RESEARCH ARTICLE   OPEN ACCESS

Online Virtual App with Onion Routing

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ABSTRACT
Online shopping is a form of electronic commerce which allows consumers to directly buy goods from a seller over the internet using android phones. This work deals with developing an e-commerce website for online different types of products. It provides the user with a catalog of different types of products available for purchase in the store. The online shopping has been developed to allow business grows larger and faster. This app will let consumer to view and order products online from any part of the world. The site sells different types of. Under this website many products and services can be ordered. The Online Shopping application is designed from a user point of view. The user friendly design helps the users in accomplishing their task with ease. Attempts have been made to keep the design simple and understandable. The screens were designed in XML and the business logic was written in Java. The total lines of code written in this application are Java, xml.
Keywords – Android , Cloud Computing , Onion Routing Algorithm , Shopping

I. INTRODUCTION

In today's ever competitive business environment, customer service and customer satisfaction are often considered as critical to an organization's success as the financial indicators. In the eyes of many companies, "Customer satisfaction and financial success are the two sides of the same coin ".The Internet can be used to achieve the twin goals. Using this technology, it enables a company to make its marketing literature, product announcements and public pricing available to a large audience without the costs associated with printing and distributing written information. Changes to this information can be made immediately, without the costs & delays involved with printed materials.The benefit to the user is the immediate accessibility of information. There is a vast amount of information on the Internet, and the tools available today make this information very accessible.

One of the emerging uses of the Internet is Electronic Tele-marketing**,** which provides an alternative to traditional tele-marketing. Tele-

marketing is very expensive, especially for a small company - the result is either losing customer calls or employing more staff than needed. Also, traditional tele-marketing uses same skill-level person to answer technical questions as it does to take down a nameand send a literature.As it enters the Electronic age, a company provides all its literature and other pricing-related information on a Web Server, which provides customers with a chance to browse and download the desired information instead of making a telephone call to get answers to specific questions. Therefore, Electronic Tele-marketing complements traditional tele-marketing, reducing the cost of doing business. Electronic Tele-marketing will enable smaller companies to offer high quality services as any large company.Virtual Shopping or Order App is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using an Android Device (Mobile phone/Tablet). An online shop evokes the physical analogy of buying products or services at a bricks-and-mortar retailer or shopping center; the process is called business-to-consumer (B2C) online shopping via Mobile.

II. LITERATURE REVIEW

In this study, we build up such a framework based on previous research on consumer adoption of new self-service technologies and Internet shopping systems (Dabholkar and Bagozzi, 2002[1]; O'Cass

and Fenech, 2002[2]; Davis, 1993[3]). This research suggests that consumers' attitude toward Internet shopping first depends on the direct effects of 2001[4]). It is demonstrated by past research findings that prior online shopping experiences have a direct impact on Internet shopping intentions (Eastlick and Lotz, 1999[5]; Weber and Roehl, 1999[6]). Helson (1964) [7] suggests that an individual's response to a judgmental task is based on three aspects:

(1) Sum of the individual's past experiences.

(2) The context or background.

(3) The stimulus

Lack of trust is one of the most frequently cited reasons for consumers not shopping on the Internet (Lee and Turban, 2001[8]). Since this shopping medium is relatively new and most of them have only little experience with it, shopping on the Internet provides a challenge too many consumers shopping also contains a level of risk. Consumers cannot physically check the quality of a product or monitor the safety and security of sending sensitive personal and financial information while shopping on the Internet (Lee and Turban, 2001[8]). This condition creates a sense of powerlessness among online shoppers. Therefore trust has an important moderating effect on the relationship between consumers' attitude toward Internet shopping and intention to shop online .According to Siadat, S.H., Buyut, V.C., Rahman A.A [9]. One of the key challenges in online businesses is how to measure service quality in order to have a better understanding of its consequences which holds a significant importance to customer satisfaction. In this paper, we ranked the dimensions of service quality that affect the customerspsila expectation in online shopping in Iran from the customerspsila perspective. The measurements used were based on the widely accepted SERVQUAL model which is the most common method for measuring service quality. A descriptive statistics analysis was used to evaluate the level of servicequality of Iranianpsilas online shops from the customerspsila point of view. A comparison of servicequality factors has also been done between Iranian and American customers. Jing He and Yun Bai [10] have told about the nature of the service quality construct in online shipping environments and its relationship with

relevant online shopping features (Davis, 1993[3]). Intention to shop online is also influenced by consumers' Internet shopping history (Shim et al., customer satisfaction and behavioral intentions. After a factor analysis used a sample from college student respondents, we assessed the relationship among all variables with correlation analysis and regression analysis. And then we introduced a test of the mediating effects of customer satisfaction to study the approach of service quality on behavioral intentions. Empirical results show that reliability and assurance are important for servicequality in online shopping industry while responsiveness and tangibles fail to play a dominant role. This study also demonstrates that while service quality has an important influence on behavioral

intentions, its indirect effect through customer satisfaction is larger than the direct effect on behavioral intentions. According to Li Milong [11].Online shopping is the process whereby consumers directly buy goods, services etc from a seller interactively in real-time without an intermediary service over the Internet. Nowadays, online shopping has become increasingly popular. However, affected by many factors, the purchase activities of consumers in online shopping is different from that of consumers in traditional shopping. This essay involves the analysis of characteristics of consumers in online shopping, which from many aspects, for example, consumer groups, online purchase frequency, etc. Moreover, based on these characteristics, this essay imposes some related marketing strategies of merchants.

III. TECHNOLOGY OVERVIEW

3.1 The Onion Routing (TOR)

The Onion Routing (TOR) is the anonymous communication over a computer network. Messages are repeatedly encrypted and then sent through several network nodes called onion routers. Like someone peeling an onion, each onion router removes a layer of encryption to uncover routing instructions, and sends the message to the next router where this is repeated. This prevents these intermediary nodes from knowing the origin, destination, and contents of the message. Onion routing was developed by Michael G. Reed, Paul F. Syverson, and David M. Goldschlag, and patented by the United States Navy in US Patent No. 6266704 (1998). As of 2009, Tor is the predominant technology that employs onion

routing.

3.2 Cloud Computing

Cloud computing is a type of computing that relies on *sharing computing resources* rather than having local servers or personal devices to handle applications. In cloud computing, the word cloud (also phrased as "the cloud") is used as a metaphor for "*the Internet*," so the phrase *cloud computing* means "a type of Internet-based computing," where different services -- such as servers, storage and applications -- are delivered to an organization's computers and devices through the Internet. Cloud computing is comparable to grid computing, a type of computing where unused processing cycles of all computers in a network are harnesses to solve problems too intensive for any stand-alone machine.

IV.   IMPLEMENTATION

Virtual Shopping or Order App is an Online Shopping based Android Application. User can simply do shopping by using his Android Mobile or tablet. User order the stuffs he /she need to purchase via an android device and get those stuffs at his door steps, without personally going into the store. User purchases those stuffs from the shops which are using the same application and are registered to the same App.The end user need to register his Mobile no. to the app whereas the store/shopkeeper has to register his store/shop and gets. Both the user as well as store get, or have to create a unique ID and Password to get access with the application. Whenever the user orders anything from a store, the store owner gets the address of the user as well as the complete list of the order that a user has placed. Then the order is processed by the store/shopkeeper and is dispatched to the store.

The Application uses MyPhp database. All the inventory data and user's data as well as Shopkeeper/Store data are stored in MyPhp database in a Local server. And those data are accessed by using PHP and JSON.Consumers find a product of interest by directly searching among alternative vendors registered with the Virtual Shopping App or via the Product Name which he/she wants to purchase. Once a particular product has been found using the Virtual Shopping Application a "checkout" process follows in which payment and delivery information is collected, if necessary. Even a customer is allowed to accumulate multiple items and to adjust quantities, like filling a physical shopping cart or basket in a conventional store. The Virtual Shopping App also allows consumers to sign up for a permanent online account so that some or all of this information only needs to be entered once. The consumer often receives an e-mail confirmation of the bill. The Application often maintains the entire database for the entire business unit or store. The entire database of goods and products is maintain in a secured cloud server, so that the Business unit or Store can have the access of these data from anywhere at any point. The database consists of inventory management, bill and transaction settlements and also Customer details.

The app also serves the concepts of Inventory Management. The complete inventory at the shopkeeper/Store end is maintained by the App by its own. The entire Inventory is Stored at a center cloud server database.
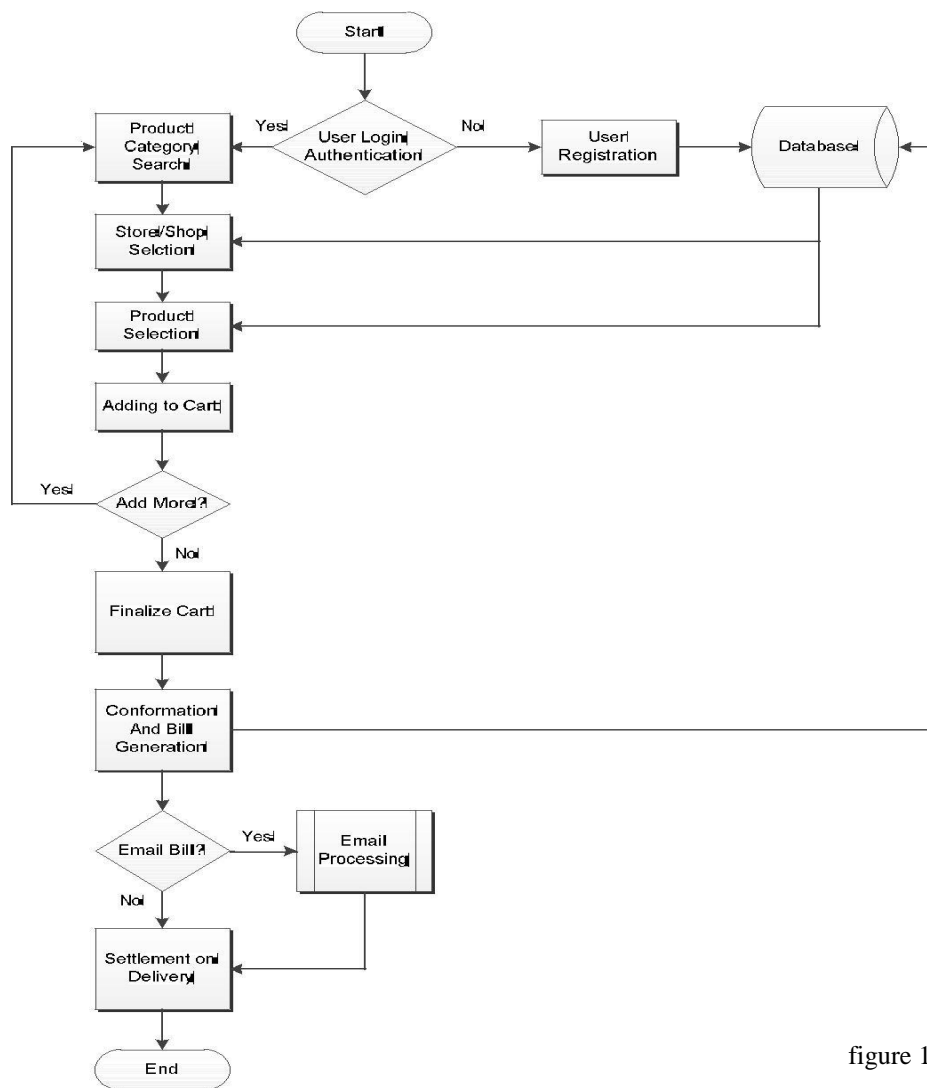
V.   ALGORITHM

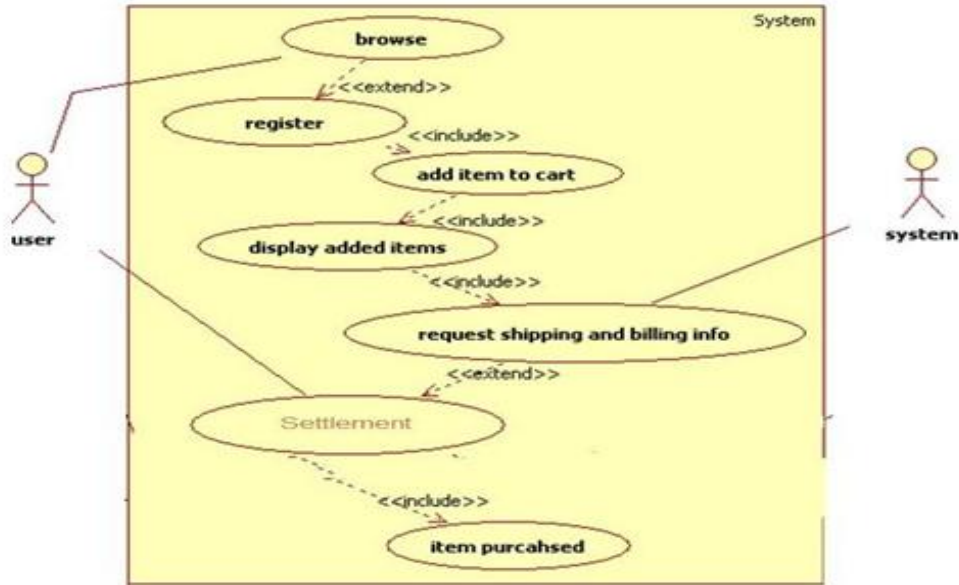figure 1

figure 2 Use case for Purchasing Product

figure 2 Use case for Purchasing Product

. Experimental Results

Figure 3

Figure 3 is the first screen on which customer has to register.

figure 4 Customer registers himself and registered information of particular customer is stored into database.

figure 6

According to item selected by customer the token is generated which contain information shown by Fig 4.This generated token is send to the particular store and also conform the order of customer by the shopkeeper.

figure 7

Finally bill is generated and it is send to customer id, and within a day the order is rich to the customer address.

VI. ADVANTAGES AND APPLICATION

6.1   Time saving: - It saves the time of the consumer, as consumer doesn't have to go to the store physically to purchase products.

6.2   Home Delivery Facility: - The consumer gets the purchased product at door step.

6.3   Portability: - As consumer can order any this via a Portable Mobile phone/Tablet, his is not bound to his system for online purchase via a browser.

6.4   Database Maintenance: - The store or the shopkeeper does not have to physically maintain the database as the application does it for him.

VII. FUTURE ENHANCEMENT

Future enhancements are always meant to be items that require more planning, budget and staffing to have them implemented. There are a couple of recommended areas for future enhancements:Davis, F.D. (1993), "User acceptance of information

7.1   Interactive Content and Rich User Experiences

A more interactive and dynamic content will definitely help to keep the system ahead of the competition and more interesting and attractive for the users as well as creating rich user experiences that delivers the actual value.

7.2   Use of gateway

By implementing gateway a user can easily pay the bill by swapping card like credit card, debit card, visa, etc.

7.3   SMS and MMS Feature

To add on a function to send SMS and MMS automatically to notify the customers regarding promotional items of the day once the customers have entered the premise.

7.4   Sponsorship Based Charging

Hypermarkets shall adopt the sponsorship based charging to allow the customers to access any content at any time and focus on sponsorship opportunities. Consumer behavior is apparently so heavily influenced by advertising, that corporations invest obscene sums of money in the sponsorship of digital advertisement. Consumers are becoming increasingly aware of this type of sponsorship and accept branding in exchange for free information as a

6.5   **Cost Saving:** - The consumer can save money by not moving to the store physically.

6.6 Versatility: - Using the App the consumer can order various products from various stores without going manually.

6.7 **Administration User Access Control:-** Authorization determines what actions a user can perform on the system, user access rights can be tighten according to the roles assigned for each individual. For instance, the content editor is not allowed to upload any online catalogue into production environment but the web master or the system administrator can. This will ease the administration work by putting in tracking when the number of system users increase.

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fair trade. This feature can be enhanced by allocating a corner for digital advertisement publishing of the current content structure.

VIII. CONCLUSION

Internet shopping is a new method of non-store shopping that will explode in the next few years due to the number of active consumers. This is our first attempt in developing a mobile application which gave us a basic understanding of development and challenges of mobile application development. The main aim of this work is to provide an application easy to shopping in market. The application has been implemented and tested on real devices.

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