,Virar
Email: madhurat8@gmail.com
[4]Department of I. T., K.D.B. Delhi
Email: neha.0212@gmail.com

***Abstract*—** *Cryptographic techniques are of prime importance for security of data communication. Data can be text, image, and video. Data integrity and confidentiality are main aspects of information security. As asymmetric cryptography uses two different keys for encryption and decryption, key becomes secured which ensures data security. RSA is a most significant approach which resists brute force attack. Images can be made more secure using simple additive cipher as a second level encryption. The paper describes combination of asymmetric and symmetric cryptography working together to enhance the image security. RSA algorithm for image encryption with additive ciphering with self-generated key.*

***Keywords*— asymmetric cryptography, decryption, encryption, key, RSA algorithm**

I. INTRODUCTION

Cryptography is the practice of storing and communicating data in such a form that only whom it is intended for can read and process it. In cryptography the data to be transmitted is encoded into an unreadable format using certain algorithms so that it cannot be used and modified to produce unauthorized effects.

Modern cryptography is based on mathematical theory and such cryptographic algorithms are hard to break by an adversary. Symmetric and asymmetric (public) key cryptography exists in parallel and are complements of each other. The conceptual difference between the two systems are based on how these systems uses key. In symmetric key method both the sender and the receiver use the same single key for both encryption and decryption purposes. Whereas in asymmetric key method the sender and the receiver use different keys [1, 2].

Asymmetric algorithms rely on one key for encryption and a different but related key for decryption. It is computationally infeasible to determine the decryption key with given knowledge of the cryptographic algorithm and the encryption key. Also either of the two related keys can be used for encryption, with the other used for decryption [2, 3].

The best known and widely used public key system is RSA algorithm named for its inventors Ron Rivest, Adi Shamir, and Len Adelman. It is based on modular exponentiation. Its security is based on the difficulty of the large number prime factorization, which is a well-known mathematical problem that has no effective solution [3, 4, and 5].

II. RSA CRYPTOSYSTEM AND ADDITIVE CIPHER

The cryptography techniques are classified as symmetric and asymmetric key. Symmetric key cryptography. In symmetric key cryptography both the sender and the receiver know the same secret key. The sender is encrypting the data or the information using the secret key and the receiver is decrypt the information using the same secret key. In the symmetric cryptography the key is playing a very important role which is depends on the nature of key. Additive cipher is a symmetric cipher [1].

Asymmetric key cryptography uses pair of keys for encryption and decryption. RSA algorithm is asymmetric cipher.

RSA makes use of an expression with exponentials. Plaintext is encrypted in blocks, with each block having a binary value less than some number n [6, 7].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Overview of a Satellite System

Reshma Chaudhari [1], Meena Perla[2], Aruna N. Jawale[3]

[1]Department of Computer Engineering, VIVA Institute of Technology, University of Mumbai
Email: rrc778@gmail.com
[2]Department of EXTC Engineering, VIVA Institute of Technology, University of Mumbai
Email: meenavallakati@viva-technology.org
[3]Senior Service Engineer electronics, Gujarat
Email: arupary@gmail.com

***Abstract*—** *Now a day it is a fact to use a satellite for communication purpose. Almost many homes are equipped with antennas or dishes which are used for receiving the television signals. Also according to the data from GSMA, two-thirds of the world's population are using mobile phone for communication. For these purposes, satellites play a very important role. These satellites, revolving around earth, are making earth observation, global communication, navigation and science application possible. This paper presents overview of major narrowband GEO, MEO and LEO satellite systems. It presents commercial examples of satellite systems, their features and their applications.*

Keywords*— *GEO, MEO, LEO, narrowband satellite system **Introduction**

I. INTRODUCTION

The main purpose of satellite is for telecommunication. These satellites are used for mobile applications such as communication to ships, plans, vehicles and other hand held terminals. Also they are used for TV and radio broadcasting. Satellite provides their services to an assigned region on the earth. The power and bandwidth of these satellites depend upon the preferred size of the footprint, complexity of the traffic control protocol schemes and the cost of ground stations. The antenna pattern of the satellite is very important. It is designed such that it will cover the approximate geographical area of the earth. Satellites should be designed by keeping in mind its usability for short and long term effects throughout its life time. Historically, commercial operational satellite communication systems were developed. Initially the purpose of this communication system was to fulfil the needs of international transoceanic communication. In early days the earth stations were large due to low transit power available from the satellite. Now a day with the advancement of technology, higher transmitted power is available from the satellites. Because of this the size and cost of earth station is reduced. In rest of the paper , types of satellite depending on their orbit and major satellite systems are discussed.

II. TYPES OF SATELLITE DEPANDING ON THEIR ORBIT

The satellite revolves around the earth in a particular orbit called as earth orbit. These satellites are the Earth Orbit Satellite. Basically there are two earth orbits, lower earth orbit and higher earth orbit. The satellite is properly placed in these orbits according to the requirement. In lower orbit time required to travel around the earth for the satellite is less. And in higher orbit time required to travel around the earth is more and it covers more geographical area of the earth. So depending on the orbits, satellites have three important types.

- Geosynchronous Earth Orbit Satellite
- Low Earth Orbit Satellite
- Medium Earth orbit Satellite

1.1 Geosynchronous Earth Orbit Satellite

Geo-synchronous earth orbit (GEO) is one which is placed at an altitude of 22300 miles above the earth. This orbit is synchronized with a side real day (i.e. 23 hours 56 minutes). It is tilted at the poles of the earth. This satellite appears as stationary when observed from the earth. This satellite is also referred as geostationary satellite. These satellites are used for broadcasting of TV and radio as well as for weather forecast. Theses satellites are operating as backbones for the telephone networks.

These satellites have low elevation above latitude of 60 degree, so larger antennas are needed for the reception of signals. Because of this, Northern and southern regions of the earth (poles) have more problems receiving these satellites

1.2 Low Earth Orbit Satellite

The distance of these satellite from earth surface is 500-1500 kms. As LEO's circulate on a lower orbit, hence they exhibit a much shorter period that is 95 to 120 minutes. LEO systems try to ensure a high elevation for every spot on earth to provide a

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon Post. Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Study of Digital Protractor Based on PSOC for angle Measurement

Pratik Parsewar[1], Kushal Suvarna[2], Nutan Malekar[3]

[1]Department of EXTC,Viva Institute of Technology, Maharashtra- 401305
Email: Pratik.parsewar@gmail.com
[2]Department of EXTC, Viva institute of technology, Maharashtra-401305
Email: kushalsuvarna1988@gmail.com
[3]Department of EXTC, Viva institute of technology, Maharashtra-401305
Email: writetonutan@gmail.com

Abstract— *The angles measurement is used extensively in industry or daily life. For example, exact elevator, aileron, rudder throws, compare wing and tail incidence, etc. they can all use it. The conventional method that is used to measure angles is called as a protractor. The protractor is the common method which is used to measure an angle. This presents a new design scheme of angles measurement. A novice approach that an electronic protractor includes two swing arms and one variable resistor located on the top of swing arms for measuring angles. The varistor connects the LCD screen through an angle-to-voltage (A/V) controlled circuit, an analog-to-digital (A/D) converter, a single chip processor, and a LCD driver. PSoC 3 have an immense selection of ADCs that can be used depending on the application, ADCINC, ADCINCVR, ADCINC14, DELSIG8.*

Keywords— Angle Measurement, Electronic Proctor, Phase angle, PSOC.

I. INTRODUCTION

A new design approach that an electronic protractor includes two swing arms and one varistor located on the top of swing arms for measuring angles. The variable resistor connects the liquid crystal display (LCD) screen through an angle-to-voltage (A/V) controlled circuit, an analog-to-digital (A/D) converter, a single chip processor, and a LCD driver. The protractor can change the resistance of the variable resistor simultaneously and display the measuring angle on the LCD screen through the processing of the A/V controlled circuit, the A/D converter, single chip processor, and the LCD driver when the swing arms are open or close to make the angular deviations. The present electronic protractor is claimed on those measuring devices through the above process.

II. HISTORY & BACKGROUND

The angles measurement is used extensively in industry or daily life. For example, exact elevator, aileron, rudder throws, compare wing and tail incidence, etc. they can all use it. The traditional tool that is used to measure angles is called as a protractor. The protractor is the common tool which is used to measure an angle. This paper presents a new design scheme of angles measurement. The new, patent-pending Electric Angle Meter can measure precisely to 1/10 of a degree and displays the angle clearly on its easy-to-read digital screen. The design of electric angle meter is based on potentiometer method. Cypress PsoC3 as its core component, the whole design is flexible and simple, has very few peripheral devices and a high reliability. And meanwhile, we realize equal precision measurement of signals by potentiometer measurement method. Most if not all of the microcontroller designs that involve analog signal processing will require an ADC to convert an analog signal into a digital value that can be processed by the CPU. PSoC 3 has a vast selection of ADCs that can be used depending on the application, ADCINC, ADCINCVR, ADCINC14, DELSIG8, DELSIG11, DelSig to name a few. Most of the users, beginners to experts face some or other problem while using an ADC like ADC not completing the conversion, ADC result always zero, ADC result incorrect etc. Below are Five Golden Rules that will help us to tame the PSoC ADC. They are the global interrupts, analog power parameter sets, clock source selects, clock phase operation, and waiting for the result inside the ISR. We choose one of them, for instance analog power parameter sets to tame the PSoC.

III. MATHEMATICAL MODEL

There are two major problems

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A Survey on Different FFT Algorithms

Shoeb Shaikh[1], Chitra Takle[2], Mohini Ghotekar[3], Kushal Suvarna[4]

[1]Department of EXTC, Mumbai University, Virar
Email: shoebsk.028f@gmail.com
[2]Department of EXTC, Mumbai University, Virar
Email: taklechitra@gmail.com
[3]Department of EXTC, Mumbai University, Virar
Email: mohinighotekar21@gmail.com
[4]Department of EXTC, Mumbai University, Virar
Email: kushalsuvarna1988@gmail.com

Abstract *— A time-domain sequence is converted into an equivalent frequency-domain sequence using discrete Fourier transform. A frequency-domain sequence can be converted back to an equivalent time-domain sequence using inverse discrete Fourier transform. Based on the Discrete Fourier transform (DFT), Fast Fourier transform (FFT) is a more productive & practical algorithm with few computations. FFT is a well-organized and logical tool in linear system analysis. FFT is used in everything from broadband to 3G and Digital TV to radio LAN's. Various algorithms have been developed to improve architecture of FFT approach. An overview of the work done by different FFT algorithms approach is present in this paper. The comparison of different architecture is also discussed.*

Keywords— Butterfly Architecture, Radix-2, FFT, DFT

I. INTRODUCTION

FFT is an effective algorithm that optimizes machine computation and is widely used in wireless communication. The innovation of FFT is accredited to Cooley and Tukey in 1965. There are two main categories of FFT algorithm one is The Cooley-Tukey algorithm and the second is prime factor algorithm. Though some variations are being observed in the mapping process of full FFT into smaller sub transforms. The Cooley-Tukey algorithm are classified into two types of algorithm, mixed-radix algorithm and radix-2 algorithm. FFT take very less number of operations to compute the DFT. FFT and its inverse play a very important role in many DSP applications. FFT algorithm revolutionize DSP by reducing the complexity of DFT from N2 to Nlog2N which cut down the number of complex multiplication in comparison to the regular DFT. The FFT core can perform an N-point FFT in almost 2.4*N clock cycles. This technique finds applications in fields such as: ADSL, DAB, DVB, OFDM systems etc.

Radix-2 is the smallest transform used in 2-point DFT. This transform is the quickest way of calculating FFT. It processes a group of two samples. Only when N is a regular power of 2, Radix-2 algorithm are advantageous. Decimation-in-time (DIT) and decimation-in-frequency are the two radix-2 algorithms. So the FFT algorithm is an efficient algorithm to compute the DFT. Some of the FFT algorithms are as follows:

1) Cooley-Tukey algorithm
2) Prime factor algorithm
3) Winograd FFT algorithm
4) Rader‟s FFT algorithm
5) Bluestein‟s FFT algorithm

A lot of work has been done in the field of FFT. In this paper a survey has been made on comparison of different FFT algorithms, these include Cost, Complexity, Operating frequency, Operation, size of input, adder and multiplier.

II. ALGORITHMS FOR FFT COMPUTATION

In this chapter we discuss some of the renowned methodology to calculate FFT.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Tube Forming using Hydroforming Technology and analyzing the process on Explicit Dynamics

Shweta Patel[1]

[1]Department of Mechanical Engineering, Mumbai University, Maharashtra
Email: shwetapatel@viva-technology.org

***Abstract*—** *Tube forming being the most unified need for every automotive company, needs to be taken care of throughout the manufacturing process. Various automotive sectors have range of complex geometries of tubes and these geometries are classified by group technology. The THF process enables these sectors to produce tubes that are light in weight, without causing any losses in the material strength after the THF process. This study describes the Analysis of THF process for a simple circular c/s tube which is converted into rectangular tube. The equivalent Von-Mises stress generated is the main factor for THF process in this study. Material of the tube is E34 4012A CS. MISO is the plasticity model used and Explicit Dynamics solver is used on ANSYS.*
Keywords- ANSYS, Explicit Dynamics, MISO, THF, Von-Mises stress.

I. INTRODUCTION

Tube hydroforming, THF contrives to be the emerging technique for forming the tube having complex geometry. Hydroforming uses fluid pressure to form the components which has intricate corners and edges that can be damaged easily when formed with other forming processes. The normal forming of tube has stages that undergoes various processes and thus the mechanical as well as chemical properties are likely to get changed in the final product, the strength of the final product thus changes. Tube Hydroforming causes change in the mechanical and chemical properties as well, but to an extent which does not affect the requirements of the final product. It is of utmost need to consider the maximum pressure up to which the tube can behave to be ductile without bursting. THF is a replacement to conventional forming, as it uses the high pressurized fluid to form the blank instead of the solid die as a counter mould that is been used in case of deep drawing.

II. MATERIAL

In current study the Carbon steel, E34 4012A grade is used in Tube Hydroforming process.

TABLE I

CHEMICAL COMPOSITION OF E34 4012A, CS

	C%	*Mn%*	*S%*	*P%*	*Al%*	*Si%*
E34 4012A	0.060	0.631	0.004	0.009	NA	0.236

III. METHODOLOGY

THF based on ANSYS deals with the major problems linked to the conventional method. There are losses which results in the ineffective process plan strategy. The process should be planned in such a way that there are minimal losses and good percentage of profit that grows along with the manufacturing.Analysis and Design Software plays important role when it comes to developing a model and confining a path which it goes through. There are analysis software's which shows the advanced and effective results when it comes to analysis of a process to obtain best possible results depending on the required outputs. Here in the following study, ANSYS software is used. Explicit dynamics is the solver that deals with the problems that relate to dynamic loadings. The

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Design and Fabrication of Biomass Pellet Manufacturing Machine- A Concept

Khushal Joshi [1], Akash Mahajan[2], Yash Mhatre[3], Prof. Swapnil Raut[4]

[1,2,3,4]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, University of Mumbai, Maharashtra, India

***Abstract*—-** *Pellet fuels (or pellets) are biofuels which are made from compressed organic matter or biomass. Constituents of these pellets may include industrial waste and co-products, food waste, agricultural residues, energy crops, etc. The shape of the pellets are cylindrical, having diameter 6–10 mm and length 10–30 mm. The Project work presented in this report is based on design and fabrication of pellet manufacturing machine. The main objective in building this machine is to find a low cost and high energy burning fuel. Also, an effort in reducing pollution and to use the large agro residues that goes wasted.*

***Keywords*— Biomass pellet machine, pellets, wood pellets, sawdust, pelleting technology.**

I. INTRODUCTION

Many of the developing countries produce huge quantities of agro residues but they are not able to use it efficiently causing extensive polluted environment. Apart from transportation, storage, and handling problems, the direct burning of loose biomass in conventional grates is having very low thermal efficiency and widespread air pollution. The conversion efficiencies are as low as 40% with particulate emissions in the flue gases in excess of 3000 mg/Nm3. In addition, a large percentage of the ash of unburnt carbonaceous has to be disposed of. This amounts to more than 40% of the feed burnt. in the case of rice husk. As a typical example, about 800 tonnes of rice husk ash are generated every day in Ludhiana (Punjab) resulting in burning of 2000 tonnes of husk. Pelleting of the husk could lead to mitigation of these pollution problems while at the same this important industrial/domestic energy resource can be utilized. With a motive to solve this problem, it is required to convert waste agro residues and other biomass constituents in the form of pellets for easy use, transportation and trade. However, it must be ensured that this technology should be cheap, simple and easy maintain. Biomass pelleting is basically the process of densification of loose biomass material, in order to produce compact solid composites of different sizes with the application of pressure. Under the the application of pressure, heat and binding agent on the loose materials, pelleting of residues takes place to produce the pellets. These pellets are often used as an alternative development intervention to replace firewood, charcoal, or other solid fuels. In the proper context biomass pellets can save time, save money, decrease local deforestation rates, and provide income generating opportunity.

II. WORKING

In the pelleting vessel, the mash is forced through the holes in the die by roller pressure. Die thickness is a major factor in the production of high-quality pellets and must be accurately balanced with the formulation and conditioning. Speed reduction devices that can be used include directly coupled gear trains, V-belts, cog belts and combinations of belts and gear trains. Pellet mills are installed with an electric motor as the prime mover. Die thickness and hole sizes

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon, Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Preparation of Biodiesel from Cooking oil

Nikesh Chaugule[1], Mohit Bhatt[2], Anand singh[3], Manojkumar Yadav[4]

[1]Department of Mechanical, VIVA Institute of Technology, Mumbai-66
Email: nikeshchaugule1@gmail.com
[2]Department of Mechanical, VIVA Institute of Technology, Mumbai-66,
Email: bhattmohit587@gmail.com.com
[3]Department of Mechanical, VIVA Institute of Technology, Mumbai-66,
Email: Anand2551997@gmail.com
[4]Department of Mechanical, VIVA Institute of Technology, Mumbai-66,
Email: manojyadav@viva-technology.org

***Abstract*—** *In recent times biodiesel fuel has made it more attractive in the point of view of environment benefits. The cost of biodiesel is profit oriented in comparison to petroleum-based diesel fuel. The high cost is primarily due to the raw material, mostly neat vegetable oil. Profitable source for biodiesel production is cooking oil. However, the unwanted particles present in oil can affect the transesterification reaction and the biodiesel properties. This paper attempts to review various technological methods of biodiesel production from cooking oil. The analytical methods for high quality biodiesel fuel from cooking oil have also been summarized in this paper. The properties of biodiesel fuel from used cooking oil were also checked and compared with those of standard diesel fuel.*

Keywords*— *Transesterification,cooking oil,biodiesel

I. INTRODUCTION

Biodiesel can be made from a variety of oils, fats, and greases.It can provide an business for vegetable oils and animal fats and allow farmers to grow the fuel. Biodiesel is a renewable source of energy that can help reduce pollution.It harms in small amount hence contributes less to global warming because the carbon content in the fuel was removed from the air by the raw material.

In addition, biodiesel produces less air pollution than diesel made from fossil fuels. A study found that using pure biodiesel in local buses results in considerable reduction in life cycle emissions of total particulate matter.Biodiesel and its blend have larger cetane number than that of diesel, resulting in earlier combustion. Due to this difference in cetane number, the use of biodiesels lesers the ignition delay compared to standard fuels. The cylinder pressure increases due to higher cetane number and the reduced ignition delay. The other reason for improved combustion is higher oxygen content in biodiesels. In comparison with conventional diesel fuels, biodiesels promote more complete combustion and thus effectively reduce emissions,carbon monoxide and smoke.

II. PROBLEM DEFINATION

1. Recent studies shows that the oil is main or efficient source of enegy.
2. Due to increase in demand for clean fuels biodiesel becomes the grester relief source of problem.
3. After heating oil up to 60 C the problem arises as the separation and the how to know that the layer is separated.
4. The use of used cooking oil minimizes waste to the disposal, which contaminate water.hence various methods of preparation of biodiesel must be searched which is don't lead to any harmful impact

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

DESIGN AND ANALYSIS OF BLADELESS WINDMILL

Trushal Sawant[1], Mohan Shingade[2], Manas Raul[3], Pratik Raut[4]

[1]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: trushal.sawant@gmail.com
[2]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: shingademohan@gmail.com
[3]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: manasuraul@gmail.com
[4]Assistant Professor, Department of Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: pratikraut@viva-technology.org

Abstract*—Vortex Bladeless S.L a Spanish Tech came up with a radically new approach of using wind energy as a windmill without bladeless as conventional windmill are very costly to use. It works on the principle of Vortex Induced Vibration Phenomenon which is considered as an undesirable effect that plagues engineering as it may seriously effect structural integrity or the reliability of performance but along our research we will see if the vibration is substantial, it can be used to extract useful energy from surrounding. Since the introduction of Vortex Bladeless many improvements have been made and its still strives for the betterment. In our research we are going to conduct CFD Analysis using ANSYS Fluent of the base line model from[1] and couple it with Static Structural and the interaction between fluid and solid will be studied using Fluid solid interaction and Modal will be used to find the frequency of structure and validate it with experimental data[1]. Our area of focus is shape optimization of these Windmill in order to its increase frequency and displacement and can have better stress distribution since its prone to high fatigue stresses due to resonance that will be required in its operation.*

Keywords—Vortex Bladeless, Vortex Induced Vibration, CFD Analysis, ANSYS Fluent, Fluid Solid Interaction.

I. INTRODUCTION

Due to the ever increasing demand for renewable energies Vortex Bladeless S.L a Spanish Tech start-up came up with a radically new approach of using wind energy as a multi-patented windmill without bladeless. It works on the principle of Vortex Induced Vibration (VIV) Phenomenon i.e. when a wind passes over a blunt object it creates vortices behind which creates alternate low and high pressure region which makes object to vibrate randomly. When the frequency of vortices generated matches frequency of object it creates lock in effect.

As conventional windmill are very costly to use. The cost of production, transportation and maintenance is considerably high. Setting up a conventional windmill takes up a lot of area which is a major problem. They are prone to harm birds during their operation and during their operation they develop low frequency sound which are not good for human health. Since its introduction to the world many improvements have been made and it's still strikes foe the betterment and soon after it can also replace conventional windmills.

Our research emphasis on the improvement on the efficiency of these Vortex Windmill. Our area of focus is shape optimization of these Windmill in order to its increase frequency and displacement and can have better stress distribution since its prone to high fatigue stresses due to resonance that will be required in its operation.

II. Objective

- To improve the efficiency of the turbine by optimizing its shape and size for local use.
- To control stress distribution that may occur due to fatigue.
- To achieve optimum amplitude of vibration for maximum power generation.
- To achieve unidirectional motion.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
F-20

Application of Topsis: A Multiple Criteria Decision Making Approach in Tool insert Selection

Chhaya Patil

Department of Mechanical Engg, VIRAR
chhayapatil@viva-technology.org

Abstract— *In modern decision science the Multiple attribute decision making (MADM) is playing an important role for selection of best from number of alternative. It is used in various areas such as society, economics, military, management, manufacturing, etc. To date, most research has focused on single-period multi-attribute decision-making in which all the original decision information is given at the same period, and a number of methods have been proposed to solve this kind of problems. In this paper I have discussed a unique advent for ideal cutting tool insert selection method. In this method, a well-known Multiple Attribute Decision- Making (MADM) methods such as Technique for order preference by similarity to ideal solution (TOPSIS) use for a case study of tool insert selection for best surface finish in CNC (Computer Numerical Control) turning operation. In these methods their relative performance are compared with respect to ranking of alternative and from ranking we have selected best tool insert for better surface quality during turning operation on alloy steel using CNC turning centre .*

Keywords— Multiple attribute decision making, Technique for order preference by similarity to ideal solution (TOPSIS)

I. INTRODUCTION

Multiple-criteria decision-making or multiple-criteria decision analysis (MCDA) is a sub-branch of operations research that accurtely considers multiple criteria in decision-making encompassment. Whether in our daily life or in professional lives, there are commonly uesd multiple contrary criteria that need to be check out in making decisions. Cost or price is generally one of the main criteria [1, 2, 3]. Some measure of quality is typically another criterion that is in conflict with the cost. In purchasing a car, cost, comfort, safety, and fuel economy may be some of the main criteria we consider. It is unusual that the cheapest car is the most comfortable and the safest one. In management, we are interested in getting high returns but at the same time reducing our risks [4]. Again, the stocks that have the potential of bringing high returns typically also carry high risks of losing money. In a service industry, customer satisfaction and the cost of providing service are two adversing criteria that could be useful to consider [5, 6]. In making the decision of whether to build a thermal power plant or not, and where to build it, there are not only very difficult issues involving multiple criteria, but there are also multiple parties who are deeply affected from the consequences

MCDM method is broadly classified into two categories: multiple attribute decision making and multiple objective decision making, depending on whether the problem is a selection problem or a design problem.

Out of the many MADM methods five methods are commonly used:

- Simple Additive Weighting (SAW) method
- Weighted product method(WPM),
- Analytic hierarchy process(AHP),
- Revised Analytic hierarchy process(RAHP),
- Technique for order preference by similarity to ideal solution (TOPSIS).

Each decision matrix in MADM methods has four main parts, namely: (a) alternatives (b) attributes, (c) weight or relative importance of each attribute and (d) measure of performance of alternatives with respect to the attributes. The decision matrix is shown in table 1.1. The decision matrix shows alternatives, Ai (for I =1,2,.....,N), attributes, Bj (for j=1,2,....,M), weights of attributes, Wj (for j =1,2,.....,M) and the measure of performance of alternatives, mij (for i=1,2,.....,N; j=1,2,.....,M). Given the decision matrix information and a decision making method, the task of the decision maker is to find the best alternative and/or to rank the entire set of alternatives. It may be added here that all the elements in the decision matrix must be normalized to the same units, so that all the elements in the decision problem can be considered.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

System Analysis & Mathematical Modelling Of Bus Suspension System Using Matlab

Pratik Raut[1]

[1]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: pratikraut@viva-technology.org

Abstract**—** *Suspension system is the most significant part which heavily affects the vehicle handling performance and ride quality. The design of the control strategy is the core of suspension system technology. So the research of the application of system modelling in automobile suspension spreads out in this thesis. According to the automobile suspension system dynamic characteristic, this thesis use modern control theory in the active suspension system. The author puts forward new control strategies and combined with PID control, which make suspension system control performance further improve. The author uses the vehicle kinematics theory to set up active suspension system dynamic model. The author also established form of input mathematics and simulation model. Through the MATLAB software, simulation model was constructed. It achieved the control simulation with different input of the suspension system. Through the analysis of simulation results, we know that feedback control strategies are more reasonable and feasible. The combination of PID control is more competitive, it has shown best stability and reliability. This combination also greatly improves the stability characteristics, and the curve is more smoothly, which achieved great effect. This new type of intelligent control strategy provides a new thinking way for the automotive suspension control theory.*

Keywords**— Suspension system, Matlab, System Analysis, Bus suspension system, dynamic modelling, P controller, PI controller, PID controller, State space model,.**

I. INTRODUCTION

At the present time, there is a great problem providing the bus suspension system with high speed & smooth drive from olden days, large control method has been proposed to overcome these suspension problem. Many active suspension control approaches such as linear Quadratic Gaussian (LQG) control, adaptive control & nonlinear control are developed and proposed so as to manage the problem. In this paper PID controller is used to control the bus suspension system. The values of Kp, Kd and Ki are calculated using Ziegler-Nicholas method. State space theory will be used in order to create the mathematical modelling of the system. The simulation is using the Matlab/Simulink software.

1. BUS SUSPENSION SYSTEM

The bus suspension system is one of the impressive challenging problems in terms of controlling the system. The control objective of this system is to give the smoothest riding for who is on the bus. There are three system for suspension system which are active, semi active and passive suspension system. From the bus suspension system model, the dynamic equation is obtained by using the Newton's law. Then, this dynamic equation will be transfer into the Matlab to get the transfer function using the built in function. In this paper 1/4th model of the bus is used to design a simple bus suspension system. The model of bus suspension system is shown below - proposed methodology

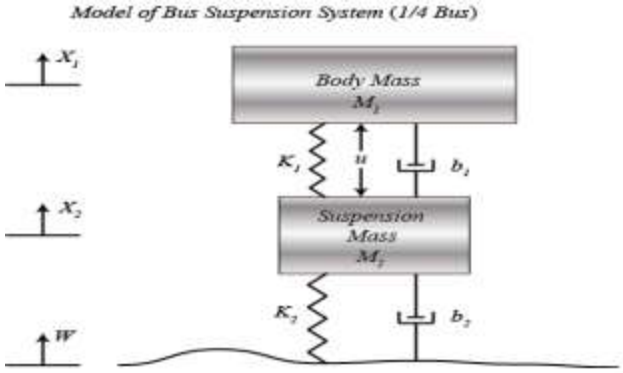


Fig. No. 2.1 Bus suspension system model of 1/4th bus

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Analysis of Machining Parameters on EDM of HCHCR-D2 Using Full Factorial Design

Vinit D Raut
[1]Department of Mechanical Engineering, Mumbai University, Maharashtra-401305
Email: vinitdraut@viva-technology.org

Abstract— *In this report the effect of Process parameters on material removal rate(MRR) and surface roughness of HCHCR-D2(high carbon high chromium steel) die steel are investigated as MRR and Surface roughness in W-EDM(wire electrical discharge machining) are of crucial importance and Full factorial Design and ANOVA techniques are used for optimization of parameters. For experimentation Pulse on time (Ton), Pulse off time (Toff), Peak current (Ip), and wire feed rate(Wf) are taken as input parameters while MRR and Surface roughness are taken as output parameters. For each experiment Surafce roughness is calculated by using Surface finish tester and MRR is calculated by measuring the difference in weight of workpiece before and after machining with time required for machining.*

Keywords: Wire electrical discharge machining, Material removal rate , Surface Roughness ,Full factorial Design ,HCHCR-D2 Material, ANOVA.

I. INTRODUCTION

1.1 Wire Electrical Discharge Machining Process:

Wire Electrical Discharge Machining (W-EDM) is widely used manufacturing process used to machine conductive materials due to its capability of producing intricate and complex shapes irrespective of hardness and toughness of material. It can produce more complex two and three dimensional shapes through conducting materials This process is extensively used in mould and die making industries, nuclear industry, aerospace industry etc. . In

WEDM (wire electrical discharge machining) material removal takes place due to electro thermal process. A series of electrical pulses generated by pulse generator unit is applied between the work piece and travelling wire electrode which generate series of discrete sparks between the electrode and work piece. While the machining is continued, the machining zone is continuously flushed with water passing through the nozzles on both sides of the work piece.

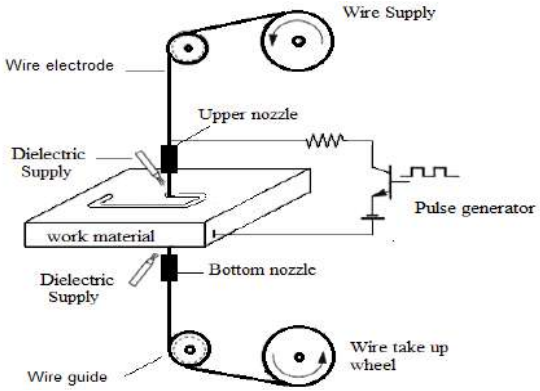


Fig 1.1: Schematic Representation of WEDM process

II. PROBLEM DEFINITION:

In CNC Wire electrical discharge machine, Process parameters like pulse on time(Ton), pulse off time(Toff), Input Current(Ip), wire feed rate(Wf) play an important role as it affects the MRR (material removal rate) and Surface roughness. Most of the times this machines are operated by workers; If process parameters are not set properly then it results in low MRR as well as Surface finish. If at some point amount of stock removed from the electrode becomes greater than the amount being removed from the work piece, the wire electrode breaks and discharge is stopped.The overall objective is to produce high quality product at low cost to the manufacturer.Optimization is a process that finds a best, or optimal, solution for a problem of process parameters is the best way to solve this problem, Taguchi L9 Orthogonal array and Grey Relational analysis used to set optimal set of parameters.

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar, Tal.: Vasai, Dist. Palghar
VIRAR (EAST)

Development of Automatic Writing Machine using Android Interface and Voice

Mr. Amogh Mhatre[1], Mr. Kalpit Kelvankar[2], Mr. Sourabh Kadam[3], Mr. Vinit Raut[4]

[1]Department of Mechanical Engineering, Mumbai University, Maharashtra, India
Email : amoghmhatre31@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Maharashtra, India
Email : kalpitdj18@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Maharashtra, India
Email : sksourabh13@gmail.com
[4]Department of Mechanical Engineering, Mumbai University, Maharashtra, India
Email : vinitdraut@viva-technology.org

***Abstract*—** *Voice recognition alongside Machine Learning can help achieve greater goals in terms of automatic writing tools made available to the society. Traditional approach to writing scriptures and handwritten theses are far more replaced by machine typed material which is far more accurate and easy to analyze as well as understand. The proposed system also helps provide the same by using voice recognition and some inherent motors which will be controlled as per the voice data received from the user. Machine learning algorithms are way powerful in analyzing such complex data and syncing it further with the motion of the mechanical motors to recreate the human art of writing. It will enable flawless and faster writing material which would be of greater use to one and all and short scripts and notes could be generated right away without even the need of identifying the data in the first place or lifting up the pen in the other.*

Keywords*— *Writing Machine, Machine Learning, Voice Recognition, Android Phone, Bluetooth Module, Arduino UNO.

I.NTRODUCTION

The proposed system presented in this report is based on the development of automatic writing machine using android interface and voice. Machine is a system that consist of various components which when assembled together perform definite function. As the name suggests, this machine is a combination of mechanical and electronic system which together perform the task of writing. Most of the machines at the present time work on the principle of mechatronics which indirectly results into automation.

From the past few years, automation has increased to a very large extent. Automation is playing an important role in performing day to day life functions. Time and man power are critical constrains for completion of task in large scales in this high society. As we know, students spend most of their valuable time in writing term work and don't get enough time for other activities or else to explore new other things. Also authors, script writers spend plenty of their time in either writing or typing story and dialogue. Most important of all handicap people are unable to write on their own. So, to tackle these problems we are developing a writing machine which works on speech recognition technique.

The objective of this project is to develop a writing machine which can be controlled by voice recognition technique. This machine will be able to decode the input voice commands into the lateral movement of the X-Y slider system. The previous model was based on the two-way process (man-computer-machine) which consume more time. So as to eliminate this problem to some extent the proposed model is combined with artificial intelligence making it one-way process (man-machine).

II. SETUP

2.1 Design Considerations & Calculations:

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Cruise Control System to maintain acceleration of two wheeler constant

Mr. Dharmit Vala[1], Mr. Ronak Panchal[2], Mr. Sangram Thorat[3], Mr. Suneet Mehta[4]

[1]Department of MECH, BE Student, Mumbai University, Shirgaon, Virar.
Email: dharmitvala07@gmail.com
[2]Department of MECH, BE Student, Mumbai University, Shirgaon, Virar.
Email: rnpanchal126@gmail.com
[3]Department of MECH, BE Student, Mumbai University, Shirgaon, Virar.
Email: sangramthorat24@gmail.com
[4]Department of MECH, Assistant Prof., Mumbai University, Shirgaon, Virar.
Email: suneetmehta@viva-technology.org

***Abstract*—** *Adaptive cruise control (ACC) is an intelligent form of cruise control that slows down and speeds up automatically to keep pace with the car in front of you. The driver sets the maximum speed — just as with cruise control — then a radar sensor watches for traffic ahead, locks on to the car in a lane, and instructs the car to stay 2, 3, or 4 seconds behind the person car ahead of it (the driver sets the follow distance, within reason). ACC is now almost always paired with a pre-crash system that alerts you and often begins braking. Adaptive cruise control is also called active cruise control, autonomous cruise control, intelligent cruise control, or radar cruise control. This is the case because distance is measured by a small radar unit behind the front grille or under the bumper. Some units employ a laser, while Subaru uses an optical system based on stereoscopic cameras. Regardless of the technology, ACC works day and night, but its abilities are hampered by heavy rain, fog, or snow. Adaptive cruise control is typically paired with forward collision warning that functions even if you don't have ACC engaged. When ACC is engaged, the car will typically slow under ACC braking at up to half its maximum braking potential. Beyond that, driver and passenger discomfort with automated braking sets in. Red lights flash at the driver, the words —Brake! or —Brake Now! show on the instrument panel or head-up display, and a loud chime sounds. When ACC isn't engaged, it's still tracking traffic in front and intervenes with the warnings if it senses a potential accident.*

Keywords*— *Adaptive Cruise Control, Autonomous Cruise Control, Sensors, Ride-By Wire Technology, Automatic Braking System.

I. INTRODUCTION

The project work presented in this report is based on Adaptive Cruise Control preinstalled in high range automobiles. Since it is not possible to buy a high range motorcycle, this project focusses on providing this feature in all the mid and low range motorcycles. With the increase in the number and quality of the highways, the passion for going long distances on motorcycles is increasing within the riders. When on a highway, most of the times the speed is to kept constant, which means that the rider has to hold the throttle in the same position for a long period of time which causes strain and fatigue to the rider. To avoid this fatigue, we need a mechanism that can lock and unlock the throttle position at the will of the rider. Cruise control is a feature which does the same electronically on motorcycles equipped with a Ride-By Wire throttle arrangement instead of a conventional throttle cable.

II. PROBLEM DEFINITION

i. **Fatigue caused by continuous riding.**
For long distance touring, most of the time the riders have to keep the speed constant by holding the throttle in the same position. This causes stress, fatigue and boredom to the rider.

ii. **Fuel consumption due to constantly varying acceleration.**
If the engine speed constantly varies, the carburetor response causes a lot of unburnt fuel pass through the exhaust. This leads to higher fuel consumption for the vehicle.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Implementation Of Total Productive Maintenance In A Machine Shop

Arsh Mhate[1], Amit Mishra[2], Karim Khan[3], Sushil Mishra[4]

[1]Department of Mechanical Engineering, Viva Institute of Technology, Mumbai University, Maharashtra, India.
Email id-mhatearsh97@gmail.com
[2]Department of Mechanical Engineering, Viva Institute of Technology, Mumbai University, Maharashtra, India.
Email id-amishra08021996@gmail.com
[3]Department of Mechanical Engineering, Viva Institute of Technology, Mumbai University, Maharashtra, India.
Email id-karim78678@gmail.com
[4]Department of Mechanical Engineering, Viva Institute of Technology, Mumbai University, Maharashtra, India.
Email id-sushilmishra@viva-technology.org

Abstract— *The purpose of this paper is to review the literature on Total Productive Maintenance (TPM) and to present an overview of TPM implementation practices adopted by the Machine shop. It also seeks to highlight appropriate enablers and success factors for eliminating barriers in successful TPM implementation. TPM is one of the lean tools, a maintenance program which gives a totally new approach for maintaining plant and equipment. Therefore, methodology like TPM is necessary to get a better result. This plan results in maximum effectiveness of equipment's, tidier, neat and clean workplace and morally boosted employees.*

Keywords— Total Productive Maintenance, Overall Equipment Efficiency, Availability.

I. INTRODUCTION

Now day's huge manufacturing organisation are in race of only increasing the productive while ignoring the maintenance of machines and equipment, due to this, various wastages occurring in the manufacturing shop floor. The wastages may also be is due to operators, maintenance personal, process, tooling problems and non-availability of components in time etc. Other forms of waste includes,idle manpower, breakdown machine, rejected parts etc. are examples of waste. The quality related waste are of significant importance as they matter the company in terms of time, material and the hard earned reputation of the company. In this situation, a revolutionary concept of Total Productive Maintenance (TPM) has been adopted in many industries across the world to address the above said problem. The main aim is to aware and motivate employees in machine shop to ensure that all machines and equipment are self-maintained at regular interval of time and are in running position to increase the productive of machine shop.

II. PROBLEM STATEMENT

After visiting the Machine shop. Following problems were observed on shop floor:

- Lack of co-ordination between instructors and workers.
- Tools were unorganized.
- Poor utilization of material.
- Machine maintenance was not carried out.
- Time loss occurs during loading and setting of job on machines as too many operations are involved in producing each part.
- Breakdowns of machines due to improper cleaning and lubrication of machines.

All the above mentioned problems are affecting the production rate on production shop floor and thereby affecting Productivity of the Machine Shop. Hence in order to eliminate the above mentioned causes, the eight pillars of Total Productive Maintenance can be used as a continuous improvement program.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
F-60

Improving Productivity by Using Quality Tools

Aditi Pimpale
[1]Department of Mechanical Engineering, VIVA Institute Of Technology, Virar East
Email: aditipimpale@viva-technology.org

Abstract *- Total quality Management as a philosophy seeking to integrate all organizational functions in all areas of productions and services become an important attractive research field. It encourage Researchers to address many topics related to Total Quality management and Continuous improvements. Each has his own approach. Each reveals findings and results. service. The ultimate aim This paper is to study the impact of total quality management (TQM) concept and argues that its application is the critical need of our industries. The global marketplace to continuously adapt their products to meet new market demands in order to stand their ground in a highly competitive environment. Management"; and the third, presents some of the benefits that were realized by international organizations implementing TQM. TQM technique using tools like JIT techniques to assist and make further development in manufacturing organization to enhance and improvise the efficiency of system. .Proper functioning of the tools and liable guidance for workers so that increases the efficiency and good decision making skills. Producing high quality of products and services is one of the key concerns in order to keep up with the competition in the global markets.*

Keywords— Continuous Improvement, JIT, TQM.

I. INTRODUCTION

The growing competition in the current global market is an issue translating into a vast need for the continuing evolution of the industry. Therefore, world business is continually in search for the competitive edge due to the growing demands of customer needs and expectations. Quality has an important role in the business process across the entire organization, to be more efficient and effective in the global market, thus improving productivity and customer loyalty as well as increase market share. It is not only necessary to reduce the wastage, but also to satisfy customer's expectations, continuous cost reductions and continuous improvements to survive in highly competitive environment.

1.1 QUALITY CONTROL TOOLS AND TECHNIQUES ARE:-

Understanding processes so that they can be improved by means of a systematic approach requires the knowledge of a simple kit of tools or techniques. The effective use of these tools and techniques requires their application by the people who actually work on the processes, and their commitment to this will only be possible if they are assured that management cares about improving quality. The tools and techniques most commonly used in process improvement are: • Process flowcharting • Cause & effect diagrams • Brainstorming • Pareto analysis • Control charts • Check sheets • Scatter diagrams • Histograms • FMEA.

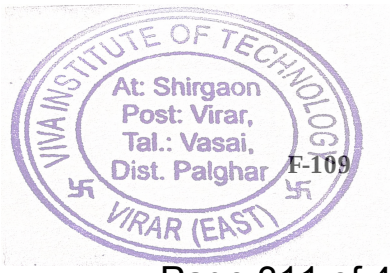
II. QUALITY CONTROL TOOLS

Q.C.Tools can be applied Production and Marketing. The main aim is to satisfied the customers and delivery of defect free product. The aimed to the successfully implementation of quality control tools in manufacturing industry.

Understanding processes so that they can be improved by means of a systematic approach requires the knowledge of a simple kit of tools or techniques. The effective use of these tools and techniques requires their application by the people who actually work on the processes, and their commitment to this will only be possible if they are assured that management cares about improving quality.

The tools and techniques most commonly used in process improvement are:

- Process flowcharting
- Cause & effect diagrams



Designing of Air Conditioning Unit for a Computer Laboratory

A.B. Mengu[1], A.B. Mali[2], H.S. Kawale[3], M.Jagtap[4]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, MUMBAI-66
Email: abhishekmengu@gmail.com
[2]Department of Mechanical Engineering, VIVA Institute of Technology, MUMBAI-66
Email: mabhishek0901@gmail.com
[3]Department of Mechanical Engineering, VIVA Institute of Technology, MUMBAI-66
Email:hemantkavale53@gmail.com
[4]Department of Mechanical Engineering, VIVA Institute of Technology, MUMBAI-66
Email:mayur.mdj94@gmail.com

Abstract: - *Increasing temperature and for better life of the computer units an air conditioning unit is to be installed in the computer room. Air conditioning systems are mostly designed to meet the indoor environmental requirements of all the entities in the conditioned space. Three types of air conditioning systems are mostly used, namely, window, split and central. This paper includes the procedure involved in designing of the air conditioning unit such as the heat load calculation, etc.*

Keywords— air conditioning systems, designing, components.

I. INTRODUCTION

Air – conditioning is the process of treating air to control its temperature, humidity, cleanliness, quality and distribution to meet the requirement of the occupants, process or product in the conditioned space [1]. Air conditioning could be used for both domestic and commercial environments. It provides a comfortable environment and is used to cool and dehumidify rooms filled with heat generating devices.Air conditioners uses a fan to evenly distribute the conditioned air to an occupied space to improve thermal comfort and quality of indoor air. The cooling is achieved by a refrigeration cycle.

II. DESIGN OF APPROPRIATE AIR CONDITIONING SYSTEMS

A building having a roof and walls designed to provide shelter and ensure comfort for its occupants. Heerwagen [2] has outlined the basic requirements of a building to include controlling its internal environment well enough to satisfy the occupants physical and physiological needs, supporting the psychological state of each occupant, and resisting the natural forces that act against it. The above mentioned requirements should be provided at a reasonable cost and efficient use of resources. The design of an air conditioning system to meet the requirements of an indoor environment begins with a study of architectural drawings to determine the following data [3]:

i) The function of building.
ii) The geographical site location.
iii) The room area, height, materials used for the walls and roof.
v) The weather and climatic design data for location of the building.
vi) Indoor environmental data, air quality and ventilation requirements.
vii) Internal load data.

By proper estimation of the building sensible and latent cooling loads, the next step in the design process is the selection of an air-conditioning system that can compensate for the loads and produce the desired cooling effect in the best way with the minimum consumption of energy. All such systems must be capable of maintaining the indoor environmental condition required in each area. The ability to provide adequate thermal zoning is also

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Fabrication and Design Of Coconut Dehusking Machine: A Concept

Tejas Jadhav[1], Niraj Bhoir[2], Vaibhav Kadam[3] , Swapnil Raut[4]

[1]Department of Mechanical Engineering, Mumbai University, Mumbai
Email: jadhavtejas897@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Mumbai
Email: nirajbhoir1315080248@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Mumbai
Email: vaibhavk440@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Mumbai
Email: rautswapnil125@gmail.com

***Abstract*—** *Coconut is a main crop of Kokan, Kerala region and dehusking of coconut is very necessary step in making the coconut ready for further utilization. Coconut dehusking machine is used to removing of the husk from the coconut. Traditional dehusking is time consuming and difficult process. Generally, coconuts area unit dehusked manually employing a hand cutter. These strategies need skilled labor that is tough and painstaking method. To overcome these limitations and to provide safety for the operator, a new design of dehusking machine is introduced and fabricated. Optimum variety of blades is arranged on the rollers to dehusk the coconut with minimum force.*

***Keywords*— *Spikes, Roller, Dehusking, Coconut*.**

I. INTRODUCTION

India is the third largest producer of coconut in the world after the Philippines and Indonesia. India alone accounts for about 69% of the world production of coir and coir products. The total output of coir and coir products in India is estimated to be aroundRs.1500.00 core including exports of Rs.350.00 core. Coconut husk, shell, copra, coconut water are useful parts of coconut orchard. In various forms such as shell as a fuel, copra as food, coconut water as nutritious liquid in this way coconut husk used in coir industry. Coconuts are grown in approximately more than 93 countries of the world, with a total production of 5.4 billion tons per year. An individual coconut fruit is made up of an excerpt, India is the second largest country to grow the coconut palms. In the economic, social and cultural activities of millions of people in our country coconut plays an important role. Food, edible oil, industrial oil and health drink to humanity are produced from the coconut. All parts of coconut tree is useful in one way or other and the crop profoundly affects the socio-economic security for millions of farm families. The main source of vegetable oil used for both edible and industrial applications is coconut. The present study is focused on the various machines which are available for the husking operation of coconut and points out the advantages and disadvantages of each.

II. PROBLEM DEFINITION

Dehusking with traditional hand tools like machete or a spike depends on the skill of worker and involves training. Nowadays there is shortage of such skilled. Workers. The mechanized or the power operated machines are developed to eliminate the drawbacks of manual tools. Following causes were identified for dehuusking of coconut:-

- The dehusking of coconut regarded as most time consuming.
- Tiring and difficult operation to perform.
- Involves more drudgery
- Skill worker is required because dehusking is done with the help of traditional hand tool.

All methodology of Coconut dehusking machine can be used as a continuous improvement the above mentioned problems are affecting the dehusking rate of coconut hence it will affect the market demand of coconut. Hence in order to eliminate the above mentioned causes.

III. DESIGN CALCULATION

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A Concept on Design and Modelling of Waste Separator Machine

Abhishek Yadav[1], Kapil Yadav[2], Vijay Yadav[3], Pratik Raut[4]

[1]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: absyadav4347@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email:kapilyadav648@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: yadavvijay3107@gmail.com
[4]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: pratikraut@viva-technology.org

Abstract— *Due to increase in population of India the consumption rate of various goods has increased so as the generation of waste increased simultaneously. In order to provide a proper waste management system we need to design a machine to sort the various waste constituents which can be further processed and recycled to reduce the waste. So to achieve such goals we are designing a waste segregator machine which is capable of separating wastes such as metals, non-metals, organic, inorganic, etc. our design strikes towards an efficient, compact and cost effective machine which is feasible for small organizations also.*

Keywords— cost efficient, eco-friendly, effective design, waste management, waste separator machine.

I. INTRODUCTION

As there is an increase in population rate of India so as the urbanization and industrialization which has created waste management issues in the urban as well as the rural areas of the country. However, the municipal corporation of the country don't have sufficient resources, equipment's or advanced technologies to face the issues. Sweden is one of the country that imports waste from different countries to maintain the continuity of its recycling plant, as it has an efficient waste management system.

As in dumping grounds the wastes are directly being burnt without any proper waste precautions and treatment which causes more severe problems to environment and also the waste which can be reused are burnt. So as to protect the environment from hazardous waste and recycle the useful waste products the waste need to be separated depending upon their constituents. To attain the desired aim we need to design a machine which would be capable of separating waste. So we are designing a waste segregator, Waste segregation is the process in which the different constituents of waste is separated and to achieve this waste sorting machine is used. This will help us to sort the various elements present in the waste like plastics, metals, non-metals and stones particles and other substances out from garbage, to improve the reusing and recycling of waste. At the same time, the separated waste materials can be further re-processed into useful resources. So, the main purpose of the waste sorter is reducing processing and turning waste into treasure.

1.1 PROBLEM STATEMENT

As the waste management system in India is not effective which leads to environment and health issues. As India is price based market so the main obstacle in designing is the product cost, its compactness, efficiency and also its reliability.

- Separating the different metals found in waste.
- Separating plastic from the waste.
- Recycling of waste
- Disposal of harmful waste
- Separation of electronic waste

All the above mentioned problems are affecting the daily life of human being and results decrease in life. Therefore above mentioned problems should be eliminated by designing a mechanical system.

1. DESIGN

i. Conveyor Stand

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Fabrication of Seed Sowing Machine

Rohit Patil[1], Hitesh Patil[2] , Advait Raut[3], Manojkumar Yadav[4]

[1]Department of Mechanical Engineering, VIVA Institute Of Technology, Virar, Mumbai, India.
Email: rhtpatil007@gmail.com
[2]Department of Mechanical Engineering, VIVA Institute Of Technology, Virar, Mumbai, India.
Email: hiteshp.patil95@gmail.com
[3]Department of Mechanical Engineering, VIVA Institute Of Technology, Virar, Mumbai, India.
Email: advaitraut21@gmail.com
[4]Department of Mechanical Engineering, VIVA Institute Of Technology, Virar, Mumbai, India.
Email: manojyadav@viva-technology.org

Abstract— *Maharashtra is one of the worst drought-hit state in the country. Despite various schemes, the result is not as expected because none of policies seem to be designed while keeping in mind the Indian farmer and his convenience. Although India ranks second in worldwide in farm output the productivity of its farm is below that of Brazil, U.S., France and other nations. Agro-technology is the process of applying the technology, innovations occurring in daily life and applying that to agricultural sector which improve efficiency of crop produced. The farming sector in India primarily consists of small scale farmers, traditional sowing method and traditional farming equipment. According to that, the Seed Sowing Mechanism is designed and developed to improve seed planting efficiency by considering basic requirements of Indian farmers which is cost effective, simple in design and technology and versatile for use in different farm operations and agro-climatic conditions. The basic functions of these mechanism are seed sowing, covering and furrowing which can be performed simultaneously. A special manually operated mechanism is used to perform all these functions by a single worker. The use of simple machine elements like chain sprocket, hopper, shafts, wheels, etc. increase durability and service ability of the system. The recommended row to row spacing, seed feeding rate, consecutive seed spacing and depth of seed placement are achieved by these mechanism at comparatively low price. Its simple and efficient design enhances the productivity of farming in India.*

Keywords— Agro-innovation, dry season hit, Seed Sowing Mechanism.

I. INTRODUCTION

The real control of the Indian provincial individuals is farming and the two people are similarly engaged with the procedure. In India, close about 70% of individuals are needy upon farming. Horticulture has been the foundation of the Indian economy and it will keep on remaining so for quite a while. So the horticultural framework in India ought to be progressed to decrease the endeavours of ranchers. Be that as it may, the present circumstance is totally unique. The issue of automating the planting procedure in little scale agribusiness, farmlands remains to a great extent unsolved around the world. The seed feed rate is all the more yet the time required for the aggregate task is additionally more and the aggregate expense is expanded because of work compensation, contracting of gear and other outside variables. The customary seed sowing machine is less proficient, tedious.

To beat such issues it is important to structure and build up a superior mechanical machine which is accessible to the ranchers as indicated by their accommodation and farmland conditions. Amid idea age process we are experiencing different thoughts which are possibly powerful yet having a few blemishes in it. To get improved framework it is important to coordinate esteem included highlights of existing items and dispose of the constraints present in such frameworks. The prescribed column to push dividing, seed rate, seed to seed dispersing and profundity of seed arrangement change from product to edit and for various rural and climatic conditions. To accomplish ideal yields a productive seed sowing machine ought to require to satisfy these prerequisites.

II. PROBLEM STATEMENT

On the eve of the 21st century the issue of automating the planting procedure in little scale horticulture remains to a great extent unsolved around the world. Harsh soil surfaces with incompletely fused plant deposits put extraordinary requests on

VIVA INSTITUTE OF TECHNOLOGY
At Shirgaon, Post Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Comparison of influence of shallow and deep cryogenic treatment on HSS tool

Mansi Lakhani

Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR
Email: mansilakhani@viva-technology.org

Abstract— *Recently, cryogenic treatment of cutting tool materials is widely being accepted as a complementary treatment used for enhancing the physical and mechanical properties of the material. Reports have been made regarding improvements in the wear resistance, toughness, fracture resistance, increased hardness, better thermal conductivity, lower chemical degradation and favorable residual stress condition for various grades of tool steels and tungsten carbide inserts. It is a one-time treatment that influences the entire bulk of the component, unlike surface treatments.*
The current study deals with comparing the influence of shallow and deep cryogenic treatment on performance of single point HSS cutting tool. In this study, the hardness and tool life of cryogenic treated and non-treated cutting tool is been compared. Also, the microstructural changes is been studied for cryogenic treated tool to understand the most probable metallurgical mechanism behind the enhancement of performance of HSS cutting tool.

Keywords— ***About shallow cryogenic treatment, deep cryogenic treatment, HSS tool, tool life, hardness***

I. INTRODUCTION

Metal cutting process forms the basis of the engineering industry and is involved either directly or indirectly in the manufacture of nearly every product of our modern civilization. facilitated the application of higher speeds at each stage of development. Traditional tool materials such as HSS continue to undergo substantial improvement in their properties through suitable modifications in their composition by optimizing the processing technique as well as incorporating various surface treatments. As a result of these technological advances HSS are still in use having surviving competition from carbides and ceramics.

In the conventional heat treatment of tool steels, the problem of retained austenite after heat treatment has prevailed since the development of the tool steels [1]. This retained austenite effects mechanical properties of tool steel and also results in generation of internal stresses. One of the potential solutions to reduce retained austenite in the matrix of martensite is treating the material at lower temperatures, termed as cryogenic treatment. [2] [3] [4]

Over the past few years there has been an increase in interest in the application of cryogenic temperature to different materials. Some literature says that the cryogenic treatment can improve the life span would depend a lot on the cutting conditions. Hence various research works are being carried out to study the effects of this treatment on the performance of various cutting tools so that it could be added to the regular heat treatment cycle for the components the production sector manufacture.

Cryogenic treatment is a one-time permanent treatment process and it affects the entire cross-section of the material usually done at the end of conventional heat treatment process but before tempering. Also it is not a substitute process but rather a supplement to conventional heat treatment process.

Cryogenic treatment can be classified as shallow cryogenic treatment and deep cryogenic treatment. Difference between shallow and deep cryogenic treatment is majorly in its optimal temperature of treatment and holding time. Optimal treating temperature for shallow cryogenic treatment is around -80°C and that for deep cryogenic treatment is around -190°C. Holding time for shallow cryogenic is generally between 5 hours to 8 hours, whereas in deep cryogenic treatment holding time may vary from 16 hours to 48 hours.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Design and Fabrication of Automatic Convertible Wheelchair

Vinay Sankhe[1], Vineet Sankhe[2], Kapil Thakur[3], Aditi Pimpale[4]

[1]Department of MECHANICAL ENGINEERING, VIVA Institute of Technology, VIRAR (E)
Email: vineetsankhe94@gmail.com
[2]Department of MECHANICAL ENGINEERING, VIVA Institute of Technology, VIRAR (E)
Email: vinaysankhe97@gmail.com
[3]Department of MECHANICAL ENGINEERING, VIVA Institute of Technology, VIRAR (E)
Email: kapilthakur798@gmail.com
[4]Department of MECHANICAL ENGINEERING, VIVA Institute of Technology, VIRAR (E)
Email: aditipimpale@viva-technology.org

Abstract *- Wheelchair is basically a chair with wheels. Wheelchairs are most commonly used medical equipment in indoor and outdoor environment. Transferring patients from wheelchair to bed and vice versa is difficult task for both the patient as well as person transferring the patient. Caretakers even need special training to do this task. So there is a need of an alternate to this problem. This Project focuses on designing and manufacturing a automated wheel chair which can be driven using joystick and can be converted into bed. The Design uses linkage mechanism to convert the Wheelchair into bed and vice versa. Usages of linkages make the construction and assembly very simple and low cost. Chair is also automated by providing a joystick to drive the wheelchair using Arduino.*

Keywords – Wheelchair, Arduino, Convertible Wheelchair, Automatic Wheelchair, Joystick Controlled

I. INTRODUCTION

The number of physically disabled or weak peoples in India is increasing day by day. As per Census 2011 there are about 2.68Cr people are disabled. Wheelchairs help these people with disabilities to become productive with their life. Wheelchairs are used by injured, physically disabled people or elderly people as an assistive device to move around. They are commonly used in hospitals, old age homes etc.

As over the year wheelchairs have been improving from manual to electric. Most of the wheelchairs available in market are still manually operated wheelchairs. While these wheelchairs are of low cost it takes a lot of physical strength to operate a wheelchair for a long period of time. There are some power wheelchairs which have electric motors but they cost high amount of money in current market and they are still unable to satisfy the need of the disabled people. While wheelchairs can be very helpful in moving people from place to place, transferring people to wheelchair from bed or to bed from wheelchair is very hard task and is an issue for patients, nurses as well as family members. It has to be done by proper technique in order to avoid any accidents. For people using wheelchairs it is almost impossible to get out of the chair without any help.

1.1 Aim of Project

This Project hence focuses on creating a Multipurpose Wheelchair which is not only automatic but also convertible. The study was done to understand and the needs of the people and to provide an affordable yet quality solution. The conversion is manually operated by using linkages and electric motors with joystick controller are used to control movement of wheelchair.

1.2 Problem Definition

Wheelchair serves the purpose of transporting a person/patient from one location to another. People may feel uncomfortable and require moving due to reasons such as getting fresh air, Wheelchair serves this purpose as it is cheap and most efficient device available. However person who is incapable to move his legs has to manually drive wheelchair by his hands which brings restriction to the movement as it is exhausting. Many times patients with physical disability have to assign a caretaker to move them around which in case of hospitals etc. takes up resources that can be used differently. Moving from wheelchair to bed and vice versa by himself is not possible for a person. Even for some other person such as care taker or family member it is difficult to move a person from wheelchair to bed and is detrimental to health of helper as well as patient. Even though there are power assisted wheelchairs and recliner wheelchair they have high cost. Also the numbers of multifunctional options available are very low. Hence for hospitals or charity homes it is not affordable to give such services to their patients. To eliminate all this problems and to provide patients comfort of moving around a wheelchair was created which can be converted into bed and vice versa.

II.METHODOLOGY

The process of making the project to achieve the aim included following steps

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Application of Theory of Constraint for Reduction in Lead Time

Priyank Vartak[1]

[1]Department of Mechanical Engineering, Mumbai University, Maharashtra
Email: priyankvartak@viva-technology.org

Abstract— *Theory of Constraint (TOC) philosophy developed by Eli Goldratt aims at improving the weakest links in a production chain as the performance of any production system is regulated by the bottleneck process. Hence focusing on eliminating these bottlenecks which also referred to as constraints can improve the performance of a system. Non-productive time and delivery time are the major factors that needs to be reduced in order to sustain in the fierce competition happening today. This paper addresses the problem of larger delivery time faced by a clamp manufacturing company situated at vasai that was resolved by implementing five steps methodology of Theory of Constraint which in turns resulted in 75 % of reduction in Lead time.*

Keywords— bottlenecks, Constraints, Lead time, Theory of constraint.

I. INTRODUCTION

Today's businesses are competing increasingly based on delivery time and product quality. Companies cannot survive in this competition if they fail to obtain competitive advantages by producing high quality products in shorter throughput time. Thus in order to fulfil customer's requirement within the shortest time, there is a need of utilizing the capacity of the production facilities to the fullest. The output of a system is a function of the entire system and not just of single process. When the system is seen as a whole, we understand that the output is a function of the weakest link of the system's process flow. This weakest link is nothing but the constraint. The aim of every organization is to achieve higher profits and each of them has at least one constraint that stands on the path, blocking it from reaching its final goal of improved profitability. Thus it is vital for any business to identify and manage constraints in order to achieve higher profits. Focusing on improving an entire system rather than improving bottleneck constraint, does not impact the overall system output. The consequences of viewing organizations from the constraints and non-constraints perspective are significant. Most organizations have to accomplish many things with limited resources. Thus in order to make real progress towards the goal, it is necessary to be focused on the constraint rather than entire system. Given this perspective, Theory of Constraint's 5-step process offers a systematic and focused approach that can be used by the organization to successfully pursue ongoing improvement. Theory of Constraints (TOC) consider that the performance of any production system is limited by the weakest link, or the bottleneck and focusing on eliminating these constraints leads to increase the efficiency of a system.

II. PROBLEM STATEMENT

Objective of this case study is to reduce lead time of the process by applying the constraint theory in order to find and eliminate the wastes in the process. Steel-Smith is a manufacturer of large variety of toggle clamps. The main issue at Steel-Smith is that the delivery time for the clamp is much more than their competitors as manufacturing time for each type of clamps is considerably large. Thus the possibility of loss of future orders is the major concern for them.

To overcome above mentioned problems Theory of Constrained Concepts was implemented which includes five steps methodology.

III. IMPLEMENTING TOC

Implementing TOC to the business organization is carried out using five focusing steps which provides a focus for a continuous improvement process are as follows:

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Determination of Critical Machine using Overall Equipment Effectiveness

Swapnil Raut[1]

[1]Department of Mechanical Engineering, Mumbai University, Maharashtra
Email: swapnilraut@viva-technology.org

Abstract— *Today, industries around the world spend a lot of money on buying new machinery to increase the production, however a little is done to get hundred percent output from the machines. Frequent machine breakdowns, tool failures, low plant availability and increased rejection are a great threat to increase operating cost and lower productivity. Overall equipment effectiveness (OEE), which shows the total efficiency of plant plays an important role in the industry. It calculates the percentage of actual effectiveness of the equipment considering availability of the equipment, performance rate when running and the quality rate of the manufactured product measured over a period of time. The purpose of this paper is to determine critical machine on a shop floor in a manufacturing plant using OEE.*

Keywords—machine breakdown, OEE, critical machine, availability, performance, quality.

I. INTRODUCTION

In today's industrial scenario huge losses occur in the manufacturing shop floor. This waste is due to operators, maintenance personal, process, tooling problems and non-availability of components in time etc. Other forms of waste include idle machines, idle manpower, breakdown of machine, rejected parts etc. In this situation, a revolutionary concept of Overall Equipment Effectiveness (OEE) which includes determination of critical machine on the shop floor, has been adopted in many industries across the world to address the above said problems. This research work is based on determination of critical machine in terms of overall equipment effectiveness. For this purpose a medium scale industry in Vasai is selected known as Naminath Engg. Pvt. Ltd. It is a leading manufacturer of precision turned &cold forging components, automobile spare parts and various other components like studs, taper plugs, banjo bolts, dowel pins, pins, nuts, shafts, screws, adapters, connectors, bushes, spacer, filler & magnetic plugs. Overall equipment effectiveness (OEE) is a term coined by Seiichi Nakajima. It provides a way to measure the effectiveness of manufacturing operations from a single piece of equipment to an entire manufacturing. OEE is an effective tool used in TPM and Lean Manufacturing as a Key Performance Indicator. It is percentage of planned production time which is truly productive. OEE measurement is essential for every organization committed to eliminate waste & losses through implementation of TPM.

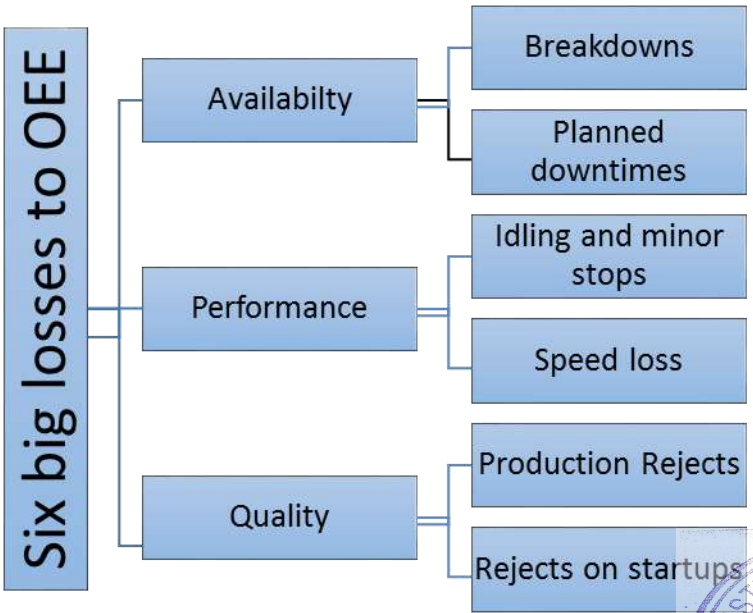


Fig.1 Losses to OEE

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Implementing 5S, Gemba Walk And Why Why Analysis For Quality Improvement

Henisha Raut[1]
[1]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR
Email: henisharaut@viva-technology.org

Abstract— *The purpose of this research is to use 5S, Gemba Walk and Why Why analysis to assist manufacturing organisation to become more productive and more efficient by solving customer complaints effectively. Producing high quality of products and services is one of the key concerns in order to keep up with the competition in the global markets. Quality improvement in simple terms is anything which causes a beneficial change in quality performance. Improvement can be achieved by either better control or by raising standards. Increasing productivity and profitability are main objectives of any organization. Many tools and techniques are used to reduce rejections and defects of product. Most of the rejections and defects are occurred due to improper control of quality of product. So a simple approach has been adopted to implement 5S,Gemba walk and Why Why Analysis. This system helps to organize a workplace for efficiency and decrease wasting and optimize quality and productivity via monitoring an organized environment and also to list the problems while production process, for finding root cause of customer complaints. The study highlights that there is possibility of systematic application of all of these tools in the frame of company's overall quality management system.*

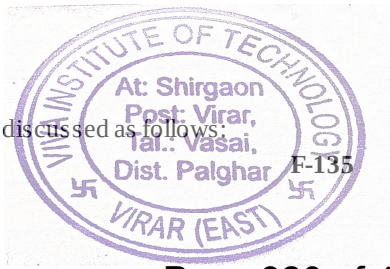
Keywords— Gemba Walk, 5s, Quality, Why Why Analysis.

I. INTRODUCTION

Improving customer service, making operation faster, more operation and reduction in costs are the challenges faced by manufacturers today and to meet these challenges many companies are searching to improve their ability to compete globally. Wastage during production process is rapidly growing day by day in industries. Success in the global market depends on quality. Companies don't design poor quality; it is usually the result of a variation in some stage of production. The concept of variation states that no two products will be perfectly identical even if extreme care is taken to make them identical in some aspect. This results in rejection of components and customer complaints. Detailed analysis of root cause will result into the permanent solution to the problem. Successful implementation of the remedies results into reduced rejection rate and quality improvement. There are different techniques of problem solving and performance enhancement like Gemba walk, Why why analysis whereas for waste reduction 5S is a technique that can be used. 5S is a technique originated in Japan and it was first developed by Hiroyuki Hirano. 5S is a system in which to reduce work and optimize productivity and quality through maintaining orderly workplace. It is the methodology of creation and maintaining well organized, clean, high effective and high quality workplace. Gemba is a Japanese term meaning " the real place". It can be any "site" such as construction site, sales floor, or whether the service provider interacts directly with the customer. The idea of gemba is that the problems are visible, and the best improvement ideas will come from going to gemba. In quality management, Gemba means the manufacturing floor and the idea is that if a problem occurs, the engineers must go there to understand the full impact of the problem, gathering data from all sources. Whereas 5 Whys is an iterative interrogative technique used to explore the cause-and-effect relationships underlying a particular problem. The primary goal of the technique is to determine the root cause of a defect or problem by repeating the question "Why?" Each question forms the basis of the next question. The 5 Whys technique is most effective when the answers come from people who have hands on experience of the process being examined. 5 Why's can be used for troubleshooting, quality improvement and problem solving, but it is most effective when used to resolve simple or moderately difficult problems.

II. PROBLEM STATEMENT

The problems arising in different departments due to which the productivity is decreased are discussed as follows:



Design And Manufacturing Of Brake Wear Indicator

Harshal Mhatre[1], Smit Kanekar[2], Sumit Lad[3], Aniket Deshmukh[4]

[1] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: harshalmhatre1996@gmail.com
[2] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: smitkanekar@gmail.com
[3] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: sumitlad33@gmail.com
[4] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: aniketdeshmukh@viva-technology.org

Abstract**—** *Brake pad wear sensors are small metal tabs on the backing plate of a brake pad. They are designed to contact the brake rotor surface and send the alarming signal to the user. The Project work presented in this report is based on design and fabrication of mechanical brake wear indicator with low cost and reusable sensor.*

.***Keywords*****— Brake wear indicator , brake pads , caliper , brake rotor , springs.***

I. INTRODUCTION

The most common type of service required for brakes is changing the pads. Disc brake pads usually have a piece of metal on them called a wear indicator sometimes, deep scores get worn into brake rotors. This can happen if a worn-out brake pad is left on the car for too long. Brake rotors can also warp; that is, lose their flatness. If this happens, the brakes may shudder or vibrate when you stop.to Avoid all these problems we should required to joint brake wear indicator on brake pads.

When enough of the friction material is worn away, the wear indicator will send the alarming signal to user. This means it is time for new brake pads. A Brake wear indicator is used to warn the user and/or owner of a vehicle that the brake pad is in need of replacement.

1. Problem definition

Due to regular use of brakes while driving in various conditions such as traffic jams , poor road conditions etc. the user uses the brake frequently which leads to wearing of brake pads. Also in racing cars, heavy duty vehicles and trains the braking system should work properly. If the brake pads wear out beyond the permissible limit then braking system may not work properly this may lead to major problem to user. Due to rapid wearing of brake pads so in order to warn the driver we are adding a safety feature known as “Brake Wear Indicator System”.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Designing And Testing Of Led Fixture Body

Uddhav Mhapralkar[1], Shrikant Jawdekar[2], Amit Kamble[3], Vinit Raut[4]

[1] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: udv.mhapralkar@gmail.com
[2] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: shrikant18jawdekar@gmail.com
[3] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: amitkamble721@gmail.com
[4] Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India.
Email: vinitdraut@viva-technology.org

Abstract— *LED light Lumina is proposed and experimentally analyzed, which accurately projects light into a large rectangular area to achieve uniform illumination and a high optical utilization factor at the target. Today's businesses are competing increasingly based on delivery time and product quality. Companies cannot survive the competition if they fail to produce good quality products. Thus in order to improve the product quality, some methodology of Designing of LED fixture provides a better option as it aims at improving quality of product.*

A manufacturer company struggling to keep pace with this increasing competition with a fear to lose the future orders because of their larger delivery time was selected for this study. This project is focused on improving quality as well as reducing inventory cost by implementing some methodology of Designing of LED Fixture Body Philosophy.

Keywords— LED, light leakage, new design, assembly, quality

I. INTRODUCTION

This project is based on identify and solving the problems in the LED fixture body to increase the productivity and quality industry products. For this purpose, A small scale industry in Vasai East was selected which is known as speciality value lighting and design private limited. It's been a decade company serving to the industries with high quality, specialized and standard led lights. They supply across various states in India directly and indirectly. They are known for prompt delivery of innovative and quality product of light, good customer relationship management.

II. LITERATURE REVIEW

Minseok Ha, Samuel Graham, 2012 [1] in this study conduct a thermal analysis of high power LED packages implementing chip-on-board (COB) architecture combined with power electronic substrate focusing on heat spreading effect. An analytical thermal resistance model is presented for the LED array and validated by comparing it with finite element analysis (FEA) results. In this study, the thermal resistance of high power LEDs implementing COB architecture was analyzed by FEA and analytical analysis. The thermal resistance of LED-array largely depends on the pitch, which is the distance between two adjacent LED-chips, as well as other parameters that mentioned previously. The design shows that LED-chips placed evenly on the heat sink have the lowest thermal resistance and it increases gradually as the pitch decreases The analytical solution derived in this study can provide simple and easy way to find the response with respect to the change of each design parameter.

Heinle, C, Drummer D., 2010 [2] shows in their work, adding thermally conductive fillers to polymers the thermal conductivity can be raised significantly. Thermal conductive polymers (TC-plastics) open up a vast range of options to set up novel concepts of polymer technological system solutions in the area of mechatronics. Heating experiment of cooling ribs show the potential in thermal management of mechatronic parts with TC- polymers in comparison with widely used reference materials copper and aluminum. The results demonstrate that especially for certain thermal boundary conditions comparable performance between these two material grades can be measured. The investigations have shown that, under specific thermal boundary conditions, thermally conductive plastics have a high potential for cooling mechatronic systems. In the area of low to average dissipated energy, if linked to minor degrees of convective cooling, polymers' cooling performance is almost identical to that of metal materials (aluminum or copper). It is thus possible to remove the energy usually dissipated by LEDs, i.e. approx. 0.5 to up to approx. 5 watts, by means of TC-polymer cooling elements. Additional potential may be expected from using ceramic fillers. These materials' heat conductivities are similar to those of the TC- polymers presented; they are electrically insulating.

Chen Jie, at el, 2013 [3] in this study, to solve the heat dissipation problem of LED (light-emitting diode) down light, CFD thermal simulation software was used to establish LED down light dissipation model. Material's thermal conductivity, thermal resistance, thermal emissive values, heat load forms and other factors were all taken in considered, and then numerical simulation combined with laboratory measurement methods was used to analysis the lamp's dissipation. Based on this method, focused on the dissipation effect with different LED quantities and LED ring distances,

Design And Fabrication Of Portable 3d Printer

Ketan Patil[1], Atul Patil[2], Mrunal Pagdhare[3], Chinmay Pingulkar[4]

[1]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: ketanpatil1719@gmail.com
[2]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: apatil12300@gmail.com
[3]Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: mrunalpagdhare1996@gmail.com
[4]Assistant Professor, Department of Mechanical Engineering, Viva Institute of Technology, VIRAR-401305
Email: Chinmaypingulkar@viva-technology.org

Abstract*—3D printing technology is used end of 19th century. In the current era this technology is widely used in many industries. Even though 3D printing is expensive people like to go for 3D printing. There are many industries who manufactures 3D printer which uses various rapid prototyping processes. In this paper we are proposing a 3D printer which can be launch as a product at less cost than current 3D printers available in market. This paper gives brief details about 3D printer we are manufacturing. The concept used in forming 3D object is layer by layer formation by means of melting a plastic filament. The filaments are made of material ABS, PLA as well as composite material. The 3D printing process is similar to inkjet printers but instead of single layer by layer, multiple layers are printed to form a 3D shape. This paper also gives details about construction and working of our 3D printer. Once the construction is finished is attached to the microprocessor base controller. This is use for controlling the machine based on program. For program generation 3D model is saved in .STL format, then it is inserted into software. After we load the filament 3D printing starts. Thus we get the good quality product in less cost.*

I. INTRODUCTION

Due to the ever increasing demand for production of small desirable products which cannot be able to perform by the plastic molding because of its small size and design. The principle used in our 3D printer is Fused Deposition Modeling (FDM) i.e. With FDM technology parts are build layer by layer from the bottom to top by heating and extruding thermoplastic filament.

Conventional production procedures having some limitations about the design of the product also cost of manufacturing. The cost of production, transportation and maintenance is considerably high. Setting up a conventional production processes takes up a lot of area which is a major problem. They are responsible for hazardous, material wastage, wasting money to recollect the wastage materials. And now a day 3D printer is so costly because the manufacturing cost of the 3D printer is so high.

Our research emphasis on the reduction of the manufacturing cost of the 3D printer. Our area of focus is improve the design of 3D printer and become compact for small components where no need of the big size, to save space

II. OBJECTIVE

1. To study the working procedure of each component of a 3D printer and the evolution of 3D printer.
2. To design and fabricate a low-cost 3D printer.
3. To make it portable and easy to use.
4. To develop Eco-Friendly and low maintenance product.

III. LITERATURE REVIEW

Vaibhav S.Jadhav, Santosh R.Wankhade, A Review: Fused Deposition Modeling – Rapid Prototyping Process, IRJET, Volume 4, 2017, page no. 523 – 527. In this paper they have shown the details of solid based rapid prototyping process i.e. Fused Deposition Modeling.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

"A Concept On Fabrication And Testing Of Waste Segregator Machine"

Sonu Singh[1], Saurav Singh[2], Mithilesh Singh[3], Pratik Raut[4]

[1]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: 15101111sonu@viva-technology.org
[2]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: singhsauravus@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: mithileshsingh9130@gmail.com
[4]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: pratikraut@viva-technology.org

***Abstract*—** *The waste management system in the country is not proper, in order to provide a proper waste management system we need to manufacture a machine that can sort the various waste constituents from garbage which can be further processed and recycled to reduce the overall waste. So to achieve this, we are manufacturing a waste segregator machine which is capable of separating wastes such as metals, non-metals, plastic, etc. The design is the basic step for manufacturing of the machine if the design is proper and safe the manufacturing goes smooth. We are manufacturing the machine to obtain the goal of separating the waste which can be used by small scale as well as large scale industry effectively, which would directly add into benefit for the society. The manufacturing the machine which would be easy to operate and simple in construction. In short it would be affordable if produced in numbers.*

Keywords*— *waste segregator machine, safe, effective manufacturing, affordable, waste management.

I. INTRODUCTION

Rapid growth in population results in urbanization and rise in industries which ultimately leads to waste management problems in cities as well as in rural areas. India being the developing nation such problems make become severe and hazardous to human beings as well as for other inhabitants and hence, there must be proper waste management system to ensure safety of every individual. For this purpose, there is a requirement of immense knowledge to study waste and its management techniques and further how it can be disposed or recycled. This sector can bring new job opportunities in India. However, Municipal Corporations in India don't have such adequate resources or the technical expertise which is necessary to deal with this problems. In order to ensure successful waste management, there must be participation of citizens, local governments and private entrepreneurs.

Waste segregation is the process in which the different constituents of waste are separated and to achieve this waste sorting machine is used. This will help us to sort the various elements present in the waste like plastics, metals, bricks, stones and other substances out from the garbage, to improve the reusing and recycling of waste. At the same time, the separated waste materials can be further re-processed into useful resources. So, the main purpose of the automatic waste sorter is the reduction in processing and turning waste into treasure.

II. PROBLEM DEFINITION

As the waste management system in India is not effective which leads to environment and health issues. As India is price based market so the main obstacle in designing is the product cost, its compactness, efficiency and also its reliability.

- Separating the different metals found in waste.
- Separating plastic from the waste.
- Recycling of waste
- Use of organic waste
- Disposal of harmful waste
- Separation of electronic waste

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Design and modification of a four Stroke bike using gobar gas

Chaandan Phutane[1], Neel Rana[2], Snehal Vhatkar[3], Rajkumar Devkar[4]

[1]Department of Mechanical, Mumbai University, PALGHAR-03, INDIA
Email: chaandanphutane13@gmail.com
[2]Department of Mechanical, Mumbai University, PALGHAR-03, INDIA
Email: neelrana909@gmail.com
[3]Department of Mechanical, Mumbai University, PALGHAR-03, INDIA
Email: svhatkar51@gmail.com
[4] Department of Mechanical, Mumbai University, PALGHAR-03, INDIA
Email: rajkumardevkar@viva-technology.org

***Abstract*—** *Taking a gander at the exponential development of Pollution we can foresee the fate of the Earth. Infections like asthma, lung disease, skin malignant growth, and so on will be normal. Seeing at the present situation of the oil and its rising value, conventional individual can't stand to spend such a gigantic sum, except if it's a need and not recreation. This undertaking offers a chance to pound every one of the issues. The fix to these issues is to utilize an other fuel which can be condition well disposed, utilizing green gas basically, Gobar Gas. As Gobar gas emanates extremely less contaminations so we can spare the earth from air contamination. From the examination we become more acquainted with that there are numerous wellsprings of contamination, out of which transport has an extreme increment of 1301 tons of contamination which can make our condition increasingly dirtied. In this undertaking we have planned to adjust the picked bike so as it keeps running on an other fuel which is gobar gas. This bike is intended for country area people groups. It is seen that gobar gas creation is more in rustic zones where there are a greater amount of cows ranches. Henceforth, it is anything but difficult to get fuel for this bike at very lower cost. The bike when fuelled with gobar gas delivers enough torque to take up its dead load with a rider, along these lines making it conceivable to have an extremely minimal effort ride. This bike is made for advantageous transportation of an individual starting with one point then onto the next.*

***Keywords*— *Alternate fuel, Gobar gas, Low cost bike, Modification of bike*.**

I. INTRODUCTION

This report contains venture work dependent on structuring and changing a Bike which is worked by a Four Stroke Engine. This bike is structured and adjusted to such a degree, to the point that it might keep running on Gobar Gas.

As we probably am aware, there is a steady increment in utilization of non-inexhaustible fuel (diesel and oil). Henceforth, these wellsprings of vitality can be demolished in future. Additionally high outflow of hurtful gases from the fumes worstly affects condition which prompts an Earth-wide temperature boost. And furthermore everybody knows about the persistent increment in expense of fuel.

These issues can be unraveled by utilizing an other fuel like Gobar Gas. This gas is additionally called as green gas as it is created naturally.

In this venture we are endeavoring to utilize a substitute fuel for a Four Stroke motor bike. The fuel we use is gobar gas which is broken down from dairy animal's excrement.

II. NEED FOR THE DEVELOPMENT

In this day and age, rivalry for the super power is rising, winding up with creation of innovations which are itself hazardous to the entire biological system. The regular increment in contamination given out by businesses and numerous different sources are making an irregularity circumstance to the blue planet Earth and making it into dark planet.

There are numerous sources that give out hurtful contaminations. In any case, in the event that we endeavor to diminish these sources, we can take live longer up to long ages.

In the event that we see the internal combustion motors, generally keep running on powers like gas, diesel, lamp oil, oil, and so forth, which gives out hurtful gas like carbon monoxide, carbon dioxide, suphur dioxide, NOx, and so on which when in

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Modification and Fabrication of Open Differential for Anti-Slip Effect

Aalap Save[1], Swaraj Sawant[2], Anay Satelkar[3], Nilesh Nagare[4]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR (E)
Email: aalapsave@gmail.com
[2]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR (E)
Email: swarajsp11@gmail.com
[3]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR (E)
Email: anaysatelkar001@gmail.com
[4]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR (E)
Email: nileshnagare@viva-technology.org

***Abstract*—** *India is a developing country and hence the vehicle market in India is cost driven. Most of the everyday cars use open differential. But it has some shortcomings. To overcome this, various types of limited slip differential are used, but they are too expensive to be accommodated in a low cost vehicle. This project aims to modify an open differential of a goods carrier like TATA ACE to act like a limited slip differential. The open differential will be modified by using a centrifugal clutch. The spring of the centrifugal clutch will be designed. This method will be economical as minimum changes are made to the original differential. This method can be of great help to small sized pick up vehicles. The clutch can also be controlled using a solenoid valve so as to engage only when needed.*

Keywords – Centrifugal clutch, Gear, Limited slip differential, Open differential, Wheels.

I. INTRODUCTION

The inner and Outer wheels of a vehicle in a turn actually carve two different circles of different radii, they travel a different distant on the same turn. Since the wheels are usually the same size the outer wheel has to rotate faster to keep up with the inner Wheel which is travelling a shorter distance in the same time. When you connect the wheels with a hard axle, like on a toy car the wheel is obliged to drag along uselessly while the other wheel controls the process. Now think of the rear wheel of a front wheel drive car. They are not in too much trouble because the engine isn't directly driving them. You could just uncouple them from each other and let them very their speed till they are happy. But when you add an engine into the mix, like on the front end on a front wheel drive car, things get complicated. As the engine now, is trying to turn the wheels at equal speed. But turning required the speed to vary and on a rigid axle they cannot. The result is a vehicle that's unwieldy to turn and use. Not nice. And that is where differential come in.

What they do is allow the two wheels to rotate at different speeds. It's a simple function but an important one and the mechanism is slightly complex. But in all cases a differential is placed between two driven wheels to allow the wheels in question to vary the rotational speed during a turn. In a front wheel drive car the differential or diff is seated within the same housing as the gearbox while a rear wheel drive car will feature the diff as a mid-axle globe into which the drive shaft disappears

The main difference between open differential and a Limited slip differential is noticed when the vehicle gets stuck. Open differential applies equal torque on both wheels and the maximum amount of torque is limited to greatest amount that will not make the wheels slip. It does not take much torque to make a tire slip. And when the wheel with good traction is only getting a very small amount of torque that can be applied to the wheel with less friction, the vehicle is going to get stuck. This is when Limited slip differential comes into play. It transfers the torque of one wheel to the other wheel which will be on traction surface. This helps the vehicle to overcome the problem.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Design Of Amphibian Vehicle

Mr.Rishabh Solanki[1], Mr.Parth Padvekar[2], Mr.Girish Vaishya[3], Ms. Chhaya Patil[4]
[1]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E),Maharashtra, India
Email:rishabhsolanki39@gmail.com
[2]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E),Maharashtra, India
Email:parthpadvekar8855@gmail.com
[3]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E),Maharashtra, India
Email:girishvaishya188@gmail.com
[4]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E),Maharashtra, India
Email:chhayapatil@viva-technology.org

Abstract*—Amphibious vehicle, vehicle for transporting passengers and cargo that can operate on land and in water. Amphibious vehicles include amphibious bicycles, ATVs, cars, buses, trucks, military vehicles, boats and hovercraft. It has a wide range of application in different fields. The main aim of this project is to design it efficiently for rescue purposes. This paper focuses on the concept of Amphibious vehicle which is to be designed. The designing process includes various steps. Designing is first and crucial step in fabrication of vehicle. Designing consist of rough ideas, parameters, selection of material and cad model to work on. The further process is proceeded by analyzing the model.*

Keywords—All Terrain Vehicle (ATV), Cad model, Parameters,Rough Idea, Selection of material.

I. INTRODUCTION

An amphibian vehicle can operate on both terrain i.e. land and water bodies as well. In this paper we will try to elaborate idea of designing an amphibian vehicle by considering various problems that will arise during designing the vehicle. Designing must be proceed as per various affecting factors on vehicle. Even aesthesis play a crucial role in designing as the vehicle should be attractive to look. Designing has to deal with an important factor i.e. cost, design should be functional as well as cost effective, by using maximum standard parts that are available in market to make the design cost effective. To make vehicle functional, some parts must be manufactured as per the requirement. The design is kept simple and effective without increasing the unnecessary complexity. Designing gives a theoretical idea of forces acting on it and as per them we can select the material to use.[1]

II. OBJECTIVE

[2]Considering the fact that we are exposed to coastal region we need to transport the goods from boat to coast & from coast to market. We also go through problem of flooding in low lying areas like Orissa, U.P, Bihar where instant flooding occurs & instant rescue operation is needed. Also we have seen necessity of crossing shallow water & river. People have to take long routes & thus it's time consuming; going through all these problems faced by the common man; we came up with an idea of a WATER CAR for land and water and which can be available at reasonable prices. The procedure of designing initiates with discussing the related concepts and brainstorming on those concepts. After getting a rough idea and finding most efficient way to overcome hurdles and calculating the required values a list of necessary parts is obtained. The outcome of our design is going to be easy handling with lighter weight, following which we can easily transport it to our destination. It is easy to

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Bridging the gap between Academia and industry for increasing placements of engineering fresh graduates.

Rajkumar Devkar

Department of Mechanical Engineering, Mumbai University, Virar East
Email: rajkumardevkar@viva-technology.org

Abstract— *Consistently more than 15 lakh specialists move on from Indian specialized establishments yet just 20% of this part is really employable. The paper recognizes components of connecting this partition, which is through the Academia elevating multi-disciplinary way to deal with research and learning, and building up a dream structure and techniques (designs) that will draw in the Industry. The Industries teaming up with the Academia are receiving open development procedures to expand access to wellsprings of learning, prompting enthusiasm for coordinated effort with the Academia, which will in the long run get more understudies employable and it will result in the advancement of the nation.*

Keywords— Academia, multi-disciplinary,MOU

I. INTRODUCTION

In the Indian industry it is observed that the course curriculum taught in many of the engineering colleges does not prepare the students to start effectively at the level that the organizations require. As a result the organizations that recruit these fresh graduates spend considerable time, money and other resources to bring their skills to the right level for them to become productive. So industry and academia collaboration is must for the overall development of the youth and the country. Industries demands new and developing skills so that they can compete in demanding global market. Anyway moves on from building establishments are coming in Lacs yet the sizable number of understudies stays jobless because of holes in abilities and desires.

II. ANALYSIS

Analysis was done from two aspects- 1. Industry, 2 institution (faculties) because to understand the gap between academia and industry. In analysis people from both the fields were interviewed and few common conclusions were drawn.

1.Industry Analysis

In this type of analysis, TPO of the college (particularly Mechanical department) visited many companies which includes companies where students have either done an internship or they have worked there. Interaction took place between Manager, employees and HR with the help of an questioner. Following common conclusions were drawn.

- Students have lack of confidence, honesty, patience.
- They don't work hard and have bad attitude towards work.
- Basic concepts are not clear.
- Can't even take the readings with the help of Vernier Calliper and Micrometer.(instruments used to measure length and diameter of components).
- Few softwares are out of the use and advanced softwares are being used in industry but students are trained on those old softwares so they couldn't work on latest softwares.
- Students are not aware of recent trends in manufacturing.
- When there is MNCs ,the common point where students lag is Commutation skills.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Design and Fabrication of Solar Powered Water Purifier and Cooler

Aniket Kolhe [1], Trushank Bhoir [2], Pushpak Dalbanjan [3], Suneet Mehta[4]

Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India
aniketkolhe02@gmail.com [1],
Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India
bhoirtrushank@gmail.com [2],
Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India
pushpakdalbanjan@gmail.com [3],
Department of Mechanical Engineering, VIVA Institute of technology, Virar, Mumbai, India
suneetmehta@viva-technology.org [4]

Abstract*—"Design and fabrication of solar powered water purifier and cooler", deals with the fabrication of a system that will achieve water cooling by utilizing the solar energy which will be beneficial for households both rural and urban. Cooling process employs different methods to cool water. But considering the lower application and cost effectiveness, the water cooling by using thermoelectric module (Peltier effect) and filtration system is considered for our project.*

The present water cooling technique/system is producing cooling effect by using refrigerants like Freon, Ammonia,etc. Using these refrigerants one can achieve maximum output but one of the major drawback is its poisonous gas emission and global warming we can copeup this problem with use of thermoelectric module and thereby protecting the environment.

This project deals with the thermoelectric water cooling using Peltier effect is discussed.

Thermoelectric cooling system have advantages over conventional cooling devices such as small in size, lightweight, highly reliable, no moving parts and working fluid.

***Keywords*—** *Solar energy, solar panel, peltier module, water purifier and cooler.*

I. INTRODUCTION:

Solar energy is the light and radiant heat from the Sun that influences Earth's climate and weather and sustains life. Solar power is sometimes used as a synonym for solar energy referred to electricity generated from solar radiation. From decades humans have been using solar energy in varios forms such as wind,tidal,biomass etc. Solar energy technologies can provide electrical generation by means of heat engine or photovoltaic means. Sunlight can be converted into electricity by using photovoltaics (PV), concentrating solar power (CSP), and various experimental technologies. PV has mainly been used to power small and medium sized applications and medium sized applications, from a calculator powered by a single solar cell to off grid homes powered by off-grid photovoltaic array. 2 In this project, the voltage developed by the solar panels will drive the entire system setup which includes the thermoelectric module. Thermoelectric cooling also referred to as TECs (thermoelectric coolers) has advantages of high reliability, no moving parts, compact in size and light in weight. In addition it possesses the advantage that it can be powered direct current electric sources, When a voltage is applied to two dissimilar conductors, a circuit can be created that allows continuous heat transport between the conductor's junctions this is the principle of thermoelectric cooling. Direct conversion between electrical and thermal energy is possible because of theo important effects: Seebeck effect and Peltier effect. The method into consideration is the Peltier effect which refers to the absorption of heat into one end of a thermoelectric material and release of heat from the other end due to flowing current through the material. The cooling technique which is utilized in this project is Thermo-electric cooling also known as "Peltier Cooling System" which is a thermoelectric device and consists of semiconductors. The main advantage of using this effect is that it lacks moving parts compared to other refrigeration cycles; Thermoelectric can be used for cooling electronic devices and as refrigerator and air conditioners.

1. Components used

1.1 Solar panel:

Thermoelectric cooling, commonly referred to as cooling technology which makes use of thermoelectric coolers (TECs), has advantages of high reliability, no mechanical moving parts, compact in size and light in weight and no working fluid. Air conditioning removes heat from a room and other applications. The harmful gasses are chloro fluoro and some other gasses are present.

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Stable Surface Water Cleaner Using Quadcopter

Pranit Humne[1], Ankit Kamble[2], Rishikesh Kakad[3], Tejas Chaudhari[4]

[1]Department of Mechanical Engineering, Mumbai University, Virar
Email: humnepranit1@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Virar
Email: ankitkamble80@yahoo.com
[2]Department of Mechanical Engineering, Mumbai University, Virar
Email: rishikeshkakad95@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Virar
Email: tejaschaudhari@viva-technology.org

Abstract**—** *This project is where we are using a quadcopter to fly around and collect the garbage from the oceans, lakes and any water body. Here we are using a container which is attached below the quadcopter, the container is fixed to the floats of the quadcopter. When it collects the garbage from the lake or the ocean we can remove the container and empty the contents. This container uses a pump which will push the water out to create pressure to fill the container back and also pull the garbage in it. Then after a period of time when the quadcopter gets full with garbage there will be sensors which will detect the amount of garbage filled in it and then it will take of automatically and return to the location it took off from. The user can then empty its content's, clean it up and sends it back to do its job again.*

Keywords**— Cleaner, KKboard, Surface Water, Quadcopter, Water Cleaner**

I. INTRODUCTION

This project is based on the concept where we are using a quad-copter to clean the garbage from the water bodies, the garbage that floats in the oceans, lakes or any type of water body is mostly consisted of plastic. This is the garbage that doesn't degrade so it stays there we need to clean it otherwise our environment will be polluted and it will cause harm to the marine life and the fish in the lakes. To prevent these things we are creating this quad-copter so we can clean the water bodies.

1.1 Objective of Study

This project will help to clean the water bodies. This will reduce the pollution and we can also recycle the plastic waste so that it can be reused for better purposes. Here we can also use a device to work in oceans to separate the water and oil then collect the oil and let clean water flow back so it can be useful for the environment

II. CONCEPT REVIEW

The system consists of KK2.1.5 Multi-rotor board, transmitter, receiver, Lipo battery, electronic speed controllers, motors, and frame shown in the Fig 1.

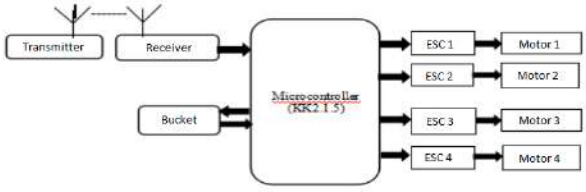


Fig.1 Block Diagram

The Quad-copter used in this project works on a k.k board with a Mega 324PA microcontroller it is used to hold a container to collect garbage from the water bodies. The container is attached to the quad-copter when it flies, it needs to be light weight so that there is no problem when it takes off after collecting the garbage also so that it won't affect it when it's flying.

To achieve this we have the following points below.

- We are using hinges to attach the bucket to the quad-copter.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

"Structural And Modal Analysis Of Waste Segregator Machine"

Vinay Nadavadekar[1], Shubham Shet[2], Ganesh Wayangankar[3], Pratik Raut[4]

[1]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: vinayvn123@gmail.com
[2]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: shetshubham28@gmail.com
[3]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: ganeshwaingankar9@gmail.com
[4]Department of Mechanical Engineering, Mumbai University, Mumbai Maharashtra
Email: pratikraut@viva-technology.org

***Abstract*—** *This paper involves analysis of critical parts like conveyer structure, conveyer roller of waste segregator machine. Geometric models of these components are built up using SOLIDWORKS and finite modeling was carried out using ANSYS15.0. Structural analysis is carried out, from which we obtain the equivalent stress and total deformation of component. This forms basis to further modal analysis of components and we obtain frequencies and mode shapes of conveyer structure and roller.*

***Keywords*— *Conveyor structure, Conveyor roller, Modal analysis, Structural analysis*.**

I. INTRODUCTION

Rapid population growth, urbanization and industrial growth have led to severe waste management problems in the cities of developing countries like India. The amount of waste generated demands a system of collecting and disposing the waste. Reutilization of waste and employment opportunities from waste management also have immense potential. However, it has been observed that the Municipal Corporations in India do not have sufficient resources or the technical proficiency necessary to overcome the problem. Effective waste management requires the participation of citizens, local governments, and private entrepreneurs.

To achieve our goal the waste separator machine must be stable and reliable enough to overcome vibration problems and can easily bear power transmitting actions. To be précised the staple components of machine must be strong to overcome all the failure issues. ANSYS is used to carry out structural and modal analysis of core components to study the behavior of components under actual load condition and to obtain its natural frequency with different mode shapes.

II. PROBLEM DEFINITION

As the waste management system in India is not effective which leads to environment and health issues. As India is price based market so the main obstacle in designing is the product cost, its compactness, efficiency and also its reliability.

- Separating the different metals found in waste.
- Separating plastic from the waste.
- Recycling of waste
- Use of organic waste
- Disposal of harmful waste
- Separation of electronic waste

All the above mentioned problems are affecting the daily life of human being and results decrease in life. Therefore above mentioned problems should be eliminated by designing a mechanical system.

1. Analysis

3D solid model:-

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
F-230

Implementation of Taguchi methodology to Optimization of CNC end milling process parameters of AL6351 –T6

Suneet Mehta

Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR
Email: suneetmehta@viva-technology.org

Abstract: *In this paper we have study on CNC end milling, influence of various machining parameters like, tool feed (mm/min), tool speed (rpm), tool diameter (mm) and depth of cut (mm). In the present study, experiments are conducted on AL 6351 –T6 material with three levels and four factors to optimize process parameter and surface roughness. An L9 (3*4) Taguchi standard orthogonal array (OA) is chosen for design of experiments and the main influencing factor are determined for each given machining criteria by using Analysis of variance (ANOVA). The surface finish have been identified as quality attributes and are assumed to be directly related to productivity. In this experiment we were found that order of significant of main parameter decreasing order is M3>N2>O2>P1.(Tool feed(M), Tool speed(N), Tool diameter(O) and Depth of cut (P)).*

Keywords: *CNC end milling, Surface roughness (SR), Taguchi methodology*

I. INTRODUCTION

Today, industry needs quality and productivity. The increase of consumer needs for quality metal cutting products has driven the metal cutting industry to continuous improve quality control of metal cutting process. The end milling process is one of the most fundamental processes of metal removing process. In order to obtain better surface roughness, the proper setting of cutting parameters is crucial before the process takes place. Several factors will influence the final surface roughness in a CNC milling operation. The final surface roughness might be considered as the sum of two independent effects: 1.The ideal surface roughness is are sult of the geometry of tool and feed rate.2.The natural surface roughness is a result of the irregularities in the cutting operation Factors such as spindle speed, feed rate, tool diameter and depth of cut that control the chip formations, or the material properties of both tool and work piece are Even in the occurrence of chatter or vibrations of the machine tool, defects in the structure of the work material. In end milling, surface finish and material removal rate are two important aspects, which require attention both from industry personnel as well as in Research & Development, because these two factors greatly influence machining performances. In modern industry, one of the trends is to manufacture low cost, high quality products in short time. Automated and flexible manufacturing systems are employed for that purpose. CNC machines are considered most suitable in flexible manufacturing system. Above all,
CNC milling machine is very useful for both its flexibility and versatility. These machines are capable of achieving reasonable accuracy and surface finish. Processing time is also very low as compared to some of the conventional machining process. Which indicates processing time of the work piece, is another important factor that greatly influences production rate and cost? So, there is a need for a tool that should allow the evaluation of the surface roughness before the machining of the part and which, at the same time, can easily be used in the production-floor environment contributing to the minimization of required time and cost and the production of desired surface quality.

II. METHODOLOGY

A. ***Analysis of Variance (ANOVA)*****:**

Analysis of variance (ANOVA) and the F-test (standard analysis) are used to analyse the experimental data [1 ,2 ,3] :

$CF = T^2/n$
$S_T = \sum_{i=1to27} Y_i^2 - CF$
$S_x = (Y_{x1}^2/N_{x1} + Y_{x2}^2/N_{x2} + Y_{z3}^2/N_{x3}) - CF$
f_x = (number of levels of parameter x) – 1
$f_e = f_T - \sum f_x$
f_T = (total number of results) – 1
$V_x = S_x/f_x$
$S_e = S_T - \sum S_x$
$F_x = V_x/V_e$
$V_e = S_e/f_e$
$P_x = S_x'/S_T * 100\%$
$S_x' = S_x - (V_e * f_x)$
$P_e = (1 - \sum P_x) * 100\%$

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Pipe Stress Analysis Using Caesar II Software

Smit Valani[1], Krushna Poriya[2], Ravindra Yadav[3], Henisha Raut[4]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: smitvalani99@gmail.com
[2]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: poriyakrushna@gmail.com
[3]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: ravindrayadav529@gmail.com
[4]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: henisharaut@viva-technology.org

Abstract- *Designing of piping system is done keeping in mind international standard codes and company standards. Pipe and piping system are the main part of plant is used for transporting fluid, vapour's and slurries etc. under different condition as per the need of the plant. Piping system made of different components which are valves, tee, bend, elbow and different fittings components. Our main aim is to describe basic concept of Stress Intensification Factor (SIF) and flexibility, which we have attempted to compare results of B31 result against B31J. Our main aim is to solve all the forces in component which are above allowable limit against standard load condition such as Sustained, Operation, Hydro -static and other Experimental cases.*

Keywords- Stress Analysis, Flexibility, Codes, Standards, B31J, SIF Calculations, Stress Analysis Report.

I. INTRODUCTION

One of the major task in industry is the transportation of fluid from one location to another the piping system not only involves pipes but also fittings. According to Markl's (1940-1950) who was a scientist done different experiments on piping system and he observed that major failure are occurred at fittings such as elbow, tee, reducer, etc. in the piping system due to the varying cross section of the fittings. Our main focus on analysis at Tee Junction.

II. INDENTATIONS AND EQUATIONS

Abbreviations:

Mean radius of matching pipe (r1)
Flexibility characteristics (h)
Section modulus of pipe (Z)
Stress intensification factor (SIF)
Header outside diameter (D)
Branch outside diameter (Db)
Header nominal thickness (th)
Branch nominal thickness: (tb)
Flexibility Factor (k)
Outer Diameter (r2)
Stress intensification factor out plane (i_o)
Stress intensification factor In plane (i_i)

SIF (i_o) = $\frac{0.9}{h^{2/3}}$

SIF (i_i) = $\frac{3}{4} io + \frac{1}{4}$

k = 1

h = $\frac{T}{r2}$

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Manufacturing And Testing Of ALL TERRAIN VEHICLE

Girish Gharat[1], Sanil Gharat[2], Durgesh Mhatre[3], Niyati Raut[4]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR-401305
Email: girigharat27@gmail.com
[2]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR-401305
Email: sanilgharat4@gmail.com
[3]Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR-401305
Email: mhatre.dm.durgesh@gmail.com
[4]Head of the Department of Mechanical Engineering, VIVA Institute of Technology, VIRAR-401305
Email: shubhangi.nr@rediffmail.com

Abstract—
The main aim of this Technical Paper is to Design an All-Terrain Vehicle (ATV) which is safe from Drivers view complying with all the rules specified in BAJA SAE INDIA rule book 2019. Being familiar to the event, certain changes were made to enhance the overall design.
The car's demand is majorly from off-road enthusiast, hence considering drivers ease was a huge design consideration. Driver Ergonomics and performance of the off-roader was one of the major changes incorporated this year. Making the vehicle lighter and durable was another important consideration.
The vehicle was so designed according to the design reports and was tested in different off roads to get the strength of the car and will be used a safe guarded vehicle where a normal car cannot even reach.
This paper highlights the points to analyse the safety of its chassis in case of impact or roll over.

Keywords— ATV –all terrain vehicle, CV–continuous joint, KPI – king pin inclination, MC –master cylinder, TMC – tandom master cylinder .

I. INTRODUCTION

The major motive of the design report is to have an overall view of the All-Terrain Vehicle complying with basic Driver Ergonomics, Vehicle Performance and Specifications etc. adhering to all the rules specified in the BAJA SAE International Rule Book2019. In accordance with last years' experience, the designs were optimized and the concept of 'design for manufacturing' was incorporated.

II. ROLLCAGE:

Design of a roll cage includes various factors like material selection, size selection and frame design and finite element analysis. These steps are elaborated further.

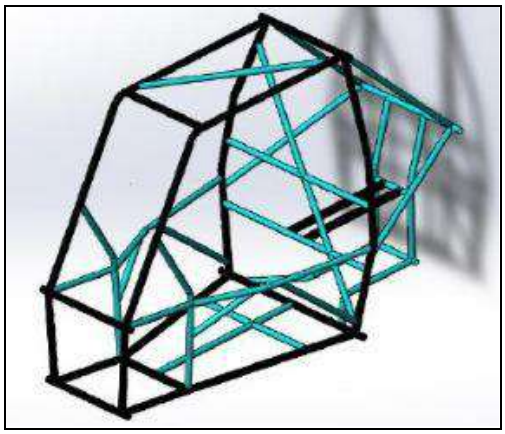


Fig 1: Roll cage model

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)
F-251

Multipurpose CNC Plotter Machine Using Arduino System

Mr. Aniket Pawar[1], Mr. Dipesh Nangle[2], Mr. Vishal Wanarkar[3], Mrs. Henisha Raut[4]
[1]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E), Maharashtra, India.
Email: paniket220@gmail.com
[2]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E), Maharashtra, India.
Email: dipnangle@gmail.com
[3]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E), Maharashtra, India.
Email: vishalasdc01@gmail.com
[4]Department of Mechanical Engineering, Viva Institute of Technology,
Virar (E), Maharashtra, India.
Email: henisharaut@viva-technology.org

***Abstract*—** *"Multipurpose CNC Plotter Machine" is very great innovation idea made in modern world. As consideri ng the drawbacks of conventional CNC Machine. The purpose of making Multipurpose CNC Plotter Machine is based on overcoming problems and efforts of conventional CNC machine. The Multipurpose CNC Plotter Machine are the best option in small scale industries. As small scale industries are having less space and less capital budget hence they cannot use conventional CNC machine. Hence the Multipurpose CNC Plotter Machine is been used as its size is small and compact easily portable, Multipurpose CNC Plotter Machine are easy to handle and the small complicated which are very difficult to made by hand that jobs can be done accurately and easily.*

***Keywords*— Multipurpose, Plotter, Portable.**

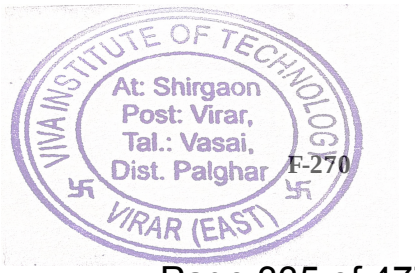
I. INTRODUCTION

About thousands of years ago human try to find ways to make their work easier. Thus variety of techniques and inventions are created to reduce the human work now a days CNC machine is most popular in manufacturing sector so as to reduce the burden on the people portable CNC milling machine this is the best options because it can be removed easily saving time and reducing the use of space CNC milling machine is a very important technology in the manufacturing industry now a days. Operating of portable CNC milling machines with low cost and simply InDesign will be a good news for the development of small scale.

The Project work presented is based on Multipurpose CNC Plotter Machine. There are various types of CNC machines are available in industry for manufacturing various products but they are very expensive and their capital cost is high as they are generally used for the large production that's why the portable CNC machines is the best option for low production volume with the help of portable CNC machines you can manufacture product at minimum cost portable CNC machines are the best option in small scale industries. The portable CNC machine is easy to handle and the small complicated jobs can be done accurately and easily.

II. OBJECTIVES

- The objective of this study is to design Multipurpose CNC plotter Machine which be able to do draw and drill on small sized jobs.
- To reduce the CNC machine size and make it portable.
- To reduce the cost of CNC machine and increase the productivity for small scale industries.
- To fabricated accurate portable CNC machine.



Design and Analysis of an All-Terrain Vehicle

Saurabh Ghadge[1], Omkar Jadhav[2], Vinit Jadhav[3], Shweta Patel[4]

[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: saurabhghadge22@gmail.com
[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: omkarjadhav66@gmail.com
[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: jadhavvinit4@gmail.com
[1]Department of Mechanical Engineering, VIVA Institute of Technology, Virar, Mumbai, India
Email: shwetapatel@viva-technology.org

Abstract— *the main aim of this Technical Paper is to Design an All-Terrain Vehicle (ATV) which is safe from Drivers view complying with all the rules specified in BAJA SAE INDIA rule book 2019. Being familiar to the event, certain changes were made to enhance the overall design. The car's demand is majorly from off-road enthusiast, hence considering drivers ease was a huge design consideration. Driver Ergonomics and performance of the off-roader was one of the major changes incorporated this year. Making the vehicle lighter and durable was another important consideration. In order to implement these changes deep study of material science and vehicle dynamics were carried out. This study was done both analytically and by use of software. The calculations and material compositions along with the software analysis are briefly described in the paper below.*

Keywords— CVT – Continuously Variable Transmission, CV Joint – Constant Velocity Joint, KPI – Kingpin

I. INTRODUCTION

The major motive of the design report is to have an overall view of the All-Terrain Vehicle complying with basic Driver Ergonomics, Vehicle Performance and Specifications etc. adhering to all the rules specified in the BAJA SAE International Rule Book 2019. In accordance with last years' experience, the designs were optimized and the concept of 'design for manufacturing' was incorporated.

II. ROLL CAGE & ANALYSIS

Design of a roll cage consists of numerous factors like material selection, size selection, and frame design and finite element analysis. These each step is elaborated further.

2.1. Material Selection:

The material used for this year roll cage is AISI 4130 **(**chrome-moly steel) i.e. chromium molybdenum alloy steel. This was selected on a comparative study on parameters like Availability, Cost, Weight and Strength. We compared this following parameter with other steel grades like AISI 1018 and AISI 1020. But AISI 4130 is quite best among them structure. The properties of this material are:

Table 1: Material Properties

Density (Kg/m^3)	7850
Tensile Strength (Ultimate) (MPa)	786
Tensile Strength (yield)(MPa)	748

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Optimization of Working Processes by Using Takt Time

Tejas Chaudhari[1]

M.E., Department of Mechanical Engineering, Viva Engineering College, Virar, Maharashtra, India
tejaschaudhari@viva.technology.org

***Abstract*—** Takt Time is an important lean tool used to set the pace of manufacturing process which leads to the customer satisfaction. Takt time is mainly used to standardize the time for the completion of an operation. The case study was carried out in an auto parts industry. The spring pin section of the industry was facing the problem of on time delivery problem of the product which leads to the customer dissatisfaction. Takt time tool were implemented to overcome this problem. Takt time was calculated. One operation's cycle time was above the takt time. To keep the cycle time of operation under the takt time, some improvements were suggested in order to product to be completed within required time. Before state and after state were compared.

Keywords*— *Spring pin, Takt time

I. INTRODUCTION

Many manufacturers are applying lean principles to reduce wastes and increase efficiencies. Lean manufacturing is a Japanese approach that focuses on eliminating waste and ensuring quality. The aim of lean manufacturing is to cut unnecessary costs by making the business more efficient and responsive to market needs. The primary idea of this system is to maximizing value while minimizing waste, thereby achieving manufacturing excellence through the creation of more value with fewer resources.
Lean manufacturing may be defined as a set of techniques which are used to reduce and eliminate the wastes. This will make the company more flexible and more responsive by reducing waste.

II. PROBLEM STATEMENT

The problem is arising while products are more to produce but workers failed to do that or sometimes over production or over processing may happened. Working shift is 8 hrs. and in that workers, get total 1 hour break but still some of those are wasting their time in between WIP (work in process). Result in not achieving their goal. To overcome those waste implement Muda and for time management purpose TT (Takt Time) solution has been implemented.

III. METHODOLOGY

For solving the problems arising in different departments and during machining, the company followed a system of work by applying manufacturing tools for enhancing productivity of the company.

Sr. No.	Operation	Avg. Time Taken(Sec)	Operators required
1	Hacksaw cutting	90	3
2	Raw grinding	20	1
3	Cross hole drilling	40	1
4	Counter sinking	16	1
5	Reaming	35	1
6	Case hardening	55	1
7	Tempering	21	1
8	Reaming	25	1

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Analysis Of Amphibian Vehicle Using Ansys

Mr. Omkar Pawar[1], Mr. Jayesh Saindane[2], Mr. Rahul Reddy[3], Prof. Chhaya Patil[4]
[123]Student [4]Faculty, Mechanical Department, Viva Institute of Technology,
Virar (E), Maharashtra, India.
Mr. Omkar Pawar[1] Mechanical Department, Viva Institute of Technology
[1]Email : omkarpawar700@gmail.com
Mr. Jayesh Saidane[1] Mechanical Department, Viva Institute of Technology
[2]Email : www.jayeshsaindane.js@gmail.com
Mr. Rahul Reddy[1] Mechanical Department, Viva Institute of Technology
[3]Email : rahulreddy150.s@gmail.com
Mr. chayya patil[1] Mechanical Department, Viva Institute of Technology
[4]Email : chhayapatil@viva-technology.org

Abstract— *An amphibious vehicle is a motor vehicle that can travel on both land and water. It has wide range of applications in defense ministry, transport, tourism but the main aim of this project is to design it efficiently for rescue purposes. It involves the process of design followed with analysis and fabrication processes. This paper is presenting the methods and various types of analysis using ansys workbench 16.0. The steps to solve different types of analysis such as static structural, vibrational, thermal and fluid flow analysis are stated briefly. In later stage we have stated and explained the analysis of different body parts of amphibious vehicle. Static structural analysis of flat bottomed boat, flappers, steering rod, rear axial shaft and drum brakes has been successfully done similarly fluid flow analysis of flat bottomed boat, flappers and thermal analysis of breaks has been done too. As the analysis is an important aspect of this project, it will help to analyze the amphibious vehicle accurately thus the various strengths and required forces can be calculated. An amphibian vehicle has great future benefits though it still requires some focused work in research and development field.*

Keywords— ansys workbench, static structural analysis, fluid flow analysis, amphibious vehicle.

I. INTRODUCTION

Today's world require speed in each and every field. Hence rapidness and quick working is the most important. The engineers are constantly faced with the challenges of bringing ideas and design into reality. New machines and techniques are being developed continuously to manufacture various products at cheaper rates and high quality. The machine "Amphibian Vehicle" is an innovative that requires theoretical and practical knowledge to manufacture [1]. In this research paper we have shown the analysis of various components of the amphibian vehicle. We have used ansys workbench 16.0 to perform various analysis such as Structural analysis, thermal analysis. It's necessary to analyse these components to check for their safety and to study how various stresses acts on the vehicle.

II. OBJECTIVES

- To study the analysis of different components of amphibian vehicle.
- To solve problem faced during designing of vehicle.
- To provide modifications if necessary.
- To check the safety of design.

III. PROPOSED METHODOLOGY

Analysis is the process of breaking a complex topic or substance into smaller parts in order to gain a better understanding of it. Webster defines analysis as a detailed examination of anything complex in order to understand [2] its nature or to determine its essential features thorough study [3]. Cambridge dictionary defines analysis as the process of studying or examining something in an organized way to learn more about it or a particular study of something.

- Fluid flow analysis
  a. Steady , non-steady
  b. Uniform , non- uniform
  c. Laminar ,turbulent

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 2 (2019)
Article No. 1
PP 1-6

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

SCCAI- A Student Career Counselling Artificial Intelligence

Aditya M. Pujari[1], Rahul M. Dalvi[1], Kaustubh S. Gawde[1], Tatwadarshi P. Nagarhalli[1]

[1](*Computer Engineering Department, VIVA Institute of Technology, India*)

Abstract: *As education is growing day by day, the competition has prompted a need for the student to understand more about the educational field. Many times the counselor isn't available all the time and sometimes due to the lack of proper knowledge about some educational field. Due to this, it creates an issue of misconception of that field. This creates a problem for the student to decide a proper educational trajectory and guidance is not always useful. The proposed paper will overcome all these problem using machine learning algorithm. Various algorithms are being considered and amongst them the best suitable for our project are used here. There are 3 major problems that come across our path and they are solved using Random forest, Linear regression and Searching algorithm using Google API. At first Searching algorithm solves the problem of location by segregating the college's location vice, then Random Forest provides the list of colleges by using stream and range of percentage and finally Linear Regression predicts the current cutoff using previous years' data. Rather than this, the proposed system also provides information regarding all fields of education helping students to understand and know about their field of interest better. The following idea is a total fresh idea with no existing projects of similar kind. This project will help students guide them throughout.*

Keywords *– Machine learning, Random Forest, Linear Regression, K-means, Chatbot.*

1. INTRODUCTION

Artificial Intelligence is also known machine intelligence, is intelligence demonstrated by different machine [14]. Artificial Intelligence is defined as the research of intelligent agents, a device that can learn information from environment and performs action that maximize the chances of successfully achieving its goals. Modern machine capabilities generally classified as artificial include successfully understanding human speech, competing at the highest level in strategic game, autonomously operating cars, and intelligent routing in content delivery networks and military simulations. Artificial intelligence research has been divided into subfields that often fail to communicate with each other. These sub-fields are based on technical consideration, such as particular goals, the use of particular tools, or deep philosophical differences [14]. Artificial Intelligence often revolves around the use of algorithms. An algorithm is a set of unambiguous instructions that a mechanical computer can execute. A complex algorithm is often built on top of other, simpler algorithms. Artificial Intelligence algorithm are capable of learning from data; they can enhance themselves by learning new heuristics, or can themselves write different algorithms. Some of algorithm used Bayesian network, decision trees and nearest-neighbor. This learning of data using different algorithm is known as machine learning.

Machine learning is an interdisciplinary field that uses statistical techniques to give computer systems the ability to learn from data, without being explicitly programmed. Machine learning explores the study and construction of algorithm that can learn for and make prediction on data-such algorithms overcome following strictly static program instructions by making data-driven and make prediction or decisions, through building a model from sample inputs [13]. Machine learning is employed in a range of computing tasks where designing and programming explicit algorithm with good performance is difficult or infeasible. Machine learning is closely related to computational statistics, which also focuses on prediction-making through the use of computers. Within the field of data analytic, machine learning is a method used to devise complex models and algorithms that lend themselves to prediction; in commercial use, this is known as predictive analytics [13]. These analytical models allow researchers, data scientists, engineers, and analysts to "produce reliable, repeatable decisions and results" and uncover "hidden insights" through learning from historical relationships and trends in the data.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

VIVA-Tech International Journal for Research and Innovation
ISSN(Online): 2581-7280

Volume 1, Issue 2 (2019)
Article No. 9
PP 1-6

VIVA-TECH IJRI
ANNUAL RESEARCH JOURNAL

VIVA-TECH INTERNATIONAL JOURNAL FOR RESEARCH AND INNOVATION
ANNUAL RESEARCH JOURNAL
ISSN(ONLINE): 2581-7280

Eat it, Review it: ANew Approach for Review Prediction

Deepal S. Thakur[1], Rajiv N. Tarsarya[2], Ashwini Save[3]

[1](Computer Engineering Department, VIVA Institute of Technology, India)

Abstract: *Deep Learning has achieved significant improvement in various machine learning tasks. Nowadays, Recurrent Neural Network (RNN) and Long Short Term Memory (LSTM) have been increasing its popularity on Text Sequence i.e. word prediction. The ability to abstract information from image or text is being widely adopted by organizations around the world. A basic task in deep learning is classification be it image or text. Current trending techniques such as RNN, CNN has proven that such techniques open the door for data analysis. Emerging technologies such has Region CNN, Recurrent CNN have been under consideration for the analysis. Recurrent CNN is being under development with the current world. The proposed system uses Recurrent Neural Network for review prediction. Also LSTM is used along with RNN so as to predict long sentences. This system focuses on context based review prediction and will provide full length sentence. This will help to write a proper reviews by understanding the context of user.*

Keywords – *CNN, Deep Learning, LSTM, Machine Learning, RCNN, RNN*

1. INTRODUCTION

The field of learning has given rise to Artificial Intelligence due to which innovations have reached to another level. Today AI is bringing revolutionary changes to each and every field be it in nation's security, health or education. Machine learning and Deep learning are the two main subfields of artificial intelligence has proved a boon to the learning. Both plays different role and has their different importance in aspects of environment learning. Machine learning is a sub-discipline of Artificial Intelligence and today it is much in demand since it is able to provide relevant tools that the society needs to bring about change. Machine Learning takes the core ideas of Artificial Intelligence and uses them to solve real-world issues. It is here that the neural networks come into play as they are designed to imitate the human decision-making ability. Deep Learning focuses on a subset of ML techniques and tools and then applies them to solve any problem that requires the quality of human thought. Henceforth making learning a machine would more feasible than making learn a human mind. In field of text the data is enormous to handle. Leaning the data in deep helps in understanding the different meanings of words. This meaning plays important role in understanding the context of user. Existing systems predicts next word for better suggestions using machine learning techniques but lack in understanding the context of the

VIVA INSTITUTE OF TECHNOLOGY
At. Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (East), Dist: Palghar-401305, Maharashtra
Website: www.viva-technology.org

National Conference

on

"Role of Engineers in Nation Building"

9th & 10th March 2018

ISBN: 978-93-5288-028-7
ISSN: 2454-132X

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal. Vasai,
Dist. Palghar
VIRAR (EAST)

NCRENB-2018

6th National Conference

On

ROLE OF ENGINEERS IN NATION BUILDING

(NCRENB-2018 Proceeding)

9th & 10th March, 2018

Organized by

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE New Delhi, Affiliated to University of Mumbai
Shirgaon, Virar(East), Dist: Palghar-401305, Maharashtra
Tel.: 0250-6990999, Website: www.viva-technology.org
Email: contact@viva-technology.org / principal@viva-technology.org

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Patrons

Hon. Shri. Hitendra Thakur
President, VIVA Trust

Hon. Shri. P. D. Kodolikar
Chairman, Managing Committee, VIVA Trust

Convener

Dr. Arun Kumar, Principal

Co-Convener

Prof. Archana Ingle, H.O.D.(EXTC)

Advisory Committee

Dr. Supratim Biswas

Member board of Governors IIT, Bombay.

Mr. Ashok Asawale

Vice President, Corporate IT, Mahindra & Mahindra.

Mr. Anil Dipnaik

Chief Manager & Local Key Expert Principal, R & D Siemens

Dr. Ashok Pundir

Professor & Dean, NITIE, Pawai.

Mr. Ashok Grover

Director, STEAM-O-TECH ENGINEERS (I), Pvt. Ltd.

Mr. C. A. Anto

Director, Terminal Technologies (I), Pvt. Ltd.

Mr. Kishor A Shetty

M.D., Royal Arc Electrodes Ltd.

Dr. B. E. Narkhede

Editor-in-chief, IE Journal, Mumbai.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Coordinator

Prof. Karishma Raut, EXTC Department
Prof. Bhushan Save, Electrical Department
Prof. Lissy Jose, Civil Department
Prof. Ashwini Save, Computer Department
Prof. Niyati Raut, Mechanical Department
Dr. Ajazul Haque, Humanities Department

Organizing & Publicity Committee

Prof. Chitra Takle, EXTC Department
Prof. Ashish Shetty, Civil Department
Prof. Manoj Yadav, Mechanical Department
Prof. Anoj Yadav, Electrical Department
Prof. Pallavi Vartak, Computer Department

Registration Committee & Program Committee

Prof. Kaustubha Gawas
Prof. Yadnesh Patil
Prof .Kavita Mhaskar
Prof. Kushal Suvarna
Prof. Shiksha Singh
Prof. Ameya Purandare
Prof. Monali Pimpale
Prof. Sushil Mishra
Prof. Mohini Ghotekar

Project Exhibition Committee

Prof. Pratik Parsewar
Prof. Pratik Mahale
Prof. Tejas Chaudhari
Prof. Janhavi Sangoi
Prof. Monica More
Prof. Shwetali Churi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PREFACE

On behalf of VIVA Institute of Technology, I take great pleasure and pride to formally welcome you all to the sixth National Conference on Role of Engineers in Nation Building (NCRENB 2018) in cooperation with International Journal of Computer Application (IJCA) and International Journal of Advance Research, Ideas and Innovations in Technology (IJARIIT).

We are living in an age of remarkable competition of technology among the countries. In this competition we need to consider the role of Engineers in development of our nation. Looking at the immense rise in the technological area and the demands that are being placed, it is necessary for us to commence researches that will help to build a technologically advanced nation. The national/ international conferences provide common platform to contemplate the issues related to latest developments in the technology, research and development activities in this area.

We held the first national conference in 2013 with various disciplines such as Civil Engineering, Computer Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Humanities and Sciences and Mechanical Engineering. Since 2014 we have also started with Project Exhibition that will provide the students with an opportunity to exhibit their innovative ideas.

NCRENB 2018 has received total 198 papers in 6 tracks. The selected full length papers will be sent for publication in IJARIIT journal. These papers can be used as a reference for future work which will widen the horizon of technical advancement of our nation.

Dr. Arun Kumar
Chief Editor

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

TABLE OF CONTENTS

SECTION A

TRACK: CIVIL

COMPARISON OF STRENGTH AND COST ASPECTS OF FIBER REINFORCED CONCRETE…..…… A-1
Muthu Selvi, Bhagyashree Rathod, Arti Nikam, Prof. Prerana Patil

EXPERIMENTAL STUDY OF USING WASTE PLASTIC AS AN AGGREGATE IN SELF-CURING CONCRETE…… A-7
Harishkumar Damanpalli Aakash Jadhav Jignesh Machhi Anirudhha Chavan

UTILIZATION OF IRON ORE TAILINGS IN CONCRETE…… A-12
Akshay V. Mahajan Tanmay B. Bore Siddhesh V. Lad Dipendra Gawad

ECO-FRIENDLY BRICKS BY USING WASTE GLASS POWDER……..… A-18
Prathamesh V.Sawant, Rohit N.Thombare, Aadesh S. Tare, Prajyot T. Sarfare

EFFECT OF SEAWATER ON MIXING AND CURING OF CONCRETE……..…... A-24
Chandresh B. Rao, Ajay N. Shewale, Shubham N. Patil, Arbaaz A. Sheikh

GEOPOLYMER CONCRETE…… A-29
Pankaj Arbole, Vivek R.Mishra, Vineet Jain, Vimal Agarwal

DESIGN OF WASTE-WATER TREATMENT PLANT ON MITHI RIVER……... A-34
Prithviraj Sawant, Kumar Vellakaran, Swapnil Shinde, Deeksha Naik

RECHARGING OF GROUND WATER TABLE USING SPREADING METHOD……..… A-40
Amit Pawar, Aadishree Patil, Rutuja Shivalkar, Hemant Sonawane

STUDY OF GROUNDWATER QUALITIES AT NALLASOPARA REGION……... A-45
Sanket Bachim, Pravin Jaiswal, Ashok Bodke, Asmita Bhalke

MANUFACTURING OF CONCRETE CANVAS……. A-49
Gaurav Agawne, Brijesh Kanojiya, Chandan Dhuri, Nikheel Dhotre

A REVIEW ON EXPERIMENTAL APPROACH OF SYNTHESIZING CARBON NANOTUBES FOR IMPROVING CONCRETE PROPERTIES……... A-52
Narendra P. Mali, Prasad Kawade

RECHARGING OF GROUND WATER TABLEBY USING NATURAL RESOURSES AND IDENTIFICATION OF GROUNDWATER POTENTIAL ZONE USING GIS…… A-60
Shubham Kadam, Ankit Bhilare, Nilesh Badbe, Kunal Dimble

PARTIAL REPLACEMENT OF FINE AGGREGATE BY CRUMB RUBBER…….. ……... A-64
Dinesh Pawar, Priyanka Patil, Swastik Poojari, Madhukar Patil

DESIGN AND ANALYSIS OF FOREST RESEARCH CENTRE…… A-70
Gireeja Sarangdhar, Sahil Save, Ronak Sarmalkar, Purva Awari

PARTIAL REPLACEMENT OF BITUMEN BY RUBBER CRUMBS IN FLEXIBLE ROAD PAVEMENTS…….. A-75
Chirag Powar, Siddhesh Rasam, Harsh Raul, Rohit Shelar

STRENGTHENING OF RCC STRUCTURES BY NSM TECHNIQUE…… A-79
Akshay Mistry, Prashant V. Muley

REVIEW ON RISK ANALYSIS USING FUZZY LOGIC…… A-85
Arathy Harish Menon

REVIEW PAPER ON ANALYSIS CHECK OF VARIOUS MATERIALS…… A-89
Ramya Raju

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ARTIFICIAL RECHARGE OF GROUND WATER…… A-94
Ashrita Zagade, Sai Narkar, Rahul Palande, Aniket Nivalkar

STORM WATER
MANGEMENT…….. ……... A-98
Megha Karwal, Priyanka Bavise, Ema Kavalloor, Sayli Jadhav

INTERLINKING OF RIVERS…… A-101
Kaustubh Mehta, Harshal V.More, Chinmay Mhatre, Aatish Mhatre

CONSTRUCTION OF ROAD UNDER BRIDGE BOX PUSHING TECHNIQUE…….. A-105
Rahul B Chavan, Akash R Jadhav, Jimit Chotai, Vishal D JANGALE

UTILISATION AND DISTRIBUTION OF TREATED DOMESTIC WASTE WATER……..... …….. A-109
Kaustubh Kolpe, Saurabh Gaikwad, Siddhesh Dhage, Arathy Menon

REPLACEMENT OF INACTIVE CONCRETE BY WASTE PLASTIC…….……..…... …… A-113
Mrs.Meena Bhagat, Mrs. Asmita Bhalke

IMPACT OF DEMONETIZATION ON REAL ESTATE IN INDIA…….……... A-116
Shetty Ashish Vishwanath, Wasave Abhijit Suresh, Naik Akshay

ANALYSIS AND DESIGN OF MULTI LEVEL CAR PARKING BULIDING……... A-121
Kasim Rathod, Ryan Shaikh, Yash Vaiti

PLANNING AND DESIGNING OF HEAVY TRAFFIC ROAD……. A-126
Chirag Pimple, Viraj Patil, Prathamesh Palshetkar, Harsh Shewale

USE OF PAPER SLUDGE AS A CONSTRUCTION MATERIAL…….……. A-130
Vishal Urade, Akshaykumar Naik, Sagar Sundaran, Ashish Shetty

PARTIAL REPLACEMENT OF CEMENT, FINE AGGREGATE WITH HIGH LIME FLY ASH AND
LCMS FILING IN CONCRETE: OPTIMIZATION…….. A-136
Mayur Patel, Sagar Sundaran, Akshaykumar Naik, Ghufran Khan

EFFICIENCY OF GGBS IN CONCRETE…… ….. A-141
Akshaykumar Naik, Sagar Sundaran, Mayur Patel, Vishal Urade

HEDONIC PRICING METHOD…….……... A-143
Prof. Prashant Gondane, Prof. Sagar Sundaran, Prof. Mayur Patel, Prof. Yadnesh Patil.

GREEN CONCRETE…….....…….... A-150
Prof. Yadnesh Patil, Prof. Sagar Sundaran, Prof. Monica More, Prof. Prashant Gondane

Encroachment- A Threat To Urban Development……...……... A-154
Prof.Abhijit Wasave, Prof. Prachi Bari, Prof.Prerana Patil, Prof.Ashish Shetty

STRUCTURAL AUDIT ……..... A-158
Asmita Bhalke, Meena Bhagat

OVERVIEW OF USE OF SHREDDED TYRES IN HIGHWAY ENGINEERING ……..…… A-162
Prof. Prerana Patil, Prof.Prachi Bari, Prof.Abhijit Wasave

ADVANCEMENT IN FLEXIBLE PAVEMENT BY USING STEEL SLAG……..…..... A-168
Monica More, Prashant Gondane, Sagar Sundaran, Yadnesh Patil

EARLY TERMINATION OF PUBLIC PRIVATE PARTNERSHIP PROJECT…… A-172
Prof. Prachi Bari, Prof.Prerana Patil, Prof.Abhijit Wasave

ECO AND SMART USE OF SOLID WASTE (PLASTIC)…… A-176
Sharma Ravikumar Baban, Sargar Ganesh Sangappa, Upadhyay Abhisheek Ajay, Shahu Shubham Dharmendra

FEASIBILITY STUDY OF DEMOLISHED BRICK MASONRY RUBBLE AS COURSE AGGREGATE
IN CONCRETE…… A-181

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Purva P. Awari

MONO MAST REINFORCED CONCRETE STRUCTURE……..……..……A-187
Raj K Dodiya, Gaurav B Mahale, Saurabh P More, Pranit R Gaikwa

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION B

TRACK: COMPUTER

SECURE APPROACH FOR ENCRYPTING DATA…… B-1
Jay Yadav, Abhishek Sheregar, Viraj Panjri, Sagar Gharat

DIMINUTION OF SHILL BIDDING EFFECT IN REAL TIME ONLINE AUCTION SYSTEM……..... B-6
Darshana Bhambad, Ruchita Falekar, Prof. Vinit Raut

SECURITY ENHANCEMENT ON WEB SERVER FOR PREVENTING DOUBLE ATTACK…… B-10
Rajnarayan Bhagat, Harshad Gupta, Nityanand Mishra, Janhavi Sangoi

A SURVEY ON DATA SECURITY USING COMPRESSED CLASSICAL TECHNIQUE…….... B-15
Shivam S. Gupta, Gagandeep Dhanjal, Shridhar Bambardekar, Pallavi Vartak.

AN APPROACH FOR VULNERABILITY ASSESSMENT…… B-20
Aditya Patil,Sanish Patil,Reshma Chaudhari

LOSSLESS IMAGE COMPRESSION USING HYBRID ALGORITHM…… B-25
Adinath Patil, Saylee Raut ,Pallavi Vartak

A HYBRID CONCEPT OF KEYLESS ALGORITHM AND COMPRESSION SCHEME FOR ENCRYPTED…….. B-30
STEGO-IMAGE
Priyanka Shinde,Sonali Gaikar.Shruti Pawar,Vinit Raut

AN ANALYSIS OF DECISION TREE PRE-PROCESSING TECHNIQUES FOR DATA MINING: A LITERATURE STUDY……... B-35
Suyog Pednekar ,Shiv Dhar ,Kishan Borad, Ashwini Save

APPROACHES FOR DE-DUPLICATION IN CLOUD COMPUTING: A SURVEY…….. B-40
Ameya Phadke ,Chinmay Hadge, Amol Gawade, Reshma Chaudhari

TWITTER SENTIMENT ANALYSIS USING DATA PRE- PROCESSING AND EXPLOITING EMOTICONS: A SURVEY…… B-45
Shreyas Wankhede ,Ranjit Patil ,Sagar Sonawane, Ashwini Save

EFFICIENT APPROACH FOR IDENTIFYING PHISHING WEBSITES…… B-51
Abhay Lad, Swaranjaly Jagtap ,Ankita Pawaskar ,Prof. Dnyaneshwar Bhabad

ANALYSIS OF ANTI-SHOULDER SURFING ATTACK TECHNIQUES…… B-57
Shubhangi Deshmukh ,Shardul Hindekar ,Nikhl Sawant ,Tatwadarshi P.N

A SURVEY ON INTERNET OF THINGS BASED SMART CITY…… B-60
Bhargav Patil,Sahil Khedaskar,Mohit Rokade,Tatwadarshi Nagarhalli

HYBRID TECHNIQUE FOR INTELLIGENT TEXT MINING B-65
Samiksha Gharat,Saraswati Shenoy,Rohini Kamble,Ms Sunita Naik

A SURVEY ON THE IMPACT, EVOLUTION, AND THE FUTURE OF CRYPTOCURRENCIES……. B-70
Sarjak Chawda,Aditya Pujari,Harsh Jani

ANALYSIS OF GREY HOLE ATTACK ON LLN'S USING RPL…….. B-74
Vijay Banerjee,Vishal Bhonsle,Pooja Gaikwad,Pratiksha Deshmukh

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PHYSICAL AND LOGICAL DESIGN APPROACH FOR BUILDING BLOCKS OF IOT…….. B-78
Hemangi Malgaonkar,Pallavi Maity,Tanmay Talele,Prof. Saniket Kudoo

A SURVEY ON PASSWORD AUTHENTICATION: AN ENHANCED TECHNIQUE WITH GRAPHICAL TESTIMONIAL……... B-83
Jayesh Masaye Mitesh Kadu Subodhan More Pallavi Vartak

ANTICIPATION OF STUDENT ADMISSION IN INSTITUTES USING DECISION TREE ALGORITHMS: A SURVEY……. B-88
Aniket S Agarkar,Akshay G Gajare,Abhishek B Padwal,Dnyaneshwar Bhabad

NETWORK MANAGEMENT AUTOMATION, CHALLENGES AND SOLUTIONS……... B-92
Akshata Raut, Monali Pimpale

ENHANCED MECHANISM FOR SESSION PASSWORD AUTHENTICATION……. B-95
Vrushabh Ashtunkar ,Jitendra Pingale, Sonal Chavan, Janhavi Sangoi

PASSWORD SECURITY SYSTEM USING ALTERNATE CHARACTER…… B-99
Vrushabh Ashtunkar

REPOSITORY FILE TRANSFER: A NEW COMPOUND FILE ENCRYPTION TECHNIQUE……... B-102
Amruta Dhumal,Ankita Sankhe,Shubham Patil,Prof.Umesh Mohite

STUDY OF AUTOMATION AND MANUAL TESTING…… B-108
Vishakha Patil,Pratik Parsewar

REALITY MINING TRENDS…… B-111
Bhushan Talekar

EXPLORING THE DEEP WEB……. B-117
Ashwin Paikkat, Dharmeshkumar Patel

EVOLUTION OF AMOLED DISPLAY…… B-123
Sunil Gupta, Harendra Chauhan

WHY ASP, NOT JAVA? B-129
Vipin Nair .Rahul Maurya

INTRUSION DETECTION SYSTEM- IDS…….. B-133
Shubham Matolia

Li-Fi VISIBLE LIGHT COMMUNICATION……... B-139
Soham Patil

FACE-PAY TECHNOLOGY…….. B-145
Vishal Ravindra Gorule

DATABASE CONNECTIVITY…….. B-150
Bhagyashree N. Vedpathak

SMART WATCH TECHNOLOGY…… B-155
Foram Shah

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

E-COMMERCE GROWTH ……..... B-161
Bhavesh Gajanan Bhatt

CLOUD COMPUTING: A PERSPECTIVE STUDY……. B-167
Sufiyan Kazi

B-174
BITCOIN AND ITS GROWTH……..
Shwetank Deshmukh, Siddhesh Kadam

MACHINE LEARNING …… B-179
Somnath Maurya Angad kanojia

CLOUD COMPUTING……... B-186
Snehal Ravindra Keni

EMPLOYEE MANAGEMENT SYSTEM……..
Pawan Singh B-194

MOBILE BANKING AND ITS CHALLENGES……..... B-198
Aashutosh Thanvi

AD SERVING…… B-203
Akash D Madkaikar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION C

TRACK: EXTC

VHDL IMPLEMENTATION OF AUTOCORRELATION AND CROSS CORRELATION USING VEDIC MULTIPLIER……. C-1
Madhura Ranade , Archana Ingle , Karishma Raut

DELTA BOT USING SMOOTHIE BOARD…… C-6
Aniket V. Kumbhar , Dipesh S. Jadhav , Nikhil M. Patil , Prachi V. Bidaye

NEXT GENERATION WIRELESS RGB LED BRIGHTNESS CONTROLLER……. C-10
Prince Gautam , Rupesh Ayare , Vaibhav Burkul , Prof. Nutan Malekar

INTELLIGENT SAFETY DRIVING VEHICLE ……. C-15
Nikhil Wani , Tarun Chourasia , Ankit Desai , Prathamesh chitre

IMAGES DE-DUPLICATION USING HADOOP ……... C-19
Ajit Saini ,Bhavna Patel , Shivani Pandey , Sonal Kanade

PIEZOELECTRIC POWER GENERATION…… C-23
Siddhesh Bhosale , Bhalchandra Dhebe , Diksha Gavale ,Tejashree Gawad

HAND GESTURE RECOGNITION AND VOICE CONVERSION USING SIGN LANGUAGE……. C-27
Paras D. Sangle , Rishabh D. Pandey , Akash P. Sakpal , Amey B. Shinde

VIDEO SURVEILLANCE USING RASPBERRY PI and OPEN CV SOURCE……. C-32
Omkar Kadam , Sanket Gaikar , Jaykumar Rathod , Krushna Khadtare

FARM MONITORING USING UAV…… C-37
Manjusha Karkera , Shubham Pote , Mayur Mestry , Smita Pandhare

EYEBALL CONTROL WHEELCHAIR……... C-43
Pratik Pimple , Suraj Kajave , Rahul Bhosale , Saidip Naik

FIRE DETECTION USING IMAGE PROCESSING & EXTINGUISHING…… C-48
Yash Patil , Vighnesh More, Kalpana Bramhane , Akshata Kini

LEAF DISEASE DETECTION USING IMAGE PROCESSING IN MATLAB……... C-55
Saloni Vartak , Shrutika Waje , Pooja Salavi ,Aishwarya Sonawane

MICROCONTROLLER BASED 3D SCANNER USING IMAGE PROCESSING……. C-60
Pravin K. Pandit , Prasad A. Tatkare , Pooja B. Tulaskar , Sushant G. Bhosale

SMART WASTE SEGREGATOR BASED ON IMAGE PROCESSING USING RASPBERRY PI 3……... C-66
Krushna Varma , Vrushali Patil , Prathamesh Vaidya , Krupesh Mhatre

DESIGN AND FABRICATION OF 2.5GHZ RECTANGULAR MICROSTRIP PATCH ANTENNA USING INSET FEED……. C-71
Rupesh Dhodi , Neha Dyavanpalli , Prayag Vaidya , Sumit Save

SOLAR BASED WIRELESS LAWN MOWER WITH OBSTACLE DETECTION……... C-77
Pritam Sawant, Prachi Tambe, Sneha Warole, Rasika Sase

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

WIRELESS SOLUTION FOR GREENHOUSE MONITORING AND CONTROL SYSTEM…….. C-83
Jidnyasa Godambe, Sayali Jawale, Snehal More, Prachi Palav

ARTIFICIAL INTELLIGENCE ON IMAGE…… C-88
Ravi Singh, Rajesh Patil, Omkar Sarate, Akhil Das

DESIGN & IMPLEMENTATION OF INDUSTRY ORIENTED PLC FOR BOTTLE FILLING……..... C-92
Abhishek Shejwal, Abhijit Tambe, Vikram Shevate, Chetan Uplekar

ROUGH TERRAIN BEETLE ROBOT……... C-97
Bhavesh Jadhav, Vinayak Patil, Jay Gharat, Niket Patil

A LITERATURE REVIEW ON VARYING DIMENSIONS OF E-SHAPED MICROSTRIP PATCH ANTENNA & ITS APPLICATION……..... C-103
ChitraTakle, Omkar Bhushankar, Soham Naik, Nilay Birmole

OLED…… C-108
Sanohi K.C Jatav, Kartikkumar Mahyavanshi, Aman Takshak, Yoshin Engineer

EEG BASED SECURITY SYSTEM……... C-114
Aditi Patil, Avinash Kudwal

FOREST DISASTER MANAGEMENT USING WSN…….. C-119
Hinal Raut, Sandeep Mahadik, Ruchita Patil, Mohini Ghotekar

ANTI DROWNING SYSTEM……. C-124
Gaurang Pandit, Yash kava, Tejaswini chaudhari, Pratik Gupta

VIRTUAL BATTLE GROUND…….. C-130
Ritwik Tiwari, Amit Mishra

MATCHING TECHNIQUE FOR COUPLED-PATCHES RFID TAG ANTENNA…….. C-136
Surendra Diwakar, Ameya Purandare, Ashwini Haryan, Kaustubha Gawas

SURVEY ON COLOR SPACE USED FOR SKIN MODELLING ……... C-142
Shoeb I. Shaikh, Kushal Suvarna, Mohini Ghotekar

STUDY OF MEASURING RF POWER IN FIELD…… C-146
Meena N. Perla, Reshma Chaudhari

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION D

TRACK: MECHANICAL

AUTOMATIC STAMPING MACHINE..... D-1
Tushar P Mestry, Yograj S Chile, Akshay S Dhawade, Sachin B Gade

PIN ON DISC TYPE WEAR TEST..... D-6
Ravi Vishwakarma, Sandeep Sharma, Rohit Vishwakarma, Mansi Lakhani

PURE WATER GENERATOR BY USING VAPOUR COMPRESSION CYCLE..... D-10
Divyansh Singh, Anurag Wadkar, Abhishek Singh

PORTABLE HOME..... D-15
Gayendra Chindarkar, Aishwarya Bhole , Prathamesh Ghatol, Mansi Lakhani

CAR CONTROL SYSTEM FOR HANDICAPPED PERSON..... D-20
Meghesh Sawant, Tejaswini Nachan, Akshay Yadav, Chinmay pingulkar

DESIGN OF MODIFICATION OF TEC..... D-27
Dipesh nitin vaze, Hanish Santosh sankhe, Parth atul pabari, Chinmay pingulkar

COMPRESSED AIR BIKE..... D-32
Sanyog More, Gajanan Palkar, Vasudeo Parab, Aniket Deshmukh

LOW COST COMPACT 3D PRINTER..... D-36
Gaurav Salaskar, Saurabh Naik, Chetan Padiyar, Tushar Mestry

REFRIGERATION SYSTEM IN FISHING TRAWLERS..... D-39
Kunal M. Meher, Abhijeet R. Joshi, Abhishek D. Kadam, Omkar Joshi

MATHEMATICAL MODELLING AND SYSTEM ANALYSIS OF QUARTER CAR PASSIVE SUSPENSION MODEL USING MATLAB..... D-43
Pawan Diwan Singh, Ashay Milind Save, Saurabh Pradip Patil

CONSCIOUS WHEEL..... D-49
Mitali sonar, Shweta Raykar, Kajal Shelar, Tushar Mestry

DESIGN AND SOLID MODELLING OF PARKINSON GEAR TESTER..... D-54
Nishant Devkate, Ashok Bhoye, Shivam Jadhav, Pratik Raut

DIGITIZING PITCHOETER:A REVIEW..... D-61
Abhijit Kale, Yash Gamane, Harshad Jain, Rajkumar Devkar

COIN BASED WATER VENDING MACHINE..... D-64
Prakash S. Sandimani, Pratik A. Sawant, Sharan S. Shetty, Mansi Lakhani.

A REVIEW ON 5S PHILOSOPHY..... D-68
Aditya Sawant, Kiran Sawant, Abhishek Wani, Rajkumar Devkar

DESIGN OF BOTTLE FILLING MACHINE USING GENEVA..... D-72
Nagendra Solanki, Mayuresh sankhe, Himanshu Rane, Nilesh Nagare

IMPLEMENTATION OF EGR SYSTEM IN TWO WHEELER..... D-77
Pranav P. Dalvi, Vignesh N. Boga, Dinesh J. Chauhan, Prof. Nilesh Nagare

NAVAL GEAR ORIENTEER..... D-81

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Abhishek Shanbhag, Harshal Nagtode, Nikhil Naik, Mansi Lakhani

DESIGN OF ANALYSIS OF SYSTEM FOR STEAM TO AIR COOLING…… D-86
Priyank Saripadiya, Dnyaneshwar More, Darshan Sawant, Aniket Deshmukh

PESTICIDE SPRAYER USING OSCILLATION MECHANISM……... D-92
Sidhnath Thakka, Rajas Nandurdikar, Bishal Tiwari

DESIGN AND ANALYSIS OF COOLING TOWER……... D-96
Manas M. Patil, Sanket J. Patil, Prashant P. Patil, Suneet J. Mehta

CLEANING OF WATER DROPLETS ON SIDE MIRROR OF A CAR BY USING AIR VENTURI……..... D-102
Vikesh Suthar, Dishant Surte, Rohit Sawant

DESIGN AND FABRICATION OF COOLING TOWER…… D-106
Pratik M. Patil, Sandesh H. Patil, Sanjeev A. Singh, Suneet J. Mehta

INCREASING EFFICIENCY OF RECIPROCATING COMPRESSOR BY USE OF DIFFUSER……... D-112
Amish Bamania, Deep Chheda, Mayank Chheda, Omkar Joshi

ACOUSTIC FIRE EXTINGUISHER……. D-116
Siddhesh S. Chavan, Gaurav S. Chavan, Gajanan P. Behere, Chinmay pingulkar

DESIGN AND ANALYSIS OF WIND TUNNEL…… D-120
Akshay Baswa, Pranit Bangera, Siddhesh Baviskar, Swapnil Raut

NUMERICAL SIMULATION OF BUFFETING EFFECT ON WINGS……. D-125
Rahul Maurya, Pankaj Chauhan, Krishna chavan, Swapnil Raut

SOLAR GRASS CUTTER……. D-131
Rajnish Maurya, Sanmay Kothari, Aakash Mishra,Aniket Deshmukh

TEST RIG ON EDDY CURRENT BRAKING SYSTEM…… D-134
Mahadeo Gurav, Neeraj Gupta, Shivam Chaturvedi, Prof. Pratik Raut

DESIGN OF "I-BICYCLE……. D-138
Pijush Ghosh, Ashwin Kharwa, Parag Marde, Pratik Raut

MULTI AXIS DRILLING MACHINE……... D-142
Raut Shreyank Prakash, Routela Dinesh Singh Bahadur Singh, Sabale Aniket Prakash, Prof. Varghese Koshy

VEGETABLE CUTTING MACHINE……... D-147
Aniket Pawar, Rushank Pednekar, Mahesh Sarak, Varghese Koshy

ELEVATOR FOR SPECIALLY ABLED PERSON……. D-151
Karan. K. Das, Ankush .S. Bhagat, Abhijit. D. Kadam

TO STUDY THE IMPACT OF BIODIESEL AND ETHENOL AS A FUEL ADDITIVE WITH DIESEL ON SINGLE CYLINDER DIESEL ENGINE……... D-155
Kiran Hirve,Makarand ,Hajare,Akshay Halgunde, Prof. Aniket Deshmukh

SOYBEAN MILK EXTRACTING MACHINE…….. D-160
Himanshu Mishra, Ravi Mishra, Hitesh Nayee, Manoj Yadav

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SAND FILTER & SEPARATOR PROJECT……... D-164
Makrand Mahadev Virkar, Harikesh Yadav, Sujeetkumar Yadav, Manoj Yadav

DESIGN OF PORTABLE CNC……. D-168
Sainath Satavse,Sachin Shinde,Shubham Sawant,Pratik Raut

AUTO-COMPOSTING MACHINE…….. D-173
Mahendra Shelke, Sandesh Vaje, Arpit Yadav, Sushil Mishra

TRANSPORTATION BY CAM MECHANISM…….. D-178
Kushal Mhatre, Rohan Kadam, Swapnil Jadhav, Shreeyesh Kutty

FABRICATION OF WIND TUNNEL TESTING MACHINE……. D-182
Mithilesh Bhoir,Suraj Awere,Vrushabh Kharat,Swapnil Raut

MULTI DEGREE FREEDOM BENCHVISE…… D-186
Deep Patidar, Mohammed Anas, Vikash Yadav, Varghese Koshy

TEST RIG ON HEAT TREATMENT UNDER LAMINAR FLOW……. D-190
Brijesh Lathia, Mitesh Madav, Rushikesh Jadhav, Sushil Mishra.

DESIGN AND MANUFACTURING OF BIOGAS PLANT…… D-192
Akhil Naik,Kalpesh Rawool,Chinmay Tambe,Sushil Mishra

TESTING & ANALYSIS OF WIND TUNNEL…… D-196
Dishant R. Ghawale, Vishal H. Chaukekar, Nirmit R. Budhkar, Swapnil Raut

DESIGN AND ANALYSIS OF TRIPLEX SUSPENSION…….. D-200
Vidit Bore, Hrishikesh Gaikwad, Vishal Dhole, Prof.. Vinit Raut

GEAR PUMP TEST RIG……. D-204
Ratnakant Ghadi,Sourabh Ahire,Ravindra Chavan,Sanjay Kannaujiya

THEORY OF CONSTRAINT AS AN EMERGING MANUFACTURING PHILOSOPHY……. D-207
Priyank Vartak, Pratik Raut, Tejas Chaudhari, Niyati Raut

OPTIMIZATION OF PLATE BENDING MACHINE THROUGH FINITE ELEMENT APPROACH…… D-212
Pramod Vishwakarma,Mayur Jagtap,Aditi pimpale,Niyati Raut

TUBE HYDROFORMING AN EMERGING FORMING TECHNOLOGY IN AUTOMOTIVE INDUSTRIES……. D-216
Shweta Patel,Niyati Raut,Henisha Raut,Chhaya Patil

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION E

TRACK: ELECTRICAL

ATMOSPHERIC WATER GENERATION…… E-1
Mayuri Anand Bankar, Mehul Arjun Chavan, Jyoti Balasaheb Salunke, Prof. Piyali Mondal

PREVENTIVE MAINTENANCE OF POWER TRANSFORMER…… E-4
Piyali Mondal, Somraj Sengupta

CLOSED LOOP CONTROL OF SPEED FOR A BRUSHLESS DC MOTOR…… E-9
Rajkumar R. Gupta, Rohit S. Gupta, Suryaprakash J. Dubey, Chitralekha Vangala

AUTO SELECTION OF ANY AVAILABLE PHASE, IN 3 PHASE SUPPLY SYSTEM…… E-14
Vivek Mali, Kisan Limbachiya, Sagar Zambre, Chitralekha Vangala

A REVIEW ON ENERGY EFFICIENT TECHNOLOGIES IN ELECTRICAL MOTOR SYSTEM FOR DEVELOPING COUNTRIES……. E-18
Anojkumar S. Yadav, Sushant Kumar, Mukeshkumar Mishra

A SCALE MODEL OF GRID CONNECTED PV MICROGRID…… E-23
Vivek Maurya, Vishal Maru, Pranay Shirsat

VOICE CONTROLLED HOME AUTOMATION…….. E-27
Charu Ramkumar Singh, Harshad S. Jadhav, Chandraprakash Chauhan, Sushant Kumar(Ass.Prof)

DIAGNOSIS OF STATOR FAULTSOF INDUCTION MOTOR USING MATLAB SIMULINK…… E-31
Prajakta E. Patil, S.S.Dhamal, Bhavita Patil

ELECTRIC VEHICLE USING RENEWABLE ENERGY SOURCES…… E-37
Neha Vijay Mhatre, Heena Keshulal Lodha, Pushpanjali Ganesh Mishra, Prof.Bhushan Save

AUTO-IRRIGATION SYSTEM BY MEASURING MOISTURE LEVEL IN SOIL…… E-40
Trupti p. khatekar, Kirti l. jani , Hiral v. gala,Bhushan Save

SMART WHEELCHAIR FOR PATIENT…… E-42
Rohan Rathod, Vaibhav Rathod, Tushar Korde, Sushant Kumar

HALBACH ARRAY PRINCIPLE BASED BLDC MOTOR …….. E-47
Akshay R. Darekar, Dinkar N. Vanjare, Akshay S. Hegishte, Prof.Anojkumar Yadav

SEA WAVE POWER GENERATION…….. E-52
Mayuri Tamore, Gargee Toskar, Ankita Pachare

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

POWER GENERATION BY VORTEX PRINCIPLE……. E-55
AKSHAY H. KARANGIYA, BHAVIK J. LADVA, NIKUNJ C. PARMAR, Asst. Prof. Mukesh Mishra

SCOTT CONNECTION OF TRANSFORMER…… E-60
VIKAS V. DONGARKAR, SWAPNIL S. SHINDE, MANOJ B. YADAV

ENERGY EFFICIENT DUAL AXIS SOLAR TRACKING SYSTEM USING LDR AS A LIGHT SENSING DEVICE…….. E-65
Varsha Tadge, Mayuri Sonawane, Ruchira Khairnar, Pratik Mahale

NEW APPROACH OF DOUBLE SIDED LINEAR INDUCTION MOTOR……. E-70
Sunny Dhapsi, Ajay Jabar, Pavan Chaurasiya

POWER SYSTEM CONTINGENCY ANALYSIS…… E-75
Bhavita Patil, Anojkumar Yadav, Sushant Bansal, Mukeshkumar Mishra

CLEAN SOLAR ENERGY…….. E-80
Mukeshkumar Mishra, Anojkumar yadav, Sushant kumar, Bhavita N. patil

WIND ENERGYBATTERY ENERGY STORAGE SYSTEM USING GRID POWER QUALITY IMPROVEMENT AND……. E-85
Bhavesh R. Goel, Kalpesh A. Chavan, Atul T. Kanoja, Mukesh mishra

A REVIEW PAPER ON MODEL PREDICTIVE CONTROL TECHNIQUE IN POWER ELECTRONICS APPLICATION…….. E-89
Sushant kumar, Anoj Kumar Yadav, Mukesh kumar Mishra, Bhavita Patil

A STUDY OF SMART TECHNOLOGIES AND CLEAN ENERGY TECHNOLOGIES TO REDUCE ENERGY DEMANDS…… E-92
Kavita Mhaskar, Anojkumar Yada, Chitralekha Vangala

MICRO HYDRO POWER PLANT USING BAVKHAL (PONDS)…… E-97
Rahul Abhyankar

Automatic Mains Failure Panel (AMF PANEL)……. E-100
Harsh J. Palja, Karan P. Choksi, Abhishek A. Gohil, Rahul Abhyankar

SPARK GAP COIL…… E-103

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Jinal K.Panchal, Hetal C. Jethwa, Diksha S. Pawar, Rahul Abhyankar

ROLE OF ELECTRICAL ENGINEER IN BUILDING MAINTENANCE SERVICE: A SURVEY…… E-105
Pratik Mahale, Dipali Mahale, Chaitali Kshirsagar

EFFICIENT WORK AND ERRORLESS PERFORMANCE OF MACHINE…… E-109
Amit mishra, Ritwik tiwari

INDUSTRY LEVEL ELECTRICAL SAFETY FOR HOME…… E-114
Priyanka Kamble, Vijaya Kamble, Priyanka Sable

APPLICATION OF GIS AND REMOTE SENSING IN WATER RESOURCE…… E-120
Prof. Sunil P. Suknale

DESIGN OF INVERTER USING RENEWABLE ENERGY RESOURCE…… E-127
Sunit Kamble, Somnath Waghmode, Sumit Varma, Bhavesh Gawande

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

SECTION F

TRACK: Applied Sciences & Humanities

WORK ENVIRONMENT AND ITS IMPACT ON WORK PERFORMANCE…….. F-1
Prof.Trupti Vikas Patil, Dr. Suma Sreedhar, Dr. Vinayak Shinde, Prof. Prashant Ramrao Pawar

IMPACT OF ORGANIZATION' HIERARCHICAL CULTURE ON HUMAN RESOURCE (HR) MANAGEMENT…….. F-3
Prof. Prashant R. Pawar, Dr. Suma Sreedhar, Dr. Vinayak Shinde, Prof.Trupti Vikas Patil

THE "W's" OF DRUG INTERACTION ……. F-6
Shwetali K. Churi

EXPERIMENTAL STUDIES ON NANO GEL POLYMER ELECTROLYTES…….. F-10
Manju Mishra, S.K.Tripathi

APPLICATION OF MATRIX TO CRYPTOGRAPHY……. F-19
R. Prajapati, Jayesh Jain, Dr.Ajazul Haque, Deepak Dubey

AN APPLICATION OF RUSCHEWEYH DERIVATIVES OPERATOR ON UNIVALENT ANALYTIC FUNCTIONS…….. F-24
Jayesh Jain, Shiksha Singh, Ajazul Haque, Satishkumar Singh

REACTIVITY OF MOLECULAR CARBON MONOXIDE WITH $AL_{13-N}RH_N$ (N=1,2) CLUSTER: A COMPUTATIONAL STUDY…….. F-29
Deepak Dubey, Dr.Sajeev Chacko

APPLICATION OF GESTURE CONTROL ROBOT USING MEMS…… F-33
Dr. Hemangi Raut, Mr. Gaurav Hatkar, Miss. Prachi Puradkar, Miss. Heena Muchhale

A STUDY OF CONVEX AND CONCAVE FUNCTION AND ITS APPLICATIONS..... F-36
Yogendra Vishwakarma, Dr.Ajazul Haque, Shiksha Singh

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Strengthening of RCC structures by NSM Technique

Akshay Mistry,
akshay0519@yahoo.com,

Prashant V. Muley
pmuley65@gmail.com

Abstract— ***Near surface mounted (NSM) FRP reinforcement has recently emerged as a promising technology for strengthening concrete structures in both flexure and shear. This technique has numerous potential advantages over externally bonded FRP strengthening systems, and is typically able to more fully employ the strength of FRP materials because of superior bond performance. Research to date has focused primarily on overall member behaviour and/or the various parameters that affect the bond performance of available NSM systems. FRP strengthening systems are known to be susceptible to deterioration of mechanical and bond properties. An experimental program was conducted to investigate the shear and flexural performance of NSM FRP beams. This technique consists of placing FRP in a groove cut into the surface of the member being strengthened. The FRP bar may be embedded in an epoxy- or cementitious- based paste, which transfers stresses between the substrate and the bar. The study was carried out up to the failure load.***

Keywords— Glass Fiber Reinforced Polymers, Strengthening, Concrete, Beams, Flexural, Shear, Bond

1. INTRODUCTION

Infrastructure throughout the industrialized world is showing significant and worrying signs of increasing deterioration. With these huge infrastructure deficits, novel approaches for the design, construction and repair of infrastructure must be developed. The experimental work confirms the fact that continuous FRP reinforcement column wrapping increases ultimate displacement and ultimate strength.

The use of fiber reinforced polymers (FRPs) in civil engineering applications has emerged over the past 15 years, and FRPs are now providing a number of novel approaches for both new construction, and particularly for repair and strengthening of existing structures. Fibers are typically made of carbon, glass or aramid. However, the use of FRPs in NSM applications is a relatively new idea. Basic characteristic of FRP materials and method of mounting FRP bars within the concrete i.e. near surface mounted techniques is presented. In this newer technique, FRP bars or strips are used as reinforcement with either epoxy or cement-based adhesives. Externally bonded FRP laminates have been successfully used to increase the flexural and/or the shear capacity of reinforced concrete (RC) and masonry members. The use of near- surface-mounted (NSM) FRP bars is an attractive method for increasing flexural and shear strength of deficient RC members. Near-surface mounted (NSM) glass fiber reinforced polymer (GFRP) laminate strips are used to increase the load-carrying capacity of concrete structures by inserting them into slits made in the concrete coverof the elements to be strengthened and gluing them to the concrete with an epoxy adhesive. This method is often able to utilize a greater proportion of the full strength of the bonded FRP prevent premature debonding failures. NSM techniques have become popular due to its specific bond characteristics which can enable more use of FRP.In order to take full advantage of ductility of RC member it is desirable to ensure that flexure rather than shear governs the ultimate strength.

1.1 NSM BACKGROUND

NSM reinforcement for strengthening concrete structures is not a new idea; the basic technique can be found in literature dating as far back as 1948 (De Lorenzis 2000), although these older applications used steel bars or rods as reinforcement and cement mortar as adhesives.

The available literature in this area encompasses two broad testing categories, bond tests and member tests. These two areas have arisen because, in flexural strengthening applications with NSM reinforcement, as is the case with externally-bonded FRP sheets, members can typically be analyzed using the same assumptions that are used for conventional reinforced concrete members.

Bond Tests

Previous researchers have noted that in NSM FRP applications "bond is of primary importance, since it is the means for the transfer of stress between the concrete and theFRP reinforcement in order to develop

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Review on Risk Analysis Using Fuzzy Logic

Arathy Harish Menon
Civil Engineering Department, Mumbai University
arathy18k@gmail.com

Dr.Geetha K Jayaraj
Principal, SSJCET
jayaraj.geetha@gmail.com

ABSTRACT

Construction projects are always unique which may undergo risks at each stage as per the progress of work compared to other industries. Risk Management in projects is the art and science of managing risks. Risk may be defined as the measure of consequence and probability of occurrence of uncertain events which may lead to delay in achieving project goals. For effective risk management, risks should be identified and evaluated in a systematic manner. Risk analysis is a part of risk management which shall help to avoid risks by systematic process of estimating the level of risks. Risk analysis involves the ranking of risks with qualitative risk assessment and quantifying the risk exposures for mitigating high exposure risks. In this paper, the risk analysis of risks which may occur in construction projects is carried out by using RII method which helps to determine the relative important indices of various risk factors. The construction of respective risk assessment model in fuzzy logic interference system of MATLAB software is also discussed.

Keywords: *Risk, Risk Analysis, Risk Management, Fuzzy Logic, Relative Importance Index (RII)*

1. INTRODUCTION

Construction projects are facing uncertain environments, which increase the size and complexity of the project, degree of impact of environmental issues, level of involvement of external agencies, complexity of financing, delay and cost overrun of project and level of impact of currency fluctuations. Uncertain environment is the unexpected or expected risks, which is a measure of consequence of uncertain event, situation, or condition which may occur. Compared with many other industries, the construction industry is subjected to more risk due to the unique features of construction activities, such as long period, complicated processes, abominable environment, financial industry and dynamic organizational structure [3]. In most major projects, there is some critical element, the lateness of which would results in costs to the owner that were far in excess of the value of the projects. [4]. A reliable way to analyse the associated risks is vital to make the project successful. Fuzzy system having the ability to explain its reasoning process and having definite applicability within the field of risk analysis. Risk analysis using fuzzy logic can provide an effective, systematic and a natural way to analyse the associated risks.

2. RISK MANAGEMENT

Risk is a measure of probability and consequence of not achieving a defined project goal. [2] Risk itself is traditionally described as an uncertain event [12,16,17] A good project management to be structured to identify hazard and to allow safeguards to be developed to overcome them. [2] The two primary components of risk are the probability of occurrence of the event and impact of the event occurring. That means risk is a function of probability and impact. Risk exposure is quantified by multiplying the probability of occurrence of the risk with its impact over the project. Project Risk Management is the art and science of managing risks caused by unforeseen changes (uncertainties) which may require deviations from the planned approach and may therefore affect the achievement of the project objectives. [1] Risk management becomes an integral part of project management and plays such an important role that its application goes beyond the traditional scope which normally centers on the construction phase. [13,14] An effective risk management method can help to find out and analyses the risk which may occur during the construction period and also help to manage them during the stages of construction. High quality risk management in construction projects requires, full specification of the project, a clear perception of the risks being borne by each party, sufficient experience to manage risks, good co-ordination and mutual understanding between each party. The quality of project risk management is improved if risks are identified and evaluated in a systematic way, risks are allocated to the parties best able to control them and parties who are expected to bear risk receive adequate reward for doing so. [4] A systematic approach to risk management has five stages which are as follows:

1. Plan Risk Management
2. Risk Classification
3. Risk Identification
4. Risk Analysis and assessment
5. Risk Response

2.1. Plan Risk Management

Plan of risk management or risk planning is the process of developing and documenting an organized, comprehensive and interactive strategy. It includes the methods for identifying and analysing risks, developing risk response plans and monitoring and controlling how risk have change. Therefore, risk planning is the detailed formulation of action for the management. Risk planning includes the entire risk management process, with activities to identify, analyse, respond, monitor and control risks.

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

REVIEW PAPER ON ANALYSIS CHECK OF VARIOUS MATERIALS

Ramya Raju
Civil Engineering Department
ramyaraju5616 @gmail.com

ABSTRACT

The disposal of various materials from the industry is one of the environmental problems today. Various materials is produced from processing plant during the sawing and polishing of marble blocks and about 20 – 25% of the processed marble is turned into powder form. Disposal of the various materials from the industry is one of the environmental problems worldwide today. The replacement is done partially in various proportions and its effect on properties of concrete is studied. The optimum percentage for replacement of various waste materials to attain the maximum strength is 50% replacement where as in tensile strength the optimum strength is achieved by 10% replacement by cement. As the percentage replacement of various materials increases the workability reduces. The use of waste materials reduces the cost of construction as it is used in mixing with concrete for building of floors and other structures and it also reduces the proportion of water cement ratio.

Keywords—*compressive strength, tensile strength, w/c ratio.*

1. INTRODUCTION:

Civil engineering is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built environment, including works like roads, dams, parks and recreation, bridges etc. It is broken into several sub- disciplines including environmental engineering, geotechnical engineering, infrastructure and construction techniques and many more. Development of city is governed by its infrastructure. This project deals with the advanced construction technique by concrete technology replaced by different waste materials.

Concrete is an essential building material that is widely used in the construction of infrastructure such as buildings, bridges, highways, dams and many other facilities. The production of ordinary Portland cement produces 7% approximately of the total greenhouse gas emitted to the atmosphere. Waste various materials is generated as a byproduct during cutting of marble. The waste is approximately in the range of 20% of the total marble handled. The waste generated every year is in tones, which is dumped in open space. This leads to serious environmental and dust pollution. This may also lead to contamination of underground water reserves[2].The environmental problems attributed by waste various materials imposes threat to ecosystem, physical, chemical and biological components of environment. It is therefore very important to reuse the waste various materials which shall solve most of the problem. This report describes the feasibility of using the waste various materials as a partial replacement of cement.

2. SCOPE AND OBJECTIVE:

1. To find economical solution for high cost construction material.
2. To study the effect of use by partial replacement of cement by various materials.
3. To compare the compressive, flexural and tensile strength.

3. LITERATURE REVIEW:

Aalok D et al.,2014 studied the "Experimental study on use of marble dust in concrete" and concluded that for M25 grade concrete the compressive strength of cubes is increased when 50% of various materials is added and further any addition of waste various materials the strength gradually decreases. The split tensile strength of cylinders are increased with addition of waste various materials up to 25% and decreases on further addition. The flexural strength is obtained at 50% of various materials mix.

© 2018, www.IJARIIT.com All Rights Reserved

Replacement of Inactive Concrete by Waste Plastic

Mrs.Meena Bhagat
Assistant Professor
Department of civil Engineering
VIVA Institute of Technology

Mrs. Asmita Bhalke
Assistant Professor
Department of civil Engineering
VIVA Institute of Technology

ABSTRACT

Now a day a cost for construction of any structure is booming tremendously so to compensate the cost of project the number of new methods and innovative techniques are used, voided slab is also one of them. Voided slab is nothing but a slab in which some excess concrete is replaced with any other material which should be beneficial for construction and effective for cost. waste plastic which have less cost as well as less weight so voided slab using waste plastic can attempts the negative attributes of solid slab by lightening them without any structural disability

Keywords: Inactive Concrete, Waste Plastic

1. INTRODUCTION

The slab is most pricy or costly RCC member of structure which consumes the largest amount of concrete. When the amount of concrete increases in slab the self-weight of member increases so it tends to high load which limits the span for horizontal slab and increases the stress on structure which consumes more amount of steel, concrete etc. which affects on design as well as on cost.

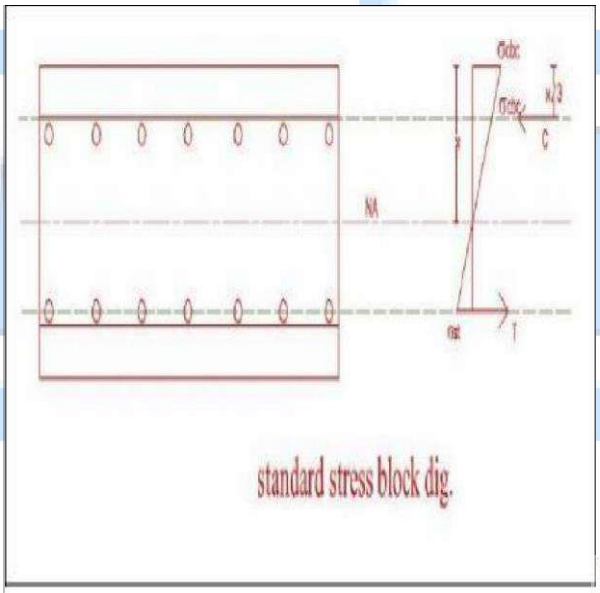
As we know the concrete is very weak in tension so if we replace the amount of concrete present in tension zone with another material like plastic having less weight as well as cost as compare to concrete. The weight of slab reduces then simultaneously the excess steel and concrete required will be reduced which makes project some much economical.

The inventory concept of voided slab is idealized by concept of pre casted hollow core slabs which are introduced in 1950s.

The hollow portion of hollow core slab is replaced with high density polythene or plastic casted monolithically it results as voided slab which can be constructed as precast or cast in situ.

2. CONCEPT

The concept of voided slab comes from an inactive concrete



VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved A-113

Hedonic Pricing Method

Prof. Prashant Gondane
Department of Civil Engg
pgondane008@gmail.com

Prof. Sagar Sundaran
Department of Civil Engg
sagarsundaran@gmail.com

Prof. Mayur Patel
Department of Civil Engg
mayurpatel199228@gmail.com

Prof. Yadnesh Patil
Department of Civil Engg
yadneshpatil007@gmail.com

ABSTRACT

The objective of this concept paper is to introduce one of the techniques for valuation of environmental goods and services. The paper is structured as follows. There is a brief overview of various techniques to value environment goods and services is discussed. It discusses the hedonic price method in particular. The overview looks into applications of hedonic price method and finally the paper concludes with limitations of hedonic price technique

Keywords— hedonic price technique, Surrogate Market, market based method, WTP (willing to pay), WTA(willing to accept)

1. INTRODUCTION

Environmental protection is one of the principal concerns in the 21st century and is likely to dominate political interest in the coming years. Environment is a good, which belongs to "everybody" but belongs to "nobody". The two important features "nonexcludability"and "jointness of production" leading to "non-enforceability" of property rights are the main causes of environmental degradation resulting in increased air, water, noise pollution etc. They can be the silent killers if unchecked now. This supports the concern why we need to protect the environment. But as costs of protecting the environment can be quite huge for some environmental programmes, the next issue that comes to our mind is who pays for these costs and how to raise resources for protecting the environment? This is clearly the job of Environment minister. However, due to limited budget and competing priorities, before investing in environment protection he has to ascertain that the costs incurred is worth the benefits that the citizens receive. If the net benefits are not positive the resources can be directed somewhere else.

The costs are clearly measurable but how do we measure the benefits of protecting the environment? Environment provides several goods and services, many of which cannot be measurable. How can we have a meaningful measure for the benefits of environmental protection? If individuals want to buy a consumer good say "car". The benefit derived from using a car will be at least equal to or more than what the individuals are willing to pay for the car, which is revealed through the market price. In this case the individual is expressing his willingness to pay for the benefits he will derive for using the car through the market price. Suppose, after some years he decides to sell the car. He would be willing to sell the car only if he receives in compensation some value for the car, which is not less than some reservation price. In this case he is expressing his willingness to accept as compensation for foregoing his utility from the car. Thus in this case the market price can be used to calculate the individual's willingness to pay or willingness to accept, and hence the economic value of the good to that individual. In case of environmental goods and services, there are no well-enforced property rights and hence, we cannot have well-established markets and market clearing prices. We need to have some market or nonmarket valuation techniques, which can be based on the same principle of individual's willingness to pay for the environmental gains or willingness to accept compensation for some environmental losses.

The objective of this concept paper is to introduce one of the techniques for valuation of environmental goods and services. The paper is structured as follows. In section 2, a brief overview of various techniques to value environment goods and services is discussed. Section 3 discusses the hedonic price method in particular. Section 4 looks into applications of hedonic price method and Section 5concludes with limitations of hedonic price technique.

2. Brief Overview Of Method For Valuing The Environment

A number of techniques are available to value the environmental goods and services. These can be categorized into revealed preference and stated preference techniques. In revealed preference methods individuals indirectly reveal the willingness to pay for environmental good through market and surrogate market prices. In stated preferences, the individuals are directly asked what their willingness to pay is. These techniques can be classified according to the method used for valuation i.e. market based, surrogate market or non-market based. A very brief description of different methods is given below

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon,
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Efficiency of GGBS in concrete

Akshaykumar Naik
Civil Engineering
Mumbai university
naik15864@gmail.com

Sagar Sundaran
Civil Engineering
Mumbai university
sagarsundaran@gmail.com

Mayur Patel
Civil Engineering
Mumbai university
mayurpatel@viva-technology.org

Vishal Urade
Civil Engineering
Mumbai university
vishalurade10@gmail.com

ABSTRACT

The utilisation of supplementary cementitious materials is well accepted because of the several improvements possible in the concrete composites and due to the overall economy. The present paper is an effort to quantify the 28-day cementitious efficiency of ground granulated blast furnace slag (GGBS) in concrete at the various replacement levels. It was observed that this overall strength efficiency of GGBS concretes can also be defined through a procedure adopted earlier for other cementitious materials like fly ash and silica fume. The overall strength efficiency was found to be a combination of general efficiency factor, depending on the age and a percentage efficiency factor, depending upon the percentage of replacement as was the case with a few other cementitious materials like fly ash and silica fume reported earlier. This evaluation makes it possible to design GGBS concretes for a desired strength at any given percentage of replacement.

Keywords— *Concrete; Mixture proportioning; Granulated blast furnace slag; Compressive strength; Efficiency*

1. INTRODUCTION

Blast furnace slag cements are in use for a reasonably long period due to the overall economy in their production as well as their improved performance characteristics in aggressive environments. Also, the use of pozzolans as additives to cement, and more recently to concrete, is well accepted in practice. Ground granulated blast furnace slag (GGBS) is one such pozzolanic material (termed by a few as a supplementary or complimentary cementitious material) which can be used as a cementitious ingredient in either cement or concrete composites. Research work to date suggests that these supplementary cementitious materials improve many of the performance characteristics of the concrete, such as strength, workability, permeability and durability and corrosion resistance. To assess the effectiveness of GGBS in cementitious composites, some of the parameters like chemical composition, hydraulic reactivity, and fineness have been carefully examined by many earlier It was seen that among these, the reactive glass content and fineness of GGBS alone will influence the cementitious/ pozzolanic efficiency or its reactivity in concrete composites significantly. Some of the earlier researchers tried to express this reactivity of GGBS in terms of slag activity index (SAI) or hydraulic index, considering its chemical composition.

2. SLAG ACTIVITY INDEX

ASTM C989 defines SAI as the percentage ratio of the average compressive strength of slag cement (50±50%) mortar cubes to the average compressive strength of reference cement mortar cubes at a designated age

Based on this slag was classified into three grades Ð Grade 80, Grade100, and Grade 120, depending on the relative compressive strength. Hooton and Emery

observed that the properties of GGBS influencing its reactivity to be the glass content, chemical composition, mineralogical composition, fineness of grinding and type of activation provided. Researchers have suggested different compositional moduli to assess the reactivity of GGBS. However, Mantel came to conclusion that hydraulic formulae for GGBS proposed in the literature do not adequately predict the strength performance of slag.

He stated that there is no correlation between the chemical composition of cement or that of a slag and the hydraulic activity of a blend made from that cement and slag. He also reported that the slag activity, tested as per ASTM, depends on the particle size distribution (fineness) of slag and the cement used and showed that this ranges from 62% to 115% at 28 days. He observed that cement with high alkali content has not affected the hydraulic city of the slag. In contrast, Hogan and Rose have said that high alkali cement blends yield an appreciably greater SAI value than the low alkali cement blends. It is to be noted that all the above tests on SAI were conducted on mortar cubes only. Although it is well known that the behaviour of mortar is different from that of concrete and, in particular, the reactivity of GGBS in mortar cannot directly be correlated to its performance in concrete, concrete mix proportioning based on the reactivity of slag is not looked into by many.

The above discussion shows that there is a need to look at the possibility of proportioning mixes based on the reactivity of GGBS in concrete.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Encroachment-
A threat to urban Development

Prof.Abhijit Wasave
Civil Department
Viva institute of technology
abhijitwasave@viva-technology.org

Prof. Prachi Bari *
Civil Department
Viva institute of technology
prachibari007.pb@gmail.com

Prof.Prerana Patil
Civil Department
Viva institute of technology
preranapatil@viva-technology.org

prof.Ashish shetty
Civil Department
Viva institute of technology
ashishshetty@viva-technology.org

ABSTRACT

Encroachment can be defined in numerous ways, whether power, natural resources or property (public & private) but it has a similar meaning in all the context i.e. illegal usage of resources which you don't have legal rights. This paper investigates the effects of encroachment on Urban Development (VVCMC) and wishes to put light on pitiful situation of urban encroachment so that country comes out strongly for urban encroachment before working on the idea of smart cities

Keywords— Urban encroachment, VVCMC, Real Estate

1. INTRODUCTION

The city of Virar is encircled by a green belt area, instituted as an urban growth boundary to contain sprawl, ensuring equitable growth and preserving lung spaces. Urban growth boundaries world over are typically known to drive land prices higher in the inner city area. Virar has witnessed significant increase in land prices over the last decade, making it increasingly unaffordable. In this context, this paper examines whether the green belt in Virar has had a significant impact on land prices, through an analysis of price differentials within and outside the urban growth boundary. This study also debates the relevance of green belt as an urban containment tool in regimes characterized by ineffective provision of infrastructure and lax implementation of zoning regulations. Enclosing an urban area within a growth boundary has its supporters as well as detractors. The positive aspects are the reduced cost of haphazard extensions to infrastructure and improvements in the aesthetic quality of life by reducing sprawl. However, this also means that the supply of land for residential uses is artificially restricted, leading to issues of housing affordability, pricing the city out of range to people and firms and making it non-competitive. It also imposes huge costs in terms of monitoring conformance to planning regimes.

2. Current Situation

The metropolitan strategy for many cities in the world, and specifically the city of Bengaluru, India is based on the concept of urban growth boundaries. The city is encircled within a green belt with significant zoning restrictions, as a measure to limit sprawl. At the same time, land prices have increased substantially within the city centre, leading to densification in the periphery where land prices are cheaper. So while the green belt has been a planned response to limit sprawl in a burgeoning city, it may equally be responsible for the land price increase within the city. There is thus a need to rethink and review the green belt policy- is it acting as an urban containment policy? Is it creating an artificial supply constraint leading to increasing land prices in the city? This paper studies the policy framework of the green belt in Virar from a planning and an enforcement perspective. Using price trends of real estate within the city contiguous to the green belt, it examines whether the urban growth boundary policy has limited land supply within the city and has effectively contained urban sprawl. Understanding the impact of green belt policies on residential real estate prices is essential from a policy perspective and has large implications on housing affordability in rapidly urbanising cities. The motivation for this study stems from the dialogue on affordable housing in India. Indian cities are considered unaffordable and the onus of this allegedly rests with the state which restricts land supply, through provisioning of infrastructure. The green belt is simply another hard supply constraint by nature of its zoning. How the green belt impacts prices of land, and how the green belt itself is impacted by the rising prices of land is an interesting, and topical study.

3. Debates on the Urban Growth Boundary as a Planning tool.

A Urban Growth Boundary (UGB) is loosely defined as an "officially adopted and mapped line that separates an urban area from its surrounding greenbelt of open lands, including farms, watersheds and parks, for a set period of time." and with an intent "to contain urban development within planned urban areas where basic services, such as sewers, water facilities, and police and fire protection, can be economically provided." (Sayer, 1997, 1:5). An urban growth boundary is typically a "written agreement" to map the area within which growth will be contained, for a certain pre-determined period of time. (Daniels 2010). Growth boundaries are used by the city administrators to plan for infrastructure provisions to a contained urban area. An important corollary of fixing the urban growth boundary is that urban services will not be extended beyond the said boundary. On the other hand, an urban growth boundary is not expected to be static. Knaap and Lewis (2001), using an inventory approach to land management, state that boundaries need to be revised on a

© 2018, www.IJARIIT.com All Rights Reserved

Impact of Demonetization on Real Estate in India

Shetty Ashish Vishwanath*
VIVA Institute of Technology
ashishshetty@viva-technology.org

Wasave Abhijit Suresh
VIVA Institute of Technology
abhijitwasave@viva-technology.org

Naik Akshay
VIVA Institute of Technology
akshaynaik@viva-technology.org

ABSTRACT

The paper Investigates the effect of demonetization of higher currency notes by prime minister Shri Narendra Modi and the heavy liquidity challenges and unsold Inventory leading to crumbling of Indian Economy (business) mainly involving secondary market in real estate and hence calculating the merits and demerits of the process.

Keywords— Demonetization, Real Estate, Indian Economy, Sales, Black money.

1. INTRODUCTION

Major analysts & commentators have argued demonetization as a bold move which can bring significant reduction in black money and hoarding of cash in future days to come. There has also been concern & criticism emanating from various quarters about the rising inconvenience for the public. Most of India's business environment has been tremendously shaken up by the recent demonetization of the higher currency notes by Prime Minister Narendra Modi government. This is the third demonetization exercise undertaken by the Indian authorities, if we include the one done just before independence in 1946. It is still too early to accurately measure the depth of the turbulence this has caused, but its impact on the real estate sector is immediately visible. Since Modi's surprise announcement, the ripples have been spreading through the already disturbed sector, which has been experiencing excruciatingly slow growth in recent times.

The real estate sector is one of the most globally recognised sectors. In India, real estate is the second largest employer after agriculture and is slated to grow at 30 per cent over the next decade. The real estate sector comprises four sub sectors - housing, retail, hospitality, and commercial. The growth of this sector is well complemented by the growth of the corporate environment and the demand for office space as well as urban and semi-urban accommodations. The construction industry ranks third among the 14 major sectors in terms of direct, indirect and induced effects in all sectors of the economy. It is also expected that this sector will incur more non- resident Indian (NRI) investments in both the short term and the long term

The real estate sector will definitely be affected by the demonetisation exercise, as it has traditionally seen a very high involvement of black money and cash transactions. However, almost all such incidences have been in the secondary sales market, where cash components have traditionally been a veritable 'must'. In other words, the resale properties segment will take a big hit. However, short-term pain is inevitable when we look for any eventual long-term cure for the disease. There has for long been a strident demand to bring transparency in the sector so that the it becomes more organized, and cash dealings must necessarily be the first symptom of the disease to be dealt with

.

2. WHAT IS DEMONETIZATION?

Demonetization means that Reserve Bank of India has withdrawn the old 500 and 1000 notes as an official mode of payment. According to Investopedia, demonetization is the act of stripping a currency unit of its status as legal tender.

3. IMPACT OF DEMONETIZATION ON INDIA IN GENERAL

Black Money

Black money stored in the form of 500 and 1000 notes will be taken out of our system. As predicted by ICICI Securities Primary Dealership the government's plan to scrap 500 and 1,000 notes will uncover up to 4.6 lakh crore in black money.

Terror Fundin Fake Indian Currency Notes (FICN) network will be dismantled by the demonetization measures. Taking out 500 and 1000 rupee notes out of circulation will have a lasting impact on the syndicates producing FICN's, thus affecting the funding of terror networks in Jammu and Kashmir, North- eastern states and Naxalite hitstates.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Advancement in flexible pavement by using Steel Slag

Monica More
Civil Engineering
moremonica9@gmail.com

Prashant Gondane
Civil Engineering
prashantgondane008@gmail.com

Sagar Sundaran
Civil Engineering
sagarsundran@gmail.com

Yadnesh Patil
Civil Engineering
yadneshpatil007@gmail.com

ABSTRACT

The large amount of Industrial wastes as increased year by year and disposal becomes a very serious problem. It is necessary to utilize the steel slag waste affectively with technical development in each field. Commonly murrum soil has been used for construction of all categories of roads in our country. Although murrum is a good construction material, due to scarcity they increase the construction cost at some parts of the country , several types of murrum soils are found to be unsuitable for road construction in view of higher finer fraction and excessive plasticity properties. Such as used industrial material like steel slag in construction of road pavement. Its disposal causing severe health and environmental hazards in road construction industries is gradually gaining significant importance in India considering the disposal, environmental problems and gradual depletion of natural resources like soil and aggregates. Steel slag is a waste material generated as a by-product during the manufacturing of steel from steel industries. The quantity of generation is around 24 lacs MT per year from (Ref.Report.CRRI-2010) different steel industries in the India. Presently, it has no applications and dumped haphazardly on the costly land available near the plants. In this study, a typical steel slag was collected from an M/s Jindal Steel Iindustry Pvt.Ltd Sinnar MIDC, (M.S) in India and its feasibility for use in different layers of road construction was investigated. To improve its Geotechnical engineering properties, the Steel Slag material was mechanically stabilized with locally available soil in the range of 5 – 25%. Geotechnical parameters of these stabilized mixes were evaluated to investigate their suitability in the construction of different layers of road Technical specification of steel slag is developed for utilization in the construction of embankment, sub grade and sub base layer of Flexible pavement..

Keywords— Compaction test, CBR test, Index Properties, Moisture Absorption test.

1. INTRODUCTION

The iron and steel slag that is generated as a by-product of iron and steel manufacturing processes can be broadly categorized into blast furnace slag and steel making slag. Blast furnace slag is recovered by melting separation from blast furnaces that produce molten pig iron. It consists of non-ferrous components contained in the iron ore together with limestone as an auxiliary materials and ash from coke. Depending on the cooling method used, it is classified either as air-cooled slag or granulated slag. Steel making slag consists of converter slag (Basic oxygen furnace slag) that is generated by converter and electric arc furnace slag that is generated during the electric arc furnace steel making process that uses steel-scrap as the raw material. In the present study, solid waste which is generated as a by-product, during the melting process of mixed materials viz. steel scrap, sponge iron, pig iron, ferro-silicon, silico-manganese and Al-shots is termed as granulated blast furnace slag. The waste material is neutral and nonhazardous in nature as per chemical analysis report of Central Pollution Control Board India (CPCB) (Hazardous waste rules, 2008, Ref. No-19). The quantity of generation of this slag is around 24 lacs MT per year from different steel industries in India (CRRI, 2010). Steel slag may be used as a land fill cover liner (Inga, 2010, Ref. No-18.) Pazhani and Jeyaraj (2010, Ref. No-20) studied feasibility of Granulated Blast Furnace slag (GBFS) for production of high performance concrete. Use of steel slag in asphaltic concrete minimizes potential expansion and takes advantage of the positive features in giving high stability, stripping resistant asphalt mixes with excellent skid resistance (Emery, 1994 and Mullick2005, Ref. No-21).

Presently, this Steel Slag is not utilized and is dumped on the costly land available near the plants. Study was carried out to utilize the slag in different layers of road construction. Being cohesion less material, it was mixed with local soil in the range of 5-25% and their geotechnical characteristics were evaluated. Technical specifications of slag were developed for utilization in the construction of embankment, sub grade, sub base layers of road pavement. Slag was investigated for its feasibility in bituminous layers.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Structural Audit

Asmita Bhalke
Department of civil Engineering
VIVA Institute of Technology

Meena Bhagat
Department of civil Engineering
VIVA Institute of Technology

ABSTRACT:

In a framed structure building, frame which is the heart of building. This frame is design by structural engineer taking in to consideration of factors and various codes which necessary. Different techniques used to assess of frames of old structure. Visual inspection non destructive test are used to access frame of structure is made.

Keywords: Framed Structure, Load bearing Structure, Structural Audit, NDT Test.

1. Introduction

Before going in detail about the structural audit it is necessary to know about the structure. A structure is a system of inter connected elements to carry loads safely to underground earth.
If we consider an example of "table". The structural engineer will call legs of table as columns, the battens as beams and the ply sheet as slab. When series of tables are joined vertically and horizontally you get a building structure. As the material changes to concrete and steel instead of timber as heavier loads are to be sustained.
The health examination of concrete building called as "Structural audit" or structural audit is an overall health and performance checkup of building like a doctor examines a patient.
Structural Audit is an important tool for knowing the real status of the old buildings. The Audit should highlight & investigate all the risk areas, critical areas and whether the bldg. needs immediate attention. It should also cover the structural analysis of the existing frame and pinpoint the weak structural areas for static, wind & earthquake loads. If the bldg. has changed the user, from residential to commercial or industrial, this should bring out the impact of such a change.

2. Present Study

Now a day in different locations in India building collapses are occurs. Very few months ago in Mumbai in India near Dockyards 5 storey building was collapse. More than 50 peoples were died and about 30 peoples are injured. Also one of in Mumbra at Mumbai three years old building was collapse.

After building collapse incident at Taljai Pathar, Municipal Corporation has decided to carry out structural audit of all buildings erected at Taljai Pathar.

As municipal corporation survey, there are around 200 dangerous buildings at this location which structural audit is necessary. Now municipal corporations are make compulsory for 30 years old building for structural audit.
Structural Audit is necessary to improve structural health by maintenance recommended in structural audit.

3. Purpose of Structural Audit

- To know the health of building.
- To proactively assist the residents and the society to understand the seriousness of the problems and the urgency required to attend the same.
- To comply with Municipal requirement

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Overview Of Use Of Shredded Tyres In Highway Engineering

Prof. Prerana Patil *
Civil Department
Viva institute of technology
preranaptl222@gmail.com

Prof.Prachi Bari
Civil Department
Viva institute of technology
prachibari@viva-technology.org

Prof.Abhijit Wasave
Civil Department
Viva institute of technology
abhijitwasave@viva-technology.org

ABSTRACT

Waste tyres are currently available in large quantities around the world causing adverse environmental impact. Significant research is currently underway to investigate possible options for the reuse of waste tyre, particularly in civil engineering applications. One such option is to utilise waste tyre in the form of tyre shreds. Utilising waste tyre in civil engineering projects has multiple benefits, including effective recycling of the waste tyre easing the strain on natural fills, reducing material costs and enhancing the geotechnical properties of the soil. Several researches have indicated that shredded tyres do not show any likelihood of being a hazardous waste material or of having adverse effects on groundwater quality. This paper reviews the benefits and impacts of scrap tyre use in geotechnical engineering.

Keywords— *Waste tyre, Tyre shreds,Natural fill,Geotechnical engineering,Scrap tyre.*

1. INTRODUCTION

1.1. General

The growth in various types of industries together with population growth has resulted in enormous increase in production of various types of waste materials. The creation and disposal of non-decaying waste material such as scrap tyres has been posing environmental problems in India. The globalization of Indian economy and consequent development process of infrastructure has lead to an increase in the number of vehicles on road. The total number of registered buses, trucks, cars/jeeps/taxis and two wheelers upto 31st March 2003 were 0.644 million, 3.176 million, 6.494 million and 35.457 million. And these numbers are expected to increase 8% annually. Such an alarming growth apart from causing noise and air pollution has begun to cause pollution in terms of stock piles of discarded tyres. Considering the average life of the tyres used in these vehicles as 10 years after retreading twice, the total number of waste tyres will be of the order 112 million per year. The previous use of waste tyres as fuel is now prohibited by the Indian Government due to its environmental impact.

The manufacturing process for tyres combines raw materials into a special form that yields unique properties such as flexibility, strength, resilience and high frictional resistance. If tyres are re used as a construction material instead of being burnt, the unique properties of tyres can once again be exploited in a beneficial manner. In this context, the use of tyre chips in rural road construction is considered a potentially significant avenue.

1.2. Shredded tyres:

Tyre shreds are waste tyres that have been cut into pieces by a shredder cutter. The product of shredding is referred as 'tyre chips' when they are generally between 12mm to 50mm in size and are generally uniform. The term 'tyre shreds' is used when particles are larger. Tyre chips are generally made from a mixture of steel and glass belted tyres. The specific gravity of the tyre shreds/chips varies from 1.02 to 1.27 depending upon the quantity of steel belting used.One cubic yard of tyre chip fill contains about 75 tyres, so 14 cubic yard truck would contain about 1000 tyres. 600 ft of a town road would require 20,000 tyres, a two lane highway would require 1,00,000 tyres for 400 ft, a four lane highway would require 2,00,000 tyres for 400 ft of road.

1.3. Scrap tyres, an environmental problem:

Progress in the area of recycling thermosetting polymers has not been successful since these materials, by definition, can only be formed once. The largest volume of thermosetting polymers in the waste stream is generated by scrap tyres. One approach to the successful reuse of recycled tyre rubber is its use as light fill in civil engineering and highway projects. An environmentally friendly method of scrap tyre disposal has been unavailable for decades. Much effort has been put into highly gas-efficient vehicles, and battery and body recycling. The investment seems to have paid off. In comparison, more than three quarters of the scrap tyres (around three billion tires in the USA) have been paid in the form of tipping fees by the auto-owner to dispose of in land fills.

The tyre pile fires are dangerous and highly polluting; and clean up afterwards is very expensive. A discarded tyre has 75 percent void space which makes the fire very difficult to extinguish. Recycled Rubber if catches fire emits clouds of noxious black smoke, carbon black, volatile organics, semi-volatile organic, poly nuclear aromatic hydrocarbons, oil, sulfur oxides, nitrogen oxides, carbon oxides, and airborne particulates, such as arsenic, cadmium, chromium, lead, zinc, iron, lead, etc which pose serious environmental problems to air, water and soil. Spraying water on tyre fires often increases the production of pyrolytic oil, provides a mode of transportation to carry oils off site, and aggravates contamination of soils and water. The subsequent clean-up for tyre fires is very costly. The shape of a tyre allows for easy entrance and containment of rainwater. This creates an ideal breeding habitat for mosquitoes. In addition to the nuisance caused by clouds of mosquitoes generated by scrap tyre piles, mosquitoes can carry some serious diseases. These diseases include yellow fever, La Crosse virus, Sepik fever, Ross River fever, St. Louisencephalitis, and Japanese

© 2018, www.IJARIIT.com All Rights Reserved

Early Termination of Public Private Partnership Projects

Prof. Prachi Bari *
Civil Department
Viva institute of technology
prachibari007.pb@gmail.com

Prof.Prerana Patil
Civil Department
Viva institute of technology
preranapatil@viva-technology.org

Prof.Abhijit Wasave
Civil Department
Viva institute of technology
abhijitwasave@viva-technology.org

ABSTRACT

Public Private Partnership (PPP) bring private and public sectors together in long-term contracts to produce a required infrastructure like roads, airports, water systems, hospitals etc. In PPP a private entity, usually a consortium responsible for financing, design, construction, operation and maintenance of the facility for agreed duration known as concession period and at the end of the period transfers the ownership of the operational facility to the government at no cost. In return, the private entity generates revenue either from the levying of tariffs on users or the receipt of periodic service payments from the government over the life of the BOT agreement. The Private Participation in Infrastructure (PPI) database of the World Bank (2011) shows that 334 out of 4,874 PPP projects (6.85%) from 1984 to 2010 were terminated early.

Keywords— *Public Private Partnership (PPP), Agreement, Build Operate Transfer (BOT), private sector Reasons of termination.*

1. INTRODUCTION

1.1. General

Development of infrastructure projects with private capital through Public Private Partnership (PPP) route has become one of the commonly adopted procurement strategies in developed and developing countries. All over the world where PPP procurement has been used in one form or another, the way in which it is carried out has become an important issue. There is no standard method of PPP implementation as each country adapts the process as appropriate for its own culture, economy, political climate and legal system. It is therefore essential that all parties likely to be involved have a common understanding of the principles underlying PPP structures and an appreciation of the key issues from the stand points of the private as well as the public sectors. The quantum of investment in the infrastructure projects by the private sector entities depends on the position of the project on the continuum between service contract and divestiture. PPP projects with substantial private investments such as Build Operate Transfer (BOT) and its variants. Public-private partnerships (PPP) in infrastructure development involve private sector participation in any or all of the design, construction, financing and operation phases of a public utility infrastructure, service or both. Infrastructure financing through PPP: Financing this level of investment will require larger outlays from the public sector, but this has to be coupled with a more than proportional rise in private investment. Private and PPP investments share shall have to be around 50 percent in this Plan. Clearly, for want of resources, a lot of this infrastructure has to be built through private-public participation, like BOT projects.

1. 2 Significance of study:

The success of the ongoing twelfth five-year plan critically depends on the success of PPPs in infrastructure. Government authorities are calling bids to cover the mammoth targets of Road building, private sector is hurriedly bidding for the projects at low price, and the issues of project structuring to reduce overall risk is still not being looked into. Lenders are overcautious over PPP project financing; projects are being withdrawn prematurely due to land acquisition and Environmental clearance issues and General public is suffering due to poor performance of ongoing PPP projects. In fast changing social, economical, political and legal environment, BOT projects are moving towards uncertain future.

1.3 Objectives:

The PPP involves large number of parties, the Parties bear different risks over various phases of life. The BOT Road project life is quite long in which things may go in undesired way and may impair the successful delivery of the PPP Project.

1. To study the impact of public private partnerships on infrastructure.
2. To examine and analyze the various challenges & issues before PPP.
3. To explain various kinds of challenges and problems that PPP are facing or likely to face in future.
4. To explore the various types of specific opportunities so the early termination of projects is avoided.

2. LITERATURE REVIEW

Public Private Partnership

PPP is a joint collaboration between public and private units so as to meet the lack of invested capital to fulfill the requirement of development of infrastructure. The term PPP refers to a long-term, contractually regulated cooperation between the public and private sector. One of the main reasons governments are opting to use PPPs for infrastructure development is to increase the efficiency of infrastructure projects through a long-term collaboration between the public

VIRAR (EAST) Dist. Palghar

"USE OF PAPER SLUDGE AS A CONSTRUCTION MATERIAL"

Vishal Urade
Civil Engineering
Mumbai university
vishalurade10@gmail.com

Akshaykumar Naik
Civil Engineering
Mumbai university
naik15864@gmail.com

Sagar Sundaran
Civil Engineering
Mumbai university
sagarsundaran@gmail.com

Ashish Shetty
Civil Engineering
Mumbaiuniversity
ashishshetty@viva-technology.org

ABSTRACT—

The rapid increase in construction activity leads to active shortage of conventional construction material such as fine aggregate, coarse aggregate, bricks etc. This will lead to increase in initial cost of primary construction material. Many researches are searching cheaper material as that can be used as substitute for this material. In our project we are using sludge, fly ash as a partial substitute to cement in concrete. We will be performing test on specimen as per Indian Standards to get required result which will be beneficial to building construction material product. The aim of our project is to maintain environmental balance, avoid problems of disposal, and minimize health hazards and to develop new construction material using industrial waste (paper sludge) which is useful to provide a potential sustainable source.

Keywords— *Paper sludge,concrete,fly ash,compression Test, Slump cone Test*

1. INTRODUCTION

1.1 General

Human activities on the earth produces inconsiderable quantity of waste more than 2500 million tonnes per year including industrial and agricultural waste from ruler and urban societies. There are various waste material like rice husk, quarry dust, crumbled rubber, sewage sludge ash, fly ash, fly ash based geo polymer, ground granulated blast furness slag, pumice fine aggregate and also concrete waste which can be use as a replacement to cement-concrete. This provides us the low cost light weight and eco friendly construction product. The use of waste material in place of natural material is one of the best approach. In our project we are going to use paper mill sludge and fly ash as a material which can be used as a replacement since it contains aluminum (Al), magnesium (Mg), silica (Si) and calcium (Ca) whose oxides are largely used in concrete industry. Thus to reduce disposal and pollution problems emanating from industrial waste, It is essential to develop profitable building material from this sludge.

1.2 Problem Statement

The use of alternative industrial waste as raw material in the field of civil engineering is increasing nowadays because of the solid waste disposal and environmental regulations. Their method of disposal is not well defined. The byproduct remains unused and unutilized, worse yet some of the wastes are land spread on the agricultural land or running off in to area, lakes and streams. some companies burn their sludge in incinerators contributing to our serious air pollution problems, to reduce disposal and pollution problems emanating from these industrial wastes is most desire to develop it in to more profitable materials from them .availability of consistent quantity of sludge across the country is requisite for change of perception of sludge from a waste material to resource material. Fly ash and sludge together offers environmental advantage it also improves the performance and quality of concrete.
In the context of low availability of nonrenewable energy resources coupled with requirement of large quantities of building material like cement the importance of using industrial waste cannot be underestimated

1.3 Objectives

We have decided to work on "Use Of Waste Paper Sludge As A Construction Material" because aim of the project is to reduce pollution and disposal problems emanating from industrial waste and also for the economical concrete production.
In the project we are basically concentrating on following sections:
1. Production of paper around the world is about 8.4 to 11.2 metric tonnes and paper producing industries produce large amount of solid waste about 40 ton per industry per day.
2. Hence use of paper sludge in bricks or other concrete production can save the paper industry disposal cost
3. To reduce the land spread caused by the paper sludge
4. Also this research study helps to develop low cost rural roads using the hypo sludge as an innovative supplementary cementitious material in construction of rigid pavement
5. To achieve economy by replacing cement by hypo sludge and fly ash as they are byproducts and available in masses.

1.4 Scope of project

There are many problems related to the disposal of waste from industries. If those waste are used as a substitute for construction material then it can have a lot of scope for the construction product development. In this project we are using paper sludge to develop low cost construction product.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

DIMINUTION OF SHILL BIDDING EFFECT IN REAL TIME ONLINE AUCTION SYSTEM

Darshana Bhambad
Department of Computer Engineering
VIVA Institute of Technology
darshanakb24@gmail.com

Ruchita Falekar
Department of Computer Engineering
VIVA Institute of Technology
ruchifalekar@gmail.com

Prof. Vinit Raut
Department of Computer Engineerig
VIVA Institute of Technology
vinitraut@vivatechnology.org

ABSTRACT

online auctions are the latest flourishing and booming technology in the electronic marketplace. Although various malpractices that can sell or buying during an auction. Since period of last ten years ecommerce system not established because of human negligent professional behaviour. In an online sell which is increase by bids usually the transaction occurs between two anonymous users hence faith is difficult to establish and maintain. Shill bidding eventuate when bidders "bid" particularly to puffed up (increase the auction price) or flatten (decrease the auction price) amount in online auction. Currently shill bidding is the severest and persistent way of cheating in "online auctions" reason being that small no of prominent technique for defending shills bidding at run-time. But by referring bidding behaviour and user background our present auction system, turn aside, invigilators shill activities in real-time. So to identify the problem like this we are using shilling behaviour IP tracking technique. This system also executes imperative step against shill activities at run-time. The under review shows that by obviate, perceive and mechanisms the present auction system hold on to the sell secure from all types of fake bidding and gains the trust of e-commerce customers.

Keywords— *Online auction, shill bidding, e-commerce, data mining, fraud detection.*

1. INTRODUCTION

Data mining predicts future inclination and habits, making businesses proactive, knowledge-based decisions. Data mining help us with abstraction and mechanism so developing and introduce fraud detection methods or technique for online auction user. We are started work on the history or database of the bidders according to that system will decide whether he she is shill bidders or not.

1.1 Related Work

Internet has derived the globalization which addresses the interaction and integration among the people, different business institutes, government bodies, and many more. Nowadays humans have infinite choices or availability of different products or items. They have multiple shopping website also different auction website are available, so that it excludes the need of physical presence of customer or buyer at any particular place. This system gives the information or we can say overview of issues like designing, effectiveness, frauds faces by auction system which is currently available in marketplace. Our systems motive to focus on main type of shill bidding is fraud among different frauds found in the auctions. This paper represents our implementation and methods of removing shill bidders.

At present, there is some of little useful literature on auction system design. This paper discussed our experiences in developing a fake bidding detection system. Some of existing auction software literature is dated and is of limited usefulness to researchers. [1]

Author of this paper trying to say that online auction is an emerging technology and is enjoying popularity mainly due to its capability to overcome drawbacks due to geographical distances time of auctions and small target bidders, affecting traditional offline mode. Based on this study architectural software has been designed and implemented. This architecture is used for bid on any commodity available on the site. Present work describes design of one e-auction system which is an improved version of some of the existing system of that type. [2]The author proposes a method for detecting colluding shill bidders, which is referred to as the collusion score. [3]

1.2 Problem motivation

After studying the several research papers on auction and it's frauds we have designed a homeshopee auction website. Our main focus is to make website fraud free means we block the shill bidder at run time only so that only genuine user

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

SECURITY ENHANCEMENT ON WEB SERVER FOR PREVENTING DOUBLE ATTACK

Rajnarayan Bhagat
B.E Computer Engg.
Viva Institute of Technology
bhagatrajnarayan1996@gmail.com

Harshad Gupta
B.E Computer Engg.
Viva Institute of Technology
harshadgupta4@gmail.com

Nityanand Mishra
B.E Computer Engg.
Viva Institute of Technology
nityamishra081@gmail.com

Janhavi Sangoi
Professor
Viva Institute of Technology
viva.janhavi@gmail.com

ABSTRACT

Elliptical curve cryptography has emerged as an alternative to traditional public key cryptosystem. ECC along with scalar multiplication gaining popularity for providing high level security with smaller key sizes. ECC is very efficient in terms of key length, key processing speed but it cannot avoid the doubling attack which can be counter by point multiplication and sign authentication. Montgomery ladder algorithm is performed on ECC for point multiplication that will overcome the doubling attacks. The proposed system will enhance the security and it will reduce the work load of web server by using ECC in SSL protocol during communication between client and server. Scalar multiplication of ECC provide security from doubling attack.

Keywords— *Cyber Security, SSL protocol, scalar multiplication, Elliptical curve cryptography, doubling attack*.

1. INTRODUCTION

Now a day's IT industries moving towards web based technology from software applications. Users on the internet exchanging financial, business or personal information, want to know whether the transmission is secured or not and they wish to ensure that the information is during transaction is not modified and disclosed [11]. One can say web security is one of the crucial topic in technology. In web communication, security is maintained by SSL (Secure Socket Layer). SSL protocol provide security in network layer by using cryptographic algorithms. Any application that can runs over TCP will support SSL protocol.

SSL is the most widely used security protocol on the Internet today. Secure Socket Layer can provide the Encryption, source authentication and integrity protection for data. SSL can undertake various cryptographic algorithms for key agreement, hashing and encryption. The particular algorithms, which has been used in cryptography of data is described in cipher suites. Today, Web banking, Stock trading, and e-commerce such sensitive application is secured by SSL [11]. Unfortunately, the use of SSL applies a highly significant increase in performance time on web servers. The speed of web server is decreased by 3.4 to 9 times slower compared to regular web servers on equivalent platform. Normally RSA encryption is being used by SSL to transmit data over a connection by choosing secret keys for data authentication and encryption. After encryption, decryption operation also takes large amount of computation time in SSL transaction to provide high security on web server.

To reduces the intensive computation or load on web server, ECC is more suitable in SSL. ECC provides a unique property in mathematical structure which is we get by adding two points on an elliptical curve and getting the resultant point on the same curve [5]. This specific feature provides us benefits to use ECC in the cryptography due to the high difficulties level for finding our private key and breaking this protocol requires the advanced mathematics. The strength of security by 1024bit RSA key can be provided by 163bit key of ECC. Wireless communications, like mobile phones, PDAs, smart cards and sensor networks are every much compatible with ECC. But the level of security RSA gives can be achieved by ECC with much smaller key size that will reduced the server load and accessing the data will get faster [8].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

A HYBRID CONCEPT OF KEYLESS ALGORITHM AND COMPRESSION SCHEME FOR ENCRYPTED STEGO-IMAGE

Priyanka Shinde
Student
VIVA Institute of Tech
Priyarshinde96@gmail.com

Sonali Gaikar
Student
VIVA Institute of Tech
sonaligaikarco@gmail.com

Shruti Pawar
Student
VIVA Institute of Tech
Shrutipawar974@gmail.com

Vinit Raut
Asst Professor
VIVA Institute of Tech
vinitraut@viva-technology.org

ABSTRACT

Cryptography is a methodology of storing and transmitting data in a form so that it will no more be interpreted or understood. It converts the readable (plain text) to non-readable (cipher text) and vice-versa. The main purpose of cryptography is used not only to provide confidentiality, but also to produce solutions for different issues like: data integrity, authentication, non- repudiation. Steganography is the way toward concealing a mystery message inside a bigger one such that somebody can't perceive the nearness or substance of the shrouded message. To make the transmission of information secure over the network, Cryptography is the best answer. The calculation gives security at both character and in addition bit level. The quantity of rounds should be performed is rely on the span of the information and are figured at sender side and recipient side autonomously. The system is proposed with the motive to provide security level with minimum execution time in terms of encryption and decryption. The encrypted data is compressed by using LZW compression scheme which enables an individual to hide approximately two times more data in a cover image. Also LZW is a lossless compression technique. Therefore at the receiver side after decompression receiver gets the original size of the data. Image steganography is performed by using LSB technique that must be capable enough to produce better quality stego-image with a high data hiding capability. This approach's stego-image is accurate as the original image.

Keywords: *Cryptography, Steganography, Keyless, LZW, Stego- image.*

1. INTRODUCTION

Cryptography is almost associated with the orders of cryptography and cryptanalytics. Individuals who apply this field are called cryptographers. Procedures and traditions that meet a couple or most of the over criteria are known as cryptosystems. Cryptography is that the curve of encoding and cryptography procedure. Encryption is a procedure inside which data is rebuilt in an extremely arrange known as figure message or scrambled content. Unscrambling is a procedure changing the figure message back to the underlying kind. To interpret the figure content, one ought to have mystery key (for key situated calculation) or unraveling calculation (for keyless calculation). Encoding is precisely vital when transmission vital data over unsecure mediums simply like the net.

In keyless calculations there's no overhead of key age and sharing. Just simple possible coherent activities are connected in such a way so data can't be taken by the interloper though sending over an uncertain media. Keyless calculations additionally can be named symmetric and hilter kilter.

LZW pressure is that the pressure of a document into a littler records utilizing a table-based task calculation made-up by Abraham Lempel, Jacob Ziv, and Terry Welch. LZW pressure is utilized for packing content documents. LZW pressure plot is utilized to enhance the size of mystery data; it'll adjust a private to cover approx. Two times a considerable measure of data in a cover-picture. It utilizes LZW pressure conspire for decreasing the size of mystery data and Key-pixel figure for basic level security.

Steganography is the covering of a mystery message inside a photo. Steganography makes cryptography a stride more by camouflage relate scrambled message that exclusive partner valid client can ready to peruse. Presently a-days, in advanced steganography introductory changes are made utilizing fitting algorithmic lead then it is encoded additionally spared in (picture). The littlest sum vital Bit (LSB) inclusion procedure might be a typical, simple way to deal with installing data amid a graphical picture record. In LSB inclusion technique the LSB every pixel is supplanted by each message bit. Probability the message may coordinate with the LSB's of the cover picture. Likewise, the change happens just inside the bit that is slightest imperative, so keeping the other more critical bits unaltered. Along these lines,

© 2018, www.IJARIIT.com All Rights Reserved

VIRAR (EAST)

TWITTER SENTIMENT ANALYSIS USING DATA PRE-PROCESSING AND EXPLOITING EMOTICONS: A SURVEY

Shreyas Wankhede
Computer Engineering
VIVA Institute of Technology
shreyaswankhede@gmail.com

Ranjit Patil
Computer Engineering
VIVA Institute of Technology
ranjitpatil286@gmail.conm

Sagar Sonawane
Computer Engineering
VIVA Institute of Technology
sagarsonawane826@gmail.com

Ashwini Save
HOD, Computer Engineering
VIVA Institute of Technology
ashwini.viva@gmail.com

ABSTRACT

Sentiment analysis is an important research area that identifies the people's sentiments and emotions underlying a text. As the use of social media is increasing day by day, it plays an essential role in communication through technology. Twitter, which is one of the popular and largely used social media platforms for communication has more than 200 million tweets per day. Tweets are short in length and due to limited size of tweets people generally commit some mistakes while tweeting so pre-processing is necessary. The use of modern emoticons which are known as emojis that is largely used in social media communications that conveys variety of emotions. The purpose of this paper is to survey N-gram method and Hidden Markov Model for Spell-Checking and Correction of tweets and also Emoji Sentiment Ranking method which is used to evaluate sentiment mapping of emojis by using sentiment polarity such as negative, neutral, or positive.

Keywords— *Classification of Emoticons, Emoji Sentiment Ranking, Sentiment Bar, Sentiment labels, Sentiment score.*

1. INTRODUCTION

Sentiment analysis is the branch of study in which user opinions are analysed at individual level or group level about any specific services and situations using different approaches and techniques in Data mining. Sentiment analysis is an important research area that identifies the people's sentiment underlying a text and helps in decision making about the product.

Twitter, which is one of the most popular social media platforms, have more than 200 million tweets per day [9]. Tweets are generally short in length. Due to limited size of tweets, people generally commit some mistakes while tweeting so pre-processing is necessary. The process of spell checking and correction involves detection of error words and then giving correct words for incorrectly spelled words in text as suggestion. There are generally two types of Spelling errors: Non-word spelling errors: These errors are the unacceptable words in the dictionary. Example: the >>the Real-word spelling errors: These are the legal words in dictionary but used incorrectly. Example: piece of cake >> peace of cake. This survey aims and focuses much of the work for pre-processing of text in twitter in English language.

The use of social media platforms is increasing day by day and along with texts the emoticons also plays a significant role in communication with increase in technology, and various applications and devices have given different types of pictures and emoji that uses graphical language representation. The use of emoticons in chatting, tweets and comments is more popular and is increasing day by day. Some social network sites and micro blogging tools such as Twitter allows individuals to express their feelings/opinions to specific results. Emoticons can be classify in two categories such as positive and negative emotions. Positive emoticons consist of love and joy whereas negative emoticons consist of sadness and anger. Here, different features of these techniques are studied and how these techniques can be used for data pre-processing and exploiting emoticons

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

EFFICIENT APPROACH FOR IDENTIFYING PHISHING WEBSITES

Abhay Lad
Computer Engineering & MU
abhaylad027@gmail.com

Swaranjaly Jagtap
Computer Engineering & MU
swara.01@gmail.com

Ankita Pawaskar
Computer Engineering & MU
ankitapawaskarrr@gmail.com

Prof. Dnyaneshwar Bhabad
Computer Engineering & MU
dynesh.bhabad2020@gmai.com

ABSTRACT

The usage of web is increasing with the number of web users increasing day by day and so are the malicious activities. Phishing is one such activity. It is an online criminal act in which a malicious webpage impersonates as a legitimate one to acquire information from user. It takes the advantage of human ignorance and their naïve nature with regards to their interaction with Electronic Communication Channels. Applying appropriate methods can prove to be helpful in detecting these Phishing Websites. Various techniques have been proposed for the purpose of Phishing Detection with the help of Machine learning algorithms. The problem with this is that not all of these systems provide the accurate results that are required. For providing greater accuracy in Detecting Phishing websites we use URL features along with a Decision Tree Algorithm. Among various Decision tree algorithm C4.5 can be considered as an appropriate one. The proposed system will provide better accuracy as when compared with the system that uses the method of Naïve Bayes. The System will provide better accuracy in terms of Processing time and other Evaluation metrics.

Keywords: *Phishing, URL, Classifier, Machine Learning, Phishing Site*

1. INTRODUCTION

In modern times as the techniques for Phishing Detection have advanced, various methods present some advantages as well as issues. Data mining techniques have been used in Phishing Detection since early time and its usage can never go obsolete. Hence, there are many systems implemented in this field. As a result, we need a system with, 1. Appropriate methodology 2. Less processing time 3. Good value of evaluation metrics. The proposed system focuses on yielding accurate results regarding the decision about Phishing site or legitimate site, improving the value of various evaluation metrics, less processing of time and fast retrieval of data.

Heuristic based approach along with decision tree algorithm is used in the system to enhance the accuracy of the system. For Classifier used C4.5 algorithm is used. This algorithm is the incremented version of ID3 algorithm. For heuristics various URL features, AlexaRank, etc. are used.

The proposed system aims to increase the accuracy of phishing detection systems that aim to differentiate between phishing sites and legitimate sites with the help of URL features using Heuristic Approach. The proposed technique extracts features in URLs of user-requested pages and applies those features to determine whether a requested site is phishing site. This technique can detect phishing sites that cannot be detected by blacklist-based techniques; therefore it can help reduce the damage caused by phishing attacks. The proposed system uses efficient C4.5 algorithm which accurately predicts phishing sites and takes less processing time than Naïve Bayes algorithm and also uses memory more efficiently.

The use of web is growing at a pace that is hard to slow down. The malicious activities are too growing, phishing is amongst one such malicious activities. It is necessary not only to have systems that can detect the phishing websites but also have systems that provide accuracy at this job. The proposed system does this task of identifying phishing websites and uses techniques that can provide greater accuracy and efficiency at its work.

This paper has proposed the website phishing detection model. The rest of the paper is organized as follows; Section 2 provides the literature review of related studies. Section 3 gives detail about relevant and important phishing website features which will be used in the model to distinguish website between legitimate and phishing. Section 4 provides proposed system for detecting phishing sites. Section 5 gives detail about work and its future direction.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

NETWORK MANAGEMENT AUTOMATION, CHALLENGES AND SOLUTIONS

Akshata Raut
VIVA Institute of Technology
raut.akshata26@gmail.com

Monali Pimpale
VIVA institute of Technology
monalipimpale20@gmail.com

ABSTRACT

Managing large, heterogeneous networks created a crisis for many organizations. The most common and serious problems of a network are the connectivity failures or fault management. Network management solutions should be simple to implement and cost effective. User-centric network management or QoE-based network management has been arisen as an approach effectively providing a user-level high quality of service. In this approach, users' satisfaction is used as a reference to manage and optimize network. The 5th generation (5G) of cellular mobile technology will herald a paradigm shift in the role of mobile networks in society. For achieving this, 5G will support diverse use cases and applications from vertical industries performance.

Keywords --*Network management, QoE, NMA, Cellular mobile technology.*

1. INTRODUCTION

A network administrator's efficiency to manage a network decreases as the network becomes more complex and heterogeneous. Maintaining huge, heterogeneous networks created a crisis for many organizations. The network management tools and solutions available are not only expensive but also difficult to install, configure, administer, and maintain. This paper discusses the tools and solutions available for network management, challenges involved in implementing network management solutions and also an easy and better solution for a pro-active network management solution is proposed. This solution was tested by implementing in a large enterprise. With the implementation, the stakeholders were capable to achieve higher adaptability and able to do proactive network management.

2. CHALLENGES OF IMPLEMENTING NETWORK MANAGEMENT SOLUTION

A network administrator's potency to manage a network decreases because the network becomes a lot of complicated and heterogeneous. Managing massive, heterogeneous networks created a crisis for several organizations. A network administrator's efficiency to manage a network decreases as the network becomes more complex and heterogeneous.

We discuss the tools and solutions out there for network management, challenges concerned in implementing network management resolutions and conjointly a straightforward resolution for a pro-active network management solution is planned. This resolution was tested by implementing during a massive enterprise. With the implementation, the stakeholders were able to succeed higher potency and able to do proactive network management.

Managing massive, heterogeneous networks created a crisis for several organizations associate degreed an imperative would like for an automatic network management resolution was felt essential. Thus it is suggested that Network operators got to perform these activities perpetually either manually or with the assistance of network management tools. Also it proposes that either one network management tool should support all the higher than activities or multiple tools will be integrated to produce these services. In general, network management could be a service that assists human

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ENHANCED MECHANISM FOR SESSION PASSWORD AUTHENTICATION

Vrushabh Ashtunkar
vrushabhashtunkar1995@gmail.com
BE Computer Engineering,
VIVA Institute of Technology,
Virar, India

Jitendra Pingale
jitendrapingale35@gmail.com
BE Computer Engineering,
VIVA Institute of Technology,
Virar, India

Sonal Chavan
sonalchavan2071994@gmail.com
BE Computer Engineering,
VIVA Institute of Technology,
Virar, India

Janhavi Sangoi
viva.janhavi@gmail.com
Assistant Professor,
VIVA Institute of Technology,
Virar, India

ABSTRACT

In the proposed system, a new method for password authentication is introduced. Various methods for authentication are proposed in the past years but many of them are vulnerable to shoulder surfing and phishing attacks. Many shoulder surfing preventive techniques have difficult rules. Traditional text passwords are less secure and can get attacked by shoulder surfing, dictionary attacks. In proposed system, the password authentication method will keep the system more secure and prevent different attacks. The proposed system uses session password which works as a onetime password. For every login, a new temporary password is generated. In proposed system, the intersection of rows, columns as well as diagonal of the grid is used to generate session password and it works on even as well as odd number of characters.

Keywords: - *Session password, Pair based, Even-odd, Shoulder surfing, Security.*

1. INTRODUCTION

Security domain is an important concept in the key management policy. Network security provides the IT professionals the skill to implement the parameters of security domain on network devices. Authentication is important part to a security system. Authentication can be defined as a process which allows one system to verify the user, hence in order to protect the user accounts authentication must be most secure. The different authentication methods used in the past are as using text and color, using Dynamic grid, using graphical and duo letter authentication, with colors and session password. The two techniques used for authentication are paired-textual method and graphical authentication. Short passwords are unprotected against attacks. Graphical passwords are secure but are very complicated. Hence, we have implemented a better method of session password which provides better security and is easy for the user. Sessions passwords are acclimated alone already during the login action and as anon as the affair is concluded the affair countersign expires. This method of authentication provides more preventive security against various attacks.

2. RELATED WORK

Passwords are used for authentication from long time. Hence, there are many systems implanted in this field. Swati Tidke, Nagama Khan, Swati Balpande, The proposed password scheme uses color code and paired-texts to generate session password. In this system, pair based method is used along with color codes as authentication method. The drawback of this method is that it is very tedious for the user and since the user has to remember the color rating it becomes a difficult task [1]. J. Thakur, S. Rathi, Implementation of one arrangement for Mobile Social Network which makes the affidavit action defended analyze to the added schemes is shown. Different kinds of schemes are implemented to secure the system. First explore some major schemes proposed for the Authentication process. A limitation of this system is that the key size of this algorithm is large [2]. S. Kasar, A. Baig, V. Gunjal, An increased graphical secret system is introduced by mistreatment graphical and pair-based strategies that is proof against shoulder aquatics. Here a two bases authentication scheme is used which is Graphical Authentication scheme and Pair based authentication scheme. The algorithms used here are Random algorithm and Bresenham's algorithm. The main disadvantage of this system is, it is very complicated for the user and the security is less [3]. P. More, A. Singh, P. Singh, The password which is generated, is based on color ratings given by the user. User just need to remember his color rating. Based on the rating of color that user gave user can realize intersection of row and column and find the primary digit of his session countersign. The session

© 2018, www.IJARIIT.com All Rights Reserved

REPOSITORY FILE TRANSFER: A NEW COMPOUND FILE ENCRYPTION TECHNIQUE

Amruta Dhumal
BE Computer Engg
VIVA Institute of Tech
University of Mumbai
amrutadhumal78@gmail.com

Ankita Sankhe
BE Computer Engg
VIVA Institute of Tech
University of Mumbai
ankitasankhe5686@gmail.com

Shubham Patil
BE Computer Engg
VIVA Institute of Tech
University of Mumbai
patilshubham919@gmail.com

Prof.Umesh Mohite
Asst.Professor
VIVA Institute of Tech
University of Mumbai
umeshmohite2311@gmail.com

ABSTRACT

Data security and protection is a field that protects digital privacy measures that are used to prevent unauthorized access to the computers and the confidential data, databases and websites. Corruption of data can be also inhibited using data security. It is an essential aspect of the IT for organizations of every size and type. The more popular approaches for data security are cryptography and steganography. This paper focuses on how the data is been transferred from one user to another in convenient and secure form by using cryptography Cryptography or cryptology is the arithmetic, for example, number hypothesis, and the use of equations and calculation s and which changes over the information that is unintelligible for an unapproved arrangement to the client. In this proposed system we have used the most of the preferred secret key encryption algorithm such as AES (Rijndael) and the best performing algorithm i.e. Blowfish to give piece savvy security to information and furthermore the symmetric key cryptography system has been utilized. Key size of both the calculations is 128 bits. Synchronization between the user is been maintained by using the symmetric key for the purpose of data cryptography. Hybridation of the algorithm is been done for the purpose of increasing the security and maintaining the integrity between user.

Keywords— QR Code, End to end encryption, Fire ware, Multiple Encryption, Secure file transfer

1. INTRODUCTION

The proposed system is based on transferring the data from one user to another with high security with QR code. Protecting data, such as those in a database, from the unwanted actions of unauthorized users.

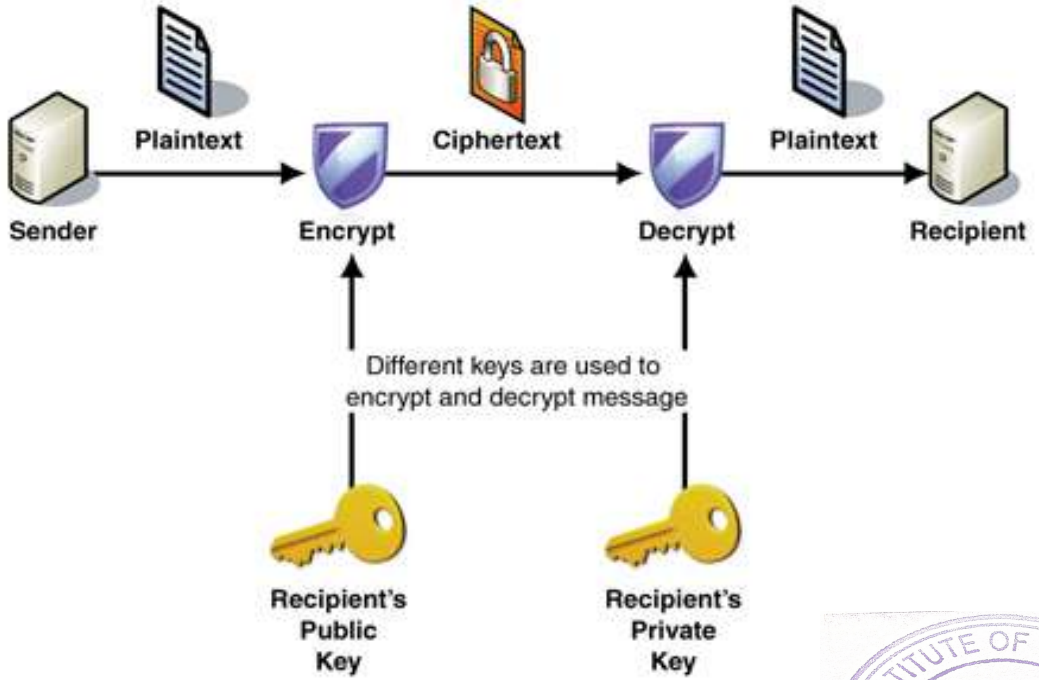


Fig 1.1: Basic diagram of cryptography

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

STUDY OF AUTOMATION AND MANUAL TESTING

Vishakha Patil
Viva Institute of Technology
EXTC & Mumbai
patilvisha0@gmail.com

Pratik Parsewar
Viva Institute of Technology
EXTC & Mumbai
pratik.parsewar@gmail.com

ABSTRACT

Testing is a major activity in software development process to find the defector bug in the software. It means testing in IT world is used to show how we can test and where our application or software is lacking. We have Testing can be conducted manually as well as automated. This paper presents the concept of automation and manual testing and problem with manual testing and benefit of automatic testing. This paper is also show the two forms of testing which is manual and automation (we use QTP) and how they different from each other and why we use both. The main objective of this research paper is to focus on, effectiveness and importance of automation testing.

Keywords— Test Cases, QTP, Software Development Life Cycle, Software Testing Life Cycle.

1. INTRODUCTION

Software testing is a testing model of system under testing. System under testing is a phase of maturity of the software testing for correct operations. Software testing executes all process of the whole system and also this testing provides finding errors. Software can be tested either manually or automatically. To create test cases manually and execute them without any tool support is known as manual testing. Manual software testing is performed by a human sitting in front of a computer carefully going through application screens, trying various usage and input combinations, comparing the results to the expected behaviour and recording their observations. Automation Testing means using an automation (different types of software) tool to execute test suite. Goal of automation is to reduce number of test cases to be run manually and not eliminate manual testing all together. Some automation tools are: Winrunner, Loadrunner, QTP, Rational Robot etc.

Mode of Testing

Based on test execution, testing can be classified into two categories:

A. Manual Testing
B. Automation testing

Manual Testing is the form of Testing in which we test the given product, Software or application to test and we test it manually. It is the process of evaluating the system or system components manually as per user requirement. Manual means the amount of men work will be more but in Automation we will automate a given product by writing scripts in different scripting language (QTP is used) .The men work will be less and it will perform faster and accurate results.

Table 1

MANUAL	AUTOMATION(QTP)
1.More Testers are required	1. Few Testers are required
2.Takes lot of time to execute a test case	2. Saves Time as compared to manual
3. No licence cost.	3. Usually have licence cost.
4. Don't need any kind scripting.	4. Scripting is used.
5. Can be used with changing requirement.	5. Mostly not used in which requirement are changing.
6. More expensive.	6. Less expensive.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

VHDL implementation of autocorrelation and cross correlation using Vedic Multiplier

Madhura Ranade[*]
Department of Electronics & telecom
Viva Institute of technology,Virar
madhurat8@gmail.com

Archana Ingle
Department of Electronics & telecom
Viva Institute of technology,Virar
archpatil2008@gmail.com

Karishma Raut
Department of Electronics & telecom
Viva Institute of technology,Virar
karishmaraut@gmail.com

Abstract

The correlation of two finite length sequences is the basic operations in the area of digital signal processing. It requires repetitive multiplications to find intermediate partial products. This paper presents novel method of implementation of correlation in hardware which uses Vedic multiplier for partial product calculation. The Vedic multiplier has improved area and power requirements compared to conventional multipliers like array and Booth's multiplier.[1] The novel method of integrating the advantages of vedic multiplier with correlation operation is presented in this paper which optimizes the overall performance of the implementation. The correlation is performed on finite length sequences which comprise of signed numbers. The implementation is performed using VHDL language in XILINX 13.1 software. ISIM simulator is used for testing of the proposed algorithm. The proposed algorithm is implemented on reconFigurable FPGA SPARTAN-3E starter board and synthesized using XILINX software. The implementation has delay of 24ns which is 16% lesser than Booth multiplier. The area requirements of the proposed implementations are reduced considerably when compared to implementation of correlation using conventional multipliers.

Keywords— *autocorelation;crosssorelaton;Vedic Multiplier;VHDL,FPGA,XILINX*

1. INTRODUCTION

The use of Digital Signal Processors has increased drastically in past few decades. The applications of DSP include operations like linear convolution, circular convolution, auto correlation and cross correlation etc. All these operations needs fast multiplication algorithms because they involve large number of multiplications. When these algorithms are implemented in hardware they require more area and more path delay using conventional multipliers.

This paper throws light on an efficient hardware implementation technique of correlation operation in which conventional multipliers are replaced by Vedic multiplier. The results of implementation gives improved performance over conventional ones.

The Vedic multiplier is a multiplying algorithm developed based on the sutras from Ancient Vedic Mathematics. The Vedic multiplier works on URDHVA TIRYAGBHYAM sutra which means vertically and crosswise.

The organization of the paper is as follows: section I contains introduction to Vedic mathematics and URDHWA TIRYAGBHYAM sutra. In section II, implementation of Vedic multiplier is presented. Section III throws light on method of calculating correlation of finite length sequence. In section IV design and implementation of proposed algorithm is presented. In section V testing and results of proposed method is presented. Finally conclusion is obtained.

2. VEDIC MATHEMATICS AND URDHWA TIRYAGBHYAM SUTRA

1.1 Vedic Mathematics

Vedic mathematics is an ancient Indian science of mathematics described in Vedas. Vedic mathematics contains 16 sutras in which fast methods for calculating basic operations like multiplication,division are explained. These 16 sutras cover the complete mathematics branches like algebra,geometry,calculus,statistics etc. This Vedic mathematics sutras were rediscovered by Swami Swami Bharati Krishna Tirthaji Maharaj. Swamiji have explained each and every sutra in detail with examples in his book Vedic Mathematics.[2]

1.2 URDHWA TIRYAGBHYAM sutra

URDHWA TIRYAGBHYAM sutra is ne of the 16 sutras given in Vedic Mathematics. This sutra is used for fast multiplications because it requires less number f steps to calculate product compared to conventional shift and add method. The sutra uses crosswise and vertical multiplications and additions. The sutra can be explained with the following example: consider multiplication of 100 X 101

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

NEXT GENERATION WIRELESS RGB LED BRIGHTNESS CONTROLLER

Prince Gautam
pgautam0709
@gmail.com
Viva institute of technology

Rupesh Ayare
rupeshayare55
@gmail.com
Viva institute of technology

Vaibhav Burkul
Vaibhavburkul19
@gmail.com
Viva institute of technology

Prof. Nutan Malekar
Writetonutan
@gmail.com
Viva institute of technology

ABSTRACT

This paper proposes a controller to adjust the brightness and colour of RGB LED is done by means of varying the Pulse Width Modulated (PWM) wave. A wireless device (Bluetooth or other) will be used for adjusting the LED brightness. With the help of three colours i.e. RGB, multiple colours and shades can be formed by varying the intensity of each colour of the LED. As per the requirement of the application, the brightness and colour can be controlled to achieve desired requirement. This paper finds its application in indoor lighting systems, theatrical house side lighting, agriculture lighting and many other areas. The key advantage of this project is that it has low power consumption and better durability than conventional lighting systems.

Keywords— *Bluetooth, LED Driver, Microcontroller*

1. INTRODUCTION

In recent years, with development of the LED lighting technology, the LED lightings more favoured by the market and even have a bright future because it has several blessings like high brightness, non-polluting, low power consumption and long life [1]. With the event of connected technologies, LED currently will be wide applied on numerous areas. Applications from home appliance to indoor lighting are common within the standard of living. What is more, the good phones and tablets have initiated during a new fashion for people [2]. Several management systems are developed and integrated with applications (APPs) of phones and tablets. Users will access the APP and so remotely management the home appliance that is incredibly totally different from tradition continuously. In this paper, a LED lighting system supported the Bluetooth wireless network is planned .Through the association between Bluetooth within the phone and also the Bluetooth module, signal and command are transmitted wirelessly. Users will management the brightness and hues of LEDs by APP only Android system. Once APP starts, it can automatically find whether the Bluetooth is accessible or not. Then a window can pop up to turn on the Bluetooth else that the APP can shut. The management bar for RGB brightness cannot work if the Bluetooth module isn't connected to the phone. Once clicking the CONNECTION" button, the list can show all the devices that has been connected and also the devices that has been automatically found. Next, choose the Bluetooth module to attach; the information and the status will be shown next to the main title and all the control bars will be enabled. When connecting to Bluetooth, users will slide the control bar to regulate the brightness of RGB LEDs [5] [6]. High-efficiency LED lighting has attracted the interest of many people. LEDs have some advantages, such as no environmental pollution, safety and reliability. Because of the characteristics of the voltage and current, the brightness of the LED is directly proportional to the forward current that flows through the LED. The brightness of an LED can be changed by the current flowing through it [7]. Light-emitting diode (LED) and fluorescent technologies are presently at the forefront of delivering the fore most economical alternatives to incandescent lighting. Though each cause technical challenges, they also offer significant advantages beyond simple incandescent light bulb replacement, including improved efficacy (lumens/watt), reduced energy consumption and the ability to add intelligence... as a result of the sunshine quality of those alternate lighting technologies is seemed to be the same as that of incandescent lighting, the advantages of longer life and exaggerated energy savings might not continuously be thought of vital enough to inspire changes within the market. Microchip's advanced lighting solutions provide you with the chance to include non-traditional capabilities into your lighting design.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

A Literature Review on Varying Dimensions of E-Shaped Microstrip Patch Antenna & Its Application

ChitraTakle[*]
EXTC
VIVA Institute of Technology
taklechitra@gmail.com

Omkar Bhushankar
EXTC
VIVA Institute of Technology
bhushankaromkar@gmail.com

Soham Naik
EXTC
VIVA Institute of Technology
sohamnaik27@gmail.com

Nilay Birmole
EXTC
VIVA Institute of Technology
birmolenilay@gmail.com

ABSTRACT

This paper reviews the effects of varying different dimensions like slot length, length of the leg, position of feed of an E-shaped microstrip patch antenna. Depending on the variations made, the varieties of applications are also stated in the paper. Corresponding changes in the gain and the bandwidth of E-shaped antenna with a rectangular patch antenna are studied. Apart from changing dimensions a study of effects on antenna operation by adding or removing certain shapes is also done.

Keywords— *E-shaped microstrip antenna, patch antenna, WLAN, slot length, multiband operation*

1. INTRODUCTION

Today's world without technology is unimaginable. With advent in technology over the past century we have gone wireless for almost everything. Antennas are the vital part of today's technology. In the need of compact antennas, researchers invented microstrip antennas which are not just compact but easy to fabricate, robust, low profile and compatible with integrated circuits which makes them a superior choice over conventional antennas [1]. However, their drawbacks are their low efficiency and lower bandwidth. These issues are usually dealt with use of thick substrate with lower dielectric constants [2]. The other techniques used to improve the bandwidth of microstrip antennas are insertion of shorts, slots and slits of various shapes and sizes [3-5]. The combination of thick substrate with lower dielectric constants and use of shorts and slots are employed to increase the bandwidth and reduce the size of the antenna [6]. E-shaped antennas have been derived from a regular patch antenna by introducing slots [7].

2. E-SHAPE ANTENNAS

As seen from the literature survey wide bandwidth and multiband operation are the major reasons why E-shaped antennas are popular. The variations in the parameters like side leg length, slots, shortings, and changes in the ground plane have shown a significant increase in gain of the microstrip antenna thereby improving its efficiency. GSM, digital enhanced cordless telephone, WIMAX, WLAN, GPS are some of the applications where E-shaped microstrip path antennas have been used [8]. In many research papers E-shaped antennas also exhibit multiple bands. Multi-band antennas are versatile in a sense that same antenna can be used for multiple applications thereby making it more cost and energy efficient. Multi-band antennas can also be used further to develop reconfigurable antennas which are useful in Cognitive radio. A study of effects of such variations in the dimensions of E-shaped antenna has been presented in this paper. The basic configuration of E-shaped antenna has been shown in Fig. 1[9].

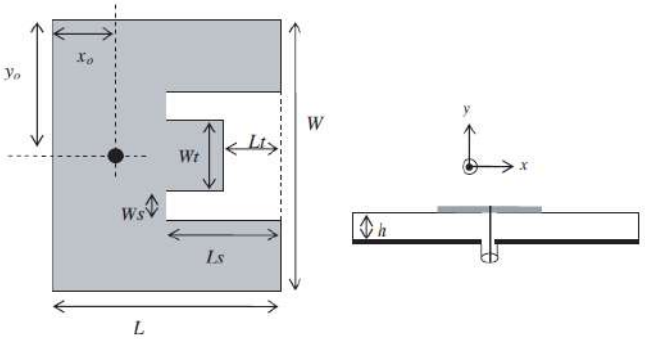


Fig. 1: Geometry of E-shaped antenna[9].

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Matching Technique for Coupled-Patches RFID tag Antenna

Surendra Diwakar
diwakar.surendra999@gmail.com
EXTC,MU

Ameya Purandare
ameya.p1347@gmail.com
EXTC,MU

Ashwini Haryan
kothavale.ashwini@gmail.com
EXTC,MU

Kaustubha Gawas
kaustubhadesai25@gmail.com
EXTC,MU

ABSTRACT

A novel impedance matching technique for extremely low-profile on-body UHF RFID tag antennas based on coupled shorted-patch antennas .The approach employs a novel arrangement of comb-notches perpendicular to the central radiation slot that excites the close higher order mode that affects the field distribution of the fundamental mode and sets the input impedance to the required complex values of UHF RFID chips. Small and very low-profile antennas for on-body applications are in high demand in the field of body area network (BAN) communication and also in radiofrequency identification (RFID) of people in the UHF band (860–960 MHz). Proper input impedance and sufficient radiation efficiency are the main parameters for assessing the quality of the radiator. The coupled-patches technique, introduced and applied in, enables the design of low-profile antennas with good immunity from the influence of a human body. The radiation efficiency of these structures is satisfactory—typically better than 50%, even if an extremely low-profile substrate is used, when the radiation efficiency of a typical half wavelength patch antenna is significantly lower.

Keywords: *- RFID, patch antennas, comb-notches, low-profile antennas, radiation efficiency.*

1. INTRODUCTION

Impedance matching is the practice of designing the input impedance of an electrical load or the output impedance of its corresponding signal source to maximize the power transfer or minimize signal reflection from the load.In the case of a complex source impedance ZS and load impedance ZL, maximum power transfer is obtained when

$$Z_{\mathrm{S}} = Z_{\mathrm{L}}^{*}$$

where the asterisk indicates the complex conjugate of the variable. Where ZS represents the characteristic impedance of a transmission line, minimum reflection is obtained when

$$Z_{\mathrm{S}} = Z_{\mathrm{L}}$$

The concept of impedance matching found first applications in electrical engineering, but is relevant in other applications in which a form of energy, not necessarily electrical, is transferred between a source and a load. An alternative to impedance matching is impedance bridging, in which the load impedance is chosen to be much larger than the source impedance and maximizing voltage transfer, rather than power, is the goal. Impedance is the opposition by a system to the flow of energy from a source. For constant signals, this impedance can also be constant. For varying signals, it usually changes with frequency. The energy involved can be electrical, mechanical, acoustic, magnetic, or thermal. The concept of electrical impedance is perhaps the most commonly known. Electrical impedance, like electrical resistance, is measured in ohms. In general, impedance has a complex value; this means that loads generally have a resistance component (symbol: R) which forms the real part of Z and a reactance component (symbol: X) which forms the imaginary part of Z. In simple cases (such as low-frequency or direct-current power transmission) the reactance may be negligible or zero; the impedance can be considered a pure resistance, expressed as a real number. In the following summary we will consider the general case when resistance and reactance are both significant, and the special case in which the reactance is negligible. Impedance matching to minimize reflections is achieved by making the load impedance equal to the source impedance. If the source impedance, load impedance and transmission line characteristic impedance are purely resistive, then reflection-less matching is the same as maximum power transfer matching.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Survey on Color Space used for Skin Modelling

Shoeb I. Shaikh
EXTC Department
Mumbai University
Shoebsk.028@gmail.com

Kushal Suvarna
EXTC Department
Mumbai University
kushalsuvarna1988@gmail.com

Mohini Ghotekar
EXTC Department
Mumbai University
mohinighotekar21@gmail.com

ABSTRACT

Skin color has proven to be a useful and robust cue for face detection, localization and tracking. Image content filtering, content aware video compression and image color balancing applications can also benefit from automatic detection of skin in images. Numerous techniques for skin color modelling and recognition have been proposed during several past years. A few papers comparing different approaches have been published. However, a comprehensive survey on the topic is still missing. We try to fill this vacuum by reviewing and studying most widely used color spaces for skin modelling.

Keywords— *skin color, skin color modelling, skin detection.*

1. Introduction

Human skin detection and tracking has been the topics of an extensive research for the several past decades. Many heuristic and pattern recognition based strategies have been proposed for achieving robust and accurate solution. From available skin detection technique, the one that gained strong popularity is the one that use skin color as a detection method. Color allows fast processing and is highly robust to geometric variations. Also, the experience suggests that human skin has a characteristic color, which is easily recognized by humans. When building a system, that uses skin color as a feature for skin detection, the researcher usually faces three main problems. First, what color space to choose, second, how exactly the skin color distribution should be modelled, and finally, what will be the way of processing of color segmentation. Here we discuss different color space used for skin modelling.

2. Color Spaces used for Skin Modelling

Computer graphics and video signal transmission standards have given birth to many color spaces with different properties. A wide variety of them have been applied to the problem of skin color modelling. We will briefly review the most popular color spaces and their properties.

2.1 RGB

RGB is a color space originated from CRT display applications, when it was convenient to describe color as a combination of three colored rays (red, green and blue). It is one of the most widely used color spaces for processing and storing of digital image data. However, high correlation between channels, significant perceptual non-uniformity, mixing of chrominance and luminance data makes RGB not a very favourable choice for color analysis and color based recognition algorithms.

2.2 Normalized RGB

Normalized RGB is a representation, which is easily obtained from the RGB values by a simple normalization procedure

$$r = \frac{R}{R+G+B}, \qquad g = \frac{G}{R+G+B}, \qquad b = \frac{B}{R+G+B} \tag{1}$$

As the sum of the three normalized components is known (r + g + b = 1), the third component does not hold any significant information and can be omitted, reducing the space dimensionality. The remaining components are often called ”pure colors”, for the dependence of r and g on the brightness of the source RGB color is diminished by the normalization. A remarkable property of this representation is that for matte surfaces, while ignoring ambient light,

© 2018, www.IJARIIT.com All Rights Reserved

Refrigeration System in Fishing Trawlers

Kunal M. Meher
kunal.meher5@gmail.com
Mechanical
Mumbai University

Abhijeet R. Joshi
abhijeetjoshi32@gmail.com
Mechanical
Mumbai University

Abhishek D. Kadam
619abhikadam@gmail.com
Mechanical
Mumbai University

Omkar Joshi
omkarjoshi@viva-technology.org
Mechanical
Mumbai University

ABSTRACT

The use of refrigeration on board smaller fishing vessels is increasing. The reason for this is the decrease in near-shore fish resources that is forcing the anglers to make longer fishing trips and to conserve the catch on board during the trip. One more reason is the increasing demand for good quality fresh fish and the growth of the markets for these products with increased quality control.

Now a day in our country, most of fishing industry uses ice storage system. Storage of ice requires more space as well as in our country; temperature is high so ice melts quickly. Therefore, ice storage system is not much convenient. On board refrigeration will reduce this entire problem and gives much better result than ice storage system

This project describes the requirements for the use of refrigeration on board fishing vessels, from small-insulated containers in dugout canoes, to refrigerated tanks on bigger vessels.

Keywords – *Refrigeration, Fishing trawlers, RSW system, Fishing techniques in India, VCC, Fish storage system*

1. INTRODUCTION

All categories of fish, when properly preserved, will stay fresh for longer extent than those, which are not preserved. The use of refrigeration techniques such as cold storage will adequately extend the amount of time available for fishing trips and makes it possible to increase the catch with optimum benefits for the vessel and crew. Products brought to market in a better-stored condition will generally acquire higher prices, both at wholesale and retail markets, and thus gives better returns to the fishing industry.With increasing demand for good-quality fresh fish, there is a growth in the market for these products and increasing awareness of angler, the use of cold storage on board is growing. Increase in the use of cold storage creates a need to ensure that it used efficiently. Ice production consumes a lot of energy, so unnecessary waste of energy can be averted. The optimum way to reduce this waste of energy for fishing vessels is to use proper storage, such as adequately insulated iceboxes, containers and fish holds using refrigeration to preserve the fish.

2. EXISTING METHOD

In our country, many fishing industries use ice storage system. For such storage, more space is required. On small research in a local area of anglers, we found that most of fishing trawlers use approx. 4 tons ice for 10 – 12 days fishing trip. The storage of 4 tons ice requires a separate store box, which limits the storage capacity of fish. If the fish cached exceeds the capacity then there are chances of wastage of remaining fish. Considering the climate conditions of seashore, the ice may melt early and will not remain for longer time. Hence, there are time limitations for the duration of fishing trip.

Another research on the anglers says that the most of the people are illiterate who works in this particular field of fishing. The methods used for storage depends on their personal experience and not the research. Therefore, the different methods where found in the research. Some of which were good where as others where poor. The fig shown below indicates the poor, good as well as best practice of storage system using ice, which is currently used.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Design and Solid modelling of Parkinson gear tester

Nishant Devkate, *Mechanical*, *Viva Institute of Technology*, nishant10devkate@gmail.com
Ashok Bhoye, *Mechanical*, *Viva Institute of Technology*, ashokbhoye95@gmail.com
Shivam Jadhav, *Mechanical*, *Viva Institute of Technology*, shivamjadhav10@yahoo.com
Pratik Raut, *Assistant Professor, Mechanical*, *Viva Institute of Technology*, pratikraut@viva-technology.org

ABSTRACT

Abstract— "Design and Solid modelling of Parkinson gear tester" is a very great innovation in its own & is specially made for the purpose of checking flank surfaces of gear. Gears are the crucial element of any transmission system which generally used for power transmission. Such type of part must be check by using highly accurate methodology in order to assess its functional performance in advance.

The inspection methodology of gears should be accurate with less time consuming procedure for its inspection. This gear test rig will check the gear in minimum time which results in decrease of non-productive time and improve plant efficiency.

Keywords— Parkinson's Gear Tester, Gear test rig, Gear Metrology, Mechanical project.

1. INTRODUCTION

Today we are in a generation in which we require speed on each and every field. Hence most important part is speed and quick working. For achieving this speed, man manufactures various machines and equipment's are manufactured in order to keep the growth at faster rate. The Engineer must bring new ideas and design into real world. New machines, equipment's and the methods are being developed continuously for production of various product at minimum cost and precise quality. In resembles of this quality our project aims to design and Solid modelling of Parkinson's gear tester for spur gear to check the Flank Surface. The equipment being portable and compact, it is skilful and accurate in testing the manufactured gears.

As most of the required material and equipment could be made easily available by our college and the parts could also be made in our college work-shop. Its price is also significant. This project gives us knowledge, experience, skill and new ideas of manufacturing. It is a working project and having guarantee of success. This project equipment is useful to enhance the gear quality manufactured and is made in much lower time.

Many machines have its ability to check certain parameters only. Highly accurated machine required special installation and space. We require such an arrangement which is strong and rapid for checking gear in machine workshop. This purpose can be solved by using the setup of gear test. This type of gear testing instrument is helpful in manufacturing for mass production of gears of a specific gear box. It works on principle that master gear is attached on a fixed vertically oriented shaft and the gear to be tested on another identical shaft. The first gear acts as a master gear and the other gear is checked by using master gear as a reference gear. This result will help in resulting the composite error. The test rig setup can be used in work floor as it requires less space and worker can use it as per need without wasting much time.

2. LITERATURE REVIEW

R. K. Jain, "Engineering Metrology" Khanna Publishers, twentieth edition [2007], they have presented Parkinson gear tester as an efficient one for checking the flank surfaces of the gear and determine the error significantly. For efficient performance of the gear this test rig is used they have performed three levels of test experiments considering flank surface. It was observed that this test rig can improve life of gear.

Shinde Tushar B., Shital D. Tarawade, "Design & Development of Parkinson Gear Tester for Spur Gear to Check the Flank Surface". International Journal of Advanced Research in Mechanical Engineering & Technology (IJARMET). Vol. 1, Issue 1 [Apr. - Jun. 2015], they have found Parkinson gear tester to be extending gear life and reducing error. Their work aims to understand the accuracy in flank surfaces. This test rig is useful to find out the flank surface and irregularities in gear tooth with ease.

S. D. Kalander Saheb and K. Gopinath, "A comprehensive survey of gear test rigs", Report No 6, IIT Madras, Dec [1990], In this survey they have performed the gear testing experiment and concluded that this test rig is the most easy to use equipment for checking any irregularity in gear tooth.

V. Manoj, "Development Of A Power Re-Circulating Gear Test Rig" M.Tech Thesis, IITMadras, [1999], this paper states that Parkinson gear tester is most suitable equipment which can be used for determination of errors in flank surfaces.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Naval Gear Orienteer

Abhishek Shanbhag aps221196@gmail.com *Viva Institute of Technology*
Harshal Nagtode nagtodeh99@gmail.com *Viva Institute of Technology*
Nikhil Naik nikhilnaik342@gmail.com *Viva Institute of Technology*
Mansi Lakhani mansilakhani@viva-technology.org *Viva Institute of Technology*

ABSTRACT

Early man was an seasoned traveller, and he often come across situations in which natural milestones and guiding references failed him. His first fruitful efforts to devise an artificial heading location to aid him in his expeditions are generally accepted to have been made in ancient China. Mentions to these instruments in original texts are scant and unclear, and are sometimes accredited to legend rather than to fact. The "south pointer" mentioned in these writings was thought by early investigators to refer to the magnetic compass, but modern scholars feel that there have been blunders in analysis, and that the magnetic compass was not developed until a much later era. This report describes the design and manufacture of a working model of a south-pointing carriage based upon a sensible speculation as to the working principles of the original instrument. Evidences derived from ancient texts were used when applicable. This report presents a systematic approach for the reconstruction of all possible topological structures of lost ancient Chinese mechanisms. This paper aims at presenting the approach that utilizes the idea of creative mechanism design methodology to converge the divergent conceptions from the results of literature studies to a focused scope, and then applies the mechanical evolution and variation method to obtain feasible reconstruction design concepts that meet the scientific and technological standards of the subjects' time period.

***Keywords*—reconstruction, design, mechanism, errors, gear, instrument, navigation.**

1. INTRODUCTION

The naval gear orienteer works on standard of south-pointing chariot. It is a jewel of Chinese culture and also an excellent symbol of ancient Chinese technical and scientific achievement. It also has received substantial attention from the academic community both in China and overseas [1].

Chinese ancient south-pointing chariot is commonly regarded as a breakthrough in the development of gear train mechanism and automation. Nowadays many types of assembly of south-pointing carriage have been mended and restored. However, there still remain many problems, such as inconvenient handling and poor orientating accuracy caused by multiple gears and complex structure. Based on the principle analysis of south-pointing chariot, the differential gear train is used in the new orientating structure of south-pointing carriage, which has higher accuracy and simple structure The mechanical orientating function of the new positioning structure is analysed based on the mechanical principle of gear transmission. The structure system transmission error is analysed, and the mathematical connection between orientating structure system miscalculation and transmission fault of gear pairs is derived [2].

Its use affords experimental demonstration and even numerical checking (within a reasonable accuracy) of all the features of curvature and parallel transport of vectors in a two-dimensional surface [3].

2. LITERATURE REVIEW

AC Mitchell 1932 [4]

The science of Terrestrial Magnetism is based on the fact that a magnet, free to move about its centre of gravity, tends to assume a position of relative rest in an approximately definite direction with respect to the geographical meridian and the vertical at the place of observation.

Lu Jingyan 1984 [5]

As to the differential gearing system, an endeavour should be made to get some basis from historical materials. There have been some incorrect descriptions of the south-pointing chariot, too many about differential gearing, and some imprecise words appeared in some articles.

Ravisankar, R , Mruthyunjaya 2006 [6]

They found two main applications: in heavy-duty machines such as mills and irrigation wheels, where they transmitted considerable power.

3. METHODOLOGY

When the carriage with two wheels follows a rounded trajectory, the wheel located on outside of the curve must navigate a larger distance than the wheel on the internal side. One can visualize easily, the carriage can turn in place around one of its wheels, i.e. that one wheel remains secure and the other one traces on the ground a circle which radius is the space between the wheels (a geometric compass to some extent).

VIVA INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Design of analysis of system for steam to air cooling

Priyank Saripadiya *Mechanical Engineering* saripadiya.priyank@gmail.com
Dnyaneshwar More *Mechanical Engineering* dnyaneshwarmore63@gmail.com
Darshan Sawant *Mechanical Engineering* Darshan.92sawant@gmail.com
Aniket Deshmukh *Lecturer* aniketdeshmukh@viva-technology.org

ABSTRACT

Now-a-days the refrigeration has become an essential part of human being; it is use for preserving food and cooling purpose. Also fuel availability is less & its consumption rate is more. So we are using waste heat energy for run the refrigeration system. The waste steam energy in the form of exhausted from hotel kitchen, exhaust gas of power plant, automobile IC engine, hot spring (Source of Geo thermal energy), solar energy, etc. In vapour absorption system there is use of generator and pump by using heating coil for generating steam. So we are using waste steam. The vapour absorption refrigeration system is one of the oldest methods of producing refrigerant effect.

The price of fuel is sky rocketing and so is the pollution in the atmosphere. And with the rise in number of vehicles on road the demand for fuel is also increasing rapidly. A large amount of the fuel is used up to run automobiles. These automobiles which use IC engines have a very low efficiency of about 30% to 35%. The rest of the 65% of heat input is lost in various forms to the surroundings through cooling water, exhaust gases and radiation. Still the 35% of work is not utilized completely due to dissipative effect of friction. The present day customer expects his ride to be comfortable. And with rising temperatures automobile air conditioning is a necessity. However, this comfort cooling comes at the cost of higher fuel expenses. The unit needs constant power which is obtained from the engine, thus resulting in loss of engine power as well as mileage. This project aims at reducing the fuel consumption of the vehicle and thus increase fuel economy by reducing the load on the engine by using the excess heat available in the exhaust gases and implementing the vapor absorption system for air conditioning.

Keywords: ***mechanical, refrigerant,.***

1. INTRODUCTION

Air conditioning of a vehicle can be done by two methods. First is Vapor Compression Refrigeration System (VCRS) and another is vapor absorption refrigeration system (VARS).Presently, in the vehicles VCRS is use in most of the cases. In lieu of VCRS, if, VARS is used in vehicles the refrigeration system could be operable in a vehicle without adding running cost for air conditioning. There is a great impact on the running cost of a vehicle due to increasing cost of fuel. The A/C system adds nearly 35 % extra cost in fuel expenses.

Alternately, it becomes a matter of investigation that waste heat recovery of an engine for application in car A/C can reduce the fuel economy of vehicles. Literature review gives that there is an indication that reducing the A/C load decreases A/C fuel consumption. An automobile engine utilizes only about 35% of available energy and rests are lost to cooling and exhaust system. If one is adding conventional air conditioning system to automobile, it further utilizes about 5% of the total energy. Therefore automobile VCRS become costlier, uneconomical and less efficient. Additional of conventional air conditioner in car also decreases the life of engine and increases the fuel consumption. For very small cars compressor needs 3 to 4 bhp, a significant ratio of the power output. Keeping these problems in mind, a car air conditioning system is designed from recovery of Exhaust waste heat using as source / generator for VARS.

The conventional ac system in automobiles uses vapour compression refrigeration system, where the compressor handles refrigerant in vapour form under adiabatic condition, according to adiabatic work relation for open system W = - V. dP (where V is volume in m3, dP pressure rise, W is work required to attain dP) if the fluid require pressure rise is vapour compared to liquid absorb more work, since volume V is much higher for vapour compared to liquid. Thus vapour absorption system is best alternative which handles liquid instead of vapour, but it requirehightemperatureheatsourceforseparationathighpressureend,luckily the availability of high temperature exhaust gas provides solution to this requirement with free of cost. This reduces heat loss to atmosphere and act as Waste Heat Recovery system.

Vapour Absorption Systems offer many advantages like it offers flexibility to utilize any sort of low grade, low cost heat energy available to produce cooling and thus giving a high savings in operating costs. It can operate on steam or any other waste heat source as the energy source instead of costly and unreliable electric power. No moving parts ensure noiseless, vibration-less and trouble free operation. Moreover maintenance costs are negligible as compared to power driven mechanical systems. Refrigerating effect is produced using a clean refrigerant in place of ozone-depleting chlorine based compounds.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Design and Analysis of Cooling Tower

Manas M. Patil
Mechanical department
Manaspatil09@gmail.com

Sanket J. Patil
Mechanical department
sanketjp123@gmail.com

Prashant P. Patil
Mechanical department
Prashantpatil464.pp@gmail.com

Suneet J. Mehta
Mechanical department
suneetmehta@viva-technology.org

ABSTRACT

Cooling tower is a vital element of power plants, petrochemical plants, petroleum refineries, semi-conductor plants, natural gas processing plants, food processing plants, etc. The major function of a cooling tower is to discard heat into the environment. The major types of cooling towers are mechanical draft (induced draft) and natural draft cooling towers. Very large concrete chimneys are used by natural draft cooling tower to introduce air through the media. They are usually used for high water flow rates, i.e.above 45,000 m3/hr., due to large size of these natural draft cooling towers. These types of natural draft cooling towers are used only by utility power stations. Mechanical draft cooling towers use large fans to suck or force air through circulated water over fill. The water falls downhill over the fill media, which helps to increase the contact time between the air and the water, this helps to maximise heat transfer between them. The counter-flow and cross flows are two elementary designs of induced (mechanical) cooling tower. It is well known that heat exchange in counter flow is more effective than heat exchange in cross flow or parallel flow. This paper includes the performance study, working principle and analysis of induced draft cooling tower, which is one of the deciding factors used for increasing the power plant efficiency. A setup is fabricated and various parameters of cooling tower are observed and calculated i.e. effectiveness, range, approach and evaporation loss.

Keywords— *Mechanical, Thermal, Cooling Tower, DBT (dry bulb temperature), WBT (wet bulb temperature), effectiveness, evaporation loss, experiment, numerical, natural draft, induced draft.*

1. INTRODUCTION

1.1 Introduction

Cooling towers are a very essential part of Power plants. The primary job of a cooling tower is to discard heat into the environment. Hot water from Condenser is sent to the cooling tower. The water exits the cooling tower and is sent back to the boiler for further process. In cooling towers, air is passed alongside or counter at present with water. The heat gained by air is the heat lost by water. The effectiveness of cooling tower depends on water and air flow rates and working temperatures.

In the chemical industries, utilities plays an important role in plant tasks. Two types of utilities are used in industries, i.e. heating utilities and cooling utilities. Cold water is required for condenser, reactors, heat exchangers and other cooling purposes. Cooling towers are used to cool the water for its various applications. The high temperature water used for various applications can be cooled and reused. Various types of cooling towers include Natural draft, forced draft and induced draft cooling towers. Various researchers have carried out studies and investigation on various characteristics of cooling tower which impact the effectiveness and functioning of cooling tower.

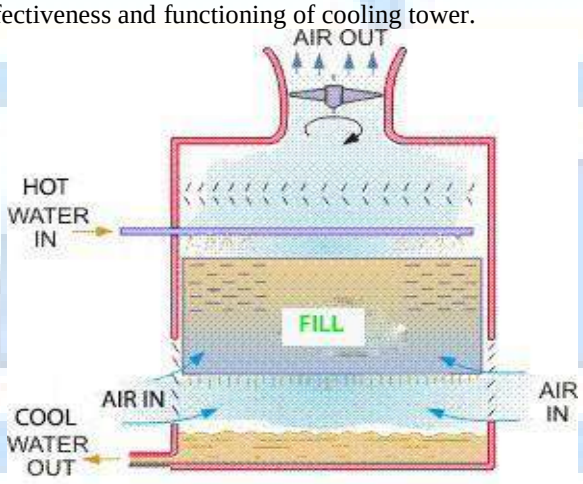


Figure 1.1 Cooling tower

1.2 Components of Cooling Tower

The basic components of an evaporative tower are:

Fill: Most towers use fills to facilitate heat transfer by increasing water and air contact. Fills are of two types, i.e. splash or film type. With splash fill, water falls over successive layers of horizontal splash bars, continuously breaking into smaller droplets, while also wetting the fill surface. Plastic splash fill promotes improved heat transfer than the wood splash fill. Film fill consists of thin, closely spaced plastic surfaces over which the water spreads, forming a thin film in

VIVA INSTITUTE OF TECHNOLOGY At Shirgaon Post. Virar Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Design and Fabrication of Cooling Tower

Pratik M. Patil
Mechanical & university
ppratik601@gmail.com

Sandesh H. Patil
Mechanical &university
patilsanesh12@gmail.com

Sanjeev A. Singh
Mechanical &university
sanjeevsingh046@gmail.com

Suneet J. Mehta
Mechanical &university
suneetmehta@viva-technology.org

ABSTRACT

Cooling towers are heat removal devices used to transfer process waste heat to the atmosphere. Cooling towers may either use the evaporation of water to remove process heat and cool the working fluid to near the wet-bulb air temperature or in the case of closed circuit dry cooling towers rely solely on air to cool the working fluid to near the dry-bulb air temperature. Common applications include cooling the circulating water used in oil refineries, chemical plants, power stations and building cooling. Industrial cooling towers can be used to remove heat from various sources such as machinery or heated process material. The primary use of large, industrial cooling towers is to remove the heat absorbed in the circulating cooling water systems used in power plants, petroleum refineries, petrochemical plants, natural gas processing plants, food processing plants, semi-conductor plants, and for other industrial facilities such as in condensers of distillation columns, for cooling liquid in crystallization, etc.

Over a last decade, great strides have been in improving the performance of conventional cooling towers. Heat is dissipated from the surface of a body of water by convection, evaporation and radiation. This offers an inherent advantage in making it possible to cool the water to a temperature lower than the dry bulb temperature. A mechanical draft cooling tower is used to increase the cooling capacity. The fabrication of the designed cooling tower was carried out using locally available materials such as mild iron sheets, pipes and fittings, extraction fan, angle iron, fiber glass, plastics etc. Various production processes such as cutting, welding, drilling and plumbing were employed. The fill materials are increase the liquid and gas contact. For the increasing of L/G ratio the heat transfer rate between liquid and gas also to be increase. The ultimate aim of this project is to fabricate and performance analysis of induced forced draft cooling tower by changing fill material there by studying the increase in efficiency of cooling tower. By using induced forced draft fan waste water can be reduced.

Keywords— Mechanical, Thermal, Cooling Tower.

1. INTRODUCTION

Cooling towers are a very important part of Power plants. The primary task of a cooling tower is to reject heat into the atmosphere. Hot water from Condenser is sent to the cooling tower. The water exits the cooling tower and is sent back to the boiler or together units for further process. In cooling towers, air is passed concurrently or counter currently with water. The heat gained by air is the heat lost by water. The efficiency of cooling tower depends on air and water flow rates and operating temperatures.

In the chemical industries, utilities play an important role in plant operations. Two types of utilities are used in industries. Cooling utilities and heating utilities. Cold water is required for condenser, heat exchangers, reactors and other cooling purposes. Hot utilities include steam and other hot liquid used for heating in heat exchangers and to maintain reaction conditions. Cooling towers are used to cool the water for its various applications. The used water from various applications at higher temperature can be cooled and reused. Various types of cooling towers include Natural draft, induced draft and forced draft cooling towers. In cooling towers, air is passed concurrently or counter currently with water. The heat gained by air is the heat lost by water. The efficiency of cooling tower depends on air and water flow rates and operating temperatures. Various researchers have carried out studies and investigation on various aspects of cooling tower which influence the effectiveness and working of cooling tower.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Increasing Efficiency of Reciprocating Compressor by Use of Diffuser

Amish Bamania
Mechanical ,MU
amishbamania25@gmail.com

Deep Chheda
Mechanical ,MU
dchheda06@gmail.com

Mayank Chheda
Mechanical ,MU
manky013@gmail.com

Omkar Joshi
Mechanical ,MU
omkarjoshi@viva-technology.org

ABSTRACT

Most troublesome part of compressor technology depends strongly on improvement of its performance. A performance characteristic evaluation of two stage-reciprocating compressor is being executed in this paper. The project aims at the design of diffuser, which converts the imparted kinetic energy of the compressed air to the pressure energy to compensate the pressure loss created in intercooler.

Keywords— *Reciprocating compressor, diffuser, Mechanical, Computational fluid dynamics, diffuser design*

1.INTRODUCTION

The Compressors are multipurpose tools used widely in industry for a variety of purposes. Most industrial plants, from a small workshop machine to an enormous power plant, pulp, and paper mill, have some type of compressed air system wherein the energy generated from these compressors is essential to operate the mechanical equipment and power tools. In view of that, plant air compressor can vary in size from a small unit of 10 horsepower (HP) to huge systems with more than 50,000 HP.

Running air compressors often uses more energy than any other equipment Industrial facilities. Energy savings by means of system improvements of air compressors can range from 30 to 50 percent or more of the electricity consumption. For many facilities, this is equivalent to thousands, or even hundreds of thousands of rupees of potential annual savings, depending on use. Since compressing air is one of the most expensive sources of mechanical energy in the industrial setting, it is often financially beneficial and more energy efficient to use all possible methods to reduce the energy consumption. The energy consumption of any compressed air system depends on several factors: the compressor type, model and size, the motor power rating, control mechanisms, system design, and performance

2.OBJECTIVE

The project aims at the design of diffuser, which converts the imparted kinetic energy of the compressed air to the pressure energy thus improving the overall efficiency of the compressor without any input of work.

3. OVERVIEW

The main aim of this experiment is to increase the pressure energy by the use of diffuser between the two consecutive stages, which will help in increasing the pressure energy by reducing the velocity. Diffusers are used to slow the fluid's velocity while rising its stagnant pressure. The pressure rises as it passes through a duct referred as pressure recovery. In contrast, a nozzle helps in increasing the fluid velocity and lower the pressure while flowing through a one direction.

Frictional effects during analysis are neglected. Ducts containing fluids flowing at low velocity can usually be analysed using Bernoulli's principle. Analysing ducts flowing at higher velocities with Mach numbers in excess of 0.3 usually require Compressible flow relations.

3.1Compressor

Two stage, three cylinders, positive displacement type reciprocating compressor is used for various industrial applications. The suction takes places at room temperature and pressure and compresses it up to its pressure ratio. As the air is compressed in first stage there is significant rise in temperature following the polytrophic rule of compression and also the hot air is difficult to compress. This difficult compression lowers the efficiency of the plant. Hence to achieve near isothermal compression of the air an intercooler system is used in two stage compressors. Further the air is passed on for the final stage compression and the required pressure output is achieved and is made available for application purposes after passing through an aftercooler.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

DESIGN AND ANALYSIS OF WIND TUNNEL

Akshay Baswa
akshayb5200@gmail.com
Mumbai University

Pranit Bangera
b.pranit97@gmail.com
Mumbai University

Siddhesh Baviskar
siddheshbaviskar137@gmail.com
Mumbai University

Swapnil Raut
rautswapnil125@gmail.com
Mumbai University

ABSTRACT

A wind tunnel is a tool used in aerodynamic research to study the effects of air moving through solid objects. Even though it predicts accurate results and flow parameter it comes with the disadvantage of high cost, large space utilization, noise problem. Hence the productivity and use of wind tunnel are limited.
The existing wind tunnel model is much complicated to compute and to obtain necessary results. Also, this wind tunnel is not portable and generally manufactured for the large industrial testing purpose. Power required to test a small aerodynamic model is large in such wind tunnel. Hence, to test any small-scale graduate level project become unaffordable due to the cost of testing.
This project describes the design and analysis of the open circuit, small size, economical wind tunnel used for testing of the Aerodynamic model. This project uses computational fluid dynamics to determine the theoretical values for specimen in wind tunnel which will be compared to actual values of fluid flow. An overall analysis and simulation of flow will also be performed. Aerodynamics of any high-speed car or airplane can be studied by using a scale model of an actual model by this apparatus.

Keywords: - *Mechanical engineering, Aerodynamics, Design, Wind tunnel, Fluid dynamics, Analysis, Simulation.*

1. INTRODUCTION

Wind tunnels are one of the important tools for aerodynamics studies wind tunnel is used to similitude the actual flow condition of a prototype on a scale model by facilitating the actual flow conditions of a prototype on a scale mode one can study the aerodynamic property experienced by the prototype on the scale model with reasonable accuracy.

It is a device in which air of uniform property is produced past the model. Basically it a tubular passage for air or any other gases which are forced to produce a flow of uniform properties in the test section. The model which has to undergo for aerodynamic studies are mounted in the test section with suitable instrumentation for measuring the forces, pressure distribution and other aerodynamic characteristics.

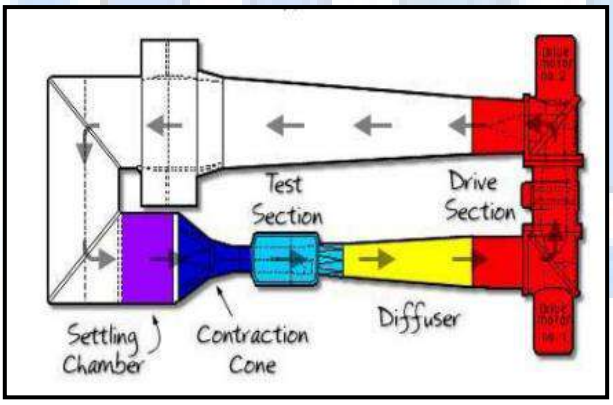


Fig. 1: Closed circuit wind tunnel

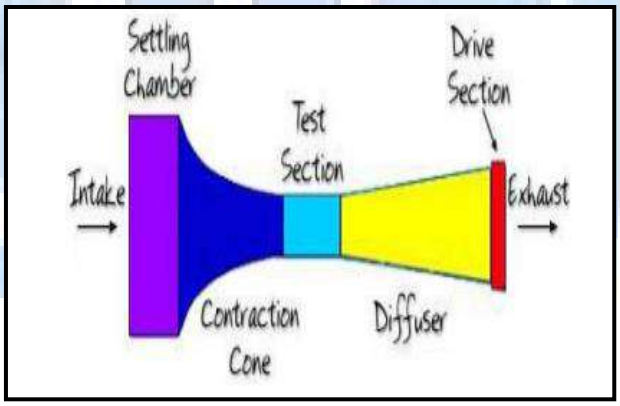


Fig. 2: Open circuit wind tunnel

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

NUMERICAL SIMULATION OF BUFFETING EFFECT ON WINGS

Rahul Maurya
rahul.maurya9516@gmail.com
Mumbai University

Pankaj chauhan
pan.chauhan143@gmail.com
Mumbai University

Krishna chavan
chavan8397@gmail.com
Mumbai University

Swapnil Raut
rautswapnil125@gmail.com
Mumbai University

ABSTRACT

The one of the major problem in the aircraft while accelerating in transonic regime the aircraft's wing gets shock waves due to change in velocity from sonic to supersonic regime. The critical Mach number is that free stream Mach number at which sonic flow is first achieved on the aerofoil surface. In order to fly the aircraft in transonic regime or above transonic speed we will analyse the critical Mach number. The analysis of buffeting effect on the particular type of wing of the aircraft while predesigning is required to avoid any unpleasant conditions. In this project work numerical method will be used to analyse buffeting effect on wing of the aircraft. Using CFD technique numerical model of aerofoil (2D) and wing (3D) will be generated and iterations will be carried numerical equations by applying appropriate Boundary conditions. The results thus obtained will be compared with those available in previous research work. Thus, validating the project work.

Keywords: - *Buffeting, wings, aerofoil, simulation, mach number.*

1. INTRODUCTION

The Buffeting is high-frequency instability, caused by airflow separation or shock wave oscillations from one object striking another. It is caused by a sudden impulse of load increasing. It is a random forced vibration. Generally, it affects the aircraft structure due to air flow downstream of the wing.

During the world war a British engineer named Frank Whittle invented the jet engine. He produced jet plane named as Vampire that exceeds the speed of 500mph. then he builds experimental DH 108 and release it to young son named Geoffrey. For the first cautious trials the plane behaved beautifully, but has Geoffrey speed up unsuspectingly drew close to an invisible wall in the sky and later that named as the sound barrier. Which can destroy a plane not design to pierce it. One evening he hit the speed of sound and the plane disintegrated. Young Geoffrey's body was not found for ten days.

Consider an aerofoil in a low-speed flow, say, with M∞=0.3, as sketches in fig.1.1a. In the expansion over the top surface at the aerofoil, the local flow Mach number M increases. Let point A represent the location on the aerofoil surface where the pressure is a minimum, hence where M is a maximum. In figure.1.1 (a), let us say this maximum is MA=0.435. Now assume that we gradually increase the freestream Mach number. As M∞ increases, MA also increases. For example, if M∞ is increased to M=0.5, the maximum local value of M will be 0.772, as shown in fig.1.1b. let us continue to increase M∞ until we achieve just the right value such that the local Mach number at the minimum pressure point equals 1, that is, such that MA =1.0, as shown in fig.1.1c. When this happens, the freestream Mach number M∞ is called the critical Mach number, donated by Mr. By definition, the critical Mach number is that freestream Mach number at which sonic flow is first achieved on the aerofoil surface. In fig.c, Mcr=0.61.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

DESIGN OF "I-BICYCLE"

Pijush Ghosh* Ashwin Kharwa Parag Marde Pratik Raut
Mechanical *Mechanical* *Mechanical* *Assistant Professor, Mechanical*
Viva Institute of Technology *Viva Institute of Technology* *Viva Institute of Technology* *Viva Institute of Technology*
ghoshpijush01@gmail.com hwin.kharwa.9004@gmail.com pmarde16@gmail.com pratikraut@viva-technology.org

ABSTRACT

"I-Bicycle" refers to a bicycle with a hub-less rear wheel. The main ideology for this project is to cultivate a hub-less or spoke-less wheel. This bicycle disables some drawbacks of the conservative bicycle such as heavy design due to involvement of spokes, power consumption issues, space issues. The advantages of this bicycle are light weight due to absence of hubs or spokes, additional space in the wheel due to absence of spokes, aesthetic look to the design and lowered center of gravity. The bicycle runs with a "rack and pinion arrangement system" connected to the rear-wheel. The paddle gear is connected to the pinion whereas the pinion is meshed with the internal teeth of the rear-wheel rim. This bicycle can be used to overcome the above cited matters and it's a great invention in the design of the conventional bicycle which gives the operator a fresh feel while using it and it's awesome and very aesthetic when it comes to the appearance of the bicycle.

Keywords— Bicycle, Hub-less wheel, I-Bicycle, Spoke-less bicycle

1. INTRODUCTION

Nowadays, most of the vehicles are reliant on non-renewable fuels such as petroleum or diesel. Such problems result in an increase in toxicity in the atmosphere, traffic issues, global warming and other environmental dangers. In this era of mass-fuel ingesting, a bicycle can be a release to the environment and can decrease the load on petroleum and diesel reserves.

In order to eradicate the limitations of the bicycle being used presently, we, as a group of Mechanical Engineers have came up with an ideology of a spoke-less bicycle, which we have named as "I-bicycle". Modification in the design of the conventionally used bicycle is possible. The general idea is to design a bicycle with a spoke-less rear wheel, using a "sprocket and pinion mechanism" controlled with the help of chain drive. Idea is that, the constraints occuring on a wheel are at ground level, on the outer periphery. A wheel without x axis enables to support the vehicle at the lowest point. The center of gravity is sank for better grip. This design lessens the weight as well as it reduces human effort. The concept is to develop a spoke-less wheeled bicycle. The welfares desired of this bicycle is to reduce the material used in the bicycle, to reduce the weight of the bicycle as there is absence of hubs or spokes, to provide increased safety while riding and to deliver some space to the user so that he can escort a storage box or can even connect an electric motor if obligatory. In calculation to this, the development of a hub-less wheeled bicycle results in reduction in effort applied by the driver while riding the bicycle.

2. LITERATURE REVIEW

S.Mohindar, M.Vinoth Kumar, A.Tamil Arasu, S.Tamizhmaran, R.Tarun, B.Tilak [2017] [1], explained in journal"design and fabrication of lunartic hubless wheel bicycle" states that "Lunartic is a compact urban bicycle concept exploring the combination of different tyre sizes a toothed belt drive and hub less rear wheel as a unique working prototype. The design aims to combine benefit of both wheel sizes for a balance of speed, size and ride quality. Larger wheels travel faster and are more stable and give comfortable ride while small wheels are light compact and more maneuverable. But small wheeled bikes takes up less space and are very maneuverable. Belt drives are clean quiet and maintenance free and hub less wheel creates extra space. Big wheels are very stable due to gyroscopic effect of larger wheel. By using belt drive it replaces the drawbacks made by using a chain drive for transmission of power from driver to driven. By using toothed belt pulley it increase the efficiency of power transmission which intently reduces the work and gains energy."

Andrew J. Horst [2013] [2], in the paper "hubless wheel and related stroller" states that "A seat is disposed on the frame. The Hub less Wheels are disposed on the frame. The Hub less Wheel includes a rim, an internal sliding structure and at least one bridging component. A tire is disposed on the Hub less Wheel. The rim has an external sliding structure on an inner surface of the rim. The internal sliding structure is disposed inside the external sliding structure. The bridging component is disposed between the external sliding structure and the internal sliding structure. The bridging component revolves on its own axis."

Bennett Ross [2001] [3], in the paper "spokeless bicycle system" states that "A spoke less bicycle system for providing a bicycle that does not have spokes within the wheels- The inventive device includes a frame having a seat structure and handle bars, a rear bracket having rear bearings within that rotatably engages a rear wheel, a front bracket having front bearings within that rotatably engages a front wheel, and a drive train that engages the rear Wheel for driving the rear wheel. The rear rim of the rear wheel includes a rear groove that receives the plurality of rear bearings. The rear rim of the rear Wheel includes a rear gear that is engaged by a drive sprocket from the drive train. The front rim of the front wheel includes a front groove that receives the plurality of front bearings."

© 2018, www.IJARIIT.com All Rights Reserved

TO STUDY THE IMPACT OF BIODIESEL AND ETHENOL AS A FUEL ADDITIVE WITH DIESEL ON SINGLE CYLINDER DIESEL ENGINE

Kiran Hirve
Mechanical, VIT Virar
Kiranhirve1996@gmail.com

Makarand Hajare
Mechanical, VIT Virar
makarandhajare@gmail.com

Akshay Halgunde
Mechanical, VIT Virar
akshaymarutihalgunde63@gmail.com

Prof. Aniket Deshmukh
Mechanical, VIT Virar
Aniketdeshmukh@viva-technology.org

ABSTRACT

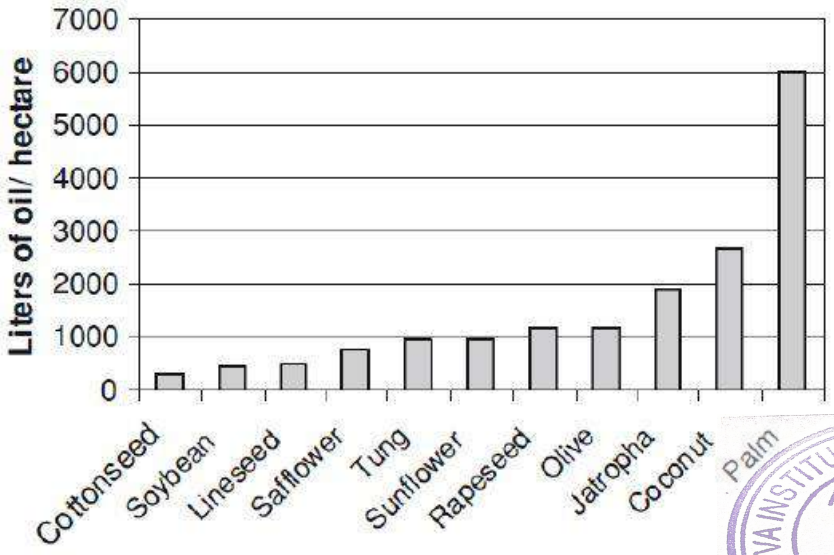
Biodiesel can be used as an alternative fuel in diesel engines due to environmental and energy concerns. Considering the existing resources in India, To meet the increasing energy needs of the country and to provide Energy Security, National Policy on Biofuels was announced in December 2009. The major goals of the policy are Development and utilization of indigenous non-food feed stocks raised on degraded or waste lands, thrust on research and development on cultivation, processing and production of biofuels and a blending mandate of 20% Ethanol and Bio-diesel by 2017. So, in this study the effect of biodiesel from non edible oil and diesel fuel blends (B0, B20, B50, B80 and B100) on the performance characteristics (brake power, brake torque, BSFC and brake thermal efficiency) of a diesel engine will investigated. The experiments are conducted at rated engine speed. The results will showed whether an increase in brake power, brake torque and brake thermal efficiency and a reduction trend in brake-specific fuel consumption at higher engine loads for all the biodiesel-diesel blends or not.

The performance and emission characteristics of a direct injection variable compression ratio engine when fueled with pre- heated palm, jatropha, karanja oil and ethanol and its 5%, 10%, 15%, 20% blends with diesel (on a volume basis) will be investigated and compared with standard diesel.

Keywords— *NOx, HC, CO, CO2*

1. INTRODUCTION

Generally, biodiesels are fatty acid esters produced from vegetable oils or animal fats through a chemical process known as transesterification. The differences in the composition and properties of biodiesels produced from soya bean oil, rapeseed oil, karanja oil, jatropha oil or animal fats, from pure diesel will influence the engine performance, combustion and also the emission characteristics. Experimentally observed that the increase in the content of biodiesel in diesel, biodiesel blend decreases engine power. This loss in engine power with the use of biodiesel is mainly due to the reduction in heating value of biodiesel compared to diesel. The same reason can be accounted for the increase in the brake specific fuel consumption. On the other hand, Canaki and Van Garpen stated that compared to the fossil diesel fuel, biodiesel improves thermal efficiency as it gets injected earlier, resulting in an earlier start of combustion. Also, the shorter delay time of fuel combustion due to the higher cetane number of biodiesel provides more time for complete combustion. However, the low calorific value and high viscosity of bio-fuels again tend to decrease the thermal efficiency. Biodiesel and its blend have larger cetane number than that of diesel, resulting in earlier combustion. Due to this difference in cetane number, the use of biodiesels decreases the ignition delay period compared to pure diesel. The higher cetane number and the reduced ignition delay for the biodiesels tend to increase the in cylinder pressure. The higher oxygen content in biodiesels, leading to improved combustion may be another reason for this. In comparison with conventional diesel fuels, biodiesels promote more complete combustion and thus effectively reduce emissions of particulate matter (PM), carbon monoxide (CO) and smoke.



VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Soybean Milk Extracting Machine

MR. Himanshu Mishra
Mechanical Engineering
VIVA Institute of Technology
himanshukumar386@gmail.com

MR. Ravi Mishra
Mechanical Engineering
VIVA Institute of Technology
ravim6233@gmail.com

MR. Hitesh Nayee
Mechanical Engineering
VIVA Institute of Technology
hiteshnayee77@gmail.com

MR. Manoj Yadav
Mechanical Engineering
VIVA Institute of Technology
manojyadav@viva-technology.org

ABSTRACT

Protein is one of the important constituent of human diet. It is required for appropriate growth, for repairing body cells, creating enzymes and it perform various other functions which is obligatory for proper functioning of life. The protein of soybean is called a whole protein. Soybean is a rich source of edible oil comprising no cholesterol and almost none of the saturated fats. One of the nutritious products of soya bean is "Soya milk". Its nutritional remunerations are fascinating many the masses at large. This is the best substitute for cow's milk. A stable mixture of oil, water, and protein, it is produced by soaking dry soybeans and grinding them with water. Soy milk contains about the same proportion of protein as cow's milk.

Keywords— *Mechanical Engineering, Manufacturing, Nutrition, Soya bean, Protein, Milk*

1. INTRODUCTION

Soybean is a species of bean inborn to East Asia, widely grown for its comestible bean which has plentiful uses. The plant is grouped as an oilseed. It also known as soy beans plant is sometimes referred to as greater bean which in Chinese is called dodudu and in Japanese daizu. Both young soybean and its dish are called edamame in Japan. Soy. Oil and protein content of dry soybeans is about 60% by weight; protein at 40% and oil at 20%. The remainder consists of carbohydrate 40% and about ash 6%. Most soy protein is a comparatively heat-stable storage protein. This heat stability enables soy food products requiring high temperature cooking, such as tofu, soy milk and coarse vegetable protein to be made. Soy milk is a drink made from soybeans. A stable mixture of oil, water, and protein, is produced by soaking dry soybean and grinding these soya beans with water. Soy milk contains about the same amount of protein as cow's milk: around 3.5%; also fat, 2.9% carbohydrate, and 0.5% ash. Soy milk can be made at home with old-fashioned kitchen tools or with a soy milk machine. Soy milk has about the same amount of protein (though not the same amino acid profile) as cow's milk. Soy milk does not contain any lactose hence it is suitable for lactose intolerant people.

2. OBJECTIVE

The main objective of this project is to design and fabricate a soya milk making machine which will combat malnutrition in our country by providing good nourished soya milk at reasonable cost. This Soya milk Machine is designed in such a way that all the process such as grinding, filtration and heating of grinded soya bean take place in only one stage in machine and machine has highest rate of milk production which result in decrease in cost of soya milk. Soya milk produced from this machine is very nutritious.

3. LITERATURE REVIEW

B.O. AKINNULI, O.M. OLABANJI [2013]: Soy bean was invented in China in 2853BC, Emperor of china named five blessed plants; soya beans, rice, wheat, barley, and millet. Soya bean milk making machine was designed from locally available material. In this machine soya bean passes through a two stages which are milling and a compression. A soya bean is grated in a first stage along water; wet grated soya is further passed to a compression chamber where milk is extracted with the help of metallic sieve. By using this process a soya milk extracting machine was manufactured at a cheaper cost. The grinding rate of this machine is 4.151 kg of soya bean in one hour and can produce a 33.26 litres of milk in an hour. The soya bean milk machine does not require expertise, hygienic and there is no need of further processing after use.

Johanna Lampe, [2004]: The research community, health professionals, and the public have high interest in the health benefits of soya bean. At the same time, potential anxieties related with soy consumption, especially as related to soy isoflavones, have tempered the gusto for making public health recommendations. On both accounts, the primary soybean isoflavone, genistein, has established the most attention. Because consumers are becoming more and more confused by the often contradictory dietary messages, a balanced and accurate view of the risks and benefits of soy foods and soy food components is essential. Even among health professionals, mistake exists about correct terminology and about the exact composition of the agents under examination. Levels of isoflavones are often assumed to be constant within classes of soy foods, and consumptions are predictable rather than being directly analyzed.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Sand Filter & Separator Project

Makrand Mahadev Virkar
Mechanical, MU
makarandvirakar95@gmail.com

Harikesh Yadav
Mechanical, MU
12HARIKESH4@gmail.com

Sujeetkumar Yadav
Mechanical, MU
sujeet8890@gmail.com

Manoj Yadav
ME Mechanical, MU
manojyadav@viva-technology.org

ABSTRACT

Sand is used in construction, manufacturing and many industries. Sand needs to be filtered and separated from unneeded particles, stones and other large particles before it is put to use. Our system puts forward a fully automated sand filtering and separator system that automatically filters sand poured on it. Here we use a shaft that is mounted incline using mounts & bearing. The shaft is connected to a filter frame (net) with mesh below and enclosing frame on the sides. We now have a rod connected from the shaft to the filter frame in a way such as to achieve the best rotational motion. Also we have a frame to hold the filter frame in place while ensuring proper rotational motion at the same time. On rotating the pulley using our crank arm, the system allows to operate the pedal. This allows us to operate the sand filter rotational motion for appropriate sand filtering needs.

Keywords— *Mechanical Engineering, Manufacturing, Sand Separation, pulley, motor, belt.*

1. INTRODUCTION

Filtration is the removal of stone particles from sand by passing the sand through a filtering medium or net, in which the stones and other large particle are separate, example of such filtering medium, is known as sand filter.
In construction site or manufacturing and many industries. They are use thin net as sand separator a man will throws a sand mixture on net, this process they will do twice for 1 packet. They do this twice because some sand will came back because of stones in mixture. So it will require lots of time and human effort.

2. PROBLEM DEFINITION

Problem Statement-Among different component of mixture there are many substances which are harmful or not useful for us. To remove this harmful and not useful component we need to separate them. In water there are sand or small particle which are harmful for health. Not only that in wheat there are stones pieces are available again this harmful for health.in construction site there are if there are stones in mixture then it will harm for humans life.

Its effect-The use of such sand in construction was dangerous as it affected the reinforcements used in concrete works. It might lead to development of cracks in structures, thus reducing its compressive strength and life. People in the villages should also stop such illegal activity as it was hazardous to their life.

3. OVERVIEW AND METHODOLOGY

So we developed mechanism that reduces human effort and separation time. Our process sand filtering and separation system that filter sand and remove the stone quickly not only that it will reduce the human effort or work. In this this process we use a shaft that is mounted incline using mounts & bearing. The shaft is connected to a filter frame (net) with mesh below and enclosing frame on the sides. We now have a rod connected from the shaft to the filter frame in a way such as to achieve the best rotational motion. Also we have a frame to hold the filter frame in place while ensuring proper rotational motion at the same time. On rotating the pulley using our crank arm, the system allows to operate the pedal. This allows us to operate the sand filter rotational motion for appropriate sand filtering when it needs.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (E)

© 2018, www.IJARIIT.com All Rights Reserved © 2018, www.IJARIIT.com All Rights Reserved

DESIGN OF PORTABLE CNC

Sainath Satavse | *Sachin Shinde* | *Shubham Sawant* | *Pratik Raut*

B.E. Mechanical | *B.E. Mechanical* | *B.E. Mechanical* | *Assistant Professor*

VIVA Institute of Technology | *VIVA Institute of Technology* | *VIVA Institute of Technology* | *VIVA Institute of Technology*

sainathsatavse@gmail.com | *sachin141993@gmail.com* | *sawantshubham28@gmail.com* | *pratikraut@viva-technology.org*

ABSTRACT

"Portable CNC machine" is very great innovation idea made in this modern world. As considering the drawbacks of conventional CNC machine, the purpose of making Portable CNC machine is based on overcoming the problems and efforts of conventional CNC machine. The Portable CNC machines are the best option in small scale industries. As small scale industries are having less space and less capital budget hence they cannot use conventional CNC machine. Hence the Portable CNC machine is been used as its size is small and compact easily portable, Portable CNC machine are easy to handle and the small complicated jobs can be done accurately and easily. The ideas on fabrication of low cost CNC machine come forward to reduce the cost and complexity in conventional CNC system

Keywords— ***Lead screw, Stepper motor, DC motor, HSS Milling tool, Mechanical Engineering***

1. INTRODUCTION

There are various type CNC machine are available in industry for manufacturing various products. But they are very expensive and their capital cost is high. They are generally use for large production that's why the portable CNC machines is the best option for low production volumes .With the help of portable CNC machine you can manufacture product at minimum cost. Portable CNC machine are the best option in small scale industries. The portable CNC machine are easy to handle and the small complicated jobs can be done accurately and easily.

2. ABOUT THE CONVENTIONAL CNC MACHINE

Since thousand years ago, human tried to find ways to make their work easier. Thus, variety of techniques and inventions are created to reduce the human work. Nowadays, CNC Machine is most popular in manufacturing sector. So as to reduce the burden on the people, portable CNC Milling machine this is the best option because it can be removed easily, saving time and reducing the use of space. CNC milling machine is a very important technology in the manufacturing industry nowadays. Operating Portable CNC milling machine with low cost and simply in design will be a good news for the developers of small- scale industries.

3. DRAWBACKS OF CONVENTIONAL CNC MACHINE

a. Its big in size.
b. More space is required.
c. Maintenance Cost is high.
d. It is not suitable for low volume production.

4. ADVANTAGES OF PORTABLE CNC MACHINE

a) It is small in size
b) Easy to handle.
c) Suitable for low volume production.
d) It occupy less space.
e) Maintenance cost is high.
f) It can be easily transportable.

5. WHAT IS PORTABLE CNC MACHINE?

In order to overcome the above mentioned drawbacks of the CNC being used nowadays, we a group of mechanical engineers have come up with an ideology of a machine called portable CNC machine. The concept of this project is to concern the use and benefits to the small scale industries. The portable CNC machine can be used in a small surfaces it does not need the high power voltage. It can be consider or been used for small and proper machining parts. The portable

© 2018, www.IJARIIT.com All Rights Reserved

Test Rig On Heat Treatment Under Laminar Flow

Brijesh Lathia
VIVA Institute of Technology
Shirgaon, Virar (E)

Mitesh Madav
VIVA Institute of Technology
Shirgaon, Virar (E)

Rushikesh Jadhav
VIVA Institute of Technology
Shirgaon, Virar (E

Sushil Mishra
VIVA Institute of Technology
Shirgaon, Virar (E)

ABSTRACT

The convective heat transfer coefficients of several nanoparticle-in-liquid dispersions have been measured under laminar flow in a horizontal tube heat exchanger. The nanoparticles used in this research were graphitic in nature, with aspect ratios significantly different from one. The graphite nanoparticles increased the static thermal conductivities of the fluid significantly at low weight fraction loadings. However, the experimental heat transfer coefficients showed lower increases than predicted by either the conventional heat transfer correlations for homogeneous fluids, or the correlations developed from the particle suspensions with aspect ratios close to one. New correlations on heat transfer need to be developed for nanofluid systems.

The nanofluid is a solid–liquid mixture in which metallic or nonmetallic nanoparticles are suspended. The suspended ultrafine particles change transport properties and heat transfer performance of the nanofluid, which exhibits a great potential in enhancing heat transfer. The mechanism of heat transfer enhancement of the nanofluid is investigated. Based on the assumption that the nanofluid behaves more like a fluid rather than a conventional solid–fluid mixture, this article proposes two different approaches for deriving heat transfer correlation of the nanofluid. The effects of transport properties of the nanofluid and thermal dispersion are included.

This appears to be a consequence of the gradual change from laminar to turbulent flow brought about by the variation in local Reynolds number from zero to a maximum value within the eccentric annulus. It is believed that sufficent experimental data are now available for the pressure gradient to be predicted for flow in eccentric annuli of unit eccentricity over a relatively wide range of Reynolds number.

***Keywords*:-** *Nanoparticles, Conductivities, Nanofluids, Heat transfer, and Reynolds Number, etc.*

1. INTRODUCTION :

In fluid dynamics, laminar flow occurs when a fluid flows in parallel layers, with no disruption between the layers. At low velocities, the fluid tends to flow without lateral mixing, and adjacent layers slide past one another like playing cards. There are no cross-currents perpendicular to the direction of flow, nor eddies or swirls of fluids. In laminar flow, the motion of the particles of the fluid is very orderly with particles close to a solid surface moving in straight lines parallel to that surface. Laminar flow is a flow regime characterized by high momentum diffusion and low momentum convection.

When a fluid is flowing through a closed channel such as a pipe or between two flat plates, either of TWO types of flow may occur depending on the velocity and viscosity of the fluid: laminar flow or turbulent flow. Laminar flow tends to occur at lower velocities, below a threshold at which it becomes turbulent. Turbulent flow is a less orderly flow regime that is characterised by eddies or small packets of fluid particles which result in lateral mixing. In non-scientific terms, laminar flow is smooth while turbulent flow is rough. The type of flow occurring in a fluid in a channel is important in fluid dynamics problems and subsequently affects heat and mass transfer in fluid systems.

2. REYNOLDS NUMBER:

The dimensionless Reynolds number is an important parameter in the equations that describe whether fully developed flow conditions lead to laminar or turbulent flow. The Reynolds number is the ratio of the inertial force to the shearing force of the fluid—how fast the fluid is moving relative to how viscous the fluid is, irrespective of the scale of the fluid system. Laminar flow generally occurs when the fluid is moving slowly or the fluid is very viscous. As the Reynolds number increases, such as by increasing the flow rate of the fluid, the flow will transition from laminar to turbulent flow at a specific range of Reynolds numbers, the laminar-turbulent transition range depending on small disturbance levels in the fluid or imperfections in the flow system. If the Reynolds number is very small, much less than 1, then the fluid will exhibit Stokes or creeping flow, where the viscous forces of the fluid dominate the **inertial forces.** The specific calculation of the Reynolds number, and the values where laminar flow occurs, will depend on the geometry of the flow system and flow pattern. A common application of laminar flow is in the smooth flow of a viscous liquid through a tube or pipe. in that case, the velocity of flow varies from zero at the walls to a maximum along the cross-sectional centre of the vessel. the flow profile of laminar flow in a tube can be calculated by dividing the flow into thin cylindrical elements and applying the viscous force to them. another example is the flow of air over an aircraft wing. the boundary layer is a

© 2018, www.IJARIIT.com All Rights Reserved

Design And Manufacturing Of Biogas Plant

Akhil Naik
VIVA Institute of Technology
Shirgaon, Virar (E)

Kalpesh Rawool
VIVA Institute of Technology
Shirgaon, Virar (E)

Chinmay Tambe
VIVA Institute of Technology
Shirgaon, Virar (E

Sushil Mishra
VIVA Institute of Technology
Shirgaon, Virar (E)

ABSTRACT

Biogas technology is an efficient solution to address the issue of more stable and efficient renewable energy source through its potential ability to keep pollution free environment. Besides being a renewable energy source, the biogas digester systems would prevent the direct exposure of methane, carbon dioxide and other pollutant emissions into the atmosphere. Moreover, the combustion of biogas displaces the use of fossil fuels for energy generation hence contributes to additional emission reductions of greenhouse gases (GHG) and other air pollutants. For complimenting the increasing interest in renewable energy, an increasing number of centralized biogas plants have been installed in recent years for their cost efficiency to convert livestock manure into renewable energy products, like electricity or bio methane products. In order to assess the true efficiency of an animal manure based biogas plant under public private partnership framework, the potential environmental externalities of animal manure should be taken account of in a socio-economic analysis In the present scenario of dwindling petroleum resources and global warming, exploring other avenues for ecofriendly fuels became essential. Biogas which is a clean and environmental friendly fuel emerged as one of the potential alternative fuels. Raw biogas contains about 60-70% methane (CH4), 30-40% carbon dioxide (CO2), traces of hydrogen sulfide (H2S) and fractions of water vapours. But its wide spread use is hampered by the associated problems like low energy density due to the presence of impurities, generation at low pressures and the absence of means for storing and transporting. In this context this work intends to design and establish a facility at the site of biogas production in the campus for purifying, compressing, bottling and making it transportable. This can be done by compressing the gas in cylinders which was possible only after removing its CO2, H2S and water vapour components. To increase the energy density of the gas, different experiments were conducted in removing incombustible and corrosive gas. To remove this impurities steel wool, water and silica gel was used. The steel wool is to react with the hydrogen sulphide, the water is to reduce the percentage of carbon dioxide and the silica gel is to reduce the presence of water vapour in the purified biogas.

Keywords: Mechanical, Scrubing system, Biogas, Manure, Cowdung.

1. INTRODUCTION

Due to this lack of portability of biogas there have been no efforts what so ever to commercialize the use of biogas. Also, Biogas plants significantly lower the greenhouse effects on the earth's atmosphere. Biogas burns cleanly, the rural homes will not suffer from smoke and consequently denizens people will suffer less from physical problems like bronchial complications. 1 biogas plant is computed to save 32 liters of kerosene and 4 tons of firewood every year.Biogas is a mixture of colorless, flammable gases obtained by the anaerobic digestion of plant-based organic waste materials. Biogas is typically made up of methane (50-70%) carbon dioxide (30-40%) and other trace gases .It is generally accepted that fuel consumption of a nation is an index of its development and standard of living. There have been increases in the use of and demand for fuel in terms of transportation and power generation in many nations. There are abundant agricultural residues and municipal solid wastes, whose potentials are yet to be fully tapped for energy generation–. The possibility of using such wastes for biogas production should be explored. The raw materials used in commercial methane generation include plant residues, animal waste like cow dung and various urban wastes which are available. Biogas technology has advantages which include the following: generation of storable energy sources, production of a stabilized residue that can be used as a fertilizer, an energy-efficient means of manufacturing nitrogen containing fertilizer. Main products of the anaerobic digestion are biogas and slurry. After extraction of biogas (energy), the slurry comes out of the digester as a by-product of the anaerobic digestion system. The main constituents of biogas are the CH4 and CO2 gas. The biogas burns very well when the CH4 content is more than 50% and therefore biogas can be used as a substitute for kerosene,

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Design and Analysis of Triplex Suspension

Vidit Bore
Mechanical MU
vidit.bore@gmail.com

Hrishikesh Gaikwad
Mechanical MU
hrishikeshgaikwad1997@gmail.com

Vishal Dhole
Mechanical MU
vishal.dhole@ymail.com

Prof.. Vinit Raut
Mechanical MU
vinitraut103@gmail.com

ABSTRACT

The triplex suspension system designed is a combination of coil springs, shock absorbing dampers and an extra shock absorber known as triplex. It has been designed keeping in mind the need of a passenger vehicle considering the road conditions.Main objective of the project is to design and analyze the entire triplex suspension system for a four wheeler automobile for improving the stability and comfort level of the vehicle. A certain amount of development is seen in the suspension system. The topic is focused on designing the triplex suspension system considering the generalized forces on the vehicle. The suspension system of the vehicle needs to be durable, efficient and less expensive. The vehicle must be able to withstand the harsh off road environment on occasional basis. Stability and comfort is given prominent importance in this project. Furthermore, the addition of triplex aims at the reduction of ground clearance of the car. The ground clearance can be brought to an optimum level where it is not too low neither too high. Low ground clearance puts the lower end of car consisting of fuel tank to the risk because of the humps on the road. If the clearance of car is too high then it creates a moment while turning on roads which could result in rolling accident. All the modifications proposed increases the performance of the car and its comfort level.

Keywords— *Suspension, Ground clearance, Shock absorbers, Automobile.*

1. INTRODUCTION

Suspension system is referred to the springs, shock absorbers and linkages that connect the vehicle to the wheels and allows relative motion between the wheels and vehicle body. Suspension system also keeps the driver or the operator isolated from bumps, road vibrations, etc. also the most important role played by the suspension system is to keep the wheels on the ground

In triplex suspension, an extra shock absorber is placed so as to provide better stability to the vehicle, a lower ground clearance and better passenger comfort.

.

2. OBJECTIVE

Triplex suspension is a system designed to provide extra comfort and stability to the vehicle by modifying certain aspects of the design. A suspension does not only absorb the shocks caused because poor road condition but also provides stability to the car.

Main objective of the project is to design and analyze the entire triplex suspension system for a four wheeler automobile for improving the stability and comfort level of the vehicle. A certain amount of development is seen in the suspension system. The topic is focused on designing the triplex suspension system considering the generalized forces on the vehicle. The suspension system of the vehicle needs to be durable, efficient and less expensive. The vehicle must be able to withstand the harsh off road environment on occasional basis. Stability and comfort is given prominent importance in this project.

3. PROBLEM DEFINITION

The roads have a lot of humps and that creates a problem to the operator. By using the new type of suspension the jerks on the operator are considerably reduced. The extra shock absorber absorbs the jerk and provides comfort to the operator.

The main reason of developing the suspension system is to provide better stability, more comfort for the passenger and better control over the vehicle. There are various problems in the existing model

4. OVERVIEW AND METHADOLGY

IV.A Construction of triplex suspension

1) *Anti-roll bar*: An anti-roll bar (roll bar, anti-sway bar, sway bar, stabilizer bar) is a part of many automobile suspensions that helps reduce the body roll of a vehicle during fast cornering or over road irregularities. It connects opposite (left/right) wheels together through short lever arms linked by a torsion spring. Anti-roll bars provide two main functions. The first function is the reduction of body lean. The reduction of body lean is dependent on the total roll stiffness of the vehicle. Increasing the total roll stiffness of a vehicle does not change the steady state total load (weight) transfer from the inside wheels to the outside wheels, it only reduces body lean. The total lateral load transfer is determined by the CG height and track width

2018, www.IJARIIT.com All Rights Reserved

Theory of Constraint as an Emerging Manufacturing Philosophy

Priyank Vartak*
Department of Mechanical Engineering
VIVA Institute of Technology
vartakpriyank@yahoo.in

Pratik Raut
Department of Mechanical Engineering
VIVA Institute of Technology
pratikpraut@gmail.com

Tejas Chaudhari
Department of Mechanical Engineering
VIVA Institute of Technology
tejaschaudhari02@gmail.com

Niyati Raut
Department of Mechanical Engineering
VIVA Institute of Technology
Shubhangi.nr@rediffmail.com

ABSTRACT

Theory of constraints (TOC) is a technique, which produces correct solutions for every kind of bottleneck in short time. The philosophy of theory is to determine the weaker part of process chain and to eliminate this constraint point by taking actions, after improved bottleneck point in the process chain, another process point would be weaker part of process chain and it would be necessary to take improvement action to eliminate new constraint point, so constraints theory continue continuous. The main goal is to applicate improvement actions continuously to reach excellent system structure.

Keywords— *Theory of Constraints, Drum-Buffer-Rope Methodology, Process Improvement, Process System Performance, Bottlenecks*

1. INTRODUCTION

The theory of constraints (toc) is a remarkably successful operations philosophy, centered on the idea of focusing managerial attention to the local constraints that inhibit the global performance of an entire system (linhares, a., 2009; goldratt and cox, 1984; goldratt and fox, 1986; goldratt, 1990a, b) toc can be defined as a management approach which focuses on improving bottleneck processes to improve continuously the performance of manufacturing operations. toc had its beginning in israel in the 1970s. eliyahu goldratt applied a technique for predicting the behavior of a heated crystalline atom to optimize the large number of variables in a work schedule (watson, et. al. 2007).r. eliyahu goldratt examined the manufacturing firms in 1970s and asserted that they were doing many mistakes while applying processes and philosophy of toc base on this assertion. dr. eliyahu goldratt invented software that is called as "optimized manufacturing technology" (opt) and he expelled this software to market under license. because of the fact that the software was under license, the main topics of theory had not been understood clearly and although the software had good level of success in practical applications, it could not receive the attention of scientists. he published his book named as 'the goal' in 1987, he suggested and explained toc in this book, after this phase the theory was understood and applied in different areas by applicants.there are many reports of successful toc implementations mainly from manufacturing organizations, especially in the aerospace, apparel, automotive, electronics, furniture, semiconductor, steel and heavy engineering sectors (mabin and balderstone, 2003). toc has also been implemented in diverse non-manufacturing industries, including financial institutions, enterprise software (ioannou and papadoyiannis, 2004), health services (ronen et al. 2006), the public sector (shoemaker and reid, 2005) and in education (goldratt and weiss, 2005).

Toc techniques have been applied at a number of fortune 500 companies; 3m, amazon, boeing, delta airlines, ford motor company, general electric, general motors, and lucent technologies have publicly disclosed significant improvements achieved through deployment of toc solutions. additionally, a number of adopting companies state an opposition to disclose improvements for competitive reasons. application of toc is not limited to for-profit companies; not-for-profit organizations and government agencies such as habitat for humanity, pretoria academic hospital, british national health service, united nations, nasa, united states department of defense (air force, marine corps, and navy), and the israeli air force all have successfully employed toc solutions (watson, et. al. 2007).

2. THEORY OF CONSTRAINT

The Theory of Constraints is a methodology for recognizing the most important limiting factor (i.e. constraint) that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor. In manufacturing, the constraint is often referred to as a bottleneck. The Theory of Constraints takes a scientific approach to improvement. It hypothesizes that every complex system, including manufacturing processes, consists of multiple linked activities, one of which acts as a constraint upon the entire system (i.e. the constraint activity is the "weakest link in the chain"). So what is the ultimate goal of most manufacturing companies? To make a profit – both in the short term and in the long term. The Theory of Constraints provides a powerful set of tools for helping to achieve that goal, including:

a. The Five Focusing Steps (a methodology for identifying and eliminating constraints)
b. The Thinking Processes (tools for analysing and resolving problems)
c. Throughput accounting (a method for measuring performance and guiding management decisions)

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal. Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

TUBE HYDROFORMING AN EMERGING FORMING TECHNOLOGY IN AUTOMOTIVE INDUSTRIES

Shweta Patel[*] shwetapatel@viva-technology.org *VIVA Institute of Technology*
Niyati Raut shubhangi.nr@rediffmail.com *VIVA Institute of Technology*
Henisha Raut henisharaut@viva-technology.org *VIVA Institute of Technology*
Chhaya Patil chhayapatil@vivatechnology.org *VIVA Institute of Technology*

ABSTRACT

Hydroforming forms the basis of metal forming industries. The complex geometry of the parts is obtained by hydroforming easily which is otherwise a difficult task with lots of processes stepwise. Tube hydroforming thus replaces the ancient forming methods with the efficient results obtained due to its use. Hydroforming can be classified under various categories depending on the way the pressure is used for forming the blank i.e. High pressure Hydroforming, Low pressure Hydroforming, depending on the types of products required i.e. Sheet hydroforming, Tube hydroforming. There are some pre-processes that are to be performed on the raw materials before feeding them to Hydroforming processes. These pre-processes include Slitting of the mother coil, rolling it, Welding the roll and finally bending the fresh tube for performing hydroforming.

Keywords— *Hydroforming, Hierarchical Evolutionary Engineering Design System, Genetic Algorithm*

1. INTRODUCTION

Metal Forming contrives directly with the automotive industries which has the fastest growth of new technologies. Tube hydroforming forms the foundation to the pillars of automotive industries. Many of the chassis parts, engine cradles, side members of the cars are produced through Hydroforming. Sheet metal hydroforming and Tube hydroforming have their advantages depending on the application for which they are used. The area of interest of this paper is Tube hydroforming. Tube hydroforming is used where complex geometry is required with least use of different machining processes so as to obtain accurate and perfect results. The process is cost effective although the capital cost of such plant having more than 2-3 Hydroforming plant is high. Thus depending on the use of the process, the more frequently it is used, more cost effective it will be. The products obtained are light in weight.

Tube hydroforming gives complete idea about how a metal or an alloy can be formed using fluid. The study gives explanation to how the process is better than any other process for a complex part generation. Tube hydroforming makes the analysis work of different products and process far easier than any other conventional method could have. In the following study, a tube is hydroformed using water pressure, the compressive axial force, die load. The fluid pressure applied is in the range that allows the material to reach the corners of the die and cavity without causing buckling, wrinkling or bursting.

Tube hydroforming is done using a tube of specific cross-sectional diameter which is further formed into a different cross sectional shape using the fluid pressure that flows through the tube, the force acting compressive on both the ends of the tube, force from the upper die.

The aim of the study the effect of loading path of hydroforming on the thickness of the tube.

2. PROBLEM STATEMENT

A square shaped die and a circular tube blank are considered in the present work. Displacement and internal pressure curves sought during the optimization are such that the circular tube can expand into a square shaped die to a maximum extent without bursting, buckling, or wrinkling. Considering a point 'P' on the tube as shown in Fig. 1, as the tube expands in the die, the distance 'U' travelled by the point increases.

The optimal rates and values of axial feed and internal pressure are determined so as to maximize the distance 'U' while avoiding severe thinning and satisfying the forming limit diagram (FLD). The FLD provides information about how much a particular structure can be deformed before necking occurs. Principal strains for each element of the hydroformed tube must lie under the major strain versus minor strain curve of the forming limit diagram to avoid bursting. The characteristics of the design space associated with the current optimization problem are not known a priori. In this case, it is advisable to employ a combination of global and local search techniques in order to achieve a broad and effective search for an optimal solution. For such problems, HEEDS utilizes a combination of evolutionary, gradient based, and design of experiments search heuristics [7]. Since primarily evolutionary search was used in the present study, a brief description of this search technique is presented in the next section.

Evolutionary Search

HEEDS (Hierarchical Evolutionary Engineering Design System) is an optimization software package

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

PREVENTIVE MAINTENANCE OF POWER TRANSFORMER

Piyali Mondal
piyaliam@gmail.com
VIVA Institute of Technology

Somraj Sengupta
somrajsengupta@gmail.com
Hysol Renewable consultants LLP

ABSTRACT

Transformer is an extremely important part of power system. Power transformer failure effects the entire operation of the power system unit. It is necessary to prioritize transformer maintenance to ensure effective functioning of the power system. Preventive maintenance is one of the best ways of protecting the power transformer. This method is any ways cost effective and time saving. This paper explains entire method of preventive maintenance of power transformer with real life cases. Therefore the paper will build a deep understanding of this maintenance procedure.

Keywords: - *Power transformer, Transformer failure, Preventive Maintenance, System overhaul, Transformer protection.*

1. Introduction

Power transformer is one of the most important equipment of Power Station. In order to get maximum efficiency for longer operational life, it is very necessary to plan and perform all the required maintenance. Checking the machine and all the parameters on a routine basis becomes must. Any difference in the operation indicates problem and action has to be taken promptly. Preventive maintenance consists of regular inspection. The main point of concern is ageing, the life expectancy of transformers and the condition of the insulation system, which seriously depends on organic products. The organic items in a power transformer degrade over time and finally they lose the capability to withstand the stresses. Ageing of paper insulation is an irreversible process and is considered one of the life-limiting processes of a transformer.

2. Causes of Initial Damage

Life of a power transformer depends mainly on operating temperature, ambient condition quality of transformer oil and moisture content in the insulation. The design of the transformer cooling system should be such that it is able to provide the transformer a favorable operating condition.

Fig.1: Example of catastrophic insulation failure of power transformer

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

CLOSED LOOP CONTROL OF SPEED FOR A BRUSHLESS DC MOTOR

Rajkumar R. Gupta
Viva Institute of Technology
gupta.r.rajkumar25@gmail.com

Rohit S. Gupta
Viva Institute of Technology
grohit868.rg@gmail.com

Suryaprakash J. Dubey
Viva Institute of Technology
surya.p.d.111@gmail.com

Chitralekha Vangala
Viva Institute of Technology
vangalachitra6@gmail.com

ABSTRACT

The dynamic performance of BLDC motor to control and measuring the speed. In today's combative world of application of electrical appliances, needs an instant work with least cost margin. To fulfil this requirement, drives and control came into existence. There is need of controlling speed of DC motor in industries in applications of drilling, spinning, elevators, etc. Henceforth this system gives a decisive mechanism to rise or to down the speed. The project consists of three phrases. In first phase where the aimed speed entered using keyboard. The second step where processing enables revolution per minute (RPM) of motor's reference by interfacing infrared sensor mounted on shaft and µc 8051 family in the circuit. The PWM pulse produced by microcontroller providing the regulation in the supply of dc power to motor. The last phase i.e. output uses and opto-isolator as well as MOSFET for driving motor. The Infra-red's strength decides the speed and dispatch it to microcontroller that displays it on LCD screen.

Keywords*: - BLDC motor, Feedback control system, Microcontroller, Control and drives, Electrical engineering*

1. Introduction

The new technological era is looking forward to take benefit of contemporary ideas and combined to form advanced multifunction. Here it is proposing an idea of governing the speed of motor automatically at desired requirement. In our project, prominent work on BLDC motor. Brushless motor is electronically capricious motor. The power is supplied by AC electricity which gives a DC electric current to drive each component of motor by means of using a closed loop controller. The controller gives pulses of current to motor winding which controls the speed of motor. Every motor has its synchronous speed so in this project we are trying to get desired speed of the motor. The controlling of motor is based on principle of PWM technique. This all operation is done by using one opto-isolator, MOSFET, IR sensors and microcontroller.

2. Design Methodology

The design diagram to govern the speed of BLDC motor consisting various elements to carry out this successful operation. Detailed analysis proposed for investigating the impact of load on speed of motor. Therefore it is required to select parameters of each element which is going to be used that conforms to the acceptable performance and indeed improved system performance for improved accuracy and efficiency.

2.1 Transformer

The AC electricity is converted by transformer from one voltage to another with a small power loss without changing its frequency. They are of two types namely Step-up transformers and Step down transformer. Voltage is increased by step up transformer, and decreased by step-down transformers. In most of supply of powers uses step-down transformer to diminish the dangerously higher voltage to a safer voltage.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

AUTO SELECTION OF ANY AVAILABLE PHASE, IN 3 PHASE SUPPLY SYSTEM

Vivek Mali
Viva Institute of Technology
vivekmali1996@gmail.com

Kisan Limbachiya
Viva Institute of Technology
kisan7867@gmail.com

Sagar Zambre
Viva Institute of Technology
sagarzambre50@gmail.com

Chitralekha Vangala
Viva Institute of Technology
vangalachitra6@gmail.com

ABSTRACT

The concept of Auto selection of any available phase, in 3-phase supply system is to design and construct a circuitry which instinctively transfers the control over to the substitute (alternative) phase that has current in the event of power outage in the phase to which the load is attached without the power being off. 70% of the total faults that take place in an electrical system comprises of single phase faults i.e. the remaining two phases in the system are healthy. Hence where 3 phases are available for the supply purpose, it is obligatory for any domestic or commercial power delivering system to employ such circuits for continuous power to essential and critical loads due to the failure of power in any of the working phase. The need of any alternative power supply for such single-phase priority loads can be eliminated by the implementations of such technology. So basically, it is a concept of a phase selector switch which is basically designed with a moto to serve three phase A.C input power to single phase output applications.

Keywords: - *Automatic phase selector, power outage, ULN-2003, single phase load, Logic Gates.*

1. Introduction

In today's world, power failure for a moment is considered as an inevitable issue for loads which require an un-interrupted supply. Hence, some firm developments have been done in electric systems to overcome this issue.

The major concept behind the development of this idea is to deliver continuous supply to the single-phase load. For large and priority electricity consuming bodies like hospitals, schools, where there is incoming 3 phase supply, if any of the phases, amongst the 3 phases fails, then the supply will be automatically shifted to the succeeding available(active) phase out of the poly(3) phase supply system.

In most cases, many manufacturing companies, whether they are domestic or industrial, which employ single phase equipment for its operation sometimes experience challenges during failures in power supply.

2. Block Diagram

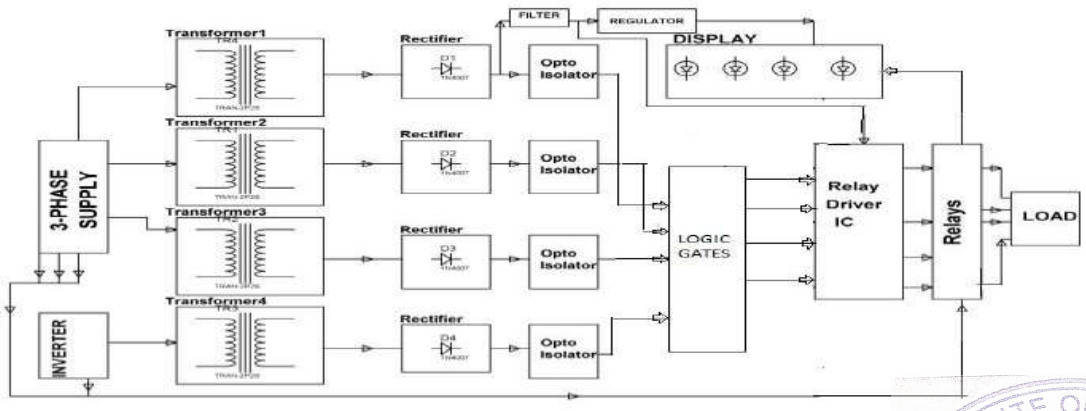


Fig.1: Block diagram

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

A REVIEW ON ENERGY EFFICIENT TECHNOLOGIES IN ELECTRICAL MOTOR SYSTEM FOR DEVELOPING COUNTRIES

Anojkumar S. Yadav
anj_ydv@rediffmail.com
VIVA institute of technology

Sushant Kumar
Bansalsushant49@gmail.com
VIVA institute of technology

Mukeshkumar Mishra
Mimukesh123@gmail.com
VIVA institute of technology

ABSTRACT

The electrical motor consumes a healthy amount of electrical energy in the industry. Because of undemanding construction and the ability to withstand the three phase squirrel cage induction motor converts electrical power into mechanical power in the modern industry. The electrical motor manufacturing process implementing the different methods for improving the motor efficiency, so that the efficiency of electrical motor system in industry. This paper reviews about the different technologies and policies for energy conservation. There is a high possibility for energy efficient improvement in motor systems in developing country. Most of the energy efficient investment shows only a few year payback time. So it is very interesting to study about the different energy efficiency technologies in electrical motor system.

Keywords: -*Energy conservation and audit, Energy efficiency, induction motor, energy saving, Future technologies, policies*

1. Introduction

In future the cost of energy will increase because of environmental problem and limitations of resources. A healthy part of the electrical energy in the industry consumed by the motor runs on electricity. Because of the popularity induction motor is the important and main driving system in the modern industry. Electric motor drives both main industrial processes, like presses and rolls, and auxiliary systems also, like compressed air system, ventilation and water pumping system. They are used throughout all the industries world while, though the main applications vary. Due to various advantages of electrical motors over diesel engine or other types of engine, is the main source for the mechanical energy in modern industry.

Still, investments in improvement in the efficiency of electrical motor are often delayed and most of the rejected in favour of some other investments. Different barriers and market failures were found responsible for that. Among them is a poor of attention and interest of the manager, principal agent dilemmas, due to higher initial cost for efficient motors and many more. Especially in developing countries like India, access to high initial costs of highly efficient motors are a very big barrier. In most of the cases, broken motors are rewound for cost cutting even though motor rewinding often reduces its efficiency.

In last few years, many studies show the result that there are large energy saving potentials in electric motors and motor systems with many energy saving opportunity with very short period of payback and high cost-effectiveness.

2. Characterization of Electricity Uses in India

Implementing the energy efficient induction motor can save a valuable amount of electricity. It would also reduce the demand and the total environmental cost of electric energy as shown in fig. which get double in year 2000-2013. Also EEM improves the operation in industry by reducing the maintenance cost. India has a great dependence on electrical energy. Therefore it is an important task to the promotion of use of energy efficient motors to be applied in the industry.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

VOICE CONTROLLED HOME AUTOMATION

Charu Ramkumar Singh
Viva Institute of Technology
charusingh879@gmail.com

Harshad S. Jadhav
Viva Institute of Technology
harshadjadhav212@gmail.com

Chandraprakash Chauhan
Viva Institute of Technology
chauhanchandu8@gmail.com

Sushant Kumar(Ass.Prof)
Viva Institute of Technology
bansalsushant49@gmail.com

ABSTRACT

Automation is a trending topic. In today's world Automation play an important role. To reduce human labour, effort, time and also errors due to human negligence Automation System is used and this is the main attraction of any automated system. Voice controlled Home Automation System has some feature So that we can achieve the simplicity Using this effective ingredient like Adriuno and Bluetooth module. Home Automation System with Voice controlled develop the use of voice to control devices. Home Automation systems has seen as a rapid changes due to introduction of various wireless technologies. Nowadays technology has become advanced. Due to the continuous updating of wireless technology, there are several different types of connections are introduced such as GSM, WIFI, and Bluetooth. For senior citizen category and people who belong to physically handicapped persons because they are unable to do different activities effectively when they are at home and need one's help to handle those tasks Controlling The Home appliances by using wireless communication system is an simple system which is most advantageous for them.

Keywords: -*GSM (Global System for Mobile), PAN(Personal area networks),PWM(pulse width modulation), Arduino Uno, Bluetooth module.*

1. Introduction

Now a day's most of the systems are now getting automated because it is the world of automation where most of the systems are now getting automated, such as industrial automation, homes and other business sectors. For the mechanization processes wherein human efforts are needed with the machinery equipment's to operate various loads in homes the Home automation systems are advantageous. Home automation system is use to makes the operations of various home appliances more conveniently assist and saves energy by switching equipment as per demand. With the energy saving concept and fast operation, home automation or building automation makes human life very simple nowadays. It consist automatic controlling of all electrical or electronic devices in homes or even remotely through wireless automation like voice command. Centralized control of lighting equipment's, air conditioning and heating, audio/video systems, security systems, kitchen appliances and all other equipment's used in home systems is now possible with this system.

2.Block Diagram

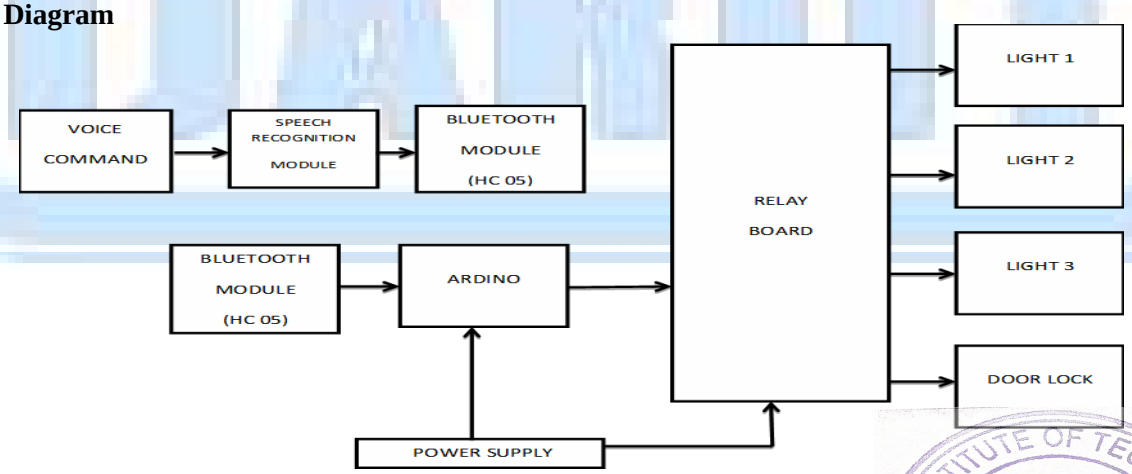


Fig.1: Block Diagram

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

DIAGNOSIS OF STATOR FAULTS OF INDUCTION MOTOR USING MATLAB SIMULINK

Prajakta E. Patil *S.S.Dhamal* *Bhavita Patil*
VIT,Electrical Department *KKWIEER,Nashik* *VIT,Electrical Department*

Prajaktapatil@viva-technology.org *ssdhamal@kkwagh.edu.in* *bhavitapatil@viva-technology.org*

ABSTRACT

This paper presents simulation results of the effect of voltage unbalance and stator inter-turn fault on the various characteristics of a three phase induction motor. The induction motor for unbalance supply is simulated by decreasing the voltage of the any phase of motor. A comparison between inter-turn short circuit and the characteristics of an induction motor with only voltage unbalance is also presented. Voltage unbalance and inter-turn fault produce negative sequence current. The effect of negative sequence current on motor is presented in this work. For this purpose, an induction motor model with equal number of stator turns has been developed and is then modified to develop a second model which can incorporate stator inter-turn short circuits. Simulation results obtained are observed and verified.

Keywords*: - Induction Motor, Voltage Unbalance, Inter turn faults, negative sequence current, phase current*

1. Introduction

Although induction motors are reliable, they are subjected to some modes of failure. 30 % - 40 % of the induction motor failures are caused by the failure of stator winding. Thus, for safety and economic considerations, there is a need to monitor the behavior of induction motors, working in critical production processes in order to detect shorted turns within a stator winding coil.

Stator inter-turn fault results in asymmetry in the motor impedance causing the machine to draw unbalanced phase currents. This is the result of negative-sequence currents flowing in the line that produces pulsations in the torque at twice the supply frequency. If the voltages applied at the terminals of a three phase induction motor are unbalanced, it produces high currents on the stator windings, which considerably exceed the rated currents. These currents result in a negative sequence current, similar to the case of a stator inter-turn fault, which in turn produces twice the supply frequency torque pulsations. Voltage unbalance also results in reduced net torque which forces the motor to run at higher slip, thus increasing the rotor losses and heat dissipation. The aim of this dissertation work is to analyze the effects of voltage unbalance and stator inter-turn fault on the various characteristics of an induction motor with. Inter-turn fault has been created by shorting few turns making up a stator phase winding and also voltage unbalance has been introduced by decreasing the voltage of any phase.

For the purpose of this analysis, two models have been developed. Firstly, an induction motor model with equal numbers of stator turns has been developed. It is then modified to develop a second model to simulate stator inter-turn short circuits. The first model has been used to obtain the characteristics of a healthy motor and that with only voltage unbalance and the second model has been used to observe the inter-turn fault[1].Models are simulated in Matlab/Simulink and the simulation results are presented. Results obtained are verified.

2. Equivalent Circuit of a Three Phase IM

To calculate the equivalent circuit parameters of three phase IM, equivalent circuit is used. In this case three tests are performed viz, No load test, Block rotor test, stator resistance Test.

2.1. No Load Test

The no load test is similar to the open circuit test on a transformer. It is performed to obtain the magnetizing branch parameters (shunt parameters) in the induction machine Equivalent circuit. In this test, the motor is allowed to run with

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist.: Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

ELECTRIC VEHICLE USING RENEWABLE ENERGY SOURCES

Neha Vijay Mhatre — *mhatreneha97@gmail.com* — *Viva Institute Of Technology*
Heena Keshulal Lodha — *heenalodha30@gmail.com* — *Viva Institute Of Technology*
Pushpanjali G. Mishra — *mpushpanjali5@gmail.com* — *Viva Institute Of Technology*
Prof.Bhushan Save — *bhushansave@yahoo.com* — *Viva Institute Of Technology*

ABSTRACT

The project is developed to design the electric tricycle for handicap person. The electric tricycle drives on renewable energy source. Solar plays an important role in our daily life .We have to develop solar tricycle for handicap person because manually drive tricycle requires large amount of human power to drive. In this project it is discussed that how the human work is reduce by using renewable energy source. Comfort of the person is an important point in the tricycle and we have given importance to it. Firstly we have analysed the problems of handicap person and then with proper considerations we are designing the electric tricycle. The main component of the tricycle is Solar panel, Brushless DC motor, Charge controller and battery.

Keywords*: - SOLAR PANEL, PMDC MOTOR, TRICYCLE, BATTERY, CHARGE CONTROLLER*

1. Introduction

1.1 General:

In INDIA, the tri-cycle is widely used for handicap person. The tricycle is a three wheel model and which operate by hand power. Varieties of tricycle that are categories as paddle tricycle, motorized tricycle, and electric tricycle. Paddle tricycle needs a lot of energy to paddle the tricycle. The user will be tired after using the tricycle. Motorize tricycle uses fuel as a prime mover which is very costly. On the other hand, motorize tricycle causes pollution which is harmful for environment and hence global warming causes to earth.

Electric tricycle that works on battery can be used for minimum hour. Either power supply is required to charge the battery or we need to cudgel the tricycle. Hence we are using solar powered electric tricycle to charge the battery. Solar panels converts solar energy into an electrical energy which is applied to battery through charge controller.

1.2 Scope of Project:

To convert the solar energy to the electrical energy by using photovoltaic cells, then converting this electrical energy to mechanical energy by using dc motor to run the tricycle instead of conventional the human paddling.

- To find the substituent of conventional fuel.
- To level the ecological balance.
- To make the economical tricycle.
- There is a requirement of green energy.

1.3 Objectives of Project:

To deal with the problem and the weakness, this project requires some research and study to develop this technology. To make this project successful there are several thing that we need to know such as what will be prime mover and the advantages of this new vehicle. The list of the objectives are:

- Develop a vehicle which use renewable energy, eco-friendly and cheap.
- Develop an electrical tricycle that charges the battery when it is not in working condition.
- Develop low speed tricycle which can travel a longer distance.
- Develop an electrical tricycle that reduces physical efforts.
- To minimize the pollution due to IC engine drive tricycle.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

SMART WHEELCHAIR FOR PATIENT

Rohan Rathod
B.E.Electrical
Viva Institute of Technology
rohanvrathod2015@gmail.com

Vaibhav Rathod
B.E.Electrical
Viva Institute of Technology
vaibhavrathod0610@gmail.com

Tushar Korde
B.E.Electrical
Viva Institute of Technology
kordetush@gmail.com

Sushant Kumar
M.tech in PED
Viva Institute of Technology
bansalsushant49@gmail.com

ABSTRACT

There are some peoples who cannot walk because of some problems such as accidents, health issues, and age. So there should be some mechanism that can be used to remove these defects. The Android Controlled Wheelchair is used to remove these defects and people can survive in the environment easily. The android application is created and installed on the Smartphone and connection is done using Bluetooth. The wheelchair can move in two modes first is touch mode and second is motion mode. In the touch mode when user want to change the direction, by using the touch screen of the Smartphone the user has to choose the direction specified within the four quadrants on the screen. In the second mode user just have to give the motion input whether he wants to go such as left, right, up, down. The proposed wheelchair contains the ATMega328p microcontroller which is used to execute all the commands. The device motor driver L293D is used and HC05 Bluetooth module is used. This wheelchair will help the people with lower extremities, older people to survive in the environment.

Keywords: - *Android Apps, Motor Driver, IOT & Wheelchair, Gear Motor Controller*

1. Introduction

People have disabilities with their hands, foots, lower extremities so that they are unable to perform the regular task in their daily life. Many of the technologies are available to overcome this problem. In this paper the Android Controlled Wheel Chair is developed to help the people with their disabilities and survive in the world effectively. Android application is created and it is installed in the android Smartphone. People use their Smartphone for doing the regular tasks such as calling, texting, listening music and sending emails and other files. Now a days the Smartphone is not just used for talking purpose many other works are based on Smartphone such as web browser, games, and online videos. So with the help of this Smartphone user can direct the chair in four different directions. The wheel chair can move in two different modes. First mode is touch mode as the touch screen is available in every Smartphone so it will be easy for user to use it. On the touch panel four different quadrants are given for LEFT, RIGHT, FORWARD and BACKWORD [1]. The users just have to move his finger across the quadrant to select the direction and wheel chair will move. The connection between android application and the wheel chair is done using Bluetooth. The HC-05 Bluetooth module is used for this purpose. The user commands first given using application and then it is send to the microcontroller via Bluetooth. Bluetooth converts these commands in binary format send to the microcontroller. Then microcontroller execute the command and send the digital values to the device motor driver and at last device motor driver used to move the wheel chair.

2. Literature survey

There are several applications are there in the market so that handicapped people can use these applications for their daily tasks. One of the major android applications is motion controlled application created for the blind and handicapped persons so that they can use their computer in an appropriate manner. Person can give commands to application and that motion commands are filtered into different frames. These frames are then encoded and given to the computer system and final output is given. There is another wheel chair is also developed in which the wheel chair is controlled by the motion of the hands or head. The transmitter is mounted on the user head with accelerometer and the transmitter continuously transmits the signals. The receiver mounted on the wheel chair and receives the signals and control the movements of the wheel chair based on control or signal commands. The transmitter and receiver receive the commands wirelessly by using Wireless Radio Frequency Module. The system is developed for the handicapped people are the Hephaestus Smart Wheel chair. This Hephaestus system consists of the different sensors to receive and transmit the commands. In this system the hardware device joystick is mounted on the wheel chair and Hephaestus system acts as the interface between the joystick and the wheel chair.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Viraf, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

HALBACH ARRAY PRINCIPLE BASED BLDC MOTOR

Akshay R. Darekar — akshay.darekar90@gmail.com — *Viva Institute Of Technology*

Dinkar N. Vanjare — dinkar.vanjare@gmail.com — *Viva Institute Of Technology*

Akshay S. Hegishte — akshay.hegishte111@gmail.com — *Viva Institute Of Technology*

Prof.Anojkumar Yadav (Ass.Prof) — anj_ydv@rediffmail.com — *Viva Institute Of Technology*

ABSTRACT

Brushless motors have many advantages than brushed DC motors; fixed armature surrounded by permanent magnets, discarding problems integrated with supply current to the rotating armature is a construction of normal brushless motor. The brush/commutator combination of the brushed DC motor is replaced with an electronic controller, which continuously provides the phase sequence to the terminals to keep the motor rotating. The controller is use as time based power distribution by using a stationary circuit instead of old system. This means that the motor's inner components can be completely enclosed and protected from atmospheric dirt or other foreign matter, as the title suggests, the neodymium magnets of the rotor are arranged as 'HALBACH ARRAY'. Permanent Magnets, ball-bearings and winding are normal parts. The motor runs with a standard ESC widely used in different RC-applications (plane, drone and car).

Keywords*: -Halbach array, BLDC, ESC controller, commutator, collar. Areomodelling, cordless tool.*

---

1. Introduction

This is a well performing, 3D-Printed BLDC motor. It works on 600 Watts and its efficiency is 80%. The important parts like stator and rotor can be printed with a normal FDM-printer. An act of arranging magnets that tends to concentrate the magnetic field on either side of the array while cancelling the field near to zero on the another side is called as Halbach Array. The effect of this arrangement is same as many U-shaped magnets placed nearby each other, with same poles in contact. Because of this more magnetic fields available in air gap, speed achieved due this is very high for low power input.

2. Block Diagram

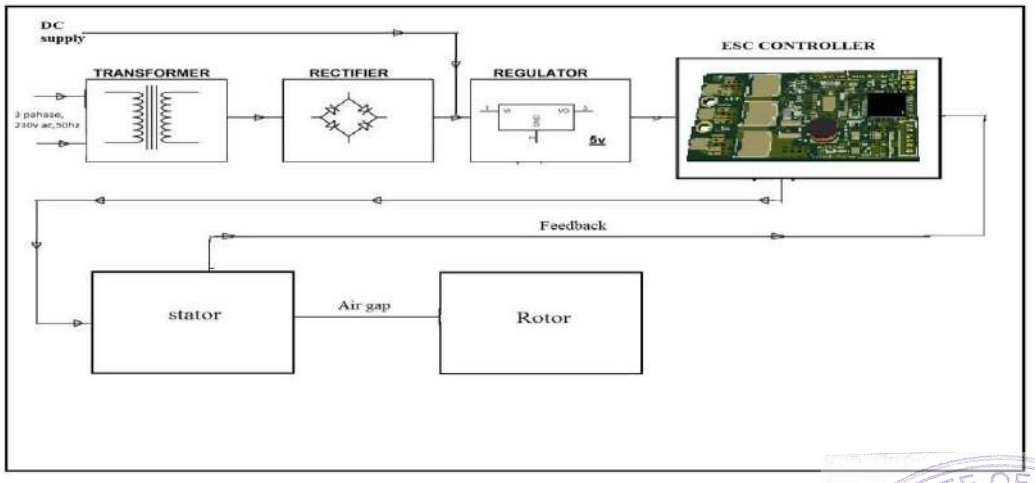


Fig.1 Block Diagram of The System

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

POWER GENERATION BY VORTEX PRINCIPLE

AKSHAY H. KARANGIYA *BHAVIK J. LADVA* *NIKUNJ C. PARMAR* *Asst. Prof. Mukesh Mishra*
Viva institute of technology *Viva institute of technology* *Viva institute of technology* *Viva institute of technology*
akkikarangia94@gmail.com *bhavikladva.1995@gmail.com* *nikunjparmar.1995@gmail.com* *Mrmukesh13390@gmail.com*

ABSTRACT

Power generation by vortex principle uses a Bladeless Windmill which is a new era of conventional wind turbine and uses a new approach to capturing wind energy. The device captures the energy of vortices created by wind, an aerodynamic effect (vortex shedding effect) that produced when wind bypasses a fixed structure, wind breaks and its flow changes and generates a cyclical pattern of what is known as vortices. Once these forces are strong enough, the fixed structure starts oscillating. Flow over this conical structure will generate an irregular vortex pattern which creates alternating high lift forces on the body and pushing it up and down perpendicular to wind flow. The alternating movement of this body will produce fluctuating kinetic motion which can be converted into electricity. In conventional wind turbine this effect is a problem but Instead of avoiding these aerodynamic instabilities this new design maximizes the resulting oscillation and captures that energy. Generally, the design of such typical device is absolutely disparity from existing traditional turbine. Instead of the big tower, nacelle and large blades, the device has a fixed mast, a power generator and a hollow, lightweight and fiberglass cylinder on top. This provides, the technology used in such project has capital intensity in low range, it also makes it highly competitive not only against generations of alternative or renewable energy, but even compared to conventional technologies.

Keywords-*: -VORTICITY, VORTEX SHEDDING, BLADELESS WINDMILL, LINEAR GENERATOR.*

1. Introduction

1.1 General :

Wind power has become a legitimate source of energy over the past few decades as larger, more efficient turbine designs have produced ever-increasing amounts of power. Bladeless turbines will generate electricity for 40 percent lesser in cost compared with conventional wind turbines. In conventional wind power generation transportation is increasingly challenging because of the size of the components: individual blades and tower sections. Generators and gearboxes assembly sitting on support tower can weigh in 100 tons also cost is more expensive.

The alternative energy industry has repeatedly tried to solve these issues to no avail. But this latest entry promises a radically Different type of wind turbine: a bladeless cylinder that oscillates or vibrates. The Bladeless Turbine harness vorticity, the spinning motion of air as the wind blows past the turbine, little Whirlwinds are created behind it, and when they get big enough, they cause the structure to oscillate. This kinetic energy of the oscillating cylinder is converted to electricity through a linear generator.

It consists of a conical cylinder (mast) fixed vertically with an elastic rod. The mast oscillates in the wind, the outer conical cylinder is designed to be substantially rigid and has the ability to vibrate and remaining anchored to the bottom rod. The top of the mast is unconstrained and has the maximum amplitude of the oscillation. The structure is built using resins reinforced with carbon and/or glass fiber. Spring mechanism is also given at the center and below the mast to restrain it from swaying away. And then comes the generator responsible for developing electrical power.

1.2 Scope of Project:

The cost reductions come from reduced manufacturing costs: the tower and the generator equipment are, basically, one and the same. This allows us to bypass the need for a nacelle; the support mechanisms and the blades, manufacturing savings are

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar Tal.: Vasai Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

ENERGY EFFICIENT DUAL AXIS SOLAR TRACKING SYSTEM USING LDR AS A LIGHT SENSING DEVICE

Varsha Tadge
varshatadge06@gmail.com
Viva Institute Of Technology
Virar (E)

Mayuri Sonawane
sonawanemayuri540@gmail.com
Viva Institute Of Technology
Virar (E)

Ruchira Khairnar
khairnarruchira19@gmail.com
Viva Institute Of Technology
Virar (E)

Pratik Mahale
pratikm.comps@gmail.com
Viva Institute of Technology
Virar (E)

ABSTARCT

The aim of this project is to present a solar energy collection technology using LDR. To present this solar based generation system, a dual axis solar tracker is designed. Solar energy is the most convenient technology to enhance the electricity production. The tracker actively tracks the sun and changes its position accordingly to maximize the power output. To develop this dual axis tracking system, Light dependent Resistor (LDR) is used as a sensor and DC geared motors to rotate the solar panel. The main objective of this project is to improve the gain by accurate tracking of sunrays. The reason of using solar energy is, it is free from pollution, cost of fuel used is free and also it is reliable. The dual axis tracking technology has higher energy gain as compared to fixed and single axis tracking system. It can be used for medium as well as large scale power generation depending on the availability of land, it can be installed at places of higher altitudes plateau and also, can be used as a domestic backup power system.

Keywords: - *Solar energy; Dual axis; LDR; Tracker; Solar panel; the sun.*

1. Introduction

In the recent times there have been many advancements in the automation systems. Instead of using artificial energy resources we can use renewable energy resources for automation. Among the most used renewable resources used we use solar energy because of its abundant availability. Researchers have recently used this energy resource and have over-come many limitations of solar energy. Solar panels are generally used for tracking of sun rays. The main objective of dual axis solar tracking system is to track maximum rays at any given time. Here we expose solar panels to maximum radiation or sun rays at any given time and location. We use LDR'S i.e. light dependent resistors for sensing the emitted light from the sun. These LDR'S constantly monitor the sunlight. It also adjusts the position of solar panel according to the intensity of sun rays being emitted. The solar panel moves in the direction of maximum sunlight horizontally as well as vertically. The focal point of this tracker is that it takes the sun as a guiding source unlike the other stationary solar trackers. Its light sensors constantly monitor the sunlight and adjust the position of the panel where the intensity of the light is maximum. The job of sensing the change in position of the sun is done by LDRs. It empowers the panel the energy throughout the day which increases its efficiency. The control circuit execute fetching the input from sensor and gives command to the motor in order to set the panel according to the position of sun. The project, therefore, gives design and materialization of solar tracking circuit mainly using LDR sensors, ICs and permanent magnet DC motor with gear arrangement to make it simple avoiding the complications of using microcontroller and to enhance the power output of solar panels. This method is very efficient and can be used on large scale.

Advantage is Solar energy creates absolutely no pollution. This is perhaps the most important advantage that makes solar energy so much more practical than fuel. Solar panels and solar lighting may seem quite expensive when you

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

POWER SYSTEM CONTINGENCY ANALYSIS

Bhavita Patil
Electrical Engineering Department
Mumbai University
bhavitanpatil2393@gmail.com

Anojkumar Yadav
Electrical Engineering Department
Mumbai University
Anj_ydv@rediffmail.com

Sushant Bansal
Electrical Engineering Department
Mumbai University
Bansalsushant49@gmail.com

Mukeshkumar Mishra
Electrical Engineering Department
Mumbai University
Fevivabee@gmail.com

ABSTRACT

An important parameter in the operation of a power system is the need to maintain system security. System security involves practices suitably designed to keep the system operating when the components fail. In practical means, "secure" power system is the one with a low probability of system blackout or equipment damage. The security of a power system is very important to be evaluated to make sure whether the system will continue working in case one or more element stops to function properly. Contingency analysis (CA) is one such evaluating program which separates the Energy Management System (EMS) from a SCADA system which is a level low in complexity. Contingency analysis is done to check the system for overloads and other problems arising from a contingency. The purpose of the contingency plan is to check the change in the functioning of the device that will occur after the fault element is removed. Contingency analysis is performed considering the line and generator outage contingencies, in order to identify the effect of an increase in loading to a critical line and generator outages.

Keywords:-*Contingency analysis, Outage schedule, Maintenance, Network model, Power system.*

1. Introduction

Power System Security is defined as the ability of the power system to remain secure without serious consequences to any pre-selected list of credible contingencies. The most common operational problems are transmission equipment overloads and inadequate voltage levels at system buses. The process of diagnosing, whether the system remains in secure (normal) or insecure (emergency) state, is called power system security assessment. The operating states of the power system are as follows:

1.1 Normal or secure state

In the normal operating state, the system is said to be unharmed and all constraints like voltages at nodes, real and reactive power generation are satisfied. The aim of the power system is to keep the operating state of the power system to lie in the normal state. Even any small disturbance in the normal state can lead it to an abnormal state.

1.2 Abnormal or insecure state:

In an abnormal state, when the system is interrupted with disturbances like outages of generator or line, the operating conditions change and the variables like nodes voltages and powers (real and reactive); fail to comply with the operating limits or constraints. The abnormal state or insecure state is further classified into the following states;

a. alert
b. emergency
c. in-extermis (or islanding)

1.3 Restorative state:

When the power system is disturbed, because of its nature, can lead the power systems to a blackout or brownout state. In the blackout state, the entire load is cut-off from the generators by tripping of the generators or the transmission lines and then no load is supplied. In the brownout state, a partial load is supplied through the transmission network from other substation. The blackout state is more severe than the brownout state and requires many stages for restoring it back to the normal operating state. After the disturbance has occurred, by the restorative strategies operator in an EMS tries to bring

© 2018, www.IJARIIT.com All Rights Reserved

A SURVEY ON INTERNET OF THINGS BASED SMART CITY

Bhargav Patil	*Sahil Khedaskar*	*Mohit Rokade*	*Tatwadarshi Nagarhalli*
B.E. Computer Engineeri	*B.E. Computer Engineering*	*B.E. Computer Engineer*	*Prof. Computer Engineering*
VIVA Institute of Technolc	*VIVA Institute of Technology*	*VIVA Institute of Technology*	*VIVA Institute of Technolog*
bhargavpatil1996@gmail om	*sahil.khedaskar@gmail. m*	*mohitrokade9@gmail com*	*tatwadashipn@viva-technology.org*

ABSTRACT

To address the issues of urban open and the city progression cleverly, the use of IoT devices, for instance, sensors, actuators, and mobile phones, et cetera. The sharp system is the snappy and imperative source. Interconnecting with different IoT devices which communicate with each other over the internet for the smart system, which results to the generation of a very large amount of data. To get the real-time data of the smart city in an efficient way. In this paper, the sensors includes of smart home sensors, vehicle sensors, water sensors, weather sensors, etc. This system will use Big Data and hadoop for gathering the data of the smart city. With the help of IoT in smart city it will prevent accidents, individual tracking, inventory control, conserving energy, etc. In basic words a brilliant city consolidates data assembled from occupants, devices, and assets that is arranged and researched to screen and manage action and transportation structures, control plants, water supply frameworks, waste organization, law prerequisite, information systems, schools, libraries, recuperating offices, and other gathering organizations.

Keywords-- *Urban areas, Smart buildings, Monitoring, Smart homes, Business, IEEE 802.15 Standards, 6lowPAN, Constrained Application Protocol (CoAP), Efficient XML Interchange (EXI), network architecture, sensor system integration, service functions and management, Smart Cities, testbed and trials.*

1. INTRODUCTION

The Internet of Things (IoT) is a present correspondence perspective that envisions a not all that removed future, in which the objects of consistent everyday presence will be outfitted with microcontrollers, handsets for automated correspondence, and sensible tradition stacks that will influence them to prepared to talk with each other and with the customers, transforming into a fundamental bit of the Internet [1]. The IoT idea, thus, goes for making the Internet significantly more immersive and inescapable. Besides, by empowering simple access and collaboration with a wide assortment of gadgets, for example, for example, home machines, observation cameras, checking sensors, actuators, presentations, vehicles, etcetera, the IoT will cultivate the improvement of various applications that make utilization of the possibly gigantic sum and assortment of information created by such protests give new administrations to subjects, organizations, and open organizations. This worldview without a doubt discovers application in various spaces, for example, home robotization, modern mechanization, therapeutic guides, portable human services, elderly help, canny vitality administration and shrewd lattices, car, movement administration, and numerous others [2].

The goal of this paper is to talk about a general reference system for the outline of an urban IoT. We portray the particular attributes of urban IoT, and the administrations that may drive the appropriation of urban IoT by neighbourhood governments. We then review the online approach for the outline of IoT administrations, and the related conventions and advancements, talking about their reasonableness for the Smart City condition. At long last, we substantiate the discourse by detailing our involvement in the "Padova Smart City" venture, which is a proof-of-idea sending of an IoT island in the city of Padova (Italy) and interconnected with the information system of the city region. In such manner, we depict the specialized arrangements received for the acknowledgment of the IoT Island and report a portion of the estimations that have been gathered by the framework in its first operational days

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

CLEAN SOLAR ENERGY

*Mukeshkumar Mishra** *Anojkumar yadav* *Sushant kumar* *Bhavita N. patil*

Electrical Department *Electrical Department* *Electrical Department* *Electrical Department*

Mumbai university *Mumbai university* *Mumbai university* *Mumbai university*

Fevivabee@gmail.com *anj_ydv@radiffmail.com* *Bansalsushant49@gmail.com* *Bhavitanpatil2393@gmail.com*

ABSTRACT

The sunlight can be one of the possible world power full renewable Department of Energy sources. Solar muscularity is finite vigour resource to sports meeting up long condition global muscularity crisis. The Holocene energy crisis and environmental encumbrance are becoming increasingly important and drawing enormous care to solar-energy use the present study is intended to review on recent approach in developing the STE and SPV engineering science for solar power generation. Capturing and use just the sunlight which strike the earth in one day could provide sufficient energy for the entire world all year. Solar power has the immense capacity to bring in stability to the fluctuating electrical energy tariffs in Bharat as it is cheaper than thermal and domestic coal. We have realized that solar radioactivity in the worst part of Republic of India is better than the best part of Europe. In India, the electricity demand is drastically increases. Solar Thermal (STE) and Photovoltaic Electrical energy (SPV) engineering can be implemented in India as solar imagination and large wasteland areas are widely available in the country. Solar thermal energy is finite energy resources to meet up long term global energy crisis. The recent energy crisis and environmental luck are drawing enormous attention to photovoltaic utilization. The utilization of solar energy in India has got prime quantity grandness in the present scenario of energy crisis in the country

Keywords*: -* *renewable energy, solar thermal & solar photovoltaic technologies, growth of solar energy in India, global energy crisis, fluctuating energy.*

---

1. Introduction

The natural world has utilized the sun's energy since the commencement of time, and while there has been lots of discussion about this, the truth is that the sun is both a quandary and a solution. Solar energy is an unchanging constant a staple in Earth's very ease. The sun may not have transmuted, but our construal of it has. We are now harnessing its energy to supersede traditional methods that have taken a toll on the planet. It may seem eccentric, but solar power has become a popular way to provide power to lighting systems that activate after the sun goes down. From street lights to garden lamps, solar power provides the energy needed to illuminate the tenebrosity tardy into the night. These lights contain batteries that charge during the day as sunlight hits the solar cells. At night, a photoresist or detects the absence of light and a circuit board triggers the batteries to discharge and provide power to LED lights, which are efficient and effulgent.

2. PV Cell

Photovoltaics are best kenneds as a method for engendering electric power by utilizing solar cells to convert energy from the sun into a flow of electrons by the photovoltaic effect. Solar cells engender direct current electricity from sunlight which can be acclimated to power equipment or to recharge a battery. The first practical applications of photovoltaics was to power orbiting satellites and other spacecraft, but today the majority of photovoltaic modules are utilized for grid connected power generation. In this case an inverter is required to convert the DC to AC. There is a more diminutive market for off-grid power for remote dwellings, boats, recreational conveyances, electric cars, roadside emergency telephones, remote sensing, and cathodic bulwark of pipelines. Photovoltaic power generation employs solar panels composed of a number of solar cells containing a photovoltaic material. Copper solar cables connect modules (module cable), arrays (array cable), and sub-fields. Because of the growing demand for renewable energy sources, the manufacturing of solar cells and photovoltaic arrays has advanced considerably in recent years. Solar photovoltaic power generation has long been visually perceived as an immaculate energy technology which draws upon the planet's most plentiful and widely distributed renewable energy source – the sun. Cells require auspice from the environment and are conventionally packaged tightly in solar panels. Photovoltaic power capacity is quantified as maximum power output under standardized test conditions (STC) in "Wp" (watts peak). The genuine power output at a particular point in time

© 2018, www.IJARIIT.com All Rights Reserved

GRID POWER QUALITY IMPROVEMENT AND BATTERY ENERGY STORAGE SYSTEM USING WIND ENERGY

Bhavesh R. Goel
Viva Institute of Technology
bhaveshgoelbg.bg@gmail.com

Kalpesh A. Chavan
Viva Institute of Technology
bhaveshgoelbg.bg@gmail.com

Atul T. Kanoja
Viva Institute of Technology
kanoja.atul@gmail.com

Mukesh mishra
Viva Institute of Technology
fevivabee@gmail.com

ABSTRACT

It has been known that the maintenance of constant voltage level at grid should be maintained at any case. Power quality of electric supply is very essential term and necessity for today's consumer. Due to some problems the power nature of grid gets affected. Voltage interruption, Overvoltage, under-voltage, Voltage lag is some of the difficulties that occur. For resolving this problem we develop this circuit which generates power from wind energy. The renewable energy of wind resource is most efficient and promising power source worldwide. In this paper we are presenting STATCOM principle with a unique idea of storing power generated from renewable source in battery system whose output is given to the inverter. Now the power in inverter is converted from dc to ac which is then given directly to the grid for constant power regulation.

Keywords: - *Battery energy storage system (BESS), Wind energy Generating System (WEGS), Static Compensator (STATCOM).*

1. Introduction

1.1 General

Power improvement is most essential term for the today's consumer but it is more dependent on operation of a supply network. By Integrating wind energy in present Power system we can technically control voltage regulation, constancy, power quality issues. At present 28000 + wind energy turbines are present all over world, India is on 4th rank in utilizing wind energy. The power which we obtain from wind energy fluctuates because of tower shadow, Turbulence & wind shear causing variation of power on the grid.

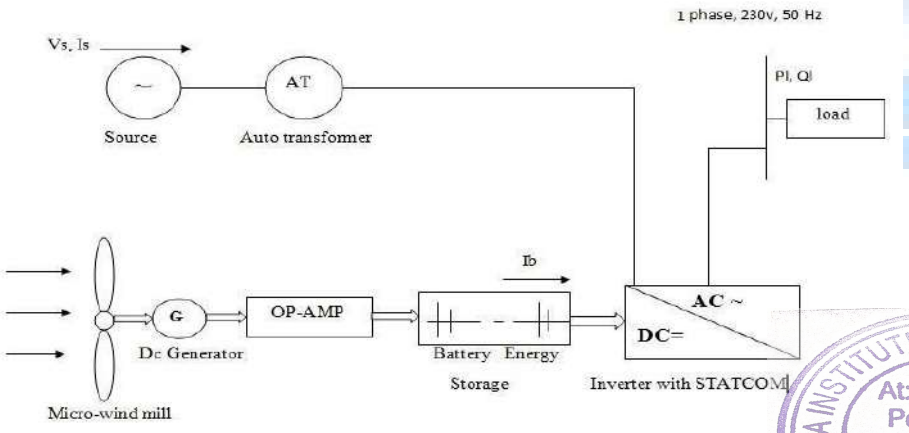


Fig.1: schematic representation of grid power system.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

A REVIEW PAPER ON MODEL PREDICTIVE CONTROL TECHNIQUE IN POWER ELECTRONICS APPLICATION

Sushant kumar — *Bansalsushant49@gmail.com* — *Viva Institute of technology*

Anoj Kumar Yadav — *anj_ydv@rediffmail.com* — *Viva Institute of technology*

Mukesh kumar Mishra — *mimukesh123@gmail.com* — *Viva Institute of technology*

Bhavita Patil — *Bhavitanpatil2393@gmail.com* — *Viva Institute of technology*

ABSTRACT

This Paper is about the classical converter control methods along with classical electrical drives control methods. Model predictive control technique first looks at control methods for power electronics converters and drives and presents the basic principles of Model predictive control. This technique is also to control of a 3-phase inverter as well as control of a matrix converter and control of a neutral point clamped and etc. While there are also some methods of control of electrical energy like pulse width modulation which is not covered in this paper.

Keywords: - *Model predictive control (MPC), Pulse Width modulation (PWM). Modular multilevel converters (MMC), sub module (SM), three level neutral point clamped (3L-NPC), active neutral point clamped (ANPC)*

---

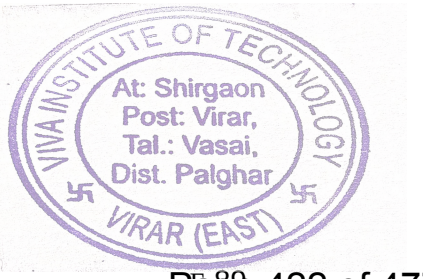
1. Introduction

Model Predictive control is a topic on which research work is having so much scope and from the last so many decades it is happening. Earlier it was mainly for the industry process but now a days it is very important in the power electronics converters. It is a technique in which by making a small change the complete technique can be change or it can be used in different converters. The main focus of this technique is to reduce the transient time of the converters so that it allows the linear as well as nonlinear circuits and give a very fast response.

The main reason of this paper is that the computational power of modern microprocessors has dramatically increased. This made it possible to implement intelligent control strategies and more complex technique, like Model Predictive control, in standard control. Now at this time, Model Predictive control for power electronics converters and drives can be considered as very stable technology in the research and different development stages. Further development and research efforts are still necessary mainly to reduce the process time in order to bring this technology to the industrial and commercial level. The main moto of this paper is to analysis of the most recent advances and current state technique in the application of Model Predictive control for power electronics drives.

2. Operating Principle

In figure 1 the basic of the model Predictive control is shown and applied for the current control in a voltage source inverter with output Resistive and inductive load where the reference and required currents at instant k + 2 are used in order to compensate for the digital implementation delay. The algorithm is repeated for each sampling time and performs the operation.



© 2018, www.IJARIIT.com All Rights Reserved

A STUDY OF SMART TECHNOLOGIES AND CLEAN ENERGY TECHNOLOGIES TO REDUCE ENERGY DEMANDS

Kavita Mhaskar[*]
Electrical Engineering
Mumbai university
kavitamhaskar27@gmail.com

Anojkumar Yadav
Electrical Engineering
Mumbai university
anj_ydv@rediffmail.com

Chitralekha Vangala
Electrical Engineering
Mumbai university
vangalachitra6@ gmail.com

ABSTRACT

The population in cities and around the cities is increasing exponentially. Due to limited area, cities have been start growing vertically. This has led to numbers of high rise building in cities. The energy requirement of these building is also high. In order to limit energy usage in these building without affecting the needs of residents require the use of smart technologies and clean energy technologies. In this paper it is discussed about different challenges and issues related to fulfil the demand and solution to it. It also provides the information about clean energy technologies like cool roof, roof top solar, solar water heater, water pumping, lighting, and elevators which consume bulk of energy in high rise building. This paper also focuses on the usages of renewable energy and issues related to it.

Keywords*:* - *Energy conservation, energy audit, energy demand, clean energy technologies*

1. Introduction

1.1 Energy conservation and audit

Final energy consumption can be analysed by taking into account the energy demand in each sector like industry, transportation, residential and agriculture. Energy consumption by 2015 year will amount to roughly 70% of the gross world production, because of losses mainly in electric power production plants and in distribution and other transformations inside energy industries. Energy saving is a social responsibility of every individual. In this paper we have analysed the different methods of energy auditing and we have analysed the energy consumption of our EEE department in K. L. University and provided the paths of less energy consumption.

An energy audit is an inspection, survey and analysis of energy flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without negatively affecting the output. It shows where the power consumption is more in the given system. It can also be called as controlling of the power to avoid losses for maximize efficiency

1.2 Need for energy audit

In any industry, the three top operating expenses are often found to be energy (both electrical and thermal), labour and materials. If one were to relate to the manageability of the cost or potential cost savings in each of the above components, energy would invariably emerge as a top ranker, and thus energy management function constitutes a strategic area for cost reduction. Energy Audit will help to understand more about the ways energy and fuel are used in any industry, and help in identifying the areas where waste can occur and where scope for improvement exists. The Energy Audit would give a positive orientation to the energy cost reduction, preventive maintenance and quality control programs which are vital for production and utility activities. Such an audit program will help to keep focus on variations which occur in the energy costs, availability and reliability of supply of energy, decide on appropriate energy mix, identify energy conservation technologies, retrofit for energy conservation equipment etc. In general, Energy Audit is the translation of conservation ideas into realities, by lending technically feasible solutions with economic and other organizational considerations within a specified time frame. The primary objective of Energy Audit is to determine ways to reduce energy consumption per unit of product output or to lower operating costs. Energy Audit provides a "bench- mark" (Reference point) for managing energy in the organization and also provides the basis for planning a more effective use of energy throughout the organization.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

MICRO HYDRO POWER PLANT USING BAVKHAL (PONDS)

Rahul Abhyankar
VIVA Institute of Technology
rahulabhyankar@viva-technology.org

ABSTRACT

Micro-hydropower generation system is the effective way to help the remote communities by generation of electricity using water as a main source. The main objective of this project is to introduce the green technology for the society in order to reduce the cost of fuel consumption. Furthermore, the idea of this project is to generate electricity by develop a prototype of micro-hydro generation system that produce low capacity to be used in rural communities using small ponds. These bavkhals can be used to set a micro hydro power plant. Also water generated in generation of electricity can be further used as a source of potable water for domestic purpose. Because of this plant the automatic conservation of bavkhals can be done.

Keywords: - *Micro hydro power, bavkhal*

1. Introduction

Vasai virar, is located at west side comes under the green zone. According to geographical topography mountain ranges are seen in the east and the elongated sea shore in the west. So the rainwater directly drains into the sea. Vasai virar area is the entrapment region near the Vaitarna creek in north, bhayander creek in south is an abundant source of saline water, but there was no sure resource of potable water. Bavkhal is a circular pit dug to store rain water. Generally Bavkhal in Maharashtra are circular in shape where as in Rajasthan, Gujrat and Haryana its square shaped called as bhavdi.

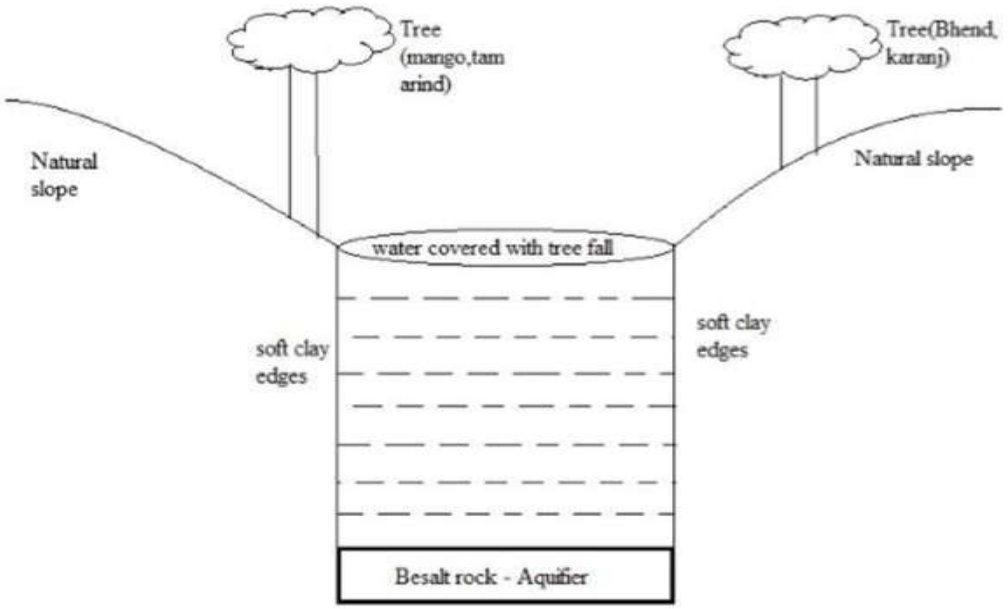


Fig. 1: Charactristis of bavkhal

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

Automatic Mains Failure Panel (AMF PANEL)

Harsh J. Palja	*Karan P. Choksi*	*Abhishek A. Gohil*	*Rahul Abhyankar*
Harshpalja4296@gmail.com	*karan.choksi2@gmail.com*	*Abhishek.gohil11@gmail.com*	*Rahulabhyankar5@gmail.com*
B.E. Electrical	*B.E. Electrical*	*B.E. Electrical*	*B.E. Electrical*
VIVA Institute of Technology	*VIVA Institute of Technology*	*VIVA Institute of Technology*	*VIVA Institute of Technology*

ABSTRACT

This basically ensures the detailed studies about maintaining continuity of supply by using AMF Panel. Automatic Main Failure (AMF) Panel basically maintains the continuity of supply in any case. It consistent power supply to the load and acts as the switching mechanism between the generator and the mains supply. A study of AMF panel is carried out and a new idea for an AMF panel is considered. This Panel turns ON the generator automatically in cases of mains supply is failed and connects the load to the generator supply, and vice-versa it switches OFF the generator automatically once power is restored and returns the load to the mains power supply with the help of desired range of switching devices that are used in AMF Panel.

Keywords: - *Automatic Mains Failure panel, Diesel Generator (D.G.),Phase Failure Detector, DPDT Relay, Overload Relay, Contactor, Delay Timer, MCB.*

---

1. Introduction

Automatic Main Failure (AMF) Panel is a panel which can automatically transfer from Mains supply to Auxiliary when anomaly such voltage drop, over-voltage and outage is occurred at the main power & any Power problem regarding the supply will also cause the system to operate. In the present world, uninterrupted power supplies are inevitable. Nowadays, a power system network is highly vulnerable to large scale failures. A fault in an equipment or apparatus is defined as a defect in the electrical circuit due to which current is diverted from the intended path. However, additional connections to the main supply unit to provide necessary power in case of power failures can be expensive. In such cases, power generation by using D.G sets can be used. In case of power failure, the D.G sets have to be switched on and when the power supply becomes normal, the D.G sets have to be disconnected. However, switching on and switching off a D.G set again and again manually creates discomfort and delay. Thus, the new idea of bringing up an AMF panel has emerged. An AMF panel is fully automatic. It acts as a switching mechanism between the generator, load and the supply. When the supply is available, AMF panel connects the load to the supply, whereas when the mains supply is unavailable, the AMF panel connects the load to the D.G set.These aspects of AMF panel increase the research in the modifications of the existing system. Hardware modelling of the overall system is quite important as it is essential for the performance. Detailed block diagram of the model is presented.

2. Block Diagram

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

SPARK GAP COIL

Jinal K.Panchal | *Hetal C. Jethwa* | *Diksha S. Pawar* | *Rahul Abhyankar*

jinupancha1996@gmail.com | *hetaljethwa7@gmail.com* | *dsp8910@gmail.com* | *Rahulabhyankar5@gmail.com*

B.E. Electrical | *B.E. Electrical* | *B.E. Electrical* | *B.E. Electrical*

VIVA Institute of Technology | *VIVA Institute of Technology* | *VIVA Institute of Technology* | *VIVA Institute of Technology*

ABSTRACT

Around 1891 Nikola Tesla invented a Spark Gap Coil which is a type of resonant transformer circuit. It is used to produce high voltage and high current. "A Spark Gap coil is a device producing a high frequency current, at a very high voltage but of relatively small intensity". It is an air-cored resonant transformer. It has some similarities with a standard transformer but the mode of operation is somewhat different. A Spark Gap Coil uses a relatively loose coupling between primary and secondary, and the majority of the voltage gain is due to resonance rather than the turns ratio. The Spark Gap Coil is air-cored to operate efficiently at much higher frequencies.

Keywords: - *spark gap, transformer, coil, turns ratio, high voltage*

1. Introduction

A spark gap consists of an arrangement of two electrodes which are conducting and separated by a gap usually filled with a gas such as air, designed to allow an electric spark to pass between the conductors. A spark forms ionizing the gas and drastically reducing its electrical resistance as the potential difference between the conductors exceed the breakdown voltage of the gas within the gap. The high voltage power supply charges the capacitor, the potential across the static spark gap electrodes increases until the air between the spark gap ionizes allowing a low resistance path for current to flow through; the "switch" i.e spark gap is closed. The potential across spark gap is no longer sufficient to maintain ionized air between the electrodes as the capacitor discharges and the switch is open. This happens hundreds of times in a second producing high frequency alternating current through the primary coil. An LCR (Inductor- Capacitor- Resistor) circuit is produced by the primary coil and the capacitor which resonates at a high resonant frequency. The resonant frequency of the top load and secondary coil which forms an LCR circuit must be equal to the resonant frequency of primary circuit. The high resonant frequency coupling of primary coil with the secondary coil induces very high voltage spikes in the secondary coil. The top load allows a uniform electric charge distribution to build up and lightning like strikes are produced from thisto a period of lower potential, in most cases ground.

2. Block Diagram

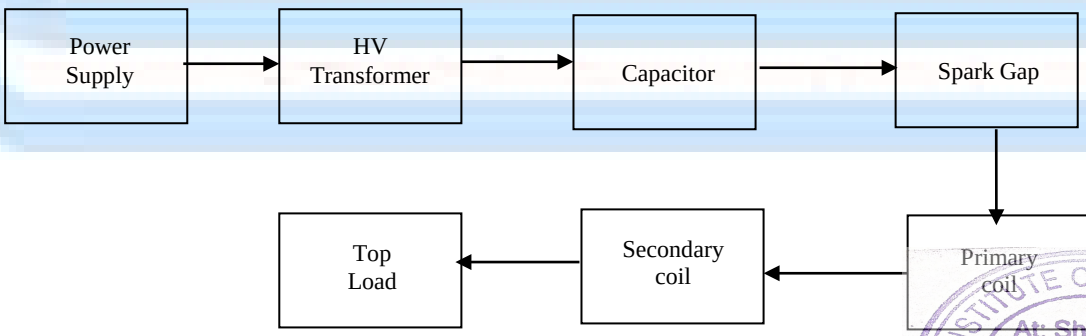


Fig.1 Block-diagram of Spark Gap Coil

© 2018, www.IJARIIT.com All Rights Reserved

ROLE OF ELECTRICAL ENGINEER IN BUILDING MAINTENANCE SERVICE: A SURVEY

Pratik Mahale
Electrical Department
VIVA Institute of Technology
pratikrmahale@gmail.com

Dipali Mahale
Project Engineer
Teckon Engineering Solutions
dipalikharate013@gmail.com

Chaitali Kshirsagar
ME Student
Padm,Dr,V.B.K.COE
chaitaliksagar@gmail.com

ABSTRACT

An electrical engineer plays vital role in building construction ranges from simple residential project to multi story high rise buildings for residential purpose, commercial, sport complexes, hotels, hospitals, airports. The key role of electrical engineer is to identify the exact requirement of projects. Electrical engineers major responsibilities falls under the following stages of pre-construction, during construction and post construction like conceptual designing , tender stage, contracting, and execution and handover, documentation. In addition, electrical engineers may be responsible for calculating the costs of projects and scheduling delivery dates for supplies. Finally, at the end of a project, the electrical engineer is responsible for making sure that all the applicable standards & codes are met. This paper explains an in-depth knowledge of electrical building codes (NEC/IEC/NBC/NEMA) and detecting building construction issues. Usually an electrical engineer serves as part of a team and provides technical advice within his or her area of expertise. An electrical engineer may work for a particular company, or may hold an in-house position where he or she is available for consulting on whatever issues may arise during construction.

Keywords*: -* *Construction, Design, Planning, Installation. Electrical building codes*

1. Introduction

At very first for maintenance purpose electrical engineer has to identify the temporary load to make site functional. It includes site office load, machinery load, load pattern and hours of operations. Engineers have to assist to get all the statutory approvals for construction purpose. Electrical engineer could be part of team of consultant, client, contractor, and supplier. To get the work done as per the local and application norms, design, in cost and in time is basis responsibility of electrical engineer.

1. Preparation of shop drawings
2. Submission and approval of material submittals, technical data sheet
3. Workout project material quantity
4. Preparation of procurement plan
5. Attend site co-ordination and site progress meeting
6. Material inspection
7. Execution
8. Testing
9. Commissioning
10. Preparation of Check list
11. Billing
12. Preparation of as built drawing
13. Submission of handing over documents
14. Perform workshop to let understand systems

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

APPLICATION OF GIS AND REMOTE SENSING IN WATER RESOURCE

Prof. Sunil P. Suknale
VIVA Institute of Technology
sunilsuknale@viva-technology

ABSTRACT

Water is one of the most important natural elements on earth. Water quality directly and indirectly influences human lives and development. In this paper, a GIS-based system is designed to assist water resources professionals in making economical and efficient decision. GIS and remote sensing techniques are effectively used to replace, complement and supplement data collection in various facets of different kinds of water resources projects. This paper describes the design and implementation of a GIS-based system for water resources management. The system consists of five parts: Geographical Information System (GIS), the database, the mathematical model, the knowledge database and the user graphical interface. The system can help water resource manager to appreciate the potential of remote sensing capabilities for application in the management of precious water wealth. The system can dynamically monitor water and provide decision support for precious water management. It has obvious economic, environmental and social benefits.

Keywords:- *GI, Water Sensing Techniques, Water Resource Management*

1. Introduction

Water is the most important natural resources. It's a amount of clean and fresh water in the planet earth is constant irrespective spatial & temporal variation and, in many areas, It is seen insufficient water to fulfill it demand due to rapid increase in population. Drought in one region may coincide with the heavy rain and flood in others. It is a challenge for us to delineate the cause or consequence of the water stress and variability. Moreover, it is the responsibility of H2O scientists, hydrologists and water engineers to make persons know the inherent phenomena, the prevailing ecosystem and the inter-relationship of the components. The application of a Geographic
Information System (GIS) and auto sensor are now commonly applied in the every location of natural and water management resource engineering. - The get together of specialness information and real time follow of the natural environment is now considerably easier due to the use of GIS and developed access to information from satellites.
GIS is a very strong point of managing the aspect of objects or goods and the analysis of their spatial properties. GIS can also provide automated cartographic transformation and generation of graphic products. More specialized analysis functions, like finding the shortest path in a network, or calculating the areal extent of a watershed draining through a specified point given a digital elevation model are also possible. Satellite remote sensing, on the other hand, provides the necessary data in a regular sequence and on a regional, continental or global scale to measure, monitor and model complex natural, hydrological and manmade features. A vast diversity of research has been undertaken in the area of water resource management. Examples include: cloud and snow discrimination, runoff modeling, soil moisture determination, reservoir sedimentation, water quality modeling and sea surface temperature determination. The use of GIS and remote sensing is a rapidly developing area in which data from a number of sources is being utilized. For example, artificial recharge sites have been identified through the use of aerospace imagery and visual interpretation of geological maps [20]. A method has been developed to characterize the sub surface strata using artificial neural network and GIS. Suspended sturdy combination has been modeled in near seaside waters absorbing casually sensed content. A limited shape of shoreline development had been identified using Landsat Multi Spectral Scanner and a GIS package. Secchi disc depth and chlorophyll content in coastal waters have been estimated using multi-date Landsat Thematic mapper data. Applying clear and infrared remote sensing images, the snow melt-runoff modeling has been used on the Italian Alps. An integrated package of GIS has been proposed to upgrade the Hong Kong water supply scheme [Ground water salinity has been mapped using Indian Remote Sensing-I B Linear Imaging Self-Scanning Sensor II data and a GIS package in Uttar Pradesh India.

VIVA INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

WORK ENVIRONMENT AND ITS IMPACT ON WORK PERFORMANCE

Prof.Trupti Vikas Patil,
Assistant Professor
Viva Institute of Technology, Virar (E)
trupti52110@gmail.com

Dr. Suma Sreedhar
Assistant Professor
A.P.Shah Institute of Technology Thane
ssreedhar@apsit.org.in

Dr. Vinayak Shinde
Assistant Professor
L.R.Tiwari College of Engineering Mira road (E)
vdshinde@gmail.com

Prof. Prashant Ramrao Pawar
Assistant Professor
Viva Institute of Technology, Virar (E)
pradhan0250@gmail.com

ABSTRACT

The environment of workplace has a remarkable impression on the work efficiency of workers. The environment of organization directly affects employee's determination, efficiency and their performance. Every organization need to generate a healthy atmosphere so the employees or workers senses satisfaction, motivation as the motivated employees are the real wealth of all the business. It is actually the environment of workplace which prominently decides the standard of employee's motivation, work presentation and the productivity, thus overall imprint on the completion level of profession. Thus, the efficient work atmosphere affects not only employee's performance level but, also the overall development of the business of the organization. The research paper endeavors to research the connection amid the workforces and work environmental influence on workers and its impact, positive or negative on the performance level of the workers.

Keywords: *Work environment, Work performance, motivation, determination.*

1. INTRODUCTION

The competence of the employees prominently hinge on the atmosphere of workplace. The work surroundings is an environment which consists of physical, mental and societal aspects that shake the frame and the mind of the employees either positively or negatively. Therefore, all the factors of the environment of work are of prime importance for the performance of work. The environment of workplace includes organizational culture, decision making process and the various dynamics of the environment, that distress the performance of the workers. If the environment is constructive it will wipe out frustration, stress, and feeling of boredom and will encourage workers to work more happily and freely. As a result, the positive work environment ensures the development and triumph of the organization.

2. THE INFLUENCE OF WORKSTATION ENVIRONMENT ON WORK CULTURE

The endless job opportunities and the changing economy, it's very essential and a challenging task for every management or employers to inspire the workers. Salary increases, extras are some of the common practices which firms have adopted for raising the morale of the employees. But it is equally essential for the management to understand that even work environment affects the worker's inspiration and presentation level on a large scale. The workplace setting must be such where the competency of the worker will be best used. Therefore, the management need to create or construct a work environment which is appealing, encouraging and able to retain its employees. The employer needs to think about the new strategies to improve the environment of workplace which will expand the output and the quality of work performance. As indicated by Pech and slade (2006) the worker's separation is expanding step by step and getting more critical to make working environments that emphatically impact workforce. The workplace is the main driver of worker's engagement or separation. The representatives occupied under badly designed condition, for example, nonappearance or absence of security, wellbeing and inconvenience factors like deficient helping, ventilations, and extreme clamor may wind up with little execution. Accordingly, the workplace has been firmly connected with the activity fulfillment.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

IMPACT OF ORGANIZATION' HIERARCHICAL CULTURE ON HUMAN RESOURCE (HR) MANAGEMENT

Prof. Prashant R. Pawar
Assistant Professor
Viva Institute of Technology,
Virar (E)
Email Id:
pradhan0250@gmail.com

Dr. Suma Sreedhar
Assistant Professor
A.P. Shah Institute of Technology,
Thane
Email Id:
ssreedhar@apsit.org.in

Dr. Vinayak Shinde
Assistant Professor
L.R. Tiwari college of Engineering,
Miraroad (E)
Email Id:
vdshinde@gmail.com

Prof. Trupti Vikas patil
Assistant Professor
Viva Institute of Technology,
Virar (E)
Email Id:
trupti52110@gmail.com

ABSTRACT

The fast changes have been seen all around the globe and furthermore the associations and the work culture is confronting a change with the mechanical advancement. The accessibility of substantial open doors and at the same spell different difficulties to the managers and leaders influence the present associations' culture overwhelmingly powerful and it is extremely key to comprehend the dynamism to reach towards the hierarchical targets. Hierarchical culture as far as the blend of contrasts components like convictions, qualities and presumptions, gives shots and wide casing to the HR management abilities to create in an organization. Numerous researchers of HR management have suggested that the different highlights of culture of organization affect esteems, convictions and presumptions of the workforce. The present research paper is endeavoring to think about the work culture and its effect on the HR management of the association. The paper accentuation that works culture has the solid association with human asset.

Keywords: *Work Culture, Management, Workforce, Human Resource (HR), Motivation*

1. INTRODUCTION

The world is changing quickly and the associations and the work culture is likewise changing because of mechanical advancement. Because of substantial open doors and difficulties to the supervisors and chiefs, the present organization Culture is prevalently unique and it is exceptionally indispensable to comprehend the dynamism to accomplish the hierarchical goals. There have been wide inquiries about to investigate the effect of hierarchical culture on HR management of an organization. Hierarchical culture is giving open door and expansive edge to the improvement of HR management aptitudes in an organization which is driven by moral esteems.

An organization can deal with the human asset by inserting moral esteems in its way of life. Be that as it may, hierarchical culture could be shifted since organizations contrast in their social foundations as far as convictions, qualities and suspicions. Organization culture can adapt to the persistent changes and satisfy the requests of the organization to increase aggressive achievement in every one of its exercises. In this way, an organization culture is considered as a motivational instrument which advances the HR management to perform easily and guarantee achievement in every one of its achievements. In this way, the thought process of the paper is to examine the effect of organization culture on the HR management.

2. HIERARCHICAL CULTURE AND HUMAN RESOURCE (HR) MANAGEMENT

Organization culture is a common esteems and convictions that assistance to shape the conduct examples of the workforce inside the organization. It is an aggregate procedure of the brain and heart that separates the people of one gathering from the other one. Accordingly, we can condense that hierarchical culture can be the instrument of keeping up human asset in a connection and quickening them towards organization goals. What's more, making the connection amongst culture and organization achievement through its HR management. These social esteems and HR

© 2018, www.IJARIIT.com All Rights Reserved

Experimental studies on Nano Gel Polymer Electrolytes

Manju Mishra *[1]
Viva Institute of technology
Virar-(E), Palghar, Maharashtra.
Mishramanju11@gmail.com

S.K.Tripathi.*[2]
Rajeev Gandhi Central University
Motihari, Patna
sktripathi16@yahoo.com

ABSTRACT

Electrochemical capacitors constructed by pressing nano gel polymer electrolyte between two blocking electrodes are showing effectively enhanced charge transportation capacity along with mechanical and geometrical stability. Therefore preparation of such electrolytic system is the vital point of concern. In this paper synthesis of NCPGE comprising of poly (vinylidene fluoride-co-hexafluoropropylene)-propylene carbonate-magnesium perchlorate-nano alumina was done by capitalizing conventional solution cast technique. The resultant complex system emphasizes the good ionic conductivity (of the range ~7x10^{-3} Scm^{-1}), mechanical stability, dimensional stability and vast power window, which are compatible for its implementation in electrochemical double layer capacitors. Detail investigation was carried out by various techniques for the characterization of electrolytic system. Electric conduction plot has been detected at various temperatures (303-373 K). Potential window and ionic transference number was detected to know the potential limitation and ionic stability of optimized NGPE system. Various dielectric constants with respect to temperature and frequency have also been studied and explain by polarization effect in electrode-electrolyte interfacial region. At last optimized complex material was applied to check its compatibility for the fabrication of electrochemical supercapacitor having activated charcoal as electrode materials.

Keywords*:-NGPE, potential window, ionic conductivity, dimensional stability, electrochemical capacitor, a.c impedance technique.*

1. Introduction

In recent years the 'scarcity of electricity' is the main area of concern amongst the researchers and scientists of all the interdisciplinary fields. The electrochemical energy sources which are more commonly used now a day's are rechargeable batteries (possessing high energy density but low power density) and conventional capacitors having liquid electrolytes, which have their own drawbacks such as bulky model, self- discharge, leakage, corrosion etc. Therefore the superionic solid polymer electrolytes are the better alternative electrolyte which can be used as a substitute for existing conducting medium or separator. Superionic solid polymer electrolytes have amorphous nature causing high range of conductivity ~10^{-4} - 10^{-3} Scm^{-1}, along with conductivity other advantages are low glass transition temperature, easy fabrication, flexibility, mouldibility etc. all these characteristic properties make them compatible conducting medium for their use in different electrochemical devices such as rechargeable batteries, fuel cells, sensors, electrochromic devices etc. [1-4]. All PE which are in use at present, for example polymer blend electrolyte, polymer composite electrolyte, PGE, IL-base polymer electrolyte and polymer gel electrolyte, have some problems, such as low mechanical stability, low range of power window, high reaction rate at electrode- electrolyte interface etc. In order to improve the above mentioned drawbacks, number of solid state electrolytes was prepared with different compositions. Brief information about all the solid state polymer electrolytes is given in the first chapter. Preparation of NCPGE is one of the alternative inventions to overcome these problems. Polymer gel electrolyte which is in use, are having very good ionic conductivity of ~10^{-3}Scm^{-1}, flexibility, good electrode-electrolyte contact in fabrication of the device but due to its jelly or semisolid nature they have weak dimensional stability, decline in ionic conductivity with time, less stability towards terminal interface etc. One of the methods to solve these problems of polymer gel electrolyte is to add some organic/ inorganic filler (in micro or nano sizes) to convert polymer gel electrolyte in composite type of electrolyte. When such fillers are added or dispersed to the polymer gel electrolyte, they get adsorbed in between the vicinity of intermolecular space due to which the intermolecular force of attraction between the bonds become weak and hence flexibility as well as amorphous or porous nature of electrolyte increases, which in turn enhances the liquid adsorbing quality of polymer and thus problems of leakage, poor mechanical, dimensional and thermal stability can be sorted out. [5-7]. For the preparation of PE, usually non-conductor thermoplastic materials are considered as host polymer. Their thermal, electrical and mechanical properties can be altered by compounding them with either salts or dispersed fillers as a second phase. For the preparation of polymer electrolytes, two components are very important (i.e. polymer material and salt), characteristic properties of which should be known before taking it as a raw materials for the preparation of PE.

INSTITUTE OF TECHNOLOGY
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

GREEN CONCRETE

Prof. Yadnesh Patil *Department of Civil Engg* *yadneshpatil007@gmail.com*

Prof. Sagar Sundaran *Department of Civil Engg* *sagarsundaran@gmail.com*

Prof. Monica more *Department of Civil Engg* *moremonica9@gmail.com*

Prof. Prashant Gondane *Department of Civil Engg* *pgondane008@gmail.com*

ABSTRACT

Global warming is one of the major threats to the environment till date. Production of concrete is one of the vital factors for global warming as it accounts for 30% of the total CO2 released in the atmosphere. This can be minimized by eco-friendly substitute known as green concrete. In this post we have discussed about all the raw materials for the substitute of conventional concrete to go green. The Green Concrete is a recycled and light weight substances obtained from demolished site and waste of industries. The other one is green cement like fly ash, silica fume and high reactivity met kaolin (HRM). The widely used is fly ash. These green materials have almost same mechanical properties and fire resistant factor as conventional concrete. It has better thermodynamic, environmental and durability properties. It is also cost effective and the construction is faster. This post also has a clear report of advantages and disadvantages of the green concrete

Keywords— Green concrete, Suitability, Environmental aspects etc

1. INTRODUCTION

Green concrete is a revolutionary topic in the history of concrete industry. This was first invented in Denmark in the year 1998. Green concrete has nothing to do with the colour. It is a concept of thinking environment into concrete considering every aspect from raw materials manufacture over mixture design to structural design, construction and service life. Green concrete is a very cheap to produce, because, for e.g. waste products are used as a partial substitute for concrete materials, the charges for the disposal of waste are avoided, energy consumption in the production is lower and durability is greater. Green concrete is a type of a concrete which resembles the conventional concrete but the production or usage of such concrete requires minimum amount of energy and causes least harm to the environment.

2. WHAT IS CONCRETE?

The word concrete comes from the Latin word "concretus" (meaning compact or condensed). Concrete is a composite construction material made primarily with aggregate, cement, and water. There are many formulations of concrete, which provide varied properties, and concrete is the most used man-made product in the world. The environmental impact of concrete is a complex mixture of not entirely negative effects; while concrete is a major contributor to greenhouse gas emissions and creates problem for the disposal of waste concrete from demolished sites which in turn effects the environment. Therefore recycling of concrete waste is the need of hour. Concrete is also interesting in relation to other environmental problems than those related to CO2 emission. Due to all these above mentioned reasons civil engineers have come up with a new concept of concrete, named "GREEN CONCRETE".

3. WHAT IS GREEN CONCRETE?

Today the word green is not just limited to colour. It represents the environment, which is our surrounding. Concrete which is made from concrete wastes that are eco-friendly are called as "Green concrete". Concrete wastes like slag, power plant wastes, recycled concrete, mining and quarrying wastes, waste glass, incinerator residue, red mud, burnt clay, sawdust, combustor ash and foundry sand. Green Concrete is a term given to a concrete that has had extra steps taken in the mix design and placement to insure a sustainable structural long life cycle with a low maintenance surface.
e.g. Energy saving, CO2 emissions and waste water.

The central goal of Green Concrete is to reduce the environmental impact of conventional concrete. The Green Concrete satisfies major properties of conventional concrete such as the following:

1) Mechanical properties (strength, shrinkage, creep, static behavior etc.)

2) Fire resistance (heat transfer)

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

ANTICIPATION OF STUDENT ADMISSION IN INSTITUTES USING DECISION TREE ALGORITHMS: A SURVEY

Aniket S Agarkar
Student
VIVA Institute of Tech.
University of Mumbai
aniket.agarkar77@gmail.com

Akshay G Gajare
Student
VIVA Institute of Tech.
University of Mumbai
agajare75@gmail.com

Abhishek B Padwal
Student
VIVA Institute of Tech.
University of Mumbai
abpadwal27@gmail.com

Dnyaneshwar Bhabad
Asst.professor
VIVA Institute of Tech.
University of Mumbai
dnyanesh.bhabad2020@gmail.com

ABSTRACT

University or college admission is a complicated decision process that goes expect simply matching test scores and admission requirements. The proposed system is a predictive model for predicting college admission. It is a system which will predict the future college admission based on the past student data in a particular institute. The proposed system makes use of more number of attributes than the existing system which makes the prediction more accurate. The proposed system is a prediction system where a large amount of data is analyzed and some meaningful information is extracted form huge dataset. The proposed system predicts the college admission for student based on the last three year student data after applying pre-processing techniques on it. The pre-processing is an important step in data mining. The data pre-processing includes data cleaning, data selection and data transformation. The proposed system removes the noise and removes inconsistency using pre-processing techniques called transformation and selection of data. The system makes use of the huge dataset of student and college. The system uses the classifier algorithm called Decision tree classifier for classifying the dataset into a tree format which is used for the purpose of decision making.

Keywords*: - Data Mining, Classifier Algorithm, C5.0, Data Pre-processing, Support Vector Machine.*

1. INTRODUCTION

College prediction has always been a very challenging task for the Particular Institute. The proposed system is a College prediction tool which is used to predict the College based on the data mining technique with various attributes which are required or the prediction. The existing system predicts the college based on the raw dataset. The existing system also uses limited number of parameters for the prediction. The problem of missing predictor category assumes the record with the same category has zero probability.

The proposed system purifies the dataset with pre-processing technique in which makes the dataset pure and valid. The data selection is used to select only those attributes which are required by the system. The pure dataset is trained by the classifier to predict the college admission process.

The proposed system predicts the college based on the historical dataset which is given to the decision tree classifier. This classifier builds a tree and trains the system based on the dataset. The current conditions given as an input and the classifier make the decision on the basis of the trained dataset.

2. SYSTEM DESCRIPTION

The proposed system is being developed to give prediction to college. As predicting the college is done through

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Study of Measuring RF power in field

Meena N. Perla
VIVA Institute of Technology
EXTC Department
meena.vallakati@gmail.com

Reshma Chaudhari
VIVA Institute of Technology
Computer Department
rrc778@gmail.com

ABSTRACT

RF Power Measurement is important to designers and operators since the earliest days of wire line and wireless communication and information transmission. With today's complex modulation schemes, increased popularity of wireless transmission and pulsed communication modes, the need to accurately and efficiently measure RF power has become crucial to obtain optimum performance from communication systems and components. Techniques used for measuring average and peak power and the associated equipment options available for field testing is discussed here. The two most widely employed RF or microwave instruments are the power sensor and the spectrum analyzer. A comparison between different power sensors and spectrum analyzers is presented in this paper.

Keywords— *Thermistor, Diodes, RF/Microwave signal*

1. INTRODUCTION

RF Power Measurement has been of importance to designers and operators since the earliest days of wire line and wireless communication and information transmission. In today's complex modulation schemes, increased popularity of wireless transmission and pulsed communication modes, there is need to accurately and efficiently measure RF power to obtain optimum performance from communication systems and components. The output power level of a system is the critical factor in the design and performance of almost all radio frequency (RF) equipment. This requires instruments accuracy while delivering measurements that are stable under various environmental and operating conditions. It is also very important that all measured results, regardless of the equipment, have a common agreement as to what is considered an absolute value for the power measurement. There are a variety of different power sensors covering a range of input frequencies and power levels but RF/microwave detectors generally fall into two categories, thermal-based sensors and diode-based sensors. In the next two sections of this application note, the basic technology and operation of these power sensor types will be discussed including their relative sensitivities and dynamic range.

2. POWER MEASUREMENT TECHNOLOGIES

There are a several different technologies available for the measurement of RF power. These generally fall into four categories:

Thermal The heating effect of RF power upon a sensing element is measured.
Detector The RF signal is rectified or "detected" to yield a DC voltage proportional to the signal's amplitude.
Receiver A "tuner" type circuit is used to receive the signal, then measure its amplitude component.
RF Sampling. The RF signal is treated as a baseband AC signal, and is directly digitized.

Both thermal and detector type measurements are typically "direct sensing," in which the amplitude of the RF signal applied to a load element is measured by converting the RF to an easily-measured DC quantity. The RF-to-DC conversion is typically performed close to the signal source by connecting a small converter probe known as an RF power sensor to the device under test. The receiver and RF sampling methods are usually indirect, the signal is brought into an instrument via a cable connection, processed through a multi-stage circuit to yield amplitude information, then scaled to power.

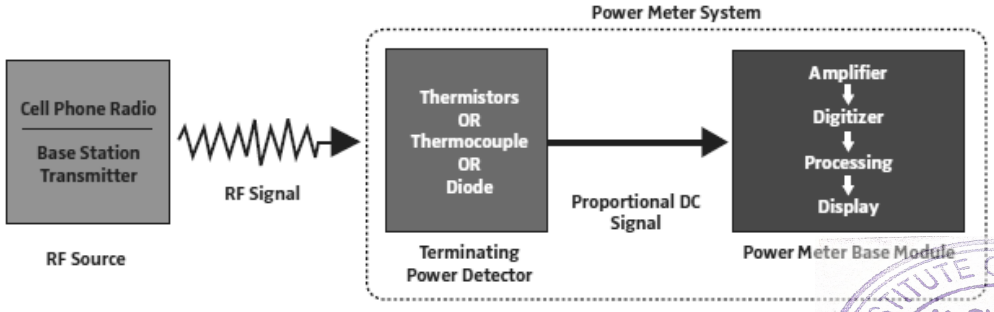


Fig. 1 Direct power measurement block diagram

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Transportation by Cam Mechanism

Kushal Mhatre
Mechanical Engineering
VIVA Institute of Technoy
kushal637@gmail.com

Rohan Kadam
Mechanical Engineering
VIVA Institute of Technology
rohankadam13@gmail.com

Swapnil Jadhav
Mechanical Engineering
VIVA Institute of Technology
Swapniljadhav123.sj35@gmail.com

Shreeyesh Kutty
Mechanical Engineering
VIVA Institute of Technology
Shreeyeshkutty@viva-technology.org

ABSTACT

The purpose of this project is to design and suggest a new mechanism other than the very conventional methods used material transportation. Nowadays value and requirement of land in India has grown very rapidly. Thus effective space utilization has given prime importance in industrial organization .The project is all about lifting up the products and transfer them to desired height within a short floor space. We have to use connecting rod and crank mechanism in this project. Various manufacturing processes are carried out on multiple floors. These stations are built on multiple floors for optimizing the space utilization. Also the finished goods are stored at a higher level on racks. The paper involves the design of an efficient system which will transfer the material from lower level to higher level. It also includes the static analysis carried out on the most critical component, crank using Solid works and Ansys.

Keywords— *Material Transportation, Cam, floor space, follower, vertical motion*

1. INTRODUCTION

Nowadays value and requirement of land in India has grown very rapidly. Thus effective space utilization is given prime importance in industrial design. Various manufacturing processes are carried out on multiple floors. For example while manufacturing wafers, soaps, biscuits and other cookies and also on various assembly lines different processes are carried out at multiple stations. These stations are built on multiple floors for optimizing the space utilization. Also the finished goods are stored at a higher level on racks. Thus the need of an efficient and compact material handling system in vertical direction is arising day by day which will transfer the material at higher rate than some existing material handling system.

We are using cam follower mechanism after analyzing various other mechanisms. The part on which the objects will be loaded is called follower. An eccentric cam is a disc with its centre of positioned offcentre. This means as the cam rotates the roller follower rises and falls at a constant rate. This movement is smooth and at a constant speed.

2. LITERATURE REVIEW

Kumbhar P.M., Ballal Y.P and Pawar G.B,[2015] In evaluation and implementation of material handling system, multiple factors should be considered, including the plant facilities, the machinery, the material handling equipment and of course people involved. In this paper the overall revive of principles of material handling systems and various material handling systems used in foundry is taken. That's why we need material handling equipment's. Any type of industry whether small or big, productions plant or process plant, agriculture industry or service sector in which such application there is only one common thing, movement of material, material handling. Different MHSs were considered and discussed. They were mentioned as theoretical, ultimate, and technologically workable. However, the suggestion was that companies should focus on and implement a MHS that is cost effective and is able to function at the present time without any obstacle and failure. There are various principles and factors on which Selection material handling system depends. By studying these parameters, selection of proper material handling system can be done.

Ghazi Abu Taher, Yousuf Howlader, Md. Asheke Rabbi, Fahim Ahmed Touqir [2014]: Bucket elevator are the media of transportation of material from one location to another in a commercial space. Belt conveyor has huge load carrying capacity, large covering area simplified design, easy maintenance and high reliability of operation. Belt Conveyor system is also used in material transport in foundry shop like supply and distribution of molding sand, molds and removal of waste. On the other hand Bucket elevator can be of great use during bulk material handling. This paper is mainly based on the combination of Belt & Bucket Conveyers to perform complex task within a short time and successfully in a cost effective way. On account of this, a machine and its physical description is covered here with some basic calculation. The conveyor belt changed the face of the industrial economy around the world. Today, it has applicable uses in countless industries, such as transportation and food services. A bucket elevator or conveyer is a mechanism for hauling flow able bulk materials by following an assembly line in horizontal, vertical or inclined direction. According to the survey performed 85% industrial units face difficulties in handling bulk material packaging. The problem occurs when it is necessary to convey a bulk material through a linear distance as well as a certain height. Conventional ways are responsible for material wasting, time wasting & above all a poor management. In order to overcome those draw backs not only Belt & Bucket conveyers are combined but also artificial intelligence brought in use.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

© 2018, www.IJARIIT.com All Rights Reserved

ANALYSIS OF ANTI-SHOULDER SURFING ATTACK TECHNIQUES

Shubhangi Deshmukh
Department of ComputerEngineering
VIVA Institute ofTechnology
shubhdesh10@gmail.com

Shardul Hindekar
Department of Computer Engineering
VIVA Institute of Technology
hindlekarsharul144@gmail.com

Nikhl Sawant
Department of Computer Engineering
VIVA Institute of Technology
nikhilsawant121@gmail.com

Tatwadarshi P.N
Department of ComputerEngineerig
VIVA Institute of Technology
tatwadarshipn@viva-technology.org

ABSTRACT

Security may be a paramount factor. Every user of computer system gives primary preference to security. Authentication is process which provides security to user system. for authentication different methods are available. Of which the textual password and graphical secret key are most normally utilized methods, but this techniques undergo from shoulder surfing assault. Shoulder surfing is a sort for attack in which whatever the entity or any person can observe the password of user directly by watching over the victims shoulder or by using any gadget such as hidden cameras and secret megaphones that permit the assailant to record the complete login process of user. In shoulder surfing, the assaulter retrive the sensitive information of the victim, which eventually leads to commercial passing or data fraud. In this paper analysis of anti- shoulder surfing strategies for example such that pass shapes, watermark algorithm, grid selection, painting album mechanism, etc. has been performed to identify advantages and disadvantages of different techniques.

Keywords— *shoulder surfing, security, text based password, graphical password.*

1. INTRODUCTION

Verification is the important factor over data and computer security. In the current state, various confirmation schemes need been created by the researchers to resist shoulder surfing strike. The shoulder surfing assault could a chance to be done by unauthorized individual to acquire users password by watching over users shoulder as he enter his password. The conventional and most widely utilized verification scheme is Text based verification plan called as alphanumeric validation scheme. In alphanumeric authentication scheme, client needs to submit username and text password. This may bring about susceptibility such as secret key is troublesome to recall in case of long and difficult password otherwise passwords are easily guessed or hacked by attacker in case of short and easy password. Textual password is susceptible to shoulder surfing, concealed-camera and spyware assaults. To conquer the downside of alphanumeric secret key, techniques graphical secret key have been created by the researchers. This paper analyzes the various techniques which are used for opposing the shoulder surfing assault. The paper is arranged in the emulating sections, section II discusses the various techniques which are used for opposing shoulder surfing assault, section III is the analysis table which analyze the techniques and their pros and cons, and finally section IV concludes the paper.

2. METHODOLOGY USED

In this section, we illustrate various techniques which are used for opposing the shoulder surfing assault.
1. A Simple Text based Shoulder Surfing Resistant Graphical Password Scheme[7].

This paper relies upon content and hues which is productive shoulder surfing safe graphical secret key plan. The letters in order utilized as a part of this proposed conspire are 64 characters.In registration phase the client needs to set his textual password K of length L(8≤L≤15) characters, and pick one shading as his pass shading from 8 hues consigned by the framework. The remaining of the 7 hues not chosen by the client are his decoy hues. When client requests to login the system, then the system displays a circle made out of 8 similarly measured sectors. In that login screen shades of the

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY At Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

APPROACHES FOR DE-DUPLICATION IN CLOUD COMPUTING: A SURVEY

Ameya Phadke[*] *ameyaraj50@gmail.com* *Student* *VIVA Institute of Technology* *University of Mumbai*

Chinmay Hadge *chinmayhadge09@gmail.com* *Student* *VIVA Institute of Technology* *University of Mumbai*

Amol Gawade *amol.v.g18@gmail.com* *Student* *VIVA Institute of Technology* *University of Mumbai*

Reshma Chaudhari *reshmachaudhari@viva-technology.org* *Professor* *VIVA Institute of Technology* *University of Mumbai*

ABSTRACT

Cloud computing enables users, and enterprises, with numerous computing capabilities to store and process information in either private cloud, or on a third-party server placed in a data center so as to create data accessing process more economical and reliable. However, in enterprise data centers the laborious job is to move, protect and store the huge amounts of data they need within and between them. If user intends to move giant amounts of data over a network and supply access to that data as a service, he or she would like to be cognizant of network information measure necessities. Data de-duplication could be a technology that allows firms to save lots of plenty of cash on storage prices to store the information and on the bandwidth prices to move the information once replicating it offsite for data recovery. If files are de-duplicated then the existing space for storing the files might save the cost as well as work efficiently. This system further emphasizes on increasing privacy for data of clients which can be accessed in de-duplication process. Various attacks may be carried out by adversary during data de-duplication. To prevent these attacks the system works very much efficiently without compensating with the quality of data de-duplication process.

Keywords: - Cloud Storage, Deduplication, Hashing, Privacy, Re-encryption

1. INTRODUCTION

Data de-duplication is a technique to eliminate duplicate files from cloud storage. It can be also termed as data compression technique as it saves storage space in cloud computing This system is initiated for efficient storage deployment. Even it can be applied to network data transfers to scale back the quantity of bytes that has to be sent. Data de-duplication will occur at 2 level that's at supply primarily based and target based.

Data de-duplication typically operates at the file or block level. File de-duplication eliminates duplicate files, however isn't associate in Nursing economical means that of de-duplication. File-level knowledge de-duplication compares a file to be protected or archived with copies that area unit already keep. This can be done by checking its attributes against associate in index. If the file is exclusive, it's kept and also the index is updated, if not, solely a pointer to the prevailing file is kept. Block-level de-duplication occurs inside a file and saves distinctive iterations of every block [1]. All the blocks area unit broken into chunks with identical mounted length. every chunk of information is processed employing a hash algorithmic rule, like MD5 or SHA-1.

2. LITERATURE SURVEY

Following are some of the content that has been reviewed for proposed system.

In Bucket Based Data De-duplication Technique For Big Data Storage System [1] authors have projected bucket based mostly information de-duplication technique for giant information storage system. In huge information storage, information is simply too massive and with efficiency storing information is troublesome task. To resolve this downside hadoop tool is provided. Hadoop tool provides HDFS that manages the information de-duplication. Huge information stream is given to mounted unitization algorithmic rule to make mounted size chunk. Chunk share given to MD5 to get hash worth for every distinctive file.

© 2018, www.IJARIIT.com All Rights Reserved

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

2021 International Conference on Communication Information and Computing Technology (ICCICT 2021)

Mumbai, India
25 – 27 June 2021

IEEE Catalog Number: CFP2149R-POD
ISBN: 978-1-6654-4716-4

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

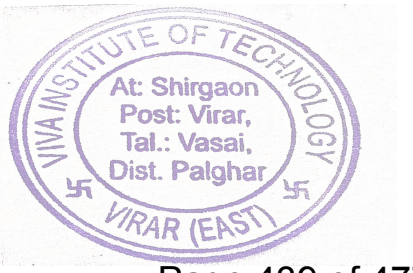
For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP2149R-POD
ISBN (Print-On-Demand): 978-1-6654-4716-4
ISBN (Online): 978-1-6654-0430-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



180	**Assessment of SSB, Modified-SSB and VSB Modulation Techniques based on Modulation Index, Extinction Ratio, Chromatic Dispersion and Received RF Power** Apoorv Kulkarni, Shrey Kothavade, Dhananjay Patel
187	**Yog-Guru: Real-Time Yoga Pose Correction system Using Deep Learning Methods** Ajay Bharat Chaudhari, Omkar Bhalchandra Dalvi, Onkar Rajendra Ramade, Dayanand Ambawade
193	**Stock Market Prediction using Bi-Directional LSTM** Vedant Jolly, Jaiwin Shah, Rishabh Jain, Anand Godbole
198	**Impact of Interstitial Lung Diseases and COVID-19 on the body** Priyanka Abhang,Shrishti Kaushik,Shriya Akella,Dayanand Ambawade,Dr. Sujata Kulkarni
205	**Integrated Technical and Sentiment Analysis Tool for Stock Index Movement Prediction, comprehensible using XAI** Siddhant Bhagat, Suyash Joshi, Harit Bandi, Dayanand Ambawade
213	**Generating a Scene From Text For Smart Education.** Vineet Pardhi, Kewal Shah, Jaydeep Vaghasiya, Prof. Varsha Hole
219	**An IoT Based Rectification of Posture using Biofeedback** Shubhankar Nistane , Vaibhav Pudke , Rajat Pattu
224	**Tourism Footfall Forecasting and Recommendation System** Manav Jain, Kaushik Jha, Vrushali Joshi
229	**Deep Learning Approach for Diagnosis of Thoracic Diseases from Chest X-Ray Images** SIDDHIKA ARUNACHALAM, PRASENJIT BHAVATHANKAR
235	**Bidirectional Sign Language Translation** Anjali Kanvinde, Abhishek Revadekar, Mahesh Tamse, Dhananjay R. Kalbande, Nida Bakereywala
240	**Assessing Car Damage with Convolutional Neural Networks** Harit Bandi, Suyash Joshi, Siddhant Bhagat, Amol Deshpande
245	**Orthopantomographic X ray defocused image restoration with blind and nonblind deconvolution for diagnostic use in dental application** Mrs.Goilkar Suhasini Shashikant, Dr. Yadav Dinkar Manik
250	**Classification of Oil Spills and Look-alikes from SAR Images Using Artificial Neural Network** Anagha S. Dhavalikar, Pranali C. Choudhari
254	**Alleviation of COVID by means of Social Distancing & Face Mask Detection Using YOLO V4** Yash Indulkar
262	**Statistical and Sentimental Analysis on Vaccination against COVID-19 in India** Rutvik Dumre, Kopal Sharma, Karthik Konar
268	**Exploratory Analysis of Disease Characteristics and Demographic Data of Neonatal Patients using MIMIC-IV Database** Madhura Ranade, Dr.Anupama Deshpande
274	**Power Allocation Optimization Model in Femto-Macro Networks by CSO Algorithm** Shailaja s mohite
279	**Pneumonia Detection in X-rays Using OpenCV and Deep Learning** Meldon Dcunha, Ivan Francis, Nimesh Naik, Shainila Mulla

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

IEEE International Conference on Communication information and Computing Technology (ICCICT), June 25-27, 2021, Mumbai, India

Exploratory Analysis of Disease Characteristics and Demographic Data of Neonatal Patients using MIMIC-IV Database

Madhura Devendra Ranade
Department of Electronics Engineering
Shri Jagdishprasad Jhabarmal Tibrewala University
Jhunujhunu, India
madhurat8@gmail.com

Dr.Anupama Deshpande
Department of Electrical Engineering
Shri Jagdishprasad Jhabarmal Tibrewala University
Jhunujhunu, India
mangala.d.2000@gmail.com

***Abstract*— This paper is aimed at analyzing basic information of neonatal patients in the Medical Information Mart for Intensive Care - IV (MIMIC – IV) version 0.4 database and providing data reference for clinicians and researchers. Tableau 2020.1.0 and Google BIGQUERY were used for data analysis and extraction of disease distribution of neonatal patients in the MIMIC-IV database. A total of 61,630 neonatal patients were included in the MIMIC-IV database. Males count is 31,187, accounting for 51.2 percent and remaining females. Fundamentally, the database includes demographic, diagnostic, and laboratory tests-related information, and this paper deal with demographic and diagnostic information only. Out of which, stress is given on mortality rate to guide the neonatologists for its reduction by planning exact treatment. The total neonatal mortality rate was 0.35%, with an average hospital stay of 2 days. However, the highest non-survival rate is observed being among neonatal patients born before 24 weeks of completion of gestation as well as Neonatal jaundice associated with preterm delivery. Maximum neonates were admitted to the hospital for prophylactic (Immunization) vaccination and viral hepatitis inoculation. This analysis of the MIMIC-IV database will help researchers gain insights into the characteristics of neonatal diseases and their mortality rate.**

Keywords*— *MIMIC-IV, NICU, critical care, neonatal data analysis

I. Introduction

MIMIC-IV is a broad, publicly accessible database of anonymous patient's health-related data who resided in Beth Israel Deaconess Medical Centre's critical care units between 2001 and 2019 [4]. MIMIC-IV version 0.4 is the new update of MIMIC-III. The approach in the MIMIC-IV database is more suitable and complete than the data in the MIMIC-III database.

Neonates are new-born babies less than four weeks old. Normal babies are born after a normal gestation period of around 40 weeks. Babies born before the end of 37 weeks of pregnancy are known as preterm. There are sub-categories of preterm birth based on gestational age such as extremely preterm (less than 28 weeks), very preterm (28 to 32 weeks), moderate to late preterm (32 to 37 weeks). Preterm neonates or babies with complications or congenital diseases are kept in the Neonatal Intensive Care Unit (NICU) for critical care. A lot of study on the previous MIMIC-III neonatal database has been done by several researchers in the last decade. Lee J et.al. [18] have carried out a thorough study of disease knowledge based on the MIMIC-III database to provide data reference for researchers to encourage collaboration and cooperation between clinicians and researchers.

The role of researchers or data scientists is important to address clinical data in a meaningful way to answer the clinical questions raised by physicians. Data scientists or researchers can use their knowledge of the expertise of SQL programming and Electronic Health Records (EHR) database programming to categorize clinical problems [16-18].

However, such a study in the MIMIC-IV database is not yet explored. Google BigQuery is used to extract the features of this database and then machine learning is used to estimate the non-survival rate due to different diseases for achieving more accuracy. It is expected that this database being more than fivefold of the MIMIC-III database shall enable better advice to the neonatal experts in making accurate and quick decisions while diagnosing and predicting mortality rate. Hence the need to explore it is felt all the more.

The organization of the paper is as follows: Section I gives the introduction while section II gives an overview of the MIMIC-IV database. Section III explains the methods for conducting this study. In Section IV, the results of the study are given.Section V discusses some important observations as well as points out the limitations. Section V concludes the paper.

II. Overview Of Mimic-Iv Database

A. Demographic Details of MIMIC-IV

MIMIC-IV includes clinical data of patients in ICU only and this study refers to patients in NICU only. This data was reorganized into modules so as to query the database in a user friendly way, followed by deidentification of patients. The two modules created are CORE and HOSP modules. The following figure gives insights into the modules of the MIMIC-IV database.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

978-1-6654-0430-3/21/$31.00 ©2021 IEEE

2021 6th International Conference for Convergence in Technology (I2CT 2021)

Maharashtra, India
2 – 4 April 2021

Pages 1-570

IEEE Catalog Number: CFP2183X-POD
ISBN: 978-1-7281-8877-5

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

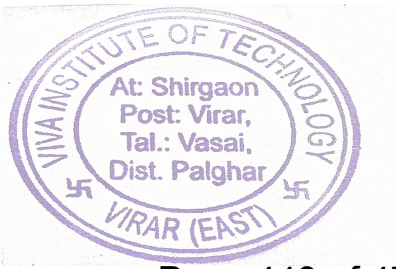
For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2183X-POD
ISBN (Print-On-Demand):	978-1-7281-8877-5
ISBN (Online):	978-1-7281-8876-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



PARALLELIZING IMAGE ENCRYPTION ALGORITHM FOR WIRELESS SENSOR NETWORKS 1427
Prajval Mohan, Rohit Vemparala, S. Anto

MODIFIED MOMENTUM BASED ACTIVE NOISE CONTROL SYSTEM WITH IMPROVED CONVERGENCE CHARACTERISTICS 1435
Chirag Agrawalla, Vinal Patel

REAL-TIME RING MAIN UNIT (RMU) MONITORING SYSTEM FOR DISTRIBUTION NETWORK 1441
Sujata Kulkarni, Minal Salunke, Sushmita Tatti, Karthik Patil, Ajey Joshi

EVALUATION OF DEEP LEARNING MODELS FOR HOSTILITY DETECTION IN HINDI TEXT 1446
Ramchandra Joshi, Rushabh Karnavat, Kaustubh Jirapure, Ravirai Joshi

CLASSIFICATION AND PREDICTION OF SEVERITY OF INFLAMMATORY BOWEL DISEASE USING MACHINE LEARNING 1451
Madhura Ranade

DESIGN AND ANALYSIS OF GATE ENGINEERED GATE-AII-AROUND (GAA) CHARGE PLASMA NANOWIRE FIELD EFFECT TRANSISTOR 1455
Leo Raj Solay, Pradeep Kumar, Intekhab Amin, Sunny Anand

ECG HEARTBEAT CLASSIFICATION USING WAVELET TRANSFORM AND DIFFERENT NEURAL NETWORK ARCHITECTURES 1460
Aniruddha Datta, Bhakti Kolwadkar, Ankita Rauta, Siddhi Handal, V. V. Ingale

PREDICTING THE IONOSPHERIC TOTAL ELECTRON CONTENT USING ADAPTIVE REGRESSION MODEL 1467
Sumitra Iyer, Alka Mahajan

SUB CONTRACTOR LIFE CYCLE MANAGEMENT IN ENTERPRISE SYSTEM USING BLOCKCHAIN TECHNOLOGY 1478
Sudeep Choudhari, Suman Das, Shubham Parasher, Deepak Gangwar

ENERGY AND POWER ANALYSIS OF NOVEL NANO COMMUNICATION SYSTEM 1485
Rahil Jahangir, Mohammad Mudakir Fazili, Neeraj Tripathi

STOCK PRICE PREDICTION USING FACEBOOK PROPHET AND ARIMA MODELS 1492
Anusha Garlapati, Doredla Radha Krishna, Kavya Garlapati, Nandigama Mani Srikara Yaswanth, Udayagiri Rahul, Gayathri Narayanan

DESIGN ASPECTS OF TERAHERTZ (THZ) ANTENNA 1499
M. H. Rahman, Vinod Singh Jadon, K. P. Ray, S. Pal

CONGESTION MANAGEMENT BY PHASE SHIFTING TRANSFORMER USING FUZZY LOGIC CONTROL 1503
Rakesh Dakhare, V. K. Chandrakar

SOUND SOURCE LOCALIZATION IN 3D USING ASYMMETRICAL POSITIONED AND SKEW ALIGNED TWO-ARRAY MICROPHONE - EXPERIMENTATION 1507
Vipin Vibhute, B. Suryakanth, Yogesh Angal

DESIGN AND DEVELOPMENT OF BROADBAND AND COMPACT SIZE IQ DEMODULATOR AT 850±112.5 MHZ 1514
Gourav Agrawal, Piyush Sinha, Jolly Dhar, Ch. V. N Rao, Rajeev Jyoti

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

2021 6th International Conference for Convergence in Technology (I2CT)
Pune, India. Apr 02-04, 2021

Classification and Prediction of severity of Inflammatory Bowel Disease using Machine Learning

Madhura Ranade
Department of Electronics and Telecommunication
Viva Institute of Technology
Virar, India
madhurat8@gmail.com

***Abstract*—this paper shows a novel approach to classifying the status of Inflammatory Bowel Disease from vitamin D in children and adolescents. IBD is a phrase used to refer to gastrointestinal system swelling that is recurrent. It is observed that low vitamin D levels are linked with higher risk, particularly colon cancer in people with IBD. Vitamin D can play a protective role on gut health if started earlier in patients with IBD. Machine learning has many advantages in the healthcare industry as it can predict the presence of a condition much before and efficiently and is found helpful for doctors to suggest better treatment to a patient with the assistance of artificial intelligence. This paper uses an open dataset for the analysis of patients with IBD and their corresponding vitamin D level of Serum 25(OH) D concentration. The data is classified based on severity index into three classes as low risk, moderate, and high-risk patients. Tree classifiers, Support Vector Machine (SVM), and ensemble boosted tree classifiers are used for training and comparative analysis is done. Dataset consists of 31 features which include healthy and IBD patients in the age range of 2 to 20 years. The classification accuracy is maximum for ensemble trees classifier 98% and Area under ROC curve is 0.98.**

Keywords—IBD, Vitamin D, Machine Learning, SVM, Tree classifier

I. INTRODUCTION

Machine Learning has given a new vision and hopes to the healthcare industry. Machines can be trained with huge datasets and quickly analyze them reliably and give the clinical perception that helps healthcare practitioners in planning and providing care, take preventive measures giving better outcomes with reduced cost and increased satisfaction. Globally, the risk of Inflammatory Bowel Disease (IBD) is growing. In 2017, there were 6.8 million cases of IBD all over the world. It is found that there is a close relationship between levels of vitamin D and IBD. This paper uses machine learning classifiers to classify the status of vitamin D using an openly available dataset depending on the severity of the disease.

The organization of the paper is as follows. Section II throws light on Inflammatory Bowel disease along with its types. Section III gives the introduction to machine learning techniques. In Section IV, a detailed explanation about different classifiers like decision trees, Support Vector Machines, and Ensemble trees is given. Section V explains the design methodology of the paper. In Section VI, a comparative analysis of different classifiers is given. Section VII concludes the paper.

II. INSIGHTS INTO IBD

First, Inflammatory Bowel Disease(IBD) is a term used for chronic swelling of the digestive tract. The symptoms of IBD involve severe diarrhea, abdominal pain, fatigue, and significant weight loss. IBD can lead to life-threatening complications. IBD can be categorized into Ulcerative Colitis (UC) and Chrohn's Disease (CD). The Ulcerative Colitis causes ulcers in the innermost lining of the colon and rectum. Chrohn's Disease (CD) is characterized by swelling of the lining of the digestive tract which spreads deep into affected tissues. The exact cause of IBD is unknown but immune system malfunction plays a pivotal role in IBD. IBD patients increased risk of colon cancer. [1]

The studies have linked low vitamin D levels with an increased risk of colon cancer in patients with IBD. It is also seen that the risk of surgery and hospitalization is severe in people with deficiency of vitamin D. Thus, all the IBD patients should be evaluated for vitamin D deficiency and receive vitamin D supplementation. Machine learning can play an important part in preventive healthcare. [2].

III. MACHINE LEARNING

Machine learning is a subset of artificial intelligence that empowers the system to automatically learn and get better from past experiences without being programmed. The learning process starts with data to look for a pattern for better decision making. Machine learning algorithms are often classified as Supervised and Unsupervised Learning.

A. Supervised Learning

Supervised Learning makes predictions based on trained labeled data. Supervised learning uses two approaches for decision making. It uses classification to predict the class of data or it uses regression to predict the next value. This method is useful when the data is labeled. In Supervised learning, classification, regression, decision trees, and random forest algorithms are used.

B. Unsupervised Learning

This type of learning algorithms is useful when the data is not labeled. It finds the patterns in the data by creating clusters. It adds the data to one of the closely matching clusters.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

2021 6th International Conference for Convergence in Technology (I2CT) | 978-1-7281-8876-8/21/$31.00 ©2021 IEEE | DOI: 10.1109/I2CT51068.2021.9418093

Authorized licensed use limited to: Carleton University. Downloaded on June 15,2021 at 08:30:50 UTC from IEEE Xplore. Restrictions apply.

2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS 2020)

Madurai, India
13-15 May 2020

Pages 1-647

IEEE Catalog Number: CFP20K74-POD
ISBN: 978-1-7281-4877-9

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

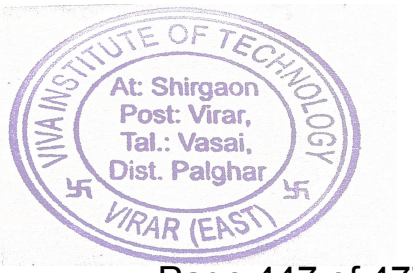
For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP20K74-POD
ISBN (Print-On-Demand): 978-1-7281-4877-9
ISBN (Online): 978-1-7281-4876-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



94	An Innovative Approach for Fruit Ripeness Classification Rucha Thakur, Gaurav Suryawanshi, Hardik Patel, Janhavi Sangoi	550
95	Implementation of 16-Bit Hack CPU on FPGA Druva Kumar S, Paarthvi Sharma, Prajwal Shenoy KP, Sanath S. Naik, Aldrich Shawn Lewis	555
96	Survey of Various Mathematical Approaches Suitable for Underwater Wireless Communication Saravanan M, Rajeev Sukumaran, Christhuraj M.R, Manikandan TT	560
97	Palmprint based Pattern Recognition Using Fast ICA Jayshri P. Patil, Chandrashekhar S. Pawar	566
98	Prediction of Cardiac Disease using Supervised Machine Learning Algorithms R.Jane Preetha Princy, P. Subha Hency Jose, Saravanan Parthasarathy, Arun Raj Lakshminarayanan, Selvaprabu Jeganathan	570
99	Recognition of Hand written and Printed Text Of Cursive Writing Utilizing Optical Character recognition Sudharshan Duth P, Amulya B	576
100	High Capacity Text and Multimedia Data Hiding in Medical Images Aparna. E. P, K. A. Navas	582
101	Hybrid Feature based Prediction of Suicide Related Activity on Twitter Vidita Patel, Harshal Shah, Yassir Farooqui	590
102	Image Semantic Segmentation based on E-Net With Different Patch-Size Convolution Harshida Dudhat, Bijal J Talati, Arpit M Rana, Parul V Bakaraniya	596
103	Intra Class Vegetable Recognition System using Deep Learning Sudharshan Duth P, Jayasimha K	602
104	Wavelet Analysis based Handwritten Script Classification using Auto Encoders N. Shobha Rani, Keerthi M	607
105	Identification and Extraction of Text in Non-Blurred and Blurred Image Sequences Sudharshan Duth P, Rahul H L	615
106	Gesture Controlled Home Automation using CNN Ninad Kheratkar, Ashwini Jarali, Aboli Pathak, Sushmita Bhavani Nooka, Shreyash Kumbhar	620
107	A Survey Paper on Identifying Key Performance Indicators for Optimizing Inventory Management System and Exploring Different Visualization Tools Priyanka Singh, Soma Ghosh, Manish Saraf, Rahul Nayak	627
108	A Statistical Approach for Sarcasm Detection Using Twitter Data Rahul Gupta, Harsh Agrawal, Jitendra Kumar, Kunal	633
109	Automated Poultry Farm with Microcontroller based Parameter Monitoring System and Conveyor Mechanism Daru Anna Thomas, Chelsa Reji, Josmi Joys, Seby Jose	639
110	Interictal Spike Detection in EEG using Time Series Classification Shlok Sablok, Githali Gururaj, Naushaba Shaikh , Shiksha I, Antara Roy Choudhary	644
111	Analysing the Effective Psychological State of Students using Facial Features Shailender Kumar, Deepanshu Varshney, Gaurav Dhawan, Harsh Jalutharia	648
112	Convolutional Neural Network based Automated Attendance System by using Facial Recognition Domain Shailender Kumar, Dhruv Kathpalia, Dipen Singh, Mandeep Vats	654
113	End-to-End Neural Network for Shadow Detection using Combined Color Spaces Shailender Kumar, Dhruv Ramdev, Himanshu Aggarwal, Himanshu Choudhary	660

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Proceedings of the International Conference on Intelligent Computing and Control Systems (ICICCS 2020)
IEEE Xplore Part Number:CFP20K74-ART; ISBN: 978-1-7281-4876-2

An Innovative Approach For Fruit Ripeness Classification

Rucha Thakur[1], Gaurav Suryawanshi[2], Hardik Patel[3], Janhavi Sangoi[4]
Department of Computer Engineering
VIVA Institute of Technology
Mumbai, India
[1]ruchathakur100@gmail.com, [2]gavravsuryavanshi@gmail.com, [3]hp091234@gmail.com,[4]janhavisangoi@viva-technology.org

***Abstract*—An automatic vision-based system for sorting and analyzing strawberry fruit is discussed in this paper. Manual classification leads to discrete opinion and is more time-consuming. Hence, finding a cost-effective and highly accurate method for strawberry classification yet remains a problem. In this paper, an automated system is proposed to predict the ripeness level of strawberry fruit, using a convolutional neural network. For the success of classification, appropriate features must be extracted. Surface color, size and shape are the necessary features for classification. The surface color of strawberry fruit determines its ripeness level. CNN is used to extract color, size and shape features from strawberry surfaces. The system shows 91.6% accuracy.**

Keywords—Convolutional Neural Network, Computer Vision, Digital Image Processing, Classification, Fruit Maturity

I. INTRODUCTION

Agriculture forms the major part of India's economy. Due to this fact, an enormous amount of money is spent by the government for the utilization of new advanced technologies to prevent destruction and improve the yield of the crops and soil [1]. Flavour and aroma of the fruit are determined by the maturity level of the fruit. This is typically more difficult in case of Strawberry as it is a delicate crop. As the amount of strawberry fruits harvested is in large quantity, manually distinguishing them is a difficult job. The major reason that affects yield is the ignorance of experts [2] Hence there is a need for a method to determine the ripeness level of the harvested Strawberry fruit, without destruction of the fruit itself. Selective grading of Strawberry fruit is important to make sure that the adequately ripened strawberry reaches the vendor or fruit market, therefore there is an increased need to supply quality strawberry fruits within a small period. The model aims to reduce the money spent on manual workers to give manual and discrete opinions. The various technology was studied but no complete technology has been developed for ripeness detection, which is automatic, user-friendly, accurate, non-destructive and cost-efficient.

II. RELATED WORKS

To address the problem of fruit ripeness classification, many solutions have been implemented by the researchers over the years. Various technologies have been implemented as well as costly experimental models have been designed. IoT system for maturity detection of the strawberry [1]. Digital Image Processing for detection of fruit and to determine the maturity level of various fruits [3][4][5][6][7] based on color feature. Fuzzy logic and color feature [8] to predict the maturity level of strawberry. Although [9] utilization of Convolutional Neural Network has been used for detection of fruit and not for determining the ripeness level of the fruit. The accuracy of the system was low, as the images were not being processed using CNN only.

A. IoT based systems

K. Raut, et. al. [1] describes the assessment of fruit maturity using digital image processing and artificial neural network. The automatic computer vision-based technology consisted of a CCD camera for image acquisition and MATLAB software for image analysis. They had assessed the cherry and strawberry fruit, to determine the maturity level of the fruit and initially, RGB input was taken, later it will get separated into R channel and G channel which further get converted into R mask and G mask. Various feature vectors were calculated. The classification was done into four stages that are pre-mature, early-mature, mature and over- mature fruit. The classification of 24 samples of strawberry and 17 samples of cherry was trained using b-black propagation algorithm. After training those feature testing was done and a decision was taken for maturity. With the limited and specific amount of data, the accuracy of the system for classifying strawberry is 60%.

B. Digital Image Processing

P. Raj Gokul, et. al. [3] proposed a paper describing a method for image processing technique to estimate the volume and maturity of sweet lime. Maturity is determined with the RGB color coding based on RG ratio. Images are processed and their RGB value is determined. B component is set to zero. The ratio between the R and G value is computed for a variety of sweet lime fruits. The RG ratio threshold for ripe fruit and unripe lime is fixed. Hence, can be categorized by maturity level. Maturity of sweet lime is not always dependent on its surface color as there is a probability of lime to be ripe from inside and not show its color outside but for strawberry fruit, surface color represents ripeness of the fruit. Hence the surface color of the strawberry fruit as a feature can be used to determine the maturity level.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Authorized licensed use limited to: Imperial College London. Downloaded on June 20,2020 at 14:23:07 UTC from IEEE Xplore. Restrictions apply.

2020 6th International Conference on Advanced Computing and Communication Systems (ICACCS 2020)

Coimbatore, India
6 – 7 March 2020

Pages 1-733

IEEE Catalog Number: CFP20YAF-POD
ISBN: 978-1-7281-5198-4

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

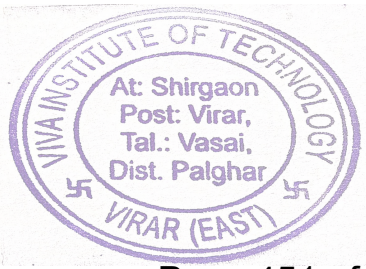
For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP20YAF-POD
ISBN (Print-On-Demand):	978-1-7281-5198-4
ISBN (Online):	978-1-7281-5197-7
ISSN:	2469-5556

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



WIRELESS SECURITY — AN APPROACH TOWARDS SECURED WI-FI CONNECTIVITY 872
Nishant Pimple, Tejashree Salunke, Utkarsha Pawar, Janhavi Sangoi

BATTERY THERMAL MANAGEMENT SYSTEM 877
S. Venkatakrishnan, V. M. Vikram Sudhan, S. Sabari Kandappan, S. Vishwanath, S. Saravanan, P. Pandiyan

SIGN LANGUAGE TRANSLATION 883
R. Harini, R. Janani, S. Keerthana, S. Madhubala, S. Venkatasubramanian

IOT ASSISTED MQTT FOR SEGREGATION AND MONITORING OF WASTE FOR SMART CITIES 887
K. Jaikumar, T. Brindha, T. K. Deepalakshmi, S. Gomathi

A MODERNISTIC WAY FOR KEY GENERATION FOR HIGHLY SECURE DATA TRANSFER IN ASIC DESIGN FLOW 892
Tulasi Radhika Patnala, D. Jayanthi, Sankararao Majji, Manohar Valleti, Srilekha Kothapalli, Santoshachandra Rao Karanam

A STUDY ON THE COMPREHENSIVE ANALYSIS OF ELECTRO MIGRATION FOR THE NANO TECHNOLOGY TRENDS 898
Sankararao Majji, Tulasi Radhika Patnala, Manohar Valleti, Chandra Sekhar Pasumarthi, Srilekha Kothapalli, Santoshachandra Rao Karanam

ULTRASONIC SIGHT 902
Jane Lourdeteresha, Abarna, Devisri, Maithreyini, V Kumar Chinnaiyan

TRUSTWORTHINESS OF ARTIFICIAL INTELLIGENCE 907
Sonali Jain, Manan Luthra, Shagun Sharma, Mehtab Fatima

DESIGN AND FABRICATION OF AUTOMATED ADHESIVE DISPENSER 913
A. Selvanayakam, P. Anbarasu, N. Subhashini, N. Krishnaveni

BRAIN ON A-BOARD IMPLEMENTATION OF NEURAL NETWORKS 916
Bhavya Bhardwaj, R. Sorabh Dadhich, S. Anjali, M. Ganesan, R. Lavanya

STUDY ON SEMI AUTOMATION IN UNIFORM FACULTY APPRAISAL SYSTEM 920
Utkarsh Naik, Debashish Choudhury, Anagha Devade, Anagha Aher, Vishal Badgujar

SOCIAL MEDIA SENTIMENT ANALYSIS ON TWITTER DATASETS 925
Shikha Tiwari, Anshika Verma, Peeyush Garg, Deepika Bansal

AN IOT BASED WASTE SEGREGGATOR FOR RECYCLING BIODEGRADABLE AND NON-BIODEGRADABLE WASTE 928
Jeberson Retna Raj, B. Infant Philo Rajula, R. Tamilbharathi, Senduru Srinivasulu

CASE STUDY ON AN ANDROID APP FOR INVENTORY MANAGEMENT SYSTEM WITH SALES PREDICTION FOR LOCAL SHOPKEEPERS IN INDIA 931
Tejal Tandel, Sayali Wagal, Nisha Singh, Rujata Chaudhari, Vishal Badgujar

EFFICIENT POWER ELECTRONIC CONVERTER FOR ELECTRIC VEHICLE APPLICATIONS WITH ENERGY STORAGE SYSTEMS 935
A. Elakya, K. R. Srikeerthana, R. Santhiya, S. Sanjeevkapoor, M. Ragul

ATM SECURITY SYSTEM USING ARDUINO 940
B. Saranraj, N. Sri Priya Dharshini, R. Suvetha, K. Uma Bharathi

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Wireless Security – An Approach Towards Secured Wi-Fi Connectivity

Nishant Pimple[1]
Department of Computer Engineering
VIVA Institute of Technology
Mumbai, India
[1]jiten.nish@gmail.com

Utkarsha Pawar[2]
Department of Computer Engineering
VIVA Institute of Technology
Mumbai, India
[2]utkarshapawar2299@gmail.com

Tejashree Salunke[3]
Department of Computer Engineering
VIVA Institute of Technology
Mumbai, India
[3]tejashrees04@gmail.com

Janhavi Sangoi[4]
Department of Computer Engineering
Viva Institute of Technology
Mumbai, India
[4]Janhavisangoi@viva-technology.org

***Abstract* - In today's era, the probability of the wireless devices getting hacked has grown extensively. Due to the various WLAN vulnerabilities, hackers can break into the system. There is a lack of awareness among the people about security mechanisms. From the past experiences, the study reveals that router security encrypted protocol is often cracked using several ways like dictionary attack and brute force attack. The identified methods are costly, require extensive hardware, are not reliable and do not detect all the vulnerabilities of the system. This system aims to test all router protocols which are WEP, WPA, WPA2, WPS and detect the vulnerabilities of the system. Kali Linux version number 2.0 is being used over here and therefore the tools like airodump-ng, aircrack-ng are used to acquire access point pin which gives prevention methods for detected credulity and aims in testing various security protocols to make sure that there's no flaw which will be exploited.**

Keywords - Wi-Fi, Security, Wi-Fi Security, WPA/WPA2 ,WPS, WEP.

I. INTRODUCTION

The device is so super-convenient that it analyzes a variety of different networks. Not only that, but it also helps by doing the encryption. It also gives a way to breach all the said networks [12]. It aspires the users to invent an accurate, detailed and useful analysis of network standards. Along with that, it will also suggest various ethical ways to improve these networks. Every other networking encryption standard (WPA/WPA2, WPS) also can be thoroughly discussed in this given system [11][12].

The wide drawbacks into the system of the network are from the time since there was the arrival of the wireless local area network (WLAN) that came into the class of the networks, can be considered as a disadvantage [2]. So we hereby in this system, we look forward upon the newly occurred network-related securities that have risen up. Topics from the decryption and encryption techniques which can guard the essential data are discussed [12]. The effortlessly and easily within a very less time broken Wired Equivalent Privacy (WEP), the WiFi Protected Access (WPA) followed through the WiFi Protected Access II (WPA2) are being severely explored [5][8][9][11]. The systematic procedures for maintaining and providing high levels of security hereby to keep the user protected are discussed [1][3][4]. The most promising feature added in the system is portability.

The system aims to study ethical hacking of WiFi networking encryption protocols [5][6][8][12]. It is made for educational purpose only and aims in bringing awareness among society about the privacy of their respective data and how they can safeguard their data from intruders/crackers.

II. EXISTING SYSTEM

The Wi-Fi encrypted protocols as everyone is aware of very much can be easily cracked, damaged, used and destroyed using several ways is also considered as a drastic and wide category flaw [12]. The most popular and famous procedures or steps that almost every technically sound person knows in cracking the passwords and exploiting the user's network by not letting him know is using "aircrack-ng" [11]. To crack using this method quickly without much major thought or effort, the user has to have a laptop a desktop or a machine with Kali Linux. Along with it a remote card which supports monitor/injection mode. Aside from these apparatuses, the client additionally needs to get an outside remote card which can monitor/injection mode.

The form of packets in the air is transmitted by wifi. By using 'airodump' the captured packets are dumped in the air. The users that are connected to victim's Wi-Fi are selected since cracking isn't possible for this a valid WPA handshake is needed [11][12][13]. The attacker captures handshake by sending de-authentication packets to the host which is connected to Wi-Fi.

This method tests WiFi passwords through a wordlist basically performing a dictionary attack [5][8][11][13]. Also, the time taken is very long. So to overcome this limitation the proposed project comes with much more reliable and standard cracking methods.

INSTITUTE OF TECHNOLOGY At. Shirgaon Post. Virar Tal. Vasai Dist. Palghar VIRAR (EAST)

978-1-7281-5197-7/20/$31.00 ©2020 IEEE

2019 3rd International Conference on Trends in Electronics and Informatics (ICOEI 2019)

Tirunelveli, India
23 – 25 April 2019

Pages 1-734

IEEE Catalog Number: CFP19J32-POD
ISBN: 978-1-5386-9440-4

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP19J32-POD
ISBN (Print-On-Demand): 978-1-5386-9440-4
ISBN (Online): 978-1-5386-9439-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

S.NO	TITLE	Page.No
271	An Innovative Approach for Data Recovery Using Robust Reversible Watermarking Priyanka Kamble, Neha Raut,Apurva Raut, Sunita Naik	1401
272	A novel on 2 D Modeling for Width Measurement from Retinal Vessel Dr.N. SATHISHKUMAR, Dr.C.ANNA PALAGAN, P.Satish Chandra, N.Aravind	1405
273	Health Record Management through Blockchain Technology Harshini V M, Shreevani Danai, Usha H R, Manjunath R Kounte	1411
274	Secured voting through Blockchain technology Teja K, Shravani MB, Chintarlapallireddy Yaswanth Simha, Manjunath R Kounte	1416
275	SEKTROO:Smart Automated Pesticide Sprinkling Bot Pranali S. Bhoite, Nisha U. Gurav, Onkar K. Nagarkar, Reshama R. Chaudhari	1420
276	A comparitive analysis of classification algorithms on different stimuli for EEG based BCI applications Dr. E Grace Mary Kanaga, Sthuti J, Sharon Chrysolite B, Reethu Jerushah K	1424
277	Area Efficient VLSI Architecture for Reversible Radix-2 FFT Algorithm using Folding Technique and Reversible Gate Veenal Lalwani, Dr. Soheb Munir	1429
278	Influencing High Frequency Trading Patterns in Highway Operator Stock using Efficient V2V & V2I C4 Solutions for Vehicular Networks Arul Selvam S, Yashank Fomra R, Aswin K, Aswin P, Shanmugha Sundaram G A	1434
279	A Literature study on Machine learning fusion with IOT Kirti Sharma, Dr. Rainu Nandal	1440

Additional Papers

A Survey of Modulation Schemes in Visible Light Communications 1446
Sadiq Idris, Abiodun Musa Aibinu, Gokhan Koyunlu, Jaafaru Sanusi

IoT Based Toll Gate System Using RFID 1453
Rohan P Suresh, Shasna Shajahan Kavalakkal, Shifana Shereef, Sreeragh A S, Jerrin Sebastian

Design and Performance Comparison of Metamaterial Superstrate Antenna for DSRC Applications 1458
R. Mercy Kingsta, K. Seyatha

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Proceedings of the Third International Conference on Trends in Electronics and Informatics (ICOEI 2019)
IEEE Xplore Part Number: CFP19J32-ART; ISBN: 978-1-5386-9439-8

SEKTROO:Smart Automated Pesticide Sprinkling Bot

Pranali S. Bhoite
Department of Computer Engineering
VIVA Institute of Technology
Virar,India
pranali.rajeshree.bhoite@gmail.com

Nisha U. Gurav
Department of Computer Engineering
VIVA Institute of Technology
Virar,India
guravnisha17@gmail.com

Onkar K. Nagarkar
Department of Computer Engineering
VIVA Institute of Technology
Virar,India
onkar.nagarkar.7@gmail.com

Reshama R. Chaudhari
Department of Computer Engineering
VIVA Institute of Technology
Virar,India
rrc778@gmail.com

Abstract— **In today's world, the farmer plays a vital role by working hard in the fields and growing the crops for the people that are living their life in various places for earning their basic necessities. In India use of pesticides is 76% as against the world's average of 44%. Pesticides application on plants pollutes water and air. This can be reduced using improved field maintaining techniques. The effectiveness of proposed system is shown by its ability to successfully navigate the bot into the rows of plantation type of farm. When the bot sprinkles pesticide, covering all plants in the farm, it also provides a proper notification time by time with the help of GSM Module. The working of bot depends on the heart i.e Arduino Mega 2560, it combines all the other modules and make synchronized for the proper functioning of bot. The Raspberry Pi and Camera Module is used for the detection of infected plants. Ultrasonic Sensors are used for object detection, Wi-Fi Module for accessing the images of infected plants, Pumping Motors and Sprinkler Nozzles are used for sprinkling pesticides on the infected plants.**

Keywords—Arduino Mega 2560, Accelerometer, Bluetooth Module, Camera Module, GSM Module, Gyroscope Sensor, Micro-SD Card Module, Pumping Motors, Raspberry Pi, Sprinkler Nozzles, Ultrasonic Sensors, Wi-Fi Module.

I. INTRODUCTION

An embedded system is a special purpose computer system designed to perform one or a few dedicated functions with real-time computing constraints including hardware, software and mechanical parts[1]. India is an agricultural country, Indian agriculture sector contributes 18% of India's gross domestic product (GDP), hence it plays a vital role in the process of economic development of the country. This forms the main source of income. Farmer plays a vital role by working hard in the fields and growing the crops for the people that are living their life into the crowd place for earning their basic necessities. The contribution of agriculture in the national income in India is more, where 70 per cent population is dependent on agriculture hence, it is said that agriculture in India is a backbone of Indian Economy[2]. According to survey of World Health Organization (WHO), 1 million pesticide cases are observed resulting in more than one lakh deaths every year[3]. As observed, farmer's health is adversely affected, when they spray pesticides in farms. Even after covering their body they still suffer from various diseases that are related to skin and respiration. In order to reduce the problems such as health effects of farmers, finding the labours, managing the resources. The proposed embedded system is the automated bot which works on Arduino IDE. It is developed mainly for plantation and intensive type of farming.. Bot has multiple functions, it performs various operations such as scanning, detecting the infected plant, sprinkling pesticides, storing location of infected plant and notifying the farmer about the same along with keeping the farmers health into consideration. The effectiveness of this platform is shown by the platform ability to successfully navigate the bot into the rows of plantation farm. While the pesticide spraying, system efficiently covering all plants in the farm. The idea of proposed system serves as a helping hand to farmers for maintaining their fields hence this system serves a better solution by leading to negligible interaction between the farmer and the pesticides.

II. PREVIOUS WORK

T. Chen, et al.[1], proposed a system which is an automatic guided vehicle and it controls the unwanted spraying of pesticides on the plants. The height of the plant is calculated with the help of depth sensor. S. Spoorthi, et al.[2], proposed a system which is a drone i.e. a quadcopter is controlled by farmer via application connected to smartphone using Wi-Fi. Drone sprays pesticides evenly on the crops in field. E.Ozgul, et al.[3], proposed a system which is X-bot robot composed of different sections spraying mechanism, insect repellant mechanism. Z. Diao, et al.[4], proposed a system which is robot designed for spraying the pesticides crop on wheat, they used camera module for the process of the image capturing. S. Pilli, et al.[5], proposed eAGROBOT robot system is built in order to spray the pesticide along with the prediction of the diseases. A. Naik, et al.[6], proposed wireless technology using the arduino as a base microcontroller, in order to detect the moisture of the soil and sprinkle water with the help of water supplier pump. The farmer is notified by the message as the plants are watered. S.S, et al.[7], proposed a robot that detects the moisture level, pressure humidity and light that the plant requires along with sprinkling pesticide or fertilizer only by detecting color of leaf. Ratan Lal, et al.[8], proposed a system that robot may find the way to travel through the field to spray the pesticide to all the plants that are been infected in the field. M. Ko, et al.[9], proposed a robot which consists of steering and speed motor too. This paper presents work on strategic navigation research and implementation of advanced automation and control schemes in mechatronics design context of robot. Y. Yang, et al.[10], proposed a system about the robot which is built for watering the plant. The robot will check for the obstacle and also detect the borer insect on tomato plants. An algorithm was developed to achieve high speed efficient video processing for detecting the infected plants. R. Rafi, et al.[11], proposed a system in which robot is designed for water spraying water, check the water level and count the trees along with that it notifies if the water content is below the threshold level. S. Rao, et al.[13], proposed system in which robot is built using the Arduino board that can be used for spraying the pesticide on the plants.

III. LIMITATIONS IN THE PREVIOUS WORK

System that are built are incapable of detecting the infected plants[1][3]. Wi-Fi Module fails to provide the long range for

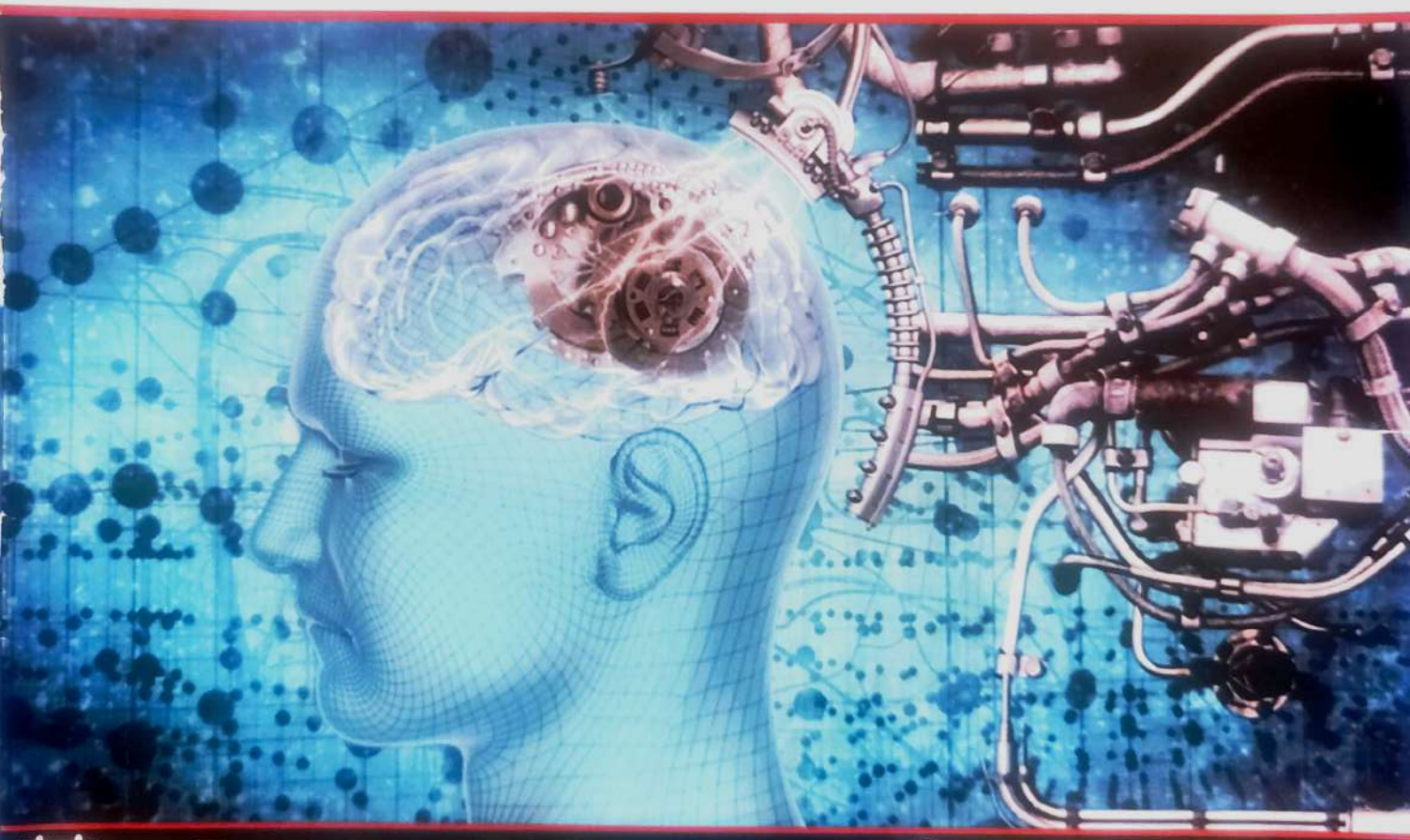
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon, Post: Virar
Tal.: Vasai, Dist. Palghar
VIRAR (EAST)

SCIENCE PLUS

Proceedings of

Science Plus

INTERNATIONAL CONFERENCE



19TH JUNE, 2019

Pune, India

In Association with:

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

PROCEEDINGS OF

Science Plus
INTERNATIONAL CONFERENCE

DATE : 19th June, 2019

VENUE : Pune, India

Organized by

Association with

Corporate Address
IRAJ
Plot No. 30, Dharma Vihar, Khandagiri, Bhubaneswar, 751030
Odisha, India
www.iraj.in

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Conference Committee

Program Chair:

Prof. Prasad Kabade
Dayananda Sagar College of Engineering,
Bengaluru

Harsha Vardhan U
Assistant Professor, Department of Mechanical Engg,
City Engineering College, Bengaluru, India

Ravi Kumar R
Asst. Professor,
APS college of Engineering, Bangalore, India

Prof. R.N Barik
Chairman, IRAJ Research Forum
Mail: chairman@iraj.in

Conference Convener:

Mr. Mukti Ranjan Pattnaik
Mob: +91-8763630137

Miss. Sumita Nayak
Mob: +91-8280047516

Publication Head:
Mr. Manas Ranjan Prusty, IRAJ, India

International Advisory Members

Prof. Goodarz Ahmadi, Professor, Mechanical and Aeronautical Engineering, Clarkson ,University, USA
J. K. Chen, Ph.D.,William and Nancy Thompson Professor, University of Missouri, USA
Dr. Jai Navlakha,Professor,School of Computing and Information Sciences, Florida, USA
Dr Chi Hieu Le, Pembroke, Central Avenue. Chatham Maritime, United Kingdom
Dr. M.A.Chowdhury, Professor, Dhaka University of Engineering and Technology, Bangladesh.
Prof. Mohammed Farooque Khalil, Sr Lecturer, Jazan University, Saudi Arabia (KSA)
Davood Mohammadi Souran,Research Associate,Shiraz University , Shiraz, Iran
Prof. S.Barathkumar, Department of ECE, Christ the King Engineering College, Coimbatore ,India
Prof. R. M. Khaire, Professor, Dept. of Elex. and Tele communication, B, V University, India
Prof. N. Srivastav, Professor, Dept. of Elex. and Tele communication, B, V University, India
Prof. S.P Joshi, Visiting Professor, Dept. of Computer Science, B, V University, India
Prof. I.Suneetha, Associate Professor, Dept. of ECE, AITS, Tirupati, India
Dr.Yaswanth Kumar Avulapati, Department of Computer Science (M.C.A),
S.V.U.College of Commerce Management and Computer Science, S.V.University, Tirupati, India
Mohammed Farooque Khalil, Sr Lecturer, Department of Computer Science, Jazan University, Kingdom of Saudi Arabia (KSA)
Hari Krishna Kuruva, Assistant Professor, DIT School of Engineering, Greater Noida, Uttar Pradesh, National Institute of Technology, Silchar.
Davood Mohammadi Souran, Research Associate, Control and Automation Engineering, Shiraz University, Shiraz, Iran
Gurudatt Anil Kulkarni, I/C HOD E&TC Department, Marathwada Mitra Mandal's Polytechnic

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

★ ★ ★

21. **BS-MRP: Bandwidth based Secured Data Transmission in MANET** 94-97
- *Bhavika J. Raut, Satish Y. Ket*

22. **Review on Gait Analysis Techniques** 98-103
- *Saylee Patkar, Ramesh Lekurwale, Sonali Patil, Rajani Mullerpatan*

23. **Effect of Pitch to Diameter Ratio on Film Cooling Performance of Reversed Injection Holes** 104-107
- *Sanjay D. Barahate, Shubham K. Darade, Rajashree P. Bhamare, Harshada S. Bagul, Nikhil R. Shimpi*

24. **Design of Series Active Filter for Power Quality Enhancement of Smart Households by using MATLAB Simulink** 108-111
- *Bhushan S. Bhat, S.P. Koparkar*

25. **Software Engineering Basics & the Algorithmic DocM Model for Software development** 112-115
- *Azeem Uddin*

★★★

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Editorial

Good teaching emanates from Research. The teachers' love for research and their experience in research are vital for the growth of the institution. Any institution is judged by the level and extent of the research work it accomplishes. This sets in a regenerative cycle of excellence. Experience of research leads to quality teaching and quality teaching imparted to the young in turn enriches the research. The campus dynamics needs such type of research teaching research environment.

Technology is the non-linear tool available to humanity, which can affect fundamental changes in the ground rules of economic competitiveness. Science is linked to technology through applications. Technology is linked to economy and environment through manufacture of knowledge products. Economy and environment are linked to technology, which promotes prosperity to the society. We have to use innovation to generate high value added products for becoming a global player. The foundation for academic excellence is the research.

Let us take would like to give, how you young friends can become a great inventors or discoverers. What is the unique nature of thinking minds of discoverers and inventors of the world. "Inventions and discoveries have emanated from creative minds that have been constantly working and imaging the outcome in the mind. With imaging and constant effort, all the forces of the universe work for that inspired mind, thereby leading to inventions or discoveries". Now there are three unique friends to make you great; they are great books, great human beings and great teachers. Teachers should have the capacities to nurture the "creative minds" and "imagining minds".

So this conference has been designed to stimulate the young minds including Research Scholars, Academicians, and Practitioners to contribute their ideas, thoughts and nobility in these disciplines of engineering. It is a pleasure to welcome all the participants, delegates and organizers to this International Conference on behalf of IRAJ Research Forum and ITR family members. This conference has received a great response from all parts of the country and abroad for the presentation and publication in the proceedings. I sincerely thank all the authors for their valuable contribution to this conference. I am indebted towards the Reviewers and Board of Editors for their generous gifts of time, energy and effort for the Conference.

Editor-In Chief

Ravi Kumar R
Asst. Professor,
APS college of Engineering, Bangalore, India

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

International Journal of Electrical, Electronics and Data Communication, ISSN(p): 2320-2084, ISSN(e): 2321-2950
Volume-7, Issue-9, Sep.-2019, http://iraj.in

BS-MRP: BANDWIDTH BASED SECURED DATA TRANSMISSION IN MANET

[1]BHAVIKA J. RAUT, [2]SATISH Y. KET

[1]RESEARCH SCHOLAR, MCT'S RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI
[2]HOD, MCT'S RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI
E-mail: [1]bhavikajraut@gmail.com, [2]satishket@gmail.com

Abstract - Mobile ad hoc networks are the collection of wireless nodes which communicate with each other either in single or multi hop without the support of centralized infrastructure. Their QoS parameters are dynamic topology, low bandwidth and high mobility. In existing multipath routing protocols, source finds multiple paths towards destination and data is transmitted via the shortest path with available bandwidth. A new protocol named as BS-MRP is proposed in which bandwidth is also considered as one of the parameters along with hop count. Open nature of wireless communication also enforces security vulnerabilities such as various attacks. To overcome such problem route discovery process is carried out in secured manner. Hence QRREQ (QoS Route Request) packet is flooded in the network with the bandwidth requirement X and security. Even though proposed protocol achieves bandwidth efficiency and security it fails to consider the important aspect of MANET such as mobility. Performance of BS-MRP protocol is evaluated in MANETs using the NS2 simulator and compared in terms of the metrics such as the packet delivery ratio, Throughput and routing overhead.

Keywords - MANET, QoS, Routing, Multipath, Security

I. INTRODUCTION

"Mobile Ad Hoc Network" called as MANET is a type of network that can change their locations in the infrastructure less network. MANETs are mobile nodes and can change their locations using wireless connections to connect to other networks for communication. This network can be a Wi-Fi connection, can be a satellite transmission or cellular network. As Security is considered, Mobile Ad hoc Networks (MANET) are of less infrastructure networks, further characterized by shortage of prior structure and the unfavorableenvironments. As this networksare having unique properties make a situation where required network established is unplanned. However, this flexibility leads to several security challenges. Security in MANET is a very complicatedjob and requiresapplications on the issues associating across all the layers of communication stack. This paperfocuses on the security issues in MANET [8]. It provides an improvement of the security solutions for MANET with complete discussions on secure routing, key management problems and intrusion detection system.

The chapteris concluded with anextensive security solution for MANET. Bandwidth estimation is a basic function that is required to provide QoS in MANET. It is a way to determine the data rate available on a network route.Techniques for accurate bandwidth estimation are also necessary for controlling traffic in the network and planning capacity support to nodes. Having existing information can help to advance better methods for e.g. gateway selection, channel range, routing, etc. [9].

II. RELATED WORK

SupachoteLertvorrathamet al. [1] proposed a secured predictive multipath routing protocol. In mobile ad hoc network routing protocols that are bounded with innovative path measurement method and security functions. Multipath ad hoc network routing protocol called "Predicted Multipath Routing Protocol (PMP)". The protocol mobility simulation parameters model plays a very important role in determining the protocol performance in MANET [1]. For mobility modeling, the behavior or activity of a user's movement can be described using both analytical and simulation models. The input to analytical mobility models are simplifying assumptions regarding the movement behaviors of users [1]. Such models can provide performance parameters for simple cases through mathematical calculations. The design of this protocol is focused on solid security processes to discover secure routes. Bandwidth concept is not mentioned in this paper. Xuefei Li et al. [2] proposed a QoS Provisioning in mobile ad hoc network to reduce the network overhead. In QoS parameter using Node Disjoint Multipath Routing protocol (NDMR) with low broadcast redundancy. Multipath routing allows the establishment of multiple paths between a single source and single destination node [2]. Although NDMR provides node-disjoint multipath routing with low route overhead in MANETs, it is only a best-effort routing approach, which is not enough to support QoS [2]. The protocol can classify network traffic into different priority levels and apply priority scheduling and queuing management mechanisms to obtain QoS guarantees. Saida Ziane, Abdelhamid Mellouket al. [3] proposed a Swarm Intelligent Multi-path Routing for Multimedia Traffic over Mobile Ad hoc Networks. The advance of

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

IRAJ INTERNATIONAL JOURNALS

IJMPE

www.ijmpe.iraj.in

International Journal of Mechanical and Product Engineering

ISSN(P):2320-2092
ISSN(e):2321-2071

IJEEDC

www.ijeedc.iraj.in

International Journal of Electrical, Electronics and Data Communication

ISSN(P):2320-2084
ISSN(e):2321–2950

IJACEN

www.ijacen.iraj.in

International Journal of Advance Computational Engineering and Networking

ISSN(e):2320-2106
ISSN(P):2320-2106

Journal indexed in

International Journal of Soft Computing And Artificial Intelligence (IJSCAI)

ISSN(P):2321-404X
ISSN(e):2321-4384
www.ijscai.iraj.in

International Journal of Advances in Computer Science and Cloud Computing (IJACSCC)

ISSN(P):2321-4058
ISSN(e):2321-4392
www.ijacscc.iraj.in

International Journal of Advances in Science, Engineering and Technology(IJASEAT)

ISSN(P):2321-8991
ISSN(e):2321-9009
www.ijaseat.iraj.in

International Journal of Industrial Electronics and Electrical Engineering(IJIEEE)

ISSN(P):2347-6982
ISSN(e):2349-204X
www.ijieee.iraj.in

International Journal of Advances in Mechanical and Civil Engineering(IJAMCE)

ISSN(P):2394-2827
www.ijamce.iraj.in

International Journal of Management and Applied Science (IJMAS)

ISSN(P):2394-7926
www.ijmas.iraj.in

International Journal of Advance in Electronics and Computer Science (IJAECS)

ISSN(P):2393-2835
www.ijaecs.iraj.in

For Upcoming Conferences

www.allconferencealert.com

Be a Proud Member now
www.member.iraj.in

Publisher
Institute of Research and Journals
Plot No. 30, Dharma Vihar, Khandagiri,
Bhubaneswar, Odisha, India, 751030
E-mail : info@iraj.in

This book will be available online at
Digital Explore
http://www.digitalxplore.org/

Visit for website at
www.scienceplus.us

ISBN
978-93-8[illegible]

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

2018 International Conference on Smart City and Emerging Technology (ICSCET 2018)

Mumbai, India
5 January 2018

IEEE Catalog Number: CFP18M11-POD
ISBN: 978-1-5386-1186-9

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

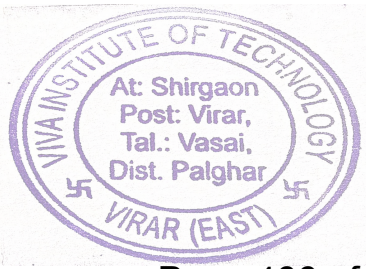
For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP18M11-POD
ISBN (Print-On-Demand): 978-1-5386-1186-9
ISBN (Online): 978-1-5386-1185-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



AN EFFICIENT AUXILIARY READING DEVICE FOR VISUALLY IMPAIRED 126
Akash Singh ; Suraj Devnani ; Vaishali Kushwaha ; Shilpi Mishra ; Akashdeep Gupta ; K.K. Soundrya Pandian
AN OVERVIEW ON DIFFERENT METHODS OF DOMESTIC WASTE MANAGEMENT AND ENERGY GENERATION IN INDIA 131
Piyali Mondal ; Anojkumar Yadav
ANALYSIS AND POSITIONING OF 2D SOLAR PANEL 136
Sanjay Lohar ; Ridhesh Hirpara ; Tushar Kalsara ; Sharvari Patil
ANALYSIS OF DIFFERENT WEB DATA EXTRACTION TECHNIQUES 141
Momin Saniya Parvez ; Khan Shaista Agah Tasneem ; Shivankar Sneha Rajendra ; Kalpana R. Bodke
ANALYSIS AND DESIGN OF WIDE AREA DAMPING CONTROLLER FOR STATCOM IN SERIES COMPENSATED POWER SYSTEM 148
Rajesh Giri ; Vipin Jain ; Ajay Kumar
ANALYSIS AND PREDICTION OF HEALTH ISSUES FOR TEACHING PROFESSION USING SEMANTIC TECHNIQUES 158
C.I Arthi ; R.L Priya ; Ruchi Rautela
ANALYSIS OF LABOR EFFICIENCY AND DETERMINATION OF THE FACTORS GOVERNING LABOR PRODUCTIVITY IN MUMBAI METROPOLITAN REGION 163
Kanan S. Agarwal ; Sriraj S. Tatekar ; Nirav V. Makwana ; Ashutosh A. Sharma
APPLICATION FOR ONLINE VOTING SYSTEM USING ANDROID DEVICE 168
Himanshu Vinod Purandare ; Akash Ramswaroop Saini ; Freddy Donald Pereira ; Bibin Mathew ; Pratiksha S. Patil
APPLICATION OF SOFT AND HARD COMPUTING TOOLS FOR THE ESTIMATION OF GROUNDWATER RECHARGE 173
Swati H. Mhaskar ; Nikhil M. Ingale ; Shrikant Charhate
ARDUINO ROBOTIC HAND: SURVEY PAPER 177
Vaibhav Oza ; Pranav Mehta
AUTHOR IDENTIFICATION USING STYLOMETRY 182
Sujata Khedkar ; Shashank Agnihotri ; Anshul Agarwal ; Mahak Pancholi ; Pooja Hande
AUTOMATIC IMAGE AND VIDEO COLOURISATION USING DEEP LEARNING 186
Brian Sam Thomas ; Rajat Dogra ; Bhaskar Dixit ; Aditi Raut
BIDIRECTIONAL DC-DC CONVERTER IN SOLAR PV SYSTEM FOR BATTERY CHARGING APPLICATION 190
Seema Jadhav ; Neha Devdas ; Shakila Nisar ; Vaibhav Bajpai
BOTNET DETECTION IN LOW LATENCY ANONYMOUS COMMUNICATION NETWORK: A BRANCH OF KNOWLEDGE 194
Yogita Deepak Mane ; Uday Pandit Khot
CHANGE MANAGEMENT APPROACH FOR INTEGRATING IOT TECHNOLOGY IN HEALTHCARE SYSTEM 200
Anali Yeole ; D. R. Kalbande
CLINICAL DEPRESSION DETECTION IN ADOLESCENT BY FACE 204
Prajakta Bhalchandra Kulkarni ; Minakshee M. Patil
COMPARATIVE ANALYSIS OF DIFFERENT DOA ESTIMATION TECHNIQUES 208
Awab Habib Fakih ; S.M. Shashidhara ; R.G Karandikar
COMPARISON AND SELECTION OF APPROPRIATE PID CONTROLLER FOR NONLINEAR UNMANNED GROUND VEHICLE 212
Piyush Dave ; Arvind Sangale ; Usha Gupta ; Vinita Vartak ; Ankur Ganorkar
COMPARISON OF PRESENT-DAY TRANSPORT LAYER NETWORK PROTOCOLS AND GOOGLE'S QUIC 217
Omkar Nalawade ; Amit Dhanwani ; Tejashree Prabhu
CONFIGURATION OPTIMIZATION OF NETWORK TOPOLOGY BY INTRODUCING PARALLEL TOPOLOGY TO ENHANCE DATA COMMUNICATION FOR THE NETWORK 225
Varun Nair ; Shubhangi Jena ; Yash Kuvawala
COTTON CROP DISEASE DETECTION USING DECISION TREE CLASSIFIER 229
Jayraj Chopda ; Hiral Raveshiya ; Sagar Nakum ; Vivek Nakrani
CROSS PLATFORM SMART RESERVATION BASED PARKING SYSTEM 234
Azhar Somani ; Shubham Periwal ; Kesha Patel ; Pranit Gaikwad
DETECTION OF APPLICATION LAYER DDOS ATTACKS BASED ON UML MODELLING 239
Karuna S. Bhosale ; Maria Nenova
DETECTION OF CODE CLONES 245
Nisha Gupta ; Vanshika Gandhi ; Charmi Hariya ; Vishakha Shelke
DINE 'N' FINE TABLE: AN INTERACTIVE PLATFORM FOR FOOD INDUSTRY 249
Jvotsna J. Jadhav ; Chetali R. Ayare ; Akash S. Nalawade ; Rucha Pathari

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

An overview on different methods of Domestic Waste Management and Energy generation in India

Piyali Mondal
M.Tech IIT Roorkee
Asst. Professor
VIVA Institute of Technology
piyaliam@gmail.com

Anojkumar Yadav
M.Tech PE&D
Asst. Professor
VIVA Institute of Technology
anj_ydv@rediffmail.com

***Abstract*—We are moving towards sustainable energy generation by using non-conventional energy generation source so that we can limit the use of fossil fuel. The deposit of fossil fuel is limited and is already under crisis. So it is high time that we have to shift our focus of generating source. There are numerous non-conventional sources for the generation of energy. But the problem with these sources is that continuous supply of power is not available. Moreover, there is lot of storage issues when it comes to solar power or Hydro power. Every time use of battery bank is not feasible. Also installation of battery bank requires huge maintenance and subsequently the cost of the project increases. This becomes a major challenge in the installation of plants with non-conventional energy sources. But energy developed using Domestic/ Municipal Solid Waste has the potential to deliver continuous power. Our country generates thousands of tons of municipal solid waste daily. So we have huge potential of energy generation from wastes. Moreover, if domestic wastes are not collected, segregated and disposed properly, then is a serious aspect which causes environmental degradation. This problem will also find its solution where we can limit environmental pollution caused due to waste. In this paper a brief review of municipal solid waste management system is given which helps in energy generation and can be a step to mitigate energy crisis using developing technology. Also different method of energy generation from wastes are described and method of incineration, Anaerobic Digestion and Pyrolysis, are described for waste to energy (WTE) conversion and there application in India is also discussed. We still being a developing country, cannot mobilize enough funds for proper collection and segregation of wastes. This becomes a key challenge and needs to find solution with proper implementation of strict laws and regulation. This also becomes major cause for failure of such power plants which runs on wastes.**

Keywords- Municipal solid waste, Incineration, Waste to heat, Energy crisis, Energy generation.

I. *INTRODUCTION*

Each year about fifty five Million tons of Municipal Solid Waste (MSW) and thirty eight billion liters sewage is generated in the urban areas of India. With the rapid increase in the population of urban areas, it is estimated that waste generation will increase at a per capita rate of 1 to 1.33% annually.

Fig. 1. *Landfill site in Chennai, TN, India*

The area of land required to dispose the waste has been increasing significantly along with cost of collecting, transporting and disposing waste. The wastes generated are either dumped in lands or find their way to water bodies. This results in severe land, water and air pollution. There are several ways to mitigate this problem. One of them is adopting to technologies to convert Waste into Energy, which requires proper treatment and processing of wastes before their disposal. This will reduce the land, water and air pollution, generate substantial quantity of energy and offer numerous socio-economic benefits.

Proper segregation of waste becomes a key challenge in the Waste Management Technology in India. It is very difficult to organize and manage the collection process of waste and then segregate it in according to the materials like papers plastics metals Cannes glasses food wastes etc.

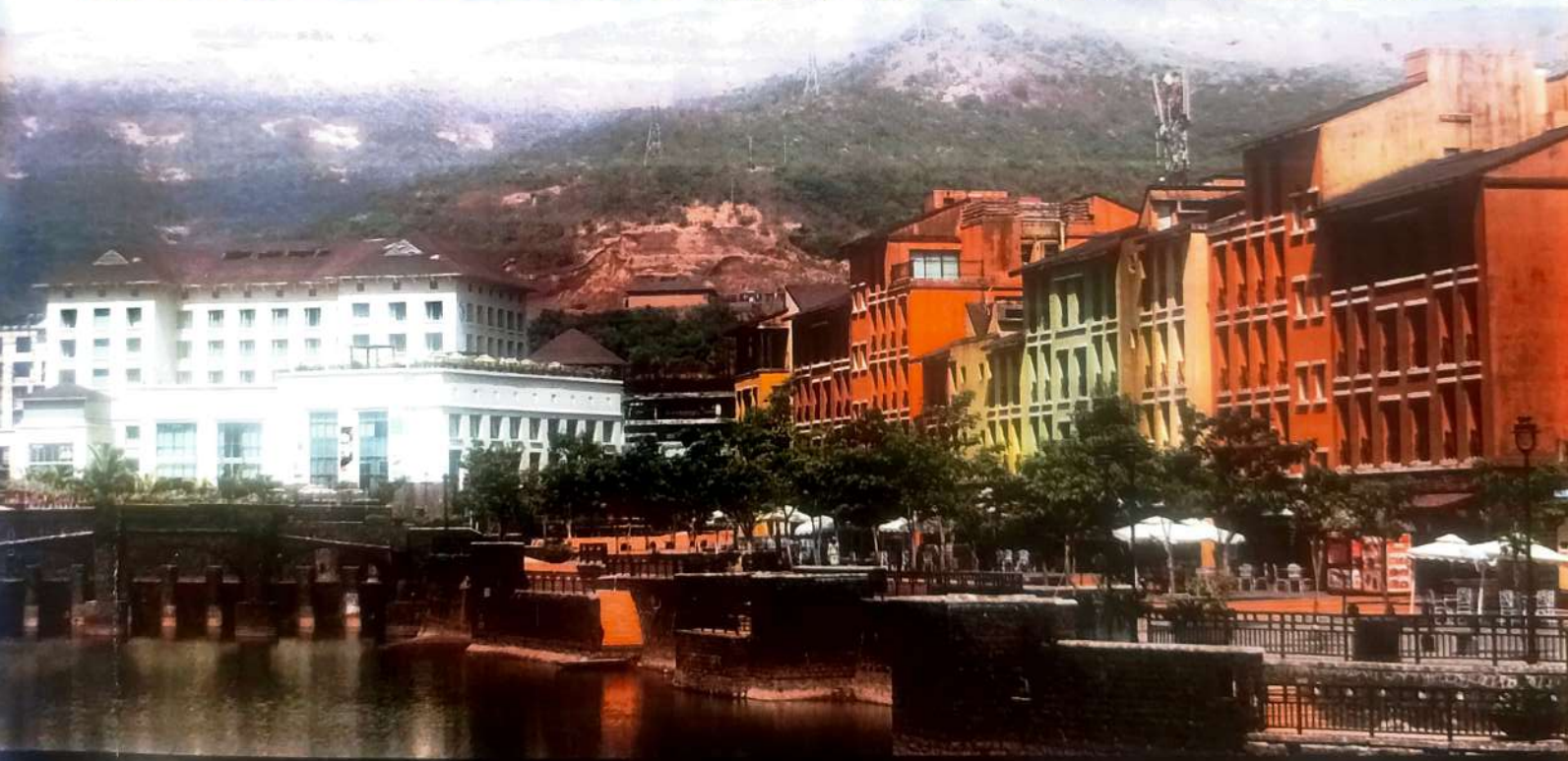
VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

ACADEMICS CONFERENCE NETWORK

Proceedings of

ACN

INTERNATIONAL CONFERENCE



20th May, 2018 | Venue: Pune, India

Association With

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

IRF WRFER WORLD RESEARCH FORUM FOR ENGINEERS AND RESEARCHERS

PROCEEDINGS OF

ACN

INTERNATIONAL CONFERENCE

Date: 20th May, 2018

Venue: Pune, India

Organized by

ACADEMICS CONFERENCE NETWORK

In Association with

IRF

WRFER WORLD RESEARCH FORUM FOR ENGINEERS AND RESEARCHERS

ieeeforum INDUSTRIAL ELECTRONICS & ELECTRICAL ENGINEERS FORUM

Corporate Address
IRAJ
Plot No. 30, Dharma Vihar, Khandagiri, Bhubaneswar, 751030
Odisha, India
www.iraj.in

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Publisher: IRAJ

© 2018, Pune International Conference

No part of this book can be reproduced in any form or by any means without prior written permission of the publisher.

Type set & printed by:

R. K. Printers

Khandagiri, Bhubaneswar

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

About IRAJ Research Forum (IRF):

The ***IRAJ Research Forum*** is an international non-profit academic association under 'Peoples Empowerment Trust' with the stated goals of promoting cooperation among scientists, defending scientific freedom, encouraging scientific responsibility, and supporting scientific education and science outreach for the betterment of all humanity. It is the one of the world's largest and most prestigious general scientific society.

Objective of IRF:

- To provide a world class platform to researchers to share the research findings by organizing International/National Conferences.
- To use the research output of the conference in the class room for the benefits of the students.
- To encourage researchers to identify significant research issues in identified areas, in the field of Science, Engineering, Technology and Management.
- To help dissemination of their work through publications in a journal or in the form of conference proceedings or books.
- To help them in getting feedback on their research work for improving the same and making them more relevant and meaningful, through collective efforts.
- To encourage regional and international communication and collaboration; promote professional interaction and lifelong learning; recognize outstanding contributions of individuals and organizations; encourage scholar researchers to pursue studies and careers in circuit branches and its applications.
- To set up, establish, maintain and manage centers of excellence for the study of /on related subjects and discipline and also to run self supporting projects for the benefit of needy persons, irrespective of their caste, creed or religion.

About ACN:

The Academics Conference Network (ACN) is a non-profit private association dedicated to the promotion of international education and university cooperation in the field of Science and Engineering. ACN conferences provide an appropriate forum for the oral presentations and discussions of all accepted papers. When submitting a paper to a conference, it is assumed that, once accepted, at least one author is present at the meeting to present the paper.

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Conference Committee

Program Chair:

Prof. R. M. Khaire
Professor, COE,
B. V University, India

Prof. Deepak Ray
COE, Bharati Vidyapeeath,
Pune, India

Prof. R. N. Barik
Chairman, IRAJ Research Forum
Mail: chairman@iraj.in

Conference Convener:

Miss. Sumita Nayak
Mob: +91-8280047516

Mr. J.R. Pattanayak
Mob: +91-8280047487

Publication Head:
Mr. Manas Ranjan Prusty, IRAJ, India

INTERNATIONAL ADVISORY MEMBERS

Prof. **Goodarz Ahmadi,**
Professor, Mechanical and Aeronautical Engineering,
Clarkson University, USA

Dr Chi **Hieu Le,**
Senior Lecturer, University of Greenwich.
Kent ME4 4TB. United Kingdom

PROF. (ER.) Anand Nayyar
Department of Computer Applications &
I.T.KCL Institute of Management and Technology,
Jalandhar G.T. Road,Jalandhar-144001, Punjab, India.

Prof. R. M. Khaire,
Professor, Dept. of Elex. and Telecommunication,
B. V University, India

Dr.P.Suresh,
Professor, Karpagam College of Engineering,
Coimbatore, Tamilnadu

Mark Leeson
Associate Professor (Reader)
Area of Expertise: nanoscale communications, evolutionary algorithms, network coding and communication systems

Dr. P. K. Agarwal
Professor, Deptt. of Civil Engineering,
MANIT Bhopal ,Ph. D: IIT Kanpur
M. E: Civil Engg.IIT Roorkee, Membership
Indian Road Congress (IRC), Institute of Urban Transport (IUT)

Shahriar Shahbazpanahi
Islamic Azad University,
Department of Civil Engineering, Sanandaj,
Kurdistan, Iran, PhD (Structural Engineering),
University Putra Malaysia, Malaysia ,
2009-Present

Harun Bin Sarip
Head of Research and Innovation Dept, UniKL-MICET
Doctorate: Université de La Rochelle, France
Member : International Society of Pharmaceutical Engineer,
Singapore Chapter

Dr.Bilal Ali Yaseen Al-Nassar
The World Islamic Sciences and Education University (WISE)
Faculty of Business and Finance, Department of Management
Information System (MIS), Amman- Jordan

Dr. Md. Al-Amin Bhuiyan
Associate Professor, Dept. of Computer Engineering
King Faisal University, Al Ahssa 31982, Saudi Arabia

Prof. (Er.) Anand nayyar
Department of Computer Applications & I.T.
KCL Institute of Management and Technology,
Jalandhar, G.T. Road, Jalandhar-144001,
Punjab, India

Prof. Aleksandr Cariow
Institution or Company: West Pomeranian University of
Technology, Szczecin

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

Dr. P. K. Agarwal
Professor, Deptt. of Civil Engineering,
MANIT Bhopal ,Ph. D: IIT Kanpur
M.E: Civil Engg IIT Roorkee.
Membership: Indian Road Congress (IRC),
Institute of Urban Transport (IUT)

Dr. V PS Naidu
Principal Scientist & Assoc. Prof., MSDF Lab, FMCD
CSIR - National Aerospace Laboratories,
Bangalore, India

Mr. P. Sita Rama Reddy
Chief Scientist ,Mineral Processing Department, CSIR – Institute of Minerals & Materials Technology
Bhubaneswar, India, M.Tech. (Chem. Engg., IIT, KGP)

Dr.P.C.Srikanth,
Professor & Head, E&C Dept, Malnad College of Engineering, Karnataka, Senior Member IEEE, Secretary IEEE Photonics Society, M.Tech: IIT, Kanpur, Ph.D: In IISc Photonics lab

Prof. Lalit Kumar Awasthi,
Professor, Department of Computer Science & Engineering
National Institute of Technology(NIT-Hamirpur),
PhD, IIT, Roorkee, M. Tech, IIT, Delhi

Dr. Chandra Mohan V.P.
Assistant Professor, Dept. of Mech. Engg., NIT Warangal, Warangal. Ph.D : Indian Institute of Technology(IIT),Delhi
M.B.A: Alagappa University

Prof. I.Suneetha,
Associate Professor, Dept. of ECE, AITS, Tirupati, India

Dr.S. Chandra Mohan Reddy,
Assistant Professor (SG) & Head,Dept. of Electronics & Communication Engineering, JNTUA College of Engineering, Pulivendula, Ph.D,J.N.T. University Anantapur, Anantapuramu

Gurudatt Anil Kulkarni,
I/C HOD E&TC Department, MARATHWADA MITRA MANDAL'S POLYTECHNIC

★★★

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

TABLE OF CONTENTS

Sl. No.	TITLES AND AUTHORS	Page No.
01.	**Course of Maxillary Artery through Loop of Auriculotemporal Nerve and Deep to Posterior Division of Mandibular Nerve** ➢ *B. Prakash Babu, Huban Thomas*	1-4
02.	**A Study of Effect of Ear Phone use on Auditory Reaction Time** ➢ *Ronak Rathod, Chinmay Shah, Hemant Mehta*	5-9
03.	**Feasibility Analysis of Decentralized Wastewater Treatment Technology: SBR and MBBR** ➢ *Shrutaswinee Hazarika, Devanshu Pandit*	10-13
04.	**Vermi-Composting and Bio-Methinization for Conversion of Waste to Valuable Products** ➢ *Dhaval Patel, Devanshu Pandit*	14-21
05.	**Buckling Analysis of Layered Composite Plate with Integrated Piezoelectric Layers** ➢ *Achchhe Lal, Kundan Mishra*	22-26
06.	**IOT Based Smart Housekeeping Robot** ➢ *Mohini Jogdand, Aparna Shinde, Kamal Jadhav*	27-30
07.	**Animal Recognition using Local Binary Pattern Histogram (LBPH)** ➢ *Khushi Khanchandani, Dhairya Sangoi, Gaurav Panchal*	31-34
08.	**Animal Recognition using Principal Component Analysis (PCA)** ➢ *Khushi Khanchandani, Dhairya Sangoi, Gaurav Panchal*	35-38
09.	**Overview of Engine Cooling System and Engine Cooling System Simulation using MATLAB Simulink Model based Simulation Technique** ➢ *Kaveri Gade, Mahesh Navale, Pravin Shelar*	39-42
10.	**A Novel Speech Enhancement Algorithm based on Cepstral Domain** ➢ *Dipali Bayas, Kalpana Joshi*	43-46
11.	**Analysis of Challenges in the Area of Quality Of Service (QoS) Support in Mobile Ad-Hoc Network (Manets)** ➢ *Bhavika J. Raut, Satish Y. Ket*	47-50

VIVA INSTITUTE OF TECHNOLOGY
At: Shirgaon
Post: Virar,
Tal.: Vasai,
Dist. Palghar
VIRAR (EAST)

International Journal of Electrical, Electronics and Data Communication, ISSN(p): 2320-2084, ISSN(e): 2321-2950
Volume-6, Issue-7, Jul.-2018, http://iraj.in

ANALYSIS OF CHALLENGES IN THE AREA OF QUALITY OF SERVICE (QOS) SUPPORT IN MOBILE AD-HOC NETWORK (MANETS)

[1]BHAVIKA J. RAUT, [2]SATISH Y. KET

[1]M.E.(CNIS) Student, MCT's Rajiv Gandhi Institute of Technology, Mumbai
[2]HOD, MCT's Rajiv Gandhi Institute of Technology, Mumbai
E-mail: [1]bhavikajraut@gmail.com, [2]satishket@gmail.com

Abstract - Mobile ad hoc networks are the collection of wireless nodes which communicate with each other either in single or multihop without the support of centralized infrastructure. Each device in a MANET changes its link to other devices all the time, as they are free to move in all direction. It is important to be cautious while transferring data over MANETs and it is not secure, because of its dynamic nature. In MANTEs real time and Multimedia applications required Quality of Service (QoS) like bandwidth, energy, end-to-end delayand jitter. In MANETs Quality of Service (QoS) is much more difficult and challenging task, usually defined as a set of service requirements that needs to be met by the network while transporting packets from a source to its destination[3]. This paper presents analysis of challenges and issues in providing QoS support to MANETs. There are many challenges in Quality of Service provisioning for MANETs like automatically changing topology, wireless capacity limitations, limited battery power, and Network Configuration, Limited physical security[3].

Keywords - Mobile ad hoc Network, Quality of service, Wireless Network, Packets

I. INTRODUCTION

A mobile ad hoc network (MANET) is a collection of randomly moving wireless devices which communicate with each other either in single or multihop without centralized infrastructure within an area. Unlike in cellular networks, there is not any fixed base-stations to support routing and mobility management. The wireless mobile devices communicate with each other without the help of wired base-stations. The wireless mobile devices are made with transmitter and receiver for communication purpose. Since each transmitter has a limited effective range, distant nodes communicate through multihop paths with other nodes in the middle as routers[10]. These networks are particularly suitable for emergency situations like floods and other disasters where wired networks are unable to operate[11].

A Quality of Service (QoS) is required in network while transporting packets from its source to its destination. The actual form of QoS and its parameter depends upon the requirement of the specific application. The main goals of QoS are: -

- More Determined network behavior is to be achieved
- Better initialization of the resources of network
- Better network for delivery of information
- Maintenance of end-to-end QoS with user mobility etc.

QoS metrics is also introduced which includes packet loss rate, bandwidth, estimated delay, packet jitter, path reliability and hop count[3]. QoS framework is a structural collection of concept and its relationship between related topics of QoSsupportive system which have common disciplines[3].

QoS routing is not sufficient to find a route from one node to other nodes in the network This route is also check the other QoS parameters like bandwidth delay packet loss. To guarantee these constraints after a route was found, resource reservations on the participating nodes are made. QoS is more difficult to find the perfect solution in ad hoc network than in most other type of networks because of sharing bandwidth and changing topologies as devices in the network are moving.

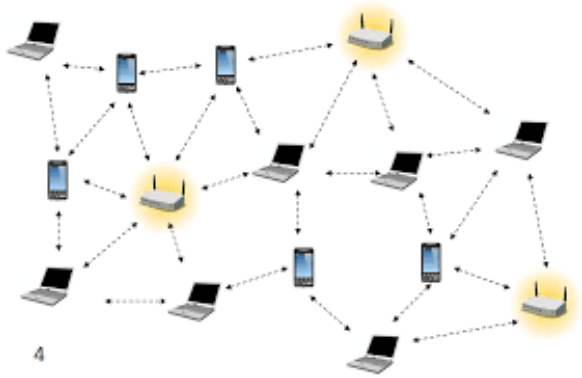


Figure 1.Mobile Ad-hoc Network

II. QOS PROVISIONING CHALLENGES IN MANET

1. Performance of MANETs

QoS is the set of service provided by the network to the user The primary goal of QoS is utilization of network resources for data transmission The service provider offers different types of services to the user based on a set of service requirements such as

VIRAR (EAST) Tal.: Vasai, Dist. Palghar

IRAJ INTERNATIONAL JOURNALS

IJMPE

www.ijmpe.iraj.in

International Journal of Mechanical and Product Engineering

ISSN(P):2320-2092
ISSN(e):2321-2071

IJEEDC

www.ijeedc.iraj.in

International Journal of Electrical, Electronics and Data Communication

ISSN(P):2320-2084
ISSN(e):2321–2950

IJACEN

www.ijacen.iraj.in

International Journal of Advance Computational Engineering and Networking

ISSN(e):2320-2106
ISSN(P):2320-2106

Journal indexed in

International Journal of Soft Computing And Artificial Intelligence (IJSCAI)

ISSN(P):2321–404X
ISSN(e):2321–4384
www.ijscai.iraj.in

International Journal of Advances in Computer Science and Cloud Computing (IJACSCC)

ISSN(P):2321–4058
ISSN(e):2321–4392
www.ijacscc.iraj.in

International Journal of Advances in Science, Engineering and Technology(IJASEAT)

ISSN(P):2321-8991
ISSN(e):2321–9009
www.ijaseat.iraj.in

International Journal of Industrial Electronics and Electrical Engineering(IJIEEE).

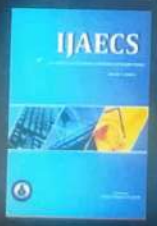
ISSN(P):2347-6982
ISSN(e):2349-204X
www.ijieee.iraj.in

International Journal of Advances in Mechanical and Civil Engineering(IJAMCE)

ISSN(P):2394-2827
www.ijamce.iraj.in

International Journal of Management and Applied Science (IJMAS)

ISSN(P):2394-7926
www.ijmas.iraj.in



International Journal of Advance in Electronics and Computer Science (IJAECS)

ISSN(P):2393-2835
www.ijaecs.iraj.in

For Upcoming Conferences

www.allconferencealert.com

Publisher
Institute of Research and Journals
Plot No. 30, Dharma Vihar, Khandagiri,
Bhubaneswar, Odisha, India, 751030
E-mail : info@iraj.in

Be a Proud Member now
www.member.iraj.in

This book will be available online at Digital Explore
http://www.digitalxplore.org/

Visit for website at
www.academicsconference.com

ISBN