International Journal of Research in Engineering, Science and Management
Volume-1, Issue-12, December-2018
www.ijresm.com | ISSN (Online): 2581-5792

QR Code based Secure Billing System for Shops using Cued Click-Points

Nikita Dongre[1], Priyanka Giri[2], Diksha Hinge[3], Ankita Kashid[4], Pavan Sharma[5]
[1,2,3,4]*Student, Department of Computer Science, Pune University, Pune, India*
[5]*Professor, Department of Computer Science, Pune University, Pune, India*

Abstract*: In today's Mall shopping system, the users usually visit the mall for shopping different products and spend their valuable time in searching the products and the products in their price range. After selecting the product the users have to wait in a long queue for billing which is another time consuming part of shopping, and moving the cart from one place to another place is another hectic task. In this, the user's time and searching products in the entire mall increases. So, we are working on this paper to avoid these drawbacks. The drawbacks in the existing system is, firstly the time required for bill payment is more as the users have to wait in a long queue. Secondly, the users have to move the cart through the entire mall, and carry the load of products at their home. One more drawback is regarding the barcode in which less data is stored. In view of the mobile phone has become a popular consumer products, user can view the information about products using mobile app, 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, wherein, we can store more data using the QR code . The proposed programs can show accurate and real time shopping destination, thus help shopping mall to mine customer data more accurately and scientifically. In our paper we are going to use QR code for every product using QR code generator, as user goes for shopping and wants to purchase a product, he will scan the QR code of the product using QR code scanner, from his android device and he will get list of all the similar products in that range and any offers and discounts related to that product, this is done using searching and sorting algorithms. Once the user scans and adds the product to the cart the data gets feed to the server and the bill gets generated after adding all the products to the cart. The bill is sent to the user on his device and if the payment is <1000 Rs then the products are delivered home or in the mall and also bill payment is done online. Now a days it is difficult to deal with text based password. As text can be easily detected, or if it is known then it's risky to deal with such things when we have confidential systems with us. We can overcome this problem with the help of graphical password with cued click points. This graphical password will be really helpful to secure the confidential systems. Cued click points is the concept in which Persuasive Cued Click points graphical pass-word scheme which includes usability and security evaluations. There are a lot of effects that are most well-known about passwords; such as that user cannot memorize complicated password which is simple to identify. Consider the traditional paper of banking transactions.

***Keywords*: Mobile Computing, User Authentication, Graphical Password, Persuasive Cued Click-Points.**

1. Introduction

QR-codes, which are two-dimensional barcodes that can encoded various types of information. QR codes can be attached to physical objects. Already in several metropolitan areas, such codes have been placed, e.g., in stores, at the entrance of buildings to provide floor plan information, or on walls for announcing upcoming events. In our system we are going to use QR code for every product using QR code generator, as user goes for shopping and wants to purchase a product, he will scan the QR code of the product using QR code scanner, from his android device and he will get list of all the similar products in that range and any offers and discounts related to that product, this is done using searching and sorting algorithms. Once the user scans and adds the product to the cart the data gets feed to the server and the bill gets generated after adding all the products to the cart. The bill is sent to the user on his device and the products are delivered home and also bill payment is done online. Mobile computing is human computer interaction by which a computer is expected to be transported during normal usage, which allows for transmission of data, voice and video. Mobile computing involves mobile communication, mobile hardware, and mobile software. Communication issues include ad hoc networks and infrastructure networks as well as communication properties, protocols, data formats and concrete technologies. Hardware includes mobile devices or device components. Mobile software deals with the characteristics and requirements of mobile applications.

2. Literature review

Dynamic Barcodes for a Better Ubiquitous Understanding AUTHORS: Geert Vanderhulst and Lieven Trappeniers Starting from the perception that a computing device can hardly make sense of information that is intended for humans and embedded in the real world, the use of dynamic 2D barcodes is explored to exchange meaningful data between devices. On the other hand, the size constraints of QR codes is addressed by splitting up data across multiple symbols and (re)playing the data as a video of barcode frames. It was concluded that optical transfers can be achieved at bit rates comparable to those of NFC. However, real-world experiments with a variety of

mobile devices are needed to verify results in practice. Concise semantic data format based on URLs is presented that is tailored to compact data carriers such as barcodes. Literal URLs aggregate pre-published and live semantic data and hence support AR applications that act upon data rather than being driven by ad-hoc use cases. When the combination of these technologies is further refined for practical use in the real world, digital information can be seamlessly embedded on displays and understood by a computing device by simply looking at it through a camera. [1]. Salih Mohammed Salih This article specifies a proposed improvement model of Data Encryption Standard (DES)which may be used to protect sensitive data. Protection of data during transmission may be necessary to maintain the confidentiality and integrity of the transformation represented by data. Instead of expansion step in each round which is made by copying 16 bit from 32 bits data in each right side of the standard algorithm, the unused 8-bits as a key in the first starting round with the other 8-neglected bits from each of 16 round in the key algorithm will be used, and take the same locations of the expanded data. As a result, the complexity to cryptanalysis of the secured data has been increased. The proposed method was more active and reliable than standard conventional DES, where it can be switched to the system at any round for working with original DES algorithm, which means that an additional security has been added [2]. Rui Wang, Shuo Chen, XiaoFeng Wang, ShazQadeer Analysis for Caas-based web stores is presented in this article, as an example of security challenges in third-party service integration. Serious logic flaws were found in leading merchant applications, popular online stores and a CaaS provider (i.e., Amazon Payments) which can be exploited to cause inconsistencies between the states of the CaaS and the merchant. As a result, a malicious shopper can purchase an item at a lower price, shop for free after paying for oneitem and even avoid payment. Thus, the findings were reported to the affected parties and also received their acknowledgements .Further analysis revealed the logic complexity in CaaS and the effort required to verify their security property while developing and testing the systems .Security challenges that come with web service integrations in other scenarios are also considered, e.g., social networks and web authentication services. Fundamentally, the emergence of new webprogramming paradigm demands new research efforts onensuring the security quality [3]. Tasos Alexandridis, Paulos Charonyktakis, Antonis Makrogiannakis, Artemis Papakonstantinou, and Maria Papadopouli Traditionally text based passwords are used for authentication which have several drawbacks. So as result use of graphical password. In this technique, Shoulder surfing and the two main issues in Graphical passwords. The proposed system reduces the hotspot problem. Concept of finger printing and additional invisible password input for each point makes system more secure. Clicks on each image along with that it has to add password which is invisible during login which may create problems and unwanted situations sometimes to because of invisibility of password [4].

3. Existing system

In existing mall shopping system, the users usually visit the mall for shopping different products and spend their time in searching the products and the products in their price range. After selecting the product the users have to wait in a long queue for billing which is another time consuming part of shopping, and moving the cart from one place to another place is another hectic task. In this system the user's time and searching products in the entire mall increases. In current framework, client needs to give username and secret key (content watchword), Then OTP will be send on your framework and affirmation will be there. This framework will be at high hazard if other unapproved individual knows the content secret word.

A. Disadvantages of Existing system

- The time required for bill payment is more as the users have to wait in a long queue.
- The users have to move the cart through the entire mall, and carry the load of products at their home.
- One more drawback is regarding the barcode in which less data is stored.
- Less payment security

4. Proposed system

In this paper, we are going to use QR code for every product using QR code generator, as user goes for shopping and wants to purchase a product, he will scan the QR code of the product using QR code scanner, from his android device and he will get list of all the similar products in that range and any offers and discounts related to that product, this is done using searching and sorting algorithms. Once the user scans and adds the product to the cart the data gets feed to the server and the bill gets generated after adding all the products to the cart. The bill is sent to the user on his device and the products are delivered home and also bill payment is done online. To stay away from the security issues by utilizing content passwords, the more secured idea we are going to actualize in our framework. This framework is graphical secret word utilizing signaled click focuses. Graphical password will provided to the user for authentication purpose. A graphical password is an authentication techniques which asks the user to select details from images displayed on a Graphical User Interface (GUI).User will select a images of his/her choice and interest. Later user has to choose a specific locations in sequence on image selected and then it will be saved by system. The technique used is called persuasive cued click points. If the user selects a wrong locations or wrong sequence, then the access will be denied by saying wrong. The proposed paper can be used to show accurate and real time shopping destination, thus help shopping mall to mine customer data more accurately and scientifically. In our paper we are going to use QR code for

every product using QR code generator, as user goes for shopping and wants to purchase and payment security will be provided by using persuasive cued click point technique.

A. Advantages of proposed system

Smart shopping System:

- Reduce man power
- Save time and space
- Use for betterment of people in shopping

Graphical password:

- Easy to remember and hard to guess.
- Provides higher security.
- Human friendly password.

5. System architecture

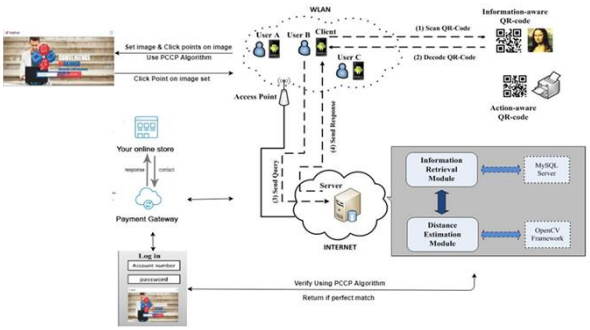

Fig. 1. System architecture

6. Conclusion

The proposed System can guarantee to increase easiness of shopping in mall or other retail shop by scanning QR code of product and payment security by graphical password scheme using persuasive cued click points.

References

[1] Dynamic Barcodes for a Better Ubiquitous Understanding Geert Vanderhulst and Lieven Trappeniers Alcatel-Lucent Bell Labs Copernicuslaan 50, 2018.

[2] Salih Mohammed Salih, "Modified Key Model of Data Encryption Standard," 2010. https://www.iasj.net/iasj?func=fulltext&aId=14266

[3] Rui Wang, Shuo Chen, Xiao Feng Wang, Shaz Qadeer,How to Shop for Free Online Security Analysis of Cashier-as-a Service Based Web Stores," 2011 IEEE Symposium on Security and Privacy.

[4] Click Passwords under Investigation Warsaw University, Faculty of Psychology, Stawki, International Conference on IEEE, 2012, pp. 1156-1167.

[5] Alain Forget, Sonia Chiasson, P.C. van Oorschot, Robert Biddle, Improving Text Passwords Through Persuasion, School of Computer Science and Human Oriented Technology Lab Carleton University, Ottawa, Canada, ACM, 2013

[6] Sonia Chiasson, Chris Deschamps, Elizabeth Stobert, Max Hlywa, Bruna Freitas Machado, Alain Forget, Nicholas Wright, Gerry Chan, and Robert Biddle, The MVP Web-based Authentication Framework, in Image Processing, 2012.