International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 05 Issue: 04 | Apr-2018 www.irjet.net p-ISSN: 2395-0072

QR CODE TECHNIQUES FOR SMART SHOPPING: A REVIEW

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Abstract - *The application provide an incomparable user experience with respect to ease of use, responsiveness, performance and quality. Which are followed by consumers in day to day life in a variety of super market, shops and some other association with the aid of android application .With the enhancement of livelihood principles, shops are rising superior subsequent to constructing with more abundant merchandise and more assortment of goods. That's why building a effortless, speedy and suitable shopping guide system has turn into a communal disquiet of merchants and consumers. In current era smart phone has turn out to be a popular consumer products, a basic optimization scheme was identified to design shopping guide system run on smart phones, with the help of QR code generation and recognition technology. For proficient shopping system, exclusive QR codes are produced to record the article name, number, location, detailing of goods placed .Smart phone reads the QR Code through the camera.*

***Key Words*: Android Application, QR code scanner, Android, QR code.**

1. INTRODUCTION

QR code is the abbreviation of Quick response. QR codes are casual patterns, which can be generally observed on the corner of posters or web pages. The objective of QR codes aims at expediency leaning applications for mobile phone users. People can use the smart phone cameras to scan QR code at the corner of web page the propagation of internet usage has made people linking to the web pages easily by using pc or mobile phone over the wired or wireless networks. Particularly, for users using the mobile phones to look around the web pages, it has brought much more conveniences to their daily lives quick response code has been broadly used in the automatic identification fields. In order to adapting diverse sizes, a little foul or scratched, and variety of illumination conditions of bar code image, this paper proposes a narrative implementation of real-time quick response code recognition using mobile, which is an efficient technology used for data transferring. By using this application .we can save both time of shopping and man power in different organization and big step towards digitalization in shopping sector. Recent improvement of smart phones and tablet computing devices has witnessed the growing fame of short- range wireless-communication in many mobile applications and services, although near field communication (nfc) allows two nfc-enabled devices to interact with each other, it is probable that a third device could interrupt the data. Three major concerns associated to data interception are data corruption, data modification, and data insertion. Data corruption involves transmitting valid frequencies at well- timed intervals. The traditional shopping is a tedious and time consuming process as well as the physical appearance of goods is mandatory. For selecting items customer need to carry a basket with them. For paying bills customers needs to stand in queue.

The Smart Shopping methodology, The main scientific objective of this research project is the design, implementation and control of a novel distributed robotic system and the sense of security money wise as well as for consumer fulfilment as doing shopping offline. This is implemented by an Android application. In traditional shopping mode, the purchaser needs to bodily choose his acquire, bring hard cash, along with them furthermore wait in the elongated queue to formulate payments. In existing system, barcode are often intended for user use where using a barcode devices user 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 customer scenarios unusually challenging. Barcode decode can gives the vision algorithm feedback, and develop a progressive strategy of the product. This is also mentioned at this point would read the QR code of the product & put it into the shopping cart. It provides methods to change the quantity of product 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 convenience

2. REVIEW OF LITERATURE SURVEY

A. Representational State Transfer protocol: Smart Shopping application uses REST, an architectural technique, as a web overhaul for the app. REST is called as Representational State Transfer protocol, which is a frivolous process. It is a set of strategy for creating web services. REST has architectural properties such as Client-server, Stateless, handling of the assets, Self-descriptive communication Resource recognition. Adarsh Borkar also uses the web Services: A Web service is software which can unite any gadget that is active in the internet to another and launch communication between them. It uses HTTP as common communication protocol. Web service is required to ascertain communication between Android gadget and Shop's database to switch in excess of information. QR code is widely used in a around the globe to keep information

about all category of product attentiveness .These tradition starts from automotive industry to all other cost-effective products because of its two big advantages are fast accessing of data and endow with large amount of storage area. There are different kinds of traditional ways of advertising and business organization, profile search and so on. But due to technology approval and user predilection changes small to large business have to adapt to changing scenarios and make their business significant and hence new system with latest technology trends is very much mandatory to stay competitive. The development of QR based new system will allow technology savvy users to just scan QR codes to complete end to end business process flow execution to complete task at hand. This kind of system is cost efficient at the same time available 24 / 7 to do a business business deal [4].

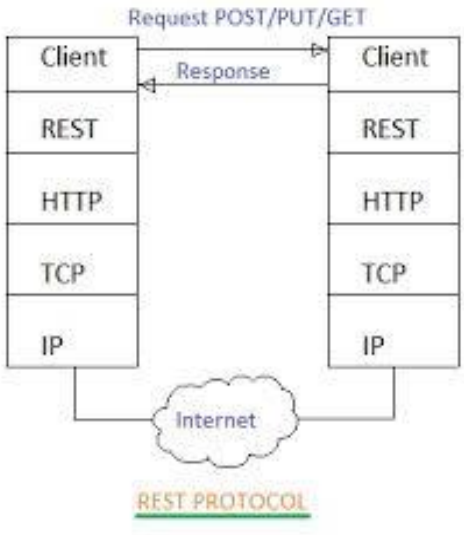

Fig: RSET Protocol

B. Multiplexing and Demultiplexing: Author P. Sathishkumar were used multiplexing & Demultiplexing algorithm for recognizing QR code representation in which it encode and decode the information from single QR code with special secret code and gash the data back to their QR code pattern where these QR code pattern can be read by Android smart phones to provide the various services that can recognize the authenticity of any product so QR code verify product by capturing it through the smart phone. Smart Shopping application uses REST, an architectural approach, as a web service for the app. REST is called as Representationsssal State Transfer protocol, which is a lightweight process. It is a set of guiding principle for creating web services. REST has following architectural properties- Client-server, Stateless, Manipulation of the resources, Self-descriptive messages, Resource identification [3].

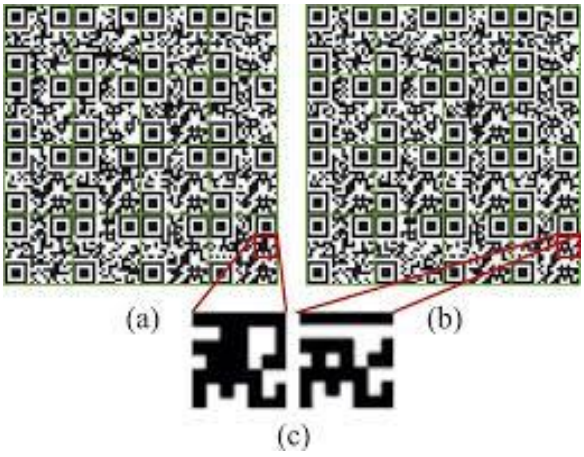

Fig: Optimized and secure technique for multiplexing QR code images of single characters

C. QR Filtering Method: In this paper they were used an advanced a fast QR filtering method to rapidly to get information which is hided inside the QR code for the security persistence. Security contactless payment and security exposures such as eavesdropping and jamming. The second module represents the web server communiqué and the generation of OTP which is hidden in QR code. The mail will be received by the user and the user scans the QR code with the help of mobile device and extracts the OTP. The authors describing about drawback of existing system which are, 2d barcodes have been increasingly used for security perceptive mobile applications including mobile payment as well as private identification. The study of barcode safety in applications of mobiles has not been systematically studied. Difficult to add security and eavesdropping in 2D barcodes [2].

D. Session Immigration in Multidevice Web applications: Alexander Alapetite introduces a novel Web architecture that supports session immigration in multidevice Web applications, principally the case when a user starts a Web session on a computer and requests to continue on a mobile phone. This paper provide a clarification for transferring the needed session identifiers crossways devices is to dynamically create pictures of 2D-barcodes containing a Web address and a session ID in an encoded form mobile device to a computer (opposite direction), and between two or more mobile phones (possibly back and forth).The author tells about the difference between the barcode and QR Code and how QR code is better than Barcode which include ,Unlike the standard barcode system in use today, QR codes are far more powerful and can contain much more information. While out current bar-coding system holds information only one-way, QR Code holds info both vertically and horizontally. In comparing the current bar-coding system with QR Codes, we also note that QR Code is really about convenience. In order to access the information contained within our current barcode system, we need a special scanner. The type of scanner and system isn't cheap. Therefore, you don't see them in households and the system's use continues to be restricted to retailers and larger

businesses. QR Code has some feature such as High Capacity Encoding of data, Small Printout Size Kanji and Kana capability, Dirt and Damage Resistant, Readable from any direction in 360 degree. The comparison of QR code and Barcode are as follows [6].

Barcode Type	1D (Barcode)	2D (QR Code)
Information Density	Low	High
Information Capacity	Small	Big
Information Type	Numbers, Greek Characters.	Numbers, Greek Characters, Chinese Pictures, voice and other binary information.
Dependence on database	Must depend on database or communication network	Does not depend on database or communication network

3. ANALYSIS

Representational State Transfer (REST) is an architectural style that specifies constraints, such as the uniform interface, that if applied to a web service induces desirable properties, such as performance, scalability, and modifiability that enable services to work best on the Web. REST is used in Android and Java to create an HTTP request and also to process the HTTP response from a REST API. We can also simply say that a RESTful API is an application program interface (API) that uses HTTP requests to GET, PUT, POST and DELETE data. Multiplexing and Demultiplexing algorithm for recognizes QR code image using smart phones. This technique embeds more data than ordinary QR codes. Multiplexing and Demultiplexing involes special symbols corresponding to number of QR code pattern. Special Symbols were scanned at receiving end and image was recognized. The image was demultiplexed to its original QR code pattern with three part Data in each QR code pattern were concatenated back to form the original information message. QR filtering method is used to get the information which is hidden inside the QR code securely. The concept of OTP is also used for security using QR code.

4. CONCLUSION

The demand for the mobile shopping is growing the necessity of more secure, safe and faithful transaction is of extreme demand. Smart phones, that have turn into significant part of today's life, have abridged all the efforts that are essential 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. There are two advantages of it: first no need to stand in the long queue for a long time in malls just for scanning the item, second there will be no scope for the frauds that happen in mobile shopping. The items so far purchased by the customer will be maintained in the app that can be used by the buyer in the next purchase. This project will benefit small and medium business to accept new technology and increase the consumer traffic. It is cost effective solution to medium sized business as compared to the individual hosted solution.

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