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# SMART SHOPPING USING QR CODE

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***Abstract:*** ***In 21st century shopping is life style of people in Moll, Retail store etc. People are wait in front of front desk or cashier counter for billing and other calculation, when we just needed a single item also. Our proposed system can reduce the time and effort of people. Objective of our System to capture real time consumer supplies using Quick Response (QR) code in a Android smart phone, that allows the user to scan the products he or she wishes to purchase, generate the bill for all the products scanned, make the payment and simply walk out of the store.***

***Keywords: QR Code, Android, shopping, virtual cart, mobile phone***

## I. INTRODUCTION

People tend to overshoot their budget when they are shopping at a big shopping center. Moreover they end up in long queues at the end of their shopping waiting for the products to be scanned and billed. The Smart Shopping Using QR Code addresses the above problems with ease.

Smart shopping portal is a new way of shopping, which is a combination of offline and online shopping. Smart Mall application has a QR-based shopping. When customers arrives at the shopping mall for the first time they is has register for once. When customer wants to buy any product he/she has to scan the qr on that product which will show the in formation of that product. If customer is willing to buy it then he/she will select the desired quantity and will add the product to cart. Customers can watch their respective cart in their app and can do changes over there too. After finalizing the product in the cart they will have to select the payment method and pay the bill. After payment one of the employees working at mall will pack the bag of bought products for customers. Another app is there for Manager and employees of the mall. Manager and the employees will use their login credentials and perform corresponding activities. Manager will check for the bill payments and employee will fill the bag of products as per the bill.

### EXISTING SYSTEM

- Barcodes are often intended for consumer use where using a barcode device, a consumer can take an image of a barcode on a product.
- The barcode must be read using computer vision techniques and barcode can hold information, it makes this vision task in consumer scenarios unusually challenging.

- Barcode decoder can give the vision algorithm feedback, and develop a progressive strategy of the product

## II. LITERATURE REVIEW

1. Yue Liu and Ju Yang, 2008

Recognition of QR code with mobile phones by Yue Liu and Ju Yang, 2008. It describes Quick Response Code has been widely used in the automatic identification fields. In order to adapt various sizes, a little dirty or damaged, and various lighting conditions of bar code image, this paper proposed a novel implementation of real-time Quick Response Code recognition using mobile, which is an efficient technology used for data transferring. An image processing system based on mobile is described to be able to binarize, locate, segment, and decode the QR Code. Their experimental results indicate that these algorithms are robust to real world scene image [4]. They came to a conclusion that even if bar code is a fast, easy, accurate and automatic data collection method and it enables products to be tracked efficiently and accurately, the implementation price of two-dimensional bar code reader is expensive.

2. Implementation of Supermarket Shopping Assistant System, Antonio Marin, Luis Felipe,2012

They proposed a system which is based on the interaction of three different kinds of electronic devices: a) mobile devices that users carry with them (smart phones or electronic tablets), b) autonomous mobile robots assisting users by displaying information and carrying groceries, c) the supermarket technological infrastructure (databaseservers, Wi-Fi and Bluetooth access points, etc.). These components interact through acommon technological platform, allowing the user to prepare his/her shopping list, and then using it with the robot as an assistant, during his/her shopping process[5]. Over last years robots have evolved from manufacturing cells, to museum guides, passing successful commercial applications, such as vacuum cleaners, lawn movers and pool cleaners. As both, robots hardware and software became more complex, new applications, particularly to serve humans in a closer way, are projected. Service robots should have the ability to move and interact with their environment, but mainly with their users, common people, in a friendly way.

3. Cloud based shopping guide system using QR code by R.Anand, R.Regan, 2012

This paper states that with the improvement of living standards, shops are growing bigger after constructing with more abundant goods and more variety of wares [6].Therefore, building a simple, fast and convenient shopping guide system has become a mutual concern of merchants and customers. In recent times mobile phone has become a popular consumer product, a simple optimization method was given to design shopping guide system run on smart phones, with the help of QR code generation and recognition technology. For efficient shopping system, unique QR codes are created to record the location of goods placed. Phone recognizes the QR Code through the camera. After being recognized, the code will be compared with the data in the cloud. It provides different services according to the customer's choice and customers receive the latest promotions of businesses and can nd the best route from his current location to the destination.

4. Design of Advanced Shopping Trolley based on QR Code by Prof. Dr. S. R. Patil, March 2016.

This system proposes advanced shopping trolley based on Quick Response (QR) code. This is done by Android smart phone. It reduces the wastage of time during shopping as it is a day to day regular activity. This system is divided into two sections Transmitter and Receiver section[7]. In this system, billing of product done automatically by using android app. The customer will have to put the product in front of QR Code scanner; it scans the Code and saves the information of the product in micro-controller. They have used LCD for the display of product information to customer. After that this information is sent to the counter PC via Zigbee, in case customer does not have smart phone, he can pay at the counter.

5. A novel approach for encoding and decoding of high storage capacity QR code by Ashwadeep Singh, Vikas Verma, Gaurav Raj,2017.

This paper states that with the enhancement in mobile technology, QR (Quick Response) codes became popular. QR codes are widely used in our daily life from social media websites to cashless shopping wallets, ERP (Enterprise Resource Planning) software implementation to display advertising and digital marketing etc[8]. In this paper they have focused upon one major issue with the QR codes.

## III. PROBLEM STATEMENT

There are many Shopping apps available online that provides with online shopping facility. But many of the apps do not provide the quality of product as shown in the images in the app. So user have to return the product sometime due quality and convenience issues. Sometime they provide the facility to return the products but sometimes user have to unnecessarily pay for the product even if it is of no use to them. So this creates a problem. Sometime the food and vegetable products ordered online are not fresh.

## IV. PROPOSOSED APPROACH

In the proposed system, we are using algorithm for recognizes QR code image using smart phones to provide various services that can recognize the authenticity of any product. So QR code verifies products by capturing it through the smart phone, then decodes the item. The user will scan the item which he wants to purchase with the help of scanner provided by this app. After scanning of the item a web service will get called which will create a connection with the database of the shop. As the connection is established, the user is now synched with the database and information related to that item is provided to him.

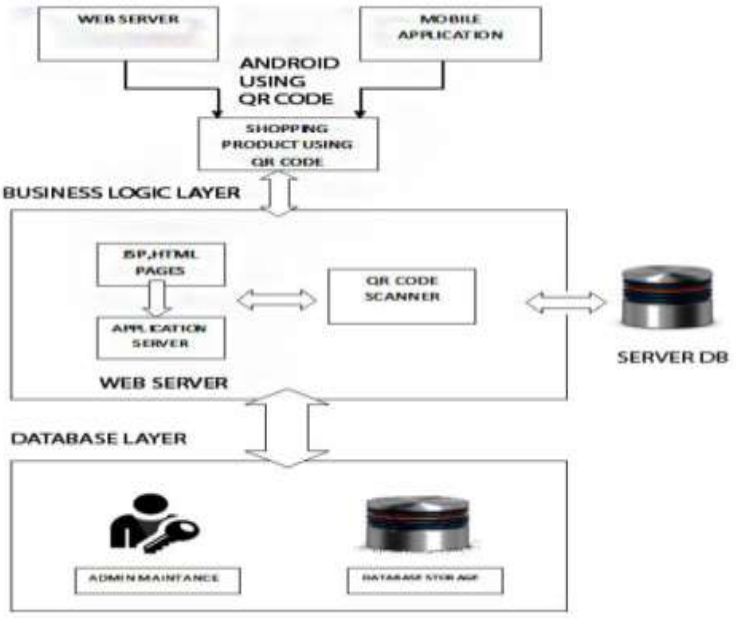


Figure 1. System Architecture

## CONCUSION

As the demand for the mobile shopping is increasing the requirement of more secure, safe and reliable transaction is of utmost demand. Smart phones, that have become an important part of today's life, have reduced all the efforts that are required for shopping. With camera feature in it, the user can scan the QR code of the item to be purchased and then directly add it into the cart. In exchange, the speed of shopping and the convenience that the customer gets is immense. This leads to a win-win situation where the customer is happy to come back for the convenience that this system provides, and the management is happy with the customer retention they get.

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