



BackGround Checker

Shubham R. Keni¹, Mihir P. Rabade¹, Sanjit R. Vaz¹, Karsihma Raut¹

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

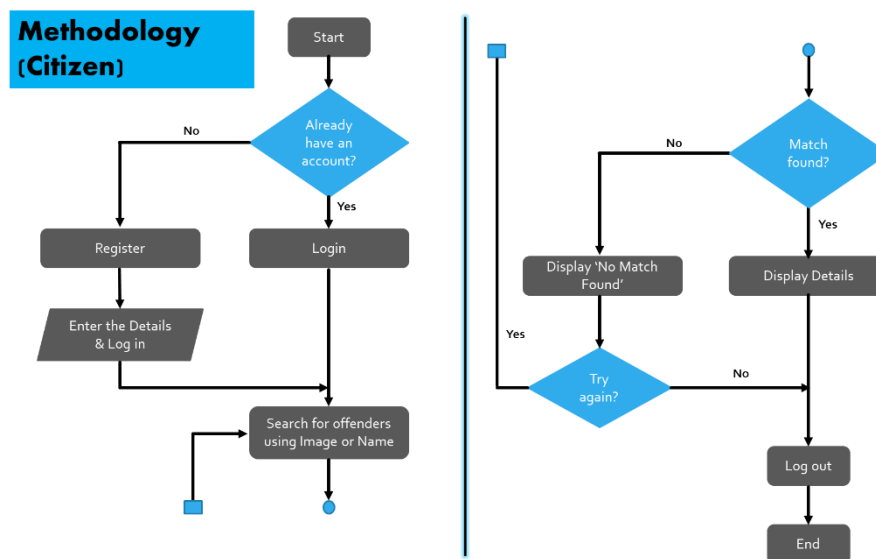


Fig. No 1: Flow Chart for Citizen Login

First, the citizen has to register using their ‘Aadhar Card Number’, for verification of the Aadhar number used by the citizen, we have used the ‘Verhoeff Algorithm’ which is used to generate actual Aadhar card numbers. This ensures that there are no dummy accounts with fake aadhar card numbers. After this step various basic details are to be provided such as the name, also the user will have to choose/create a unique username and create a 20 password which will also be the login credentials for that account. After successfully registering and login into the account, the user will have two options:

- i. If any case (complaint) is registered by the citizen, then he/she can view about the case details and check for any updates from the police officers and also can get information about the suspect or offenders along with their image and,
- ii. To search the offender using the name or a picture. If a match is found all the details will be displayed regarding the person.

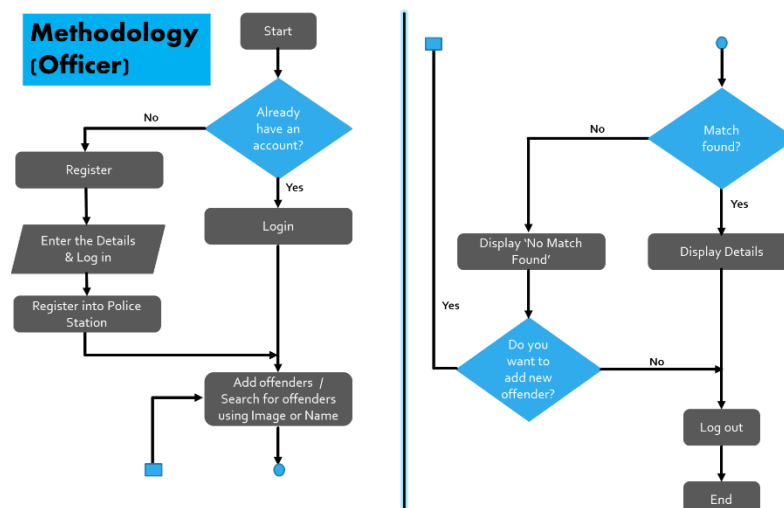


Fig. No 2: Flow Chart for Official (Officer) Login

Same as citizen login, for this account first the officer will have to register using the Police Identification Number (PID) which is unique and which will also be the username for the officer’s account. After registering and logging in, the officer will have to verify the station details in which he/she is currently posted at. He/she will also need to select and verify their rank. After completing the registering procedure successfully, the officer account will have two options, first one will be the ‘search’ option (same as for citizen account) and the second option will be ‘Add Offender’. By selecting the second one, he/she can add a new offender also can edit the details of an old offender. Also, only the officer who has added the offender can edit the details of that particular person/ offender,

except for his/her senior officers, the SHO (Station House Officer) can edit the information within his/her police station. Similarly, as the rank increases, they can edit the information which is added by the junior officers. Also this page displays the cases needed to be solved and the updates about the case any to added by the police officer which can viewed by the person who has filed the complaints by logging-in into the web portal through their respective citizen login.

III. RESULTS AND DISCUSSION

4.1 RESULTS

The results obtained after the successful execution of the code are that web portal is launched and the home page is appearing with two login options and other services are also performing the assigned tasks and the Face Recognition system is also efficiently recognizing the criminals when image of face or name is searched.

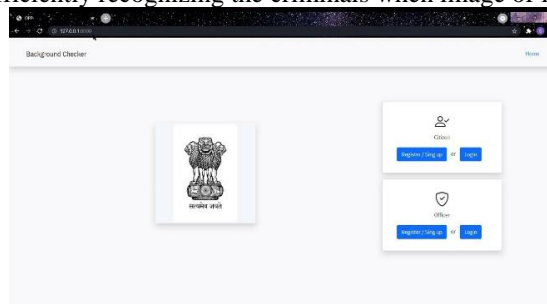


Fig. No 3: Web Portal Main Page

Fig. __ shows the main page of the website, the user can select the profile from which he/she wants to log in. If the user is new to the website, he/she also has an option to create or register a new account. Different types of information is to be submitted by the user to successfully complete the registration.

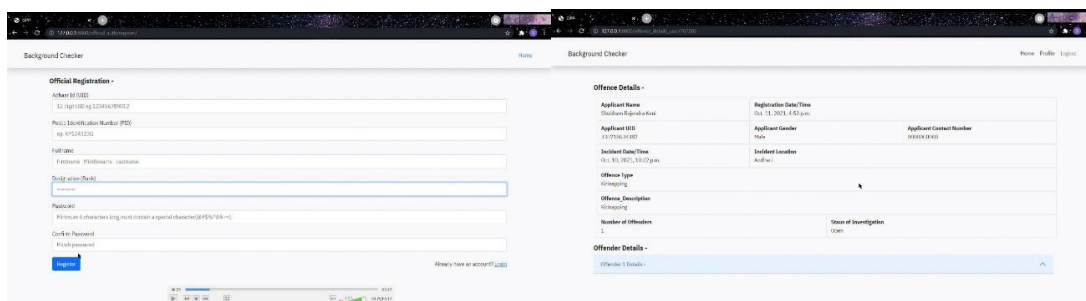


Fig. No 4: Login and Registration for Officer's account

Above figure shows the requirements for the registration of officer's or official's account. All the fields are mandatory in order to complete the registration successfully and also to verify the identity of the person.

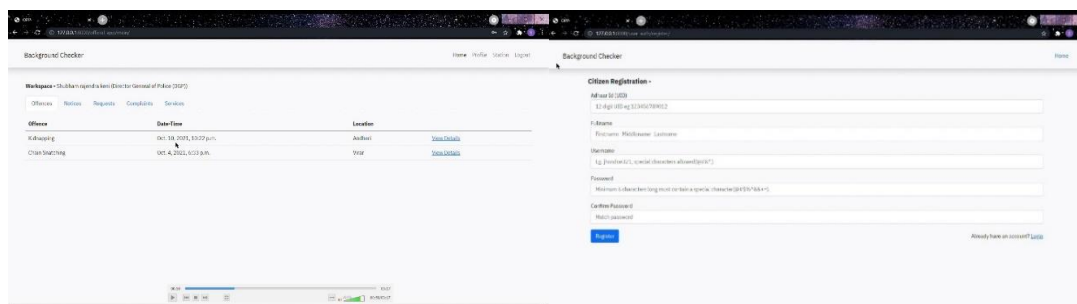


Fig. No 5: Login and Registration for Citizen's account

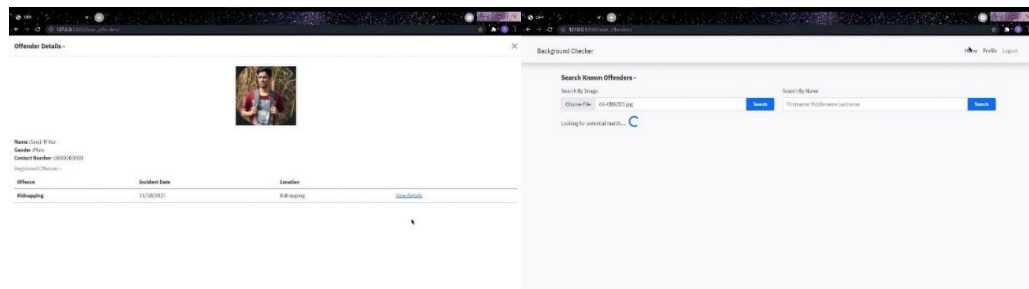


Fig. No 6: Search Results of Offender

4.2 DISCUSSION

The purpose for which the web portal is developed, it is successfully achieved. The web portal is currently functioning efficiently. The code for the web portal is running smoothly. The Home page is launched properly and it shows both the login options. The registration process in both the login options is quickly done and the user are able to login into their respective login options using their login credentials. In the officer login, due to the PID number asked during registration, fake police accounts are not created. The search option along the cases and the option to add the offenders, and other services, are displayed. The adding of new offenders is working properly and case related all the information along with image of offender or suspect is also displayed by clicking on the view details. The updating of any new information obtained during the solving of the case is done quickly. In the citizen login, due to Verhoeff algorithm applied to area of entering the aadhar number while registration, no fake accounts of citizen's are created. After logging-in, the page displays the search option and if there are any registered cases then they are also displayed and, all the details and offender or suspect image is available in view details. The updates regarding the case is also available. The search option which directs to face recognition page, is working properly in both the login options. Checking the background of any person to verify if he/she is criminal or not, is operating properly and if the face image searched and after comparing with the criminal database if match is found, then image of the criminal along with some important information is displayed and if match is not found then nothing, because of the privacy of information is ensured.

V. CONCLUSION

5.1 Future Scope:

Considering the current drawback of the project, some other algorithms are needed to be tried, to overcome the drawback. Use of Machine Learning can be a good option. As in Machine Learning the modules are trained according to the desired requirement, the drawback of Template Matching Algorithm can be easily resolved. Also there are many other algorithm which can be used for Face Recognition and to increase it's efficiency. The Face Recognition system is also not able to verify disguise faces or faces having low light or image of face having noise in it or blurred face image or image of face captured from CCTV recordings. Even for the recognition of this type of images different algorithm are needed to be explored, because if such advancements are successfully done then the system of the project will more greatly be useful in the Face Recognition domain. Along with this, new advances can be done in the web portal with the help of the developing technologies. Due to the great developments in the field of technology.

5.2 Conclusion:

By using our website anyone can check the background / history of the person with just a photo and the information can only be edited or deleted by the authorities such as the police-men so the information is reliable and legitimate. The information regarding only the police records is made public so it also respects the privacy of everyone. If the person has no criminal records, no information will be made public to respect the privacy of the citizens of our country.

REFERENCES

- [1] *Proceedings of the Third International Conference on Computing Methodologies and Communication (ICCMC 2019) IEEE Xplore Part Number: CFP19K25-ART; ISBN: 978-1-5386-7808-4*
- [2] *2018 14th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*
- [3] *2019 14th IEEE Conference on Industrial Electronics and Applications (ICIEA) 978-1-5386-9490-9/2019 IEEE*
- [4] *Crime Management System Computer Science & Engineering Department, ABES Institute of technology, Campus 2, 19th Km. Stone, NH-24, Vijay Nagar, Ghaziabad.*
- [5] *CRIME MANAGEMENT SYSTEM (CMS), Department of MCA, NMAMIT, Nitte, Udupi.*
- [6] *International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181 IJERTV4IS030165 www.ijert.org (This work is licensed under a Creative Commons Attribution 4.0 International License.) Vol. 4 Issue 03, March-2015*
- [7] *International Journal of Research in Engineering, Science and Management, VOL. 4, NO. 7, JULY 2021*
- [8] *International Journal of Recent Technology and Engineering (IJRTE)*
- [9] *ISSN: 2277-3878, Volume-8, Issue-2S7, July 2019 Deep Unified Model For Face Recognition Based on Convolution Neural Network and Edge Computing*
- [10] *Kushwaha, M. Singh, R. Singh, M. Vatsa, N. Ratha, and R. Chellappa, "Disguised faces in the wild," in IEEE Conference on Computer Vision and Pattern Recognition Workshops.*
- [11] *Piyush Kakkar, Vibhor Sharma, "Criminal identification system using Face Detection and Recognition", IJARCCCE, Vol. 7, issue 3, March*