Barcode Based System in Shopping Malls

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ABSTRACT

Smart Shopping technique explains the attempt of using advanced technologies in shopping process. This project presents a novel method of collaborating ease in smart shopping and increase in the security of money as well as for customer satisfaction while doing shopping offline. This concept is implemented using an Android application. In shopping malls, the customer are required to physically pick up his purchased product, carry cash along with them and they have to wait in the long queue to make payments. The application mentioned here would read the Bar code(s) of the product(s) & add it to the shopping cart in the application. It provides methods to change the quantity of products purchased and edit the list. Along with this the customer would be informed about the on-going offers in the store. Payment can be according to customer convenience.

Keywords : Smart Shopping, Barcodes, Android Application, Smart Phones, Technologies, Shopping Malls.

I. INTRODUCTION

The objective of this project is to propose a real time capturing system for consumer supplies using Quick Response Barcode in Android smart phone. In recent years, extensive research has been carried out on vision-based automatic identification technology that recognizes image codes using smart phones to provide various services that can recognize the authenticity of any product. Using Barcode with special symbols and split the data back to their Barcode pattern where these Barcode pattern can be read by Android smart phones. Standard image codes like one-dimensional barcodes and two-dimensional codes with black and white patterns identifies a product for its value and basic features but does not authenticate it, moreover not every product that is identified, is used for authenticating manufacturer's warranty.

So Barcode verifies products by capturing it through the smart phone, then decodes and sends it to the server for authentication. Particularly, we focus on the cases where the memory entries and their associations form a binary Hamming space or an infinite square grid. Particularly, we focus on minimizing the number of input clues needed to retrieve information with small uncertainty and present good constructions some of which are optimal. The customer forwards the selected product list to the server that enables the consumer to decide based on the products authenticity.

II. 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 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.

III. PROBLEM DEFINATION

In today's accelerating world, shopping at malls or supermarkets have become lifesaver 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 huge cities we see big rush at malls on holidays and weekends. People buy different products and one-by-one put them in trolley. After completion of shopping of the goods, customer needs to go to billing counter for payment. There the product's barcode tag is read and the bill is prepared. This is very time consuming process and results in long queue at counter. This 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 facilitating shopping in person.

IV. PROPOSED SYSTEM

In the proposed system, we are using multiplexing and de-multiplexing algorithm for recognizing barcode image of products and card provided by the malls. Smart phones are used to check authenticity of any product. As the customers enters the mall they are required to activate their mobile application by scanning the bar code of the card provided by the mall which would connected the application with the service database so that one can access the services provided.

So QR code verify products by capturing it through the smart phone then decodes and send it to the server for authenticity. The customer forwards the selected products list to the server the enable to consumer to decide based on the product authenticity.

V. 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 to 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.

VI. ADVANTAGES AND APPLICATIONS

1. **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.

2. **Applications**

- Shopping malls
- Departmental stores
- Big bazaar
- D-mart
- Small Industries

VII. SNAPSHOTS

Figure 1: Splash screen of user's Android Application.
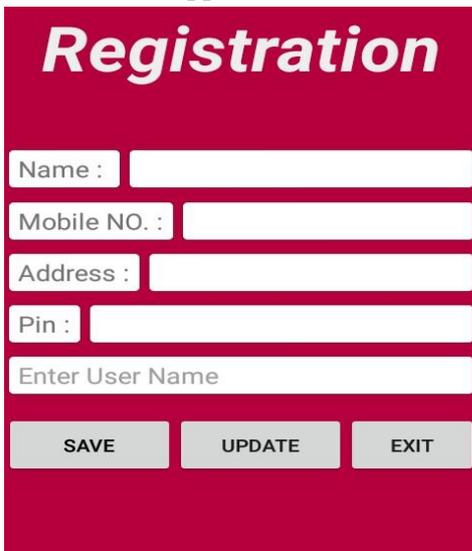
Figure 2: Registration screen of user
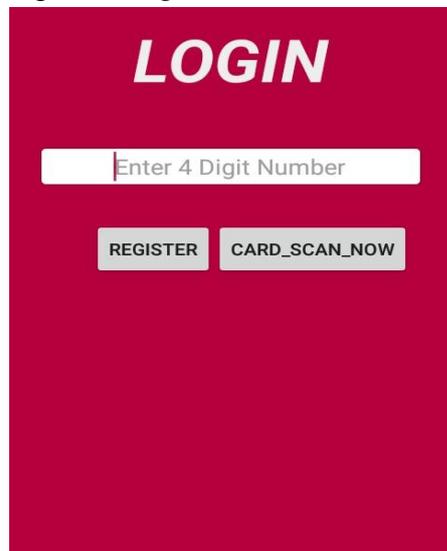
Figure 3: Login screen of user
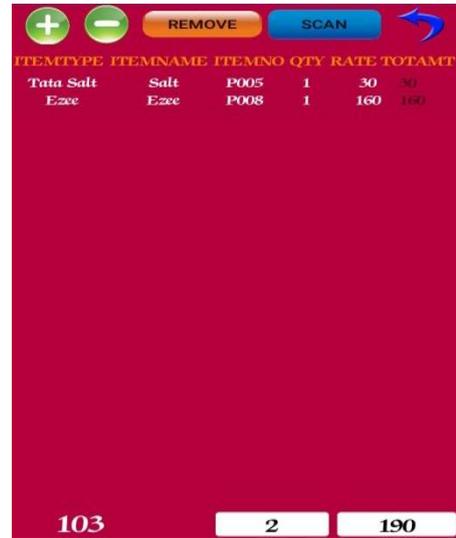
Figure 4 : Products scan, add, remove by the user
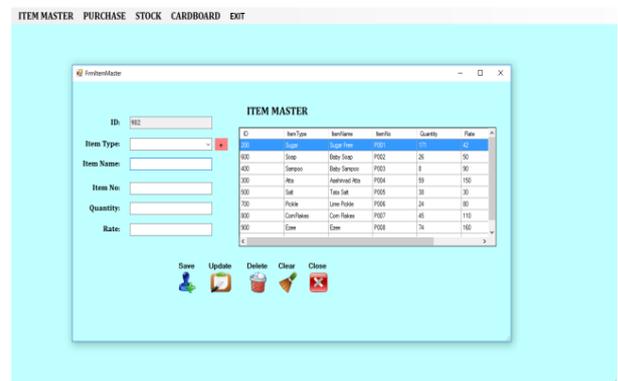
Figure 5 : Adding item stock by Admin
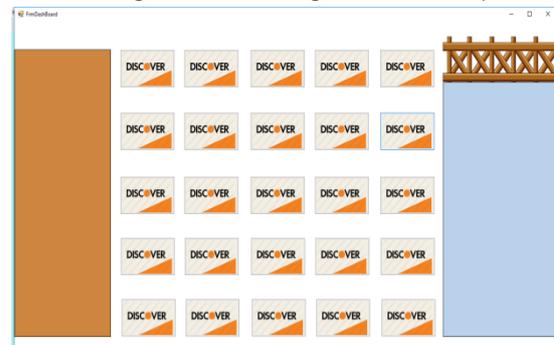
Figure 6 : Dashboard to view activated users

VIII. 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. By using camera feature in it, the user can scan the Barcode of the item to be purchased and then directly add it into the purchase cart. There are two advantages of it. Firstly no need to stand in the queue

for a long time in malls just for scanning the items. Second, there will not be any scope for the frauds that happen in mobile shopping. The items so far purchased by the customer will be maintained in the application 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 that no more changes in the shop's database either by the customer or by any unauthorized user.

IX. FUTURE SCOPE

- Improve the performance of the mobile application by upgrading it time to time.
- More functionalities and schemes would be added in the mobile application to make it more efficient for purchasing and buying.
- More focus would be made on online payment system to reduce the billing time consumption.
- To determine that whether system has meets its objectives such as- maintaining of data security, QR code scanning by high accuracy in image capturing and updated stock details.
- The application would have an easy access to make it more user-friendly.

X. REFERENCES

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