

# QR/BAR Code Based Mall Product Customization

Prof. J. D. Jadhav, Punam Kopnar, Jaideep Dongare, Trupti Gaikwad, Raj Gawali  
Computer Engineering, Sinhgad Academy Of Engineering ,Kondhwa

*Abstract*-Shopping Mall becomes a famous destination of a human being. We see a huge amount of transactions happened every day in the mall so the maintenance & management is an important task of Mall Management system. To reduce some workload of management we proposed a new system using the latest technology. As we know every product in the mall has a Bar code. In proposed system, we are developing android application through which user will scan the barcode of goods he/she wants to buy & add to the card. At the end, the bill will be generated & also user can pay online. While leaving, the gatekeeper will verify bill. So proposed system will reduce customer's waiting time required for the billing process.

*Keywords*-Mobile App; Shopping Mall, QR/Barcode.

## 1. INTRODUCTION

Today, smart phones and the Internet has providing extraordinary changes to societies globally. These technologies have given business enhance efficiency and achieve competitive advantage by attracting customers to their products and services. Smartphone is a cellular phone with an operating system such as Android, IOS, Windows 10 Mobile, BlackBerry 10 and others perform many end-users' software application. The mobile software applications also known as mobile apps can be downloaded from Apple App Store, Google Play, Windows Phone Store, and BlackBerry App World. Mobile apps usually either made available at a minimal fee or free of charge. Mobile apps extend the capabilities of the mobile phone and has been widely regarded as a new frontier for business environment. There are 17% of Indians (450 million people) own a smart phone [1]. This figure shows that more businesses will follow the mobile trend, by building mobile application rather than just a mobile platform website.

In recent years, there are mushrooming development shopping mall in India. With more than 500 shopping malls in the country encompassing 600 million square feet of net let table areas[2].Some of these shopping malls are even ranked among the top 10 largest malls in the world including Lulla International Shopping Mall Kochi, Select City Walk New Delhi, Phoenix Market City Mumbai, Z-Square Kanpur [3].

Internet had made so much advancements in the field of information technology that eventhe smallest possible thing is done online. A huge amount of data is stored in the database, as shopping malls have become a famous destination of human beings everything is possible using internet. QR/BAR Code has enabled the ease of the system as every product has its unique code which makes the process easier. Using android app the code is scanned and the products are

added to cart and billing process is done which reduces the time of the customer. Payments can be done online also.

## 2. MOTIVATION

In the modern world, shopping has become an essential day to day activity for most of the people. However, their busy life style has lessened the time to do shopping. This has made them to look for quicker and easier ways to do their shopping. Some of the difficulties that people have to go through when they do shopping include having to travel a long distance without knowing the availability of the items, difficulty in finding relevant shops inside a shopping mall, forgetting to buy some items which they intended to buy. In order to overcome the above mentioned problems a fully functional shopping mall application idea is presented. The main motto of this system is to maintain all related information about the goods which is recommended by the online system. This system gets recommendation of all searched product which is searched by the user. System gives the review on any product. The proposed system enables the system to reduce customer's waiting time required for the billing process. It

## 3. LITERATURE REVIEW

**In “The Determinants of Mobile Shopping Mall Apps Adoption Intention in Malaysia: An Empirical Investigation”** this paper [4] the respondents for the study were 261 female and 107 of male. All the respondents owned a smart phone and had experience on mobile apps. Further, most of the respondents using free public Wi-Fi at the shopping mall compared with mobile data network. Mobile data fee is one of the factors that influence mobile apps adoption. With the hyper-competition among telco service provider, fees of mobile data network have dropped substantially. With the experiences of the usage of mobile apps and the use of mobile data network, these respondents were appropriate for the study. Table1 shows the detailed demographic characteristics of the study's respondents.

This study explores the key issues on mobile shopping mall apps (MSMAs) adoption and used a theoretical framework based on the value-based adoption model (VAM) to analyze the perceived value relations to MSMAs adoption behavior toward MSMAs in Malaysia. The factors that significantly direct affect perceived value toward MSMAs are usefulness, enjoyment, technicality, and fees. While perceived value had a significantly affect MSMA adoption. Surveys were carried out to shoppers at major shopping malls at Klang Valley of Malaysia. Data analysis was performed using the linear regression approach. The 0result provides useful information for shopping-mall operators who intent to provide value added services to their shoppers and enhance the competitive position in the shopping mall industry. The results showed that the VAM was found to be useful in explaining the shoppers' adoption intention of using MSMA in Malaysia.

**TABLE 1. DEMOGRAPHIC PROFILES OF THE RESPONDENTS**

<b>Demographic Characteristics</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>Gender</b>	107	70.9
Male	261	29.1
Female		
<b>Own a smartphone</b>	342	92.9
Yes	26	7.1
No		
<b>Size</b>	94	25.5
20 – 29	128	34.8
30 – 39	127	34.7
40 – 49	19	5.2
50 and Above		

**In “Development of Smart Shopping Carts with Customer-Oriented Service”**[5]. This paper presents a preliminary development of the smart shopping cart (SSC) that can be integrated into the smart mall system. The SSC can provide customers with the efficient user interface so that the shopping service can be effectively promoted. In the current design, with the function of face recognition on the user interface, the SSC can recognize the customer and further provide the associated assistive shopping information based on the purchase history. With the use of radio-frequency identification (RFID) tags, the SSC can automatically detect the various products which are being added in the cart and show the related information on the user interface. Through the searching function of SSC, the purchasing efficiency and navigation aid in the mall can be effectively supplied. Finally, the automatic billing service can be done by the SSC and the stored shopping data will be transmitted to the cloud server of shopping mall. The experimental demonstration shows the effectiveness of the proposed SSC which interacts with the customer and provides efficient shopping service. In this section, the proposed smart shopping cart (SSC) is presented. The current development of the system with add-on facilities is shown in Fig. 1. The SSC combines modularity, simplicity, and ease of use at a low cost development so that it can be potentially targeted to assist customers in doing shopping and integrated into the IOT network of smart mall. This study develops a smart shopping cart which can be applied for supermarkets and malls. The user interface provides the facial recognition function and assistive information to promote the shopping service for customers. In addition, the automatic billing facility can avoid queue in the check-out process so that the better shopping experience for customers can be created. Finally, through the recorded data which links between customers and shopping behavior, the proposed SSC demonstrates the highly potential capability to be integrated into the IOT in supermarkets and malls.

#### **4. PROPOSED WORK**

The system having two modules. First is admin module and second is user module.

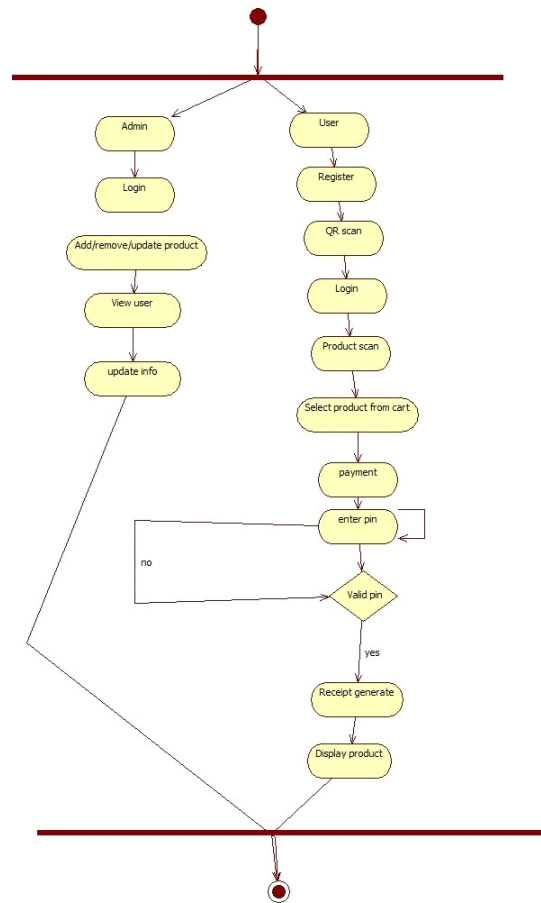
### User:

- 1)Scan QR/Barcode of product using smart phone.
- 2)Information of product will be fetched and added to count(Multiple product can selected)
- 3)User will pay for the selected product
- 4)A receipt will be generated including product name, price, and payment done.
- 5) Product will be displayed with available constraints like shirts then size, price, tax, color, material etc.

### Admin:

- 1.Admin
- 2.Direct login for Admin
- 3.Add product/Remove product/Update /product
- 4.View users will see list of all registered user.
- 5.update password and information.

### FLOW DIAGRAM:



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## PROJECT FUNCTIONING:

### Users

1. Scan QR code using smart phone.
2. Products added to cart/.
3. Payment is done.
4. receipt is generated for the products customer.
5. Products are displayed.

### Admin

1. Login
2. Add /Remove /Update product
3. Show list of all registered users
4. Update password and information.
5. Logout

## 5. POSSIBLE OUTCOMES:

The system will enable the customer to reduce the efforts of going to the mall and waiting in the long queues. QR/BAR Code makes the process easy by adding products to cart and sending them to the billing process. Online payments can also be done by this android app. Selected products will be sent to shopping cart and payment is done only for those correspondent products. And also reduce some work load of management.

## 6. CONCLUSION

Online shopping using android apps has made the previous systems so easy that the sitting at one place customers can get through the process easily. Within few clicks the customers get their products and the payment process is also made easier and only the products which are added to cart are billed and receipt is generated to the customer which reduces the time of the customer.

## **7. FUTURE WORK**

Smart Shopping Cart can be implemented inorder to have flexible mode of shopping experience with scanners and online cameras. Security can more enhanced to max limit inorder to avoid misleading in shopping.

## **8. REFERENCES:**

- [1]”IAMAI-IMRB Report Says 450 Million In Urban 750 Million ”.
- [2] Newsletter, The Indian Shopping Malls Assosiation 2016
- [3]10 Biggest Malls-inthe world-Inside helloworld.com” Retrived from <http://www.helloworld.com.com>
- [4] William Eng Young Keong School of Business Sunway University Sunbang Jaya, Malaysia  
Willianme@sunway.edu.my
- [5] Hsin-Han Chiang, Wan-Ting You, Shu-Hsun Lin, Wei-Chih Shih, Yu-Te Liao, Jin-Shyam Lee, and Yen-Lin Chen.
- [6] S. Lee, C. Min, C. Yoo, and J. Song, “Understanding customer mailing behaviour”.