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Smart Shopping System

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Abstract: *The main aim of growing technology is to make life easier . Now a days supermarkets is a place where people get their daily necessities.In malls or supermarkets for purchasing number of items and maintaining them there is a need of a smart ,efficient and adjustable trolley. In metro cities , there is a presence of a huge rush in the shopping malls. Because of so much crowd., congestion takes place ,to tackle this problem we designed an adjustable trolley ,we changed its design to make it more efficient and convenient. This will help in reduction of space consumption of the trolley and will be more costumer friendly .*

Keywords– *supermarket, efficient, convenient, adjustable trolley .*

I. INTRODUCTION

Supermarkets have played an important role in food distribution. For modern life, the existence of traditional markets has been gradually replaced by their descendent supermarkets and people depend on supermarkets for their basic grocery needs. Shopping at the grocery store has become a big deal and it is one of the most important food sources for many households.

Supermarket is a one-stop chain that aims to offer customers a wide range of basic home and personal products under one roof. Each supermarkets store stocks home utility products —including food, toiletries, beauty products, garments, kitchenware, bed and bath linen, home appliances and more —available at competitive prices that the customers appreciate. The core objective is to offer customers good products at great value.

The objective of this research is to design and fabricate a trolley based on the creativity techniques for the multi-purpose. It also provides a better control which are operated by mechanically. An innovative concept of two in one facility has been conceived and being implemented. The research includes the integration of trolley used at shopping mall based on the creativity techniques. It is more effective and convenient for the use at shopping mall.

II. PROBLEM STATEMENT

By taking a closer look at the current shopping system some problems were highlighted, also a survey of the customers as well as the distributors was taken under consideration and some below mentioned problems were seen among them.

- Space consumption by the trolley.
- Safety of the items selected.
- Time consumption at the weighing counter.

III. METHODOLOGY

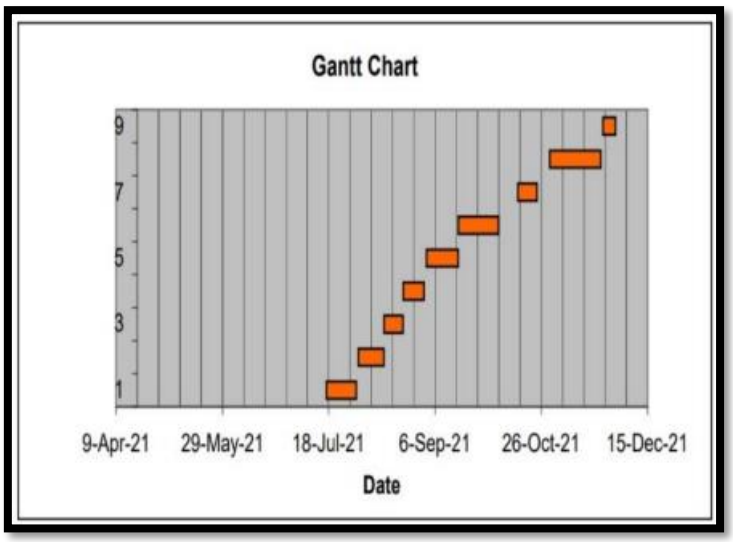

Fig 3.1 Gantt Chart

With reference to the above Gantt Chart ,we can get an overview about our Project topic selection which was done in the first phase before which a costumer survey was conducted were we found 6-7 ideas. Then we started are presentation immediately after confirming the topic which we found. At last we ended with topic on optimum design, analysis on Ansys where we presented our idea for the topic displayed. Then after we started collecting detailed information through various sites, research paper. Research based design by collecting required data and dimensions. Our work is pending on actual model report, black book.

Objectives:

- Main objective of the project is to make shopping experience smooth and efficient.
- To design a trolley which is adjustable.
- Trolley having a detachable basket.
- To solve the problem at weigh counter.

Data Collection is done from various customers who visit supermarkets on daily basis ,through personal interaction. A full four side structure is being developed to carry and withstand the load of the items which are inside the trolley.

Fig 3.2 Trolley

The Smart Shopping Trolley comprises of the following modules :-

- Adjustable Design
- Detachable basket
- Weighing machine

The Operation of the proposed system is as follows:-

3.1 Adjustable Trolley Design : Looking forward to minimize the space consumed by the trolley as well as selecting the right size according to the amount of items selected by the customer, the trolley is designed in such a way that it can be adjusted according to the desired size of the customer. It is observed that sometimes, the need of products is less and still the customer has to carry large size of trolley while sometimes the products are more because of which more than one trolley have to be carried, but with the use of this adjustable design, the size of trolley can be adjusted according to the requirement.

3.2 Detachable Basket : An extra detachable basket is provided which can be attached to the trolley it is designed by aiming two purpose :-

- If one trolley gets full and some products are yet to be added but the amount of products is less , then an detachable basket can be attached instead of carrying a different trolley.
- It is observed that some delicate products (eg :- Eggs, Glass items, etc) if purchased earlier, gets smashed or crushed under bigger products such products can be safely carried into the detachable basket.

3.3 Weighing Machine : Due to too much of crowd, the weighing counter gets full which consumes lot of time of the customer because they have to wait in a que for their turn of weighing. Keeping this in mind, the weighing machine is directly attached to the trolley so that the customer can directly weigh their products into the trolley saving a huge amount of time.

Fig 3.3 Weight Machine

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V. LITERATURE REVIEW

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VI. CONCLUSION

In today' s era of modernization, shopping industry has a vast range of things to be developed, keeping this in mind and based upon the customer as well as the provided survey, some problems are selected and an attempt has been made to solve them. A shopping trolley is developed in order to provide ease of shopping and solving problems of the customer like time, space consumption, and safety of the items, etc. The topic selected are based upon the information provided by the public as well as the distributors involved in shopping and distribution. The trolley designed helps in effective shopping and creating an ease to the customers by benefiting them in case of time and management.

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