

QR code based user friendly online bazaar - eTradeWind

¹Shailja Sharma, ²VikasPancholi, ³Prof. Somayaji Siva Rama Krishnan,
School of Information and Technology, VIT University, Vellore, TamilNadu, 632014

Abstract: In the existing online shopping websites there is no such way where user can save the information regarding the particular product details. This portal includes all the existing features of online shopping website and in an addition QR (Quick Response) Code exists, which generates an unique code for each and every product, by doing so it provides potential to user to scan the QR code by their smart phones and can save the information regarding their fancy product.

Index Terms : Quick Response Code, Interest based searching, smart phones, Product and Order details database.

I. INTRODUCTION

Online websites are efficient to attract the crowd by their facilities and ease of reach. As the number of people searching any product increasing the complexity associated with handling the traffic. This is usually because of use of incompetent technology.

Therefore, to enable scalability, there is a necessity to include appropriate technology solutions. We propose the use of integrated QR code (2 dimensional) for reducing traffic and searching time which is more efficient, secure, easy-to-use, inexpensive and faster solution. As user wants to buy a product, but due to some circumstances he cannot buy that product at the same time, so for this situation proposed portal provides the facility to the user that they can scan the QR code of that product and get the whole information in his/her smart phone. This facility reduces the traffic of searching that scanned product again.

II. REVIEW OF LITERATURE

YONEZAWA ET AL [1] published as a United States patent on September 19, 1997, the authors proposed that provides the shopping basket which is efficient for simply utilizing the shopping basket while a consumer browses an item catalog and capable of effectively utilizing an online shop screen as an item catalog.

YAMADA ET AL [2] published as a United States patent on January 29, 1998 authors proposed an online shopping system that delivers the goods directly to the home address of the customers or customers designated addresses such as company addresses and other addresses by home delivery services.

HOPEN ET AL [3] published on October 7, 2002 authors proposed that invention relates generally to the field of electronic commerce and emphasis on an improved online shopping system.

HOPEN ET AL [4] published on October 10, 2006 authors proposed that advance customer contentment there is a need for improved and more flexible item ordering system.

Anthony D et al. in [5] explores risk perceptions among consumers of varying levels of Internet experience and how these perceptions relate to online shopping activity. Their findings provide evidence of hypothesized relationships among consumers' levels of Internet experience, the use of alternate remote purchasing methods (such as telephone and mail-order shopping), the perceived risks of online shopping, and online purchasing activity. The authors also discuss the implications for online commerce and consumer welfare.

Kyoung-jae Kim et al. in [6] researched on applying K-means clustering to a real-world online shopping market segmentation case. The authors propose a novel clustering algorithm based on genetic algorithms (GA) to effectively segment the online shopping market. In general, GAs are believed to be effective on NP-complete global optimization problems, and they can provide good

near-optimal solutions in reasonable time and also a clustering technique with GA can provide a way of finding the relevant clusters more effectively. Kyoung Jun Lee et al. in [7] proposes an RFID (Radio Frequency Identification) technology-based pervasive comparison shopping business model. RFID will allow consumers to be seamlessly connected to the network, and the advent of a new shopping network will enable a smoothly functioning incentive mechanism between displays and retailers. Ultimately, a new shopping network will enable consumers to be engaged in seamless commerce.

III. RESEARCH PLAN

First Phase :The existing system are analyzed and the bugs or errors are examined.

Second Phase :Discussing with Stake holders who are responsible for the designing and developing the system.

Third Phase :Implementing the well designed system after the design test.

Iterative Phase :Retesting the system based on the results generated after properly examining the system.

IV. OVERVIEW OF SYSTEM

The proposed system architecture, as depicted in Fig. 1, features the following QR code generator, QR code reading device(Smart phones), user interface, administrative interface, staff interface, user registration system, product detail system, order detail system, Database Server. A backup is periodically taken and stored in a Replica Database server.

As the new product arrives the staff member will generate the QR code through the QR code generator of the product information and forwarded to the server for the selling purpose and user can scan the QR code of that product and can keep the information for later use or can purchase at the same time by giving the necessary information for buying the product.

Admin interface interprets the data being collected to the administrator and key personnel and provides real time information to the team helping them make timely decisions.

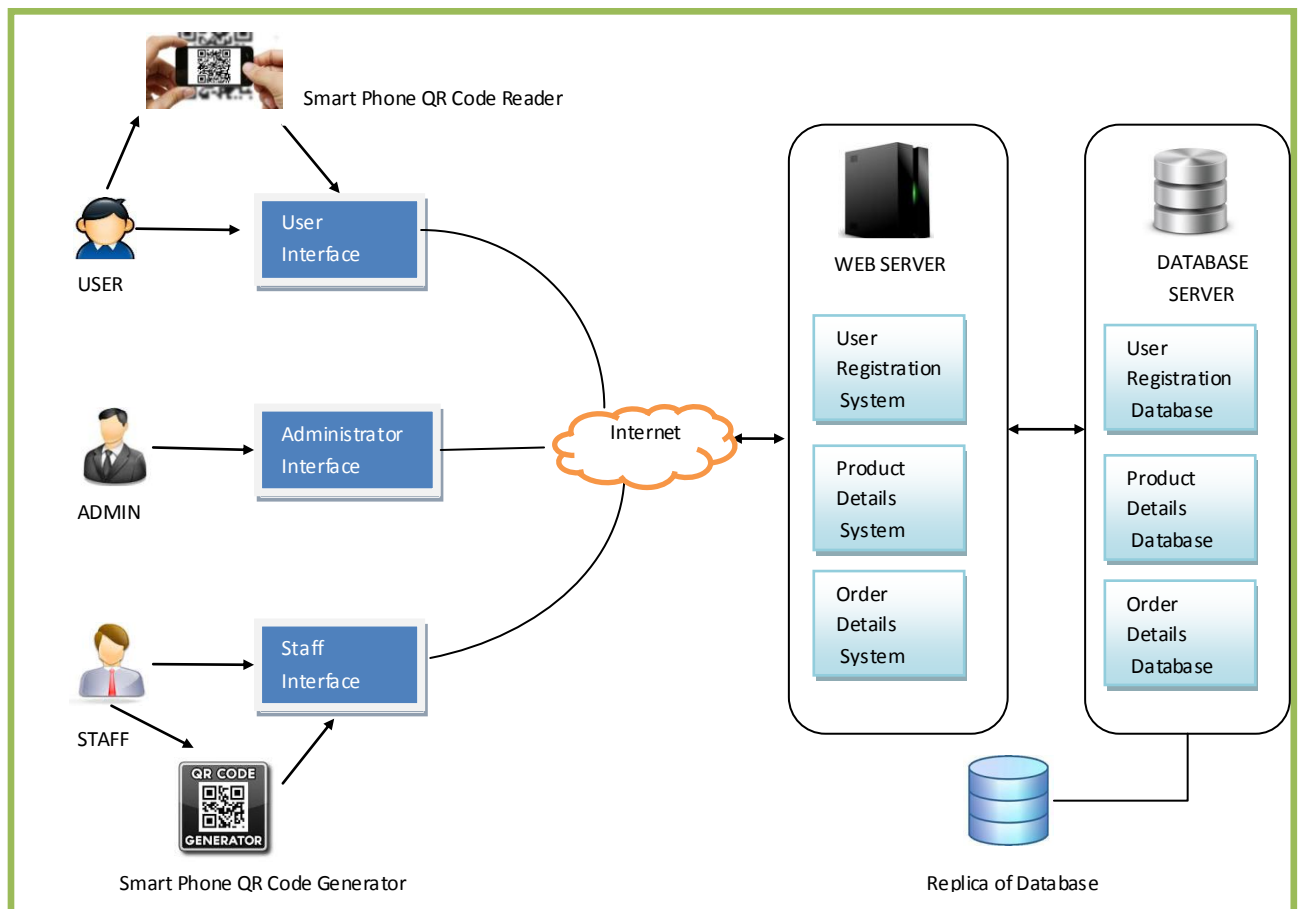


Fig. 1: System Overview

V. SYSTEM FUNCTIONING

The system functioning may be divided into three parts that comprise of a client side, a medium and a Server cum storage unit. Client to this system may be either anonymous users, administrators, counter-staff or any other individual who makes a request to the server.

This request travels over the network and accesses the process modules that are hosted on the server. These include Registration process module, QR Code generation module, Product Detail module and order detail module. Data associated with the functioning of these modules are constantly fetched and stored in the Database Server.

A. Registration Process

The registration process is initiated when the person registers online by providing his/her email ID and password. The registration data is securely stored in our Database Server. After submission an automated confirmation email is sent to the same email ID. On clicking the confirmation link, the unique ID will be activated.

B. Product Details Process

As the new product arrives the various information along with the QR code will be stored in the Product Detail Database by the staff members. It will notify the staff members if there is any shortage of stock for particular product and it will also notify availability of the product to the customers who have that product in their wishlist.

C. QR Code Generator

Before adding the product to the Product Details Database will be having QR code by the help of QR code generator. All the information of a product will be sent in a .txt format to the QR code generator and then generator will send a QR code image integrated with all the information of that product. The QR code along with the product information then added to the user website.

D. Order Details System

This system contains the information regarding the placed order by the customer. When the customer goes for placing the order that time the system will ask the personal information which are required for

the delivery and the payment details. The customer information along with the basic product details will be sent to Order Database.

VI. RESULT ANALYSIS

We have tested QR codes for around 56 products and all the QR codes were scanned in less than 2 seconds. After scanning the QR code the customers were able to have the product information in their smart phones and they were able to see the information offline. In the country like India where internet connectivity is a challenge, this portal helps the user to see the product information offline also.



Fig 2 : QR code for MOTO G

The above fig 2 shows the QR code for the moto g product, which is available under the category mobile in our portal.

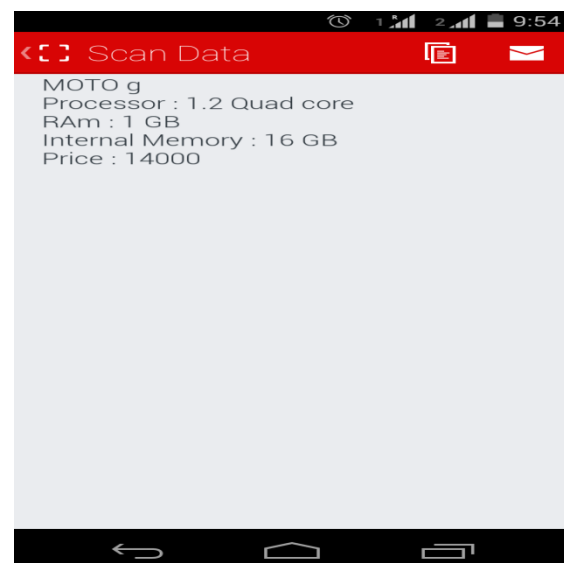


Fig. 3 : QR Code Scanned Information

After scanning the QR code (Fig. 2) through QR code reader from the smart phones, the information

regarding the product will automatically generated in the same device as shown in fig. 3.

VII. CONCLUSION

This paper discusses the importance of using QR code based information transferring. The reason behind choosing the QR code instead of bar code is the storage capacity that QR code have. QR code can store more information because of 2 dimension than the bar code which is 1 dimensional and scanning the bar code is quite difficult as compared to QR code. With the help of QR code the traffic of online website can be reduced and quite effective even in the absence of internet. It enhances the business by this technology.

VIII. REFERENCES

- [1] Yonezawa "SHOPPING BASKET PRESENTATION METHOD FOR AN ONLINE SHOPPING SYSTEM" , Hitachi Ltd, Tokyo, Japan September 29, 1997.
- [2] Yamada "ONLINE SHOPPING SYSTEM" , Victor Company of Japan, Ltd, Yokohame January 29, 1998.
- [3] Hopson "ONLINE SHOPPING SYSTEM" , The K ROGER Company, Cincinnati, OH(US) October 7, 2002.
- [4] Hopson "ONLINE SHOPPING SYSTEM" , The K ROGER Company, Cincinnati, OH(US) October 10, 2006.
- [5] Anthony d. Miyazaki, Ana Fernandez, "Consumer Perceptions of Privacy and Security Risks for Online Shopping", journal of consumer affairs, wiley, Volume 35, Issue 1, pages 27-44, 2001.
- [6] Kyoung-jae Kim, Hyun chulAhn, "A recommender system using GA K-means clustering in an online shopping market", Expert Systems with Applications, Elsevier, Volume 34, Issue 2, February 2008
- [7] Kyoung Jun Lee, Young Hwan Seo, "Design of a REID-Based Ubiquitous Comparison Shopping System", Knowledge-Based Intelligent Information and Engineering Systems Lecture Notes in Computer Science, springer, Volume 4251, 2006.