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Card Less Shopping using QR Code with Reservation Scheme

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Abstract: The proposed system allows the customer to pay the bill through online using the QR code scanning through mobile phone. This system also contains the additional feature which provides the customers to view the items as well as reserve the item through online before purchase. In garment shop the reserved items are stored in separate section. So the customer can directly moves towards the specific section and collect the materials. All the purchases and bill payment are done only by scanning the QR code. Thus the systematic approach is more convenient to buy the item and it has more advantage than manual shopping as well as online shopping.

Key words: QR code, Base64 encoder, Reed Solomon algorithm, Reservation scheme.

I. INTRODUCTION

In this project, we are going to develop an android application in garment shop to overcome the disadvantages in manual shopping as well as online shopping. The card less Shopping methodology, This project presents a novel method of collaborating ease in smart shopping and the sense of security money wise as well as for customer satisfaction while doing shopping offline. This is implemented using an Android application. In Shopping mode, the customer needs to physically pick up his purchase, carry cash, along with them and wait in the long queue to make payments. The application mentioned here would read the QR codes of the products & add it to the shopping cart in the application. It provides services 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 convenienc. The project will be developed using android studio.

II. LITERATURE SURVEY

A. A study on online shopping behavior for apparel: literature review Proposed by Department of Management Studies. By analyzing the current behavior of Indian buyers, experts estimated that the trend of e-shopping will become basic phenomena with buyers in coming years. The business model of the Indian e-business is taking a full circle flip to go rear to where it started, though this time the infrastructure has changed and along with that the size and understanding of the marketplace as well. The players are touching towards a model that they did not originally start with; hence the conviction is that they have definite answers to the details of the model and not just a me-too jump. In the beginning stages of online shopping consumers were unwilling to buy apparels online as it has many limitations. But today the marketplace is able to conquer many of the limitations and build confidence among the consumers to buy online. The last two years have seen considerable enhance in online trade in the apparel segment. This study is to analyze the trends in online shopping of south Indian consumers in the apparel segment.

B. By analyzing the papers of Shweta. B. Vernekar1, V. Ashwini2 on Smart Barcode Based Trolley for Automated Billing Using Image Processing Technique. Shopping mall is a place where almost every people in the city goes to shop for the daily requirements of life such as food, clothing, electrical products etc. Almost the weekends of the week are meant for shopping at these kinds of shopping malls. The space of these malls is also very wide which helps the customers to shop spaciously without any congestion. All the items which are present in the mall are provided with barcodes. Each and every product has a barcode. Trolleys are used in malls for shopping purposes. As all of us know about the crowd that occurs near the billing counters for final billing which is very time consuming process. Customers will also be not aware about the price and also the number of products they have put into the trolley. Here, we building a system in order to overcome this problem by doing automated billing at the trolley itself by getting the details of cost of each and every product and also having number of products put into the trolley by modifying more features to the existing barcode system which becomes a cost-effective system. We have used a Raspberry Pi for the purpose of controlling, an LCD for displaying the cost of the products which the customers put into the
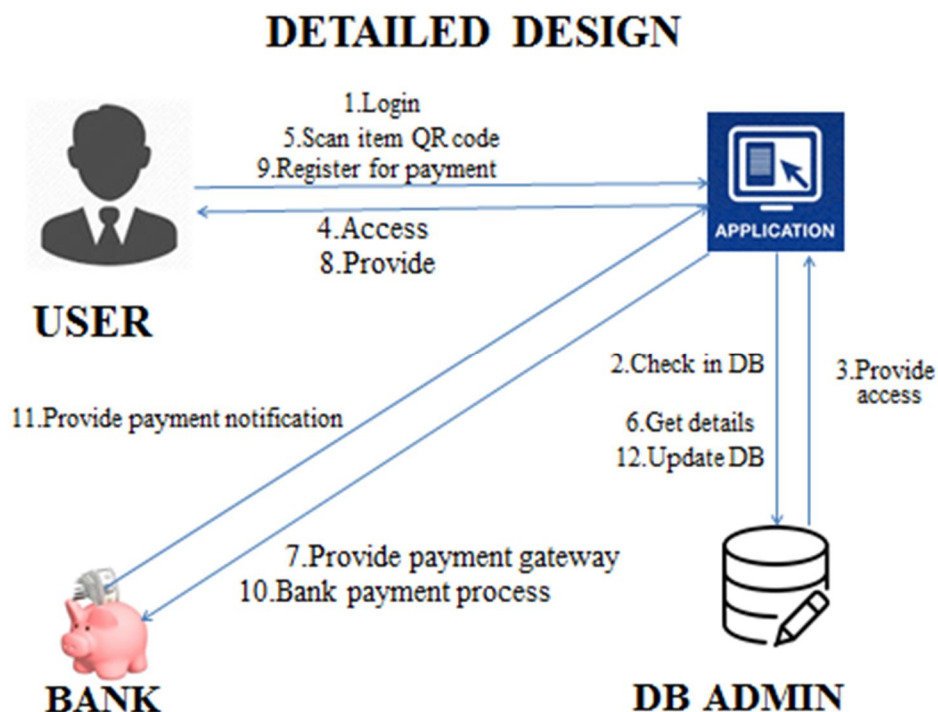
trolley, a camera to click the pictures of the barcodes of the products and LabVIEW for the purpose of decoding the barcode and ID.

C. Dr. R. Sivanesan has analyzed the Problems Faced by Customers in Online Shopping with Special Reference to Kanyakumari District .The massive Indian market is changing fast. Internet access is mainstreaming among professionals and the use of mobile is strengthen. The pace of change continues to be rapid with digital channels constantly growing in amount and strength. Most of the people spend more time online in India every year, and the digital tools and sites they use play an ever-growing role in their lives. This article shows the problems handled by customers in online shopping with special reference to Kanyakumari District.

D. Effects of online shopping on consumer buying behavior: This study investigates numerous factors that impact buyer's behavior during online purchase at any E-commerce business site. This paper author has used test Factor Analysis to determine the factor that put a significant impact on customer buying behavior during online purchase. We found that Customer benefits, Fast economic and secured purchase, Easy availability were showing significant impact on consumer buying behavior.

E. Smart Shopping Cart for Automated Billing Purpose using Wireless Sensor Networks: With the increasing employment of broad area Wireless Sensor Networks (WSN) in the field of consumer applications, it becomes imperative to address the concerns raised by its application, such as reliability, energy consumption and cost-effectiveness. In this paper, we describe the implementation of a reliable, fair and cost efficient Smart Shopping Cart using Wireless Sensor Networks. Such a system is suitable for use in places such as supermarkets, where it can help in reducing man power and in creating a better shopping experience for its customers. Instead of making the customers wait in a long queue for checking-out their shopped items, the system helps in automating the billing process. Along with this ability, the system design also ensures detection of cases of deception invoked by dishonest customers, which makes the smart system fair and attractive to both the buyers and sellers. The system design along with the experimental setup are presented. The results are encouraging and with the use of repeaters at appropriate locations inside the supermarkets, our approach illustrates itself to be conceivable for use outside the laboratory, in real world deployment.

III. METHODOLOGY

This methodology defines the architecture of the proposed system of cardless shopping using qr code with reservation scheme

A. *Architectural Design*

DETAILED DESIGN

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B. Algorithm For Qr Generation

Developing a QR code with error correction employed by error coding technique. Here in our proposed system we uses a Reed Solomon error correction algorithm which is used in QR code encoding technique. Even if the QR code was damaged the information can be recovered.

Hierarchy	Linear block code Polynomial code Reed–Solomon code
Block length	n
Message length	k
Distance	$n - k + 1$
Alphabet size	$q = p^m \geq n$ (p prime) Often $n = q - 1$.
Notation	$[n, k, n - k + 1]_q$-code

C. BASE64 Encoder

Here the Base64 encoding algorithm is used to encrypt the customer's password when it is stored in the database.

IV. CONCLUSION

In this work, android application of cardless shopping using QR code with reservation scheme was implemented. So here all the purchases and bill payment are done only by scanning the QR code. Thus the systematic approach is more convenient to buy the item and it has more advantage than manual shopping as well as online shopping.

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