

# A Survey on Smart Trolley System Based on Android Application

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## ABSTRACT

A shopping malls , super market ,Big Bazaar's, D-Marts is a places where thousands of customers visit every day to purchase many products. We can see huge rush at malls on holidays and weekends. Today purchasing various products in malls or supermarkets require a trolley. The rush is even more when there are special offers and discount. People purchase different items and put them in trolley. After total purchase one needs to go to billing counter for payments. At the billing counter the cashier prepare the bill using bar code scanner which is a time consuming process and results in long queues at billing counters. Our aim is to develop a system that can be used in shopping malls to solve the above mentioned challenge. .In our project the customers have to scan barcode of every product through the use of android mobile which they wish to purchase and drop into the shopping cart and then proceed to checkout at the billing counter. This is implemented using an Android application

**Keywords :** Supermarket, Barcode, Smartphone, Android Application, Dashboard.

## I. INTRODUCTION

Shopping mall is a place where people get their daily necessities ranging from food products, clothing, electrical appliances etc. Sometimes customers have problems regarding the incomplete information about the product on sale and waste of unnecessary time at the billing counters. Sometimes customers face problems regarding the incomplete information about the product and waiting at the billing counters. Hence improvement is required in the traditional billing system to improve the quality of shopping for the customers. With this system, customer will have the information about price of every scanned items and total price of the item. This system will save time of customers and manpower required in malls. A smart phone with an android application is used here. The scanned products are automatically billed in the android application, thereby significantly reducing turnaround time.

### A. Advantages

- ✓ Saves valuable time of customers.
- ✓ Reduction of long queue.
- ✓ Secure, safe and reliable transaction.
- ✓ Efficient maintenance of customer's data.
- ✓ Reduces human resources on billing sections.
- ✓ Increases profit.
- ✓ Customer satisfaction.

### B. Drawback

- ✓ Smart phones are required.

### C. Applications

- ✓ Shopping Malls.
- ✓ D-Marts
- ✓ Big Bazaar
- ✓ Departmental Stores

## II. OBJECTIVES

- ✓ The main objective of this project is to reduce and eliminate time taken in billing counter in

super markets by designing an android application which uses Barcode scanners allow users to self-checkout and increase productivity time.

- ✓ A simple scan captures the desired information through the barcodes present.
- ✓ The Decoded data can be stored in the server and can be viewed by the cashier which makes the transaction more secure.
- ✓ High accuracy in image capturing.
- ✓ Customer can easily detect the Bar code image, via his Android mobile itself.

### III. EXISTING SYSTEM

In present scenario, the shopping process in shopping mall is as follow:-

The customers picks a basket and fetch the desired product they want to purchase and next process is billing section. The billing process in the shopping system is quite tedious and time consuming and each one waiting in queue for their turn to generate bill because each and every product whether the basket contain more or less items. Due to this reason, there is requirement of more & more human resources on such billing section but still the scenario is same: **A LONG QUEUE.**

Limitations of the manual system:

- ✓ It is tedious and time consuming.
- ✓ It consumes lot of manpower to better result.
- ✓ It lacks of data security.
- ✓ Retrieval of data takes lot of time.
- ✓ Reports take time to produce.

Hence, an android application to reduce the queue in existing system is proposed. The new system completely removes all manual burdens and provide efficient on the entry system.

In today's accelerating world, shopping at malls or supermarkets has become life saver for people, if time is concerned as one of the important factors.

Innovation in technology is basically aimed towards making day to day life of people easier and faster. In metropolitan cities we see big rush at malls on holidays and weekends. People buy different products and put them in trolley. After completion of selecting the goods, one needs to go to billing counter for payment. There the price on each product encoded in barcode tag is read and the bill is prepared. This is very time consuming and results in long queue at counter. System is developed to help a person in everyday shopping in terms of reduced time spent while purchasing. The main objective of proposed system is to provide a technology oriented, low-cost, easily handled, and efficient system for assisting shopping in person.

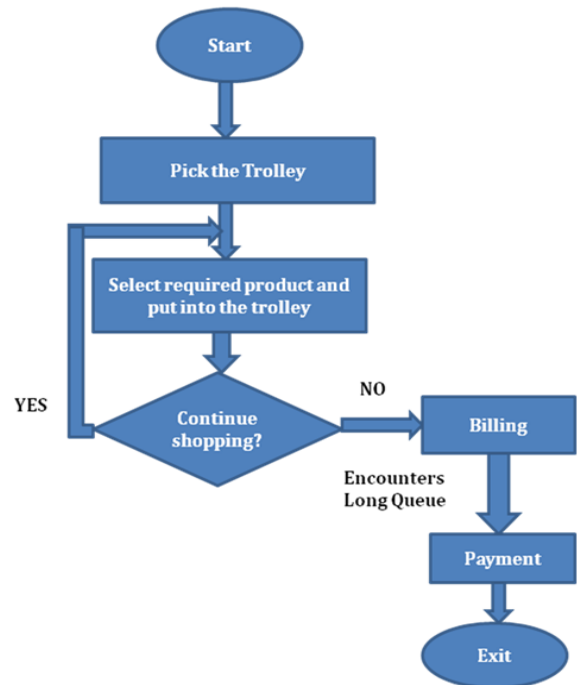


Figure 1. Traditional Shopping System

### IV. LITERATURE SURVEY

- **Smart shopping system android application:**  
This paper explains the system of shopping by using the NFC card technology for shopping. Shopping mall is a place where people get their daily necessities. There has been an emerging demand for quick and easy payment of bills in shopping malls. This paper provides an app which helps the customers in scanning the

product. It also provides a centralized and automated billing system.

- **Automated Shopping Trolley for Super Market Billing System:** This paper explains the concept of smart trolley that integrates with the raspberry pie embedded chip with two barcode scanners to self checkout the users at supermarket. The main objective of this project is to reduce and eliminate time taken in billing counter in super markets by designing an Intelligent Shopping Basket which uses Barcode scanners to allow users to self-checkout and increase productivity time.
- **International Journal of Advanced Research in Computer Science and Software Engineering:** System is aimed to design the smart shopping in the malls. The customer can purchase different products in the mall after shopping customer must wait in the queue so to reduce that time our system is going to help. After purchasing each product customer can scan the product (i.e. NFC tag) via NFC scanner which is in built in the smart phone. The total is automatically done by the server. The server and the smart phone are connected via Wi-Fi. The transaction server or shop owner can add, delete, update and modify the details of product. This application is smarter than previous shopping application.

## V. CONCLUSION

As the demand for the mobile shopping is increasing the requirement of more secure, safe and today's life, have reduced all the efforts that are required for shopping. With camera feature in it, the user can scan the Barcode of the item to be purchased and then directly add it into the cart. There are two advantages: first, no need to stand in the queue for a long time in malls just for scanning the item, second there is not any scope for the frauds that happen in mobile shopping. The items so far purchased by the customer will be maintained in the app that can be used by the customer in the next purchase. The transactions that

will take place frequently with the shop's database will be made secured. This will ensure no modifications in the shop's database either by the customer or by any unauthorized user.

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