

INTERACTIVE QR CODE BASED ONLINE SHOPPING SYSTEM

MR. VIJAY ANIL KULKARNI
vijaykulkarni.soft@gmail.com

MR. RAJRATAN PANDIT BANEGAON
rajratanbanegaon@gmail.com

ABSTRACT

User authentication over the Internet has long been an issue for Internet service providers and users. A good authentication protocol must provide high security and mutual authentication on both sides. In addition, it must stable in safety measures and usability, which has been publicized in the literature to be a difficult problem. The solution for this issue, we suggest a new common verification and validation authentication protocol with high security and usability. In QR code based Interactive online shopping system the waiting time of people is being converted to shopping time even travel time. Whether by Metro, Railway or by any means of public transport life has become tedious. In this system, the various QR codes will be generated for the daily used household products. These QR code are posted along with its advertisement at different locations like Railway stations, Bus stops, Cinema Halls & public places. That means system is bringing shopping malls to busy life style. People feel comfortable with this system instead of visiting a mall to shop by adjusting their time from their busy schedule. There will also be reductions in shopping mall investments. Anyone who wants to buy the product after looking in our hoardings will immediately scanning the Quick Response code by his smart phone, which is having QR camera. He will get all the details about that product along with cost and end user should place the order for that along with quantity he wants. As this proposed system will take online orders from customers, accepting their payments, providing information about order confirmation, and many more activities getting involved as a functionality of our system from order placing to order deliver to the customer.

KEYWORDS: Authentication, Mutual authentication, Quick response code, QR Code, Mobile, Smart phones, Data, data mining techniques.

INTRODUCTION

The reason of this thesis is to study, propose and implementing the interactive system for online shopping for customers, those are having their hectic life style. Also, this system should assist to dropping the amount of raising malls in cities which can stand by vast investment of money. The people base this system on QR code generation and use of that code for shopping purpose. Anyone who finds himself free time or waiting for in public place can simply look at our hoardings which is having list of daily useful household products and their respective QR codes printed nearby that product. One can scan that QR code by his smart phone and place an order for that product. The orders are continually getting monitored by the order processing, packaging and order delivery departments which are the part of our proposed system as an individual module. As this system can make online transactions with all the required credentials also with proper security rights the processing of shopping service will be fast. Based on daily shopping demand from public the data mining techniques will be implemented to get various statistics for study and future improvements. As we are having the database of each part relate to our proposed system it will use various data mining techniques implementation and evolution.

Main use of this work is to implement an Interactive advance & real time capturing system for consumer supplies using QR code in an Android smart phone which is used by the mass public to do shopping but for that they no need to visit shopping malls. Mall will follow them in public places to convert their waiting time into shopping time. As of now whatever study, research & implementation made of QR codes especially it is effective for marketing is their low cost and universal applicability. Targeted to mobile users, QR Codes help to reach people at any time and place. Apart from a smart phone, no special equipment is required, and there are no intermediaries between the users. The idea of Quick Response code billing system for shop and stores application is formed using android & The authentication is ended with the scanning of QR-Code through the mobile phone scanner app's the buyer login has to register using the application and the QR-Code will be provided connection is successful. On scanning the QR-Code the shopping will be asked for the credential. Once the authentication is done the buy is made by proceeding with the shopping process.

THE PROPOSED SYSTEM WILL BE COMMITTED TO WORK IN THE FOLLOWING WAY

At first we have to do User Registration then Verifying user with ID and OTP.(This opt is for small amount of time.) QR code Generator to generate codes for various products as per user requirements. Then Publishing QR codes to People. Also we can do 2nd verification & Accepting orders online for better security. Processing Payment what ever cost of that product. After that sending order to the packaging department. At last we make Confirmation of Order delivery by Customer.

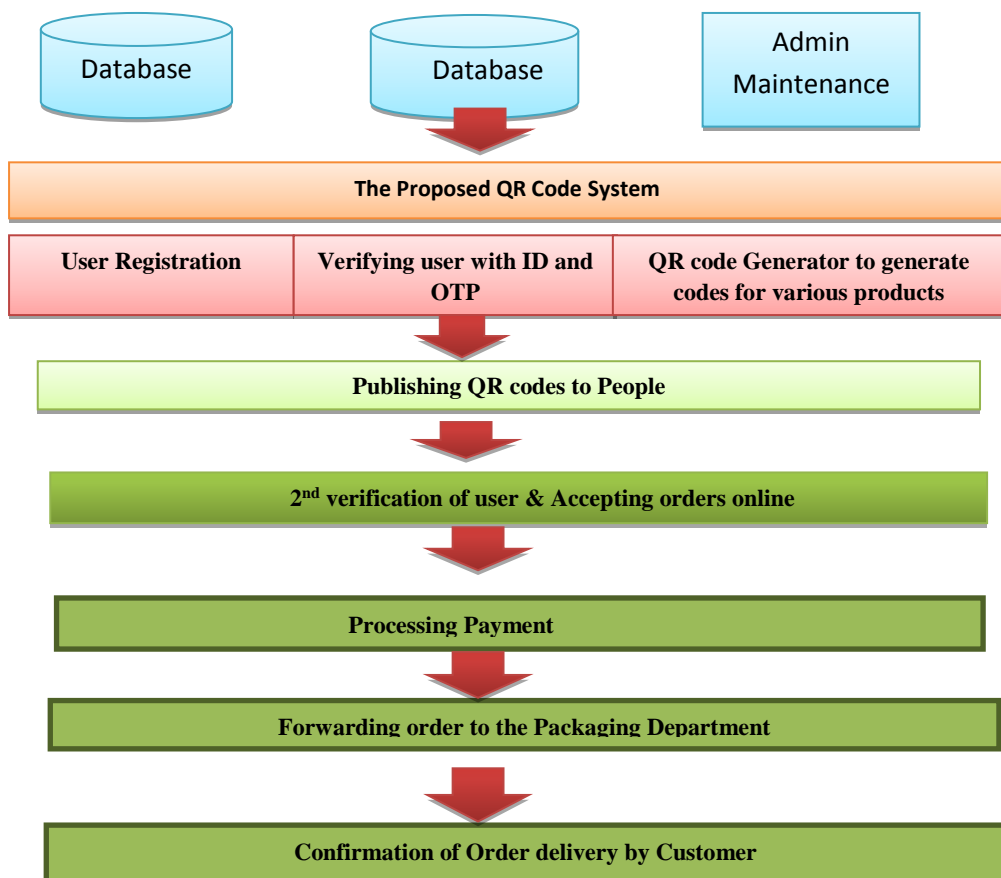


Fig.1: Skeleton of the proposed Interactive QR code Based Online Shopping System.

DATABASE STORAGE

The proposed system will contain a database required for making use of the it. It may store the data regarding various products with their QR code and Customer information after their registration. The data user passes will be converted to an SQL statement, which will be used to retrieve data from the database. When user scans a QR Code on the side of the product, it will then pull up a website that displays everything about that product. A trouble-free scan takes the preferred information and data as per requirement. The Decoded information can be stored in the server and can be observed by the Admin. The information encoded may be text, a URL, or other data. If the user selects the product, the details will directly forward to the server.

ADMIN MAINTENANCE

The section of admin part of this proposed system can do all crucial activities for making this system user friendly. This module can take care of complete flow of the system accordingly all the respective users should use it. There may be some request come to admin for various credentials to make use of processing any activity. Admin maintenance module should contain the full control for all other modules. Admin maintenance will track and control all the proposed activities of this system.

The proposed QR code system will be playing as important role for the entire system. This module can contain three main activities:

- 1) User Registration
- 2) Verifying user with ID and OTP
- 3) QR code generator to generate code for various products

The system will accommodate these activities as per their need and will make their implementation according to the flow of data required as well will focus on dependency of that to other modules.

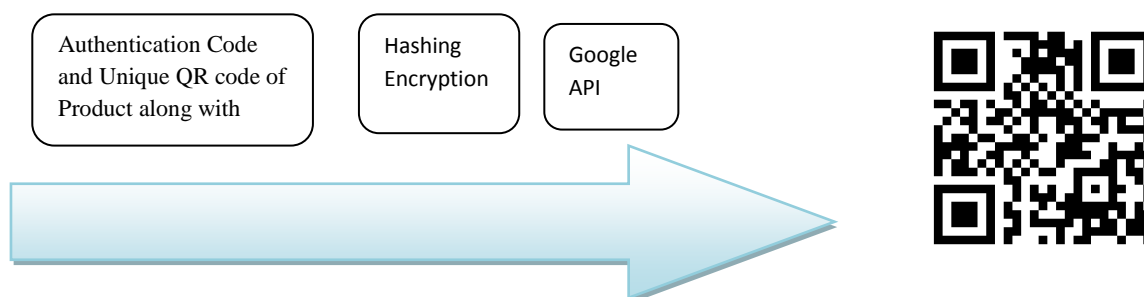


Figure 2: Flow of QR code generation

After registration, Unique id of the user is generated using product selects and it is secured by applying hashing encryption techniques like md5(), sha512 and sha256. The output is given to google API as input that is how the QR code is generated.

1) MD5()

The md5() function calculates the MD5 hash of a string. The md5() function provides Data Security. The store and retrieve data secure manner before being encrypted with a private (secret) key under a public-key cryptosystem.

2) SHA256()

The SHA (Secure Hash Algorithm) It another solution for secure data and text file by using cryptographic hash , this hashing technique in security is one way function because once it encrypted it cannot decrypt in original form.

3) TIME()

The time() function returns the current date and time in the number of seconds e.g January 1 1970 00:00:00 GMT. One of the important function in process of authentication.

Return Value: Returns an integer containing the current time as timestamp.

4) Random()

The rand() function generates a random integer.

For example : If you want a random integer between '10' and '100' (inclusive), use have write as

rand (10,100). One more option from same cateagaoryThe mt_rand() which more faster than previous one. Also min (or 0) and max values from integer.

5) Google API

The Google Chart API is an interactive and responsive Web service (now deprecated) that creates graphical charts from user-supplied data.Its provides lot of user friendly thing in graphical format is having lots of chart information with formatting options. As user by using image tag we can embed charts on our web pages.

PUBLISHING QR CODES TO PEOPLE

This is an offline task which contributes the success of the entire end to end Interactive QR based online shopping system. After generation of QR codes for the products, they need to be printed and published so that one can easily get access of these codes for shopping. Publishing of these codes can be done at various crowded locations like Railway stations, Bus stands, and cinema hall and at various public places. The moto behind this is these places are firstly crowded and peoples are waiting for someone worried about his time which he is wasting. In such situations if he get the opportunity to shop then he will easily do it.

2ND VERIFICATION OF USER & ACCEPTING ORDERS ONLINE

In this module the primary focus of proposed system will be verifying the user as he may be already registered with us. The QR codes those were being generated can be proving them self that they are generated for only used by the proposed system. Two important security loopholes our proposed system can provide is the remote user who is scanning our codes from any place should be registered one and the code he scans from the hording is related to our system only. After this 2nd verification of user the system will allow that particular user to by scanning and checking the code and make the orders. Once the user is verified by system then he becomes eligible to make order and whatever order he makes will be accepted & processed further.

PROCESSING PAYMENT

Once the user completes his order, our system takes him to online payment processing page to pay the bill. Whatever details he provides regarding payment that will be verified and diverted to the payment gateways. From where he should make his payment and get immediate acknowledge about his payment.

FORWARDING ORDER TO THE PACKAGING DEPARTMENT

In this module our proposed system can having a provision to collect orders those are made at real time and forward those to the packaging department page. Here in this module the implementation will be ready as per the real-world needs, situations and requirements those were on changing basis.

CONFIRMATION OF ORDER DELIVERY BY CUSTOMER

Finally, this module takes care of confirmation of order delivery by customer after delivering his order to his location. In this our proposed system can avail the two way confirmation i.e. from customer and also delivery person.

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