SHOPPING APPLICATION FOR E-COMMERCE

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ABSTRACT:

E-commerce is an alternative for the companies to reach the customers. World Wide Web has become popular platform for the e-commerce applications. E-commerce applications are a kind of web applications such as websites. This paper deals with the design of a general purpose online shopping website with the features for shopping cart, off-site wish list, and onsite wish list. The proposed website design is to sell Indian products and promote a new market for the sale of Indian products. It will help Indian vendors to find a more effective and competitive market place to promote to their products. As the Indian brands grab technology and accept the new marketing trends economy of India will improve.

Keywords: e-commerce, onsite wish list, off-site wish list.

INTRODUCTION

Recent years have seen a remarkable change in the retail trade in India. There has been a significant change in the way India shops and trades. E-commerce has taken the world of retail to a new dimension and has captured the imagination of entrepreneurs. E-commerce websites are trending in India[6]. They attract a huge number of customers towards E-shopping mainly because of the competitive rate they offer on various products and quality of the products. E-shopping saves a lot of time previously utilized to go to the market and they go hunting for the desired product shop to shop. E-commerce websites offer everything at the finger tip all that is required is a mouse click.

The products from different brands can be compared on an E-commerce website and find an appropriate one for the own. The reviews provided by the customers are also very much useful while buying a product online. The widely used E-commerce sites in India are Flipkart, Snapdeal, Jabong, Myntra.

These websites offer the features – Multilanguage, multi-store website, Wide range of products, Provides 24x7 customer service, Mobile commerce, Browse the catalogue by category, Online payment, cash on delivery, Flexible and easy shipment, Notification and alerts on new offers via e-mail/SMS, Marketing promotion through coupons, Wish list, order tracking[2].

These are the major common and essential features of an E-commerce website. A new feature added in this paper is the off-site wish list. This allows the customer to make a request to add a product that is currently not sold on the website. The user can edit the off-site wish list by specifying the link to that particular product online or by uploading the necessary information about that product. It is the decision of the admin to add that particular product to the website or not.

LITERATURE REVIEW

According to "investopedia"[1] E-commerce is "a business model that enables an organization or an individual to conduct business over an electronic network mostly internet". Electronic commerce operates in all four major segments of the market: business to business, business to consumer, consumer to consumer, consumer to business. It can be described as an advanced form of mail order purchasing through a catalog.

In India e-commerce market is growing very fast. The growth is mainly driven by the investment activity in this sector and the rapid increase in the number of internet users. Internet users in India were 50 million in 2007 and in 2014 the number of users increased to 300 million.

In 2013, smart phone shipments doubled to 80 million from a year-ago period. Investment banks believe that India is on the way to becoming one of the largest internet markets in the world, with implications for consumers and investors[7].

Morgan Stanley expects the size of the Indian Internet market to rise from $11 billion in 2013 to $137 billion by 2020 and market capitalization of these internet

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businesses could touch $160-200 billion from the $4 billion at present[5].

Industry surveys suggest that e-commerce industry is expected to contribute around 4% to the GDP by 2020. In comparison, according to NASSCOM report, by 2020, the IT-BPO industry is expected to account for 10% of India's GDP, while the share of telecommunication services in India's GDP is expected to increase to 15% by 2015. With enabling support, the e-commerce industry too can contribute much more to GDP[5].

Greater variety of products and customer services can be provided through internet. This has made buying products online more attractive and convenient for consumers all over the country. Increased and improved web security mechanisms and secured payment gateways and internet banking facilities provided by the banks also contribute to the popularity of e-commerce[7].

Statistics of major ecommerce portals[2]

Flipkart has Google page rank #6. The estimated website net worth based on its advertising revenue is around $4.8 million. It receives 2.2 million page views per day and generates nearly $6574 every day in advertising revenue. The average page load time is 2.1 seconds, which is faster than 29% of sites around the world.

Snapdeal has Google page rank #5. Snapdeal receives 1.9 million page views per day and generates nearly #5729 everyday in advertising revenue. The average page load time is 1.6 seconds, which is faster than 46% of sites around the world.

Jabong has Google page rank 5/10. Total estimated website and mobile traffic net worth is $7.5 million USD. It has been receiving daily page views of 3.4 million hits. Estimated daily advertisement revenue is $10,280 USD. The average page load time is 2.54 seconds, which is 27% faster than other websites around the world.

Myntra has Google page rank 5/10[4]. Total estimated website and mobile traffic net worth is $9.6 million USD. It has been receiving daily page views of 4.4 million hits. Estimated daily advertisement revenue $13,095 USD. The average page load time is 1.52

seconds, which is 54% faster than other websites around the world.

This work aims at developing an e-commerce website to sell only the Indian products. It offers user a huge variety of products to choose from. An off-site wish list a feature that lets the customer add the products that not currently available on the website. The user reviews are enabled for the products, which can be considered as the feedback on the quality of product. It helps the other users to make decisions while buying a product. Rating the product is also included in the work.

METHODOLOGY

The proposed application is implemented using HTML, JSP and MYSQL workbench. The application was tested on TOM CAT web browser to determine the functionality. The existing e-commerce shopping websites provide the features of a sophisticated shopping cart, on-site wish list. This paper proposes an e-commerce shopping application to sell and promote only the Indian products. The additional feature proposed in this paper is the off-site wish list.

Modular Design

The functionality of the proposed application is divided into set of modules. The modules to be taken into account are customer, shopping cart, orders, payment and product module. These modules while integrated together give the functionality desired out of the application.

Customer

In this module the client information is processed. This information includes giving username and password to login to the site. This is required to verify the user. The email id of the customer is used to confirm the customer's orders and also to send promotional emails.

Shopping Cart

This module lets the user to select the items he/she intends to buy to store in cart before placing the order.

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The items can be moved into the cart and can be deleted from the cart.

Order

In this module customer order is processed. The customer can place the order for the items he/she wants to buy. The verification of pin code can be done in order to confirm the delivery at his/her place. The shipping details and the address at which the product should be delivered are given.

Payment

In this module payment options for the order is given and processed. Payment could be through credit card, debit card, E-cash or cash on delivery. The total amount is the sum of cost of the product and delivery charges will be deducted from the user's account in case of payment options other than cash on delivery.

Product

In this module product details can be added to the database. The tax per product and actual price of the products can be added, the product details can be edited. The product is categorized and stored. Arrangement of products into categories enables the user to search the products based on its category.

The database is should be normalized so that the redundancy is minimized. The database for the proposed application is normalized up to third normal form.
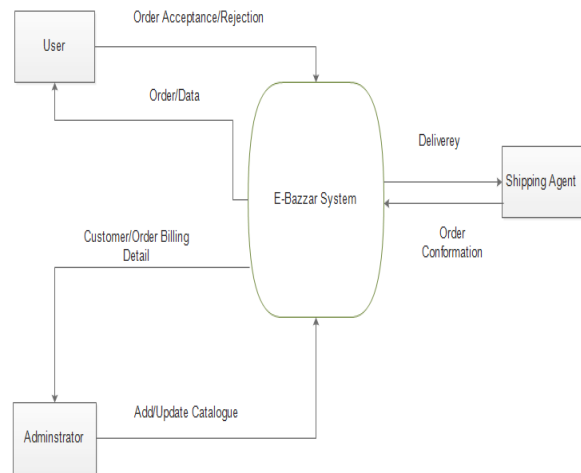

Figure 1: Level 0 DFD

The figure 1 describes the modularity and flow of data in the application.

II. IMPLEMENTATION:

The website design proposed in this paper needs a web browser and a database for implementation at the server side and only a web browser at the client side. An internet connection is also needed. When the user types the URL corresponding to the website in the address field of the browser, a web server is contacted to get the requested information. Web server accepts the incoming HTTP requests and returns the requested information in an HTTP response. The application is developed using HTML as front end, JSP as middle tier and MYSQL workbench as the backend.

Integrating the website and the database:

Customers' ordering the products from an e-commerce website should be able to get the information of products, ask questions, review, and give feedback on the products, select the products they would like to buy, submit payments. Vendors should be able to keep track of the products ordered, payment details, customer inquiries. So a well organized database is very essential for maintenance of an e-commerce website. The user must be able to access the data base and for this the remote database connectivity is established. The user

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information is stored in and retrieved from the remote database. The database used in this paper is SQL Server.

Webpage design:

The web pages are to be designed in HTML and Java Script. The web pages should be dynamic as the user should be able to access the product details, make payment, post feedback. The static web pages could be used for displaying the product description, privacy policy and so on. JSP is used as middle tier that establishes the necessary connection with the database to retrieve the information from the remote database.

Working:

The admin is given all the privileges to modify and update the database. The admin adds new products, decides on the offers on some products. The products that are not in demand can be permanently deleted from the database which means that the sale of those products on the website is stopped. The vendor details, payments to the vendor are to be taken care by the admin. The shipping details such as the areas where the shipping facilities are available, the details of the shipping agencies and the transaction between them are to be monitored. The admin can decide on the cash on delivery facility to make available in all areas or restrict to some areas only. The reports of the everyday sale, profit, the products are highly on demand and so on are generated as per the request. The report generation is not possible for the user. A user suspected to have broken the privacy policy can be blocked by the admin.

Promotional mails can be sent to the customers e-mail id based on their address. The heuristics analysis is to be made on a particular customer to know his interests so that only on those products the promotional mails can be sent to that customer.

The customer accesses the website by typing the URL corresponding to the website on the address bar of the web browser. The user can request for product details by clicking the dedicated link. The user is provided with two types of wish lists – onsite wish list and offsite wish list. In the onsite wish list the user is allowed to add any product available on the site to the wish list. In the offsite wish list the user can edit the wish list by adding the product that is not available currently on the site but he/she wants it to be made available on this

website also. The user must give the sufficient description about such product, they can give links to details of that product, upload the photos. It would be the decision of the admin to add that product on the website.

The user should sign up for the first time to place order of a product. Later each time user wishes to buy products he should login. The wish list of the user can be maintained if and only if the user has an account in the database.

The product that user wishes to buy will be added to the cart, and if user wishes to see some more products he can continue while one or more products are on the cart. The order of the products is placed from the cart. The products in the cart can be removed, more products can be added.
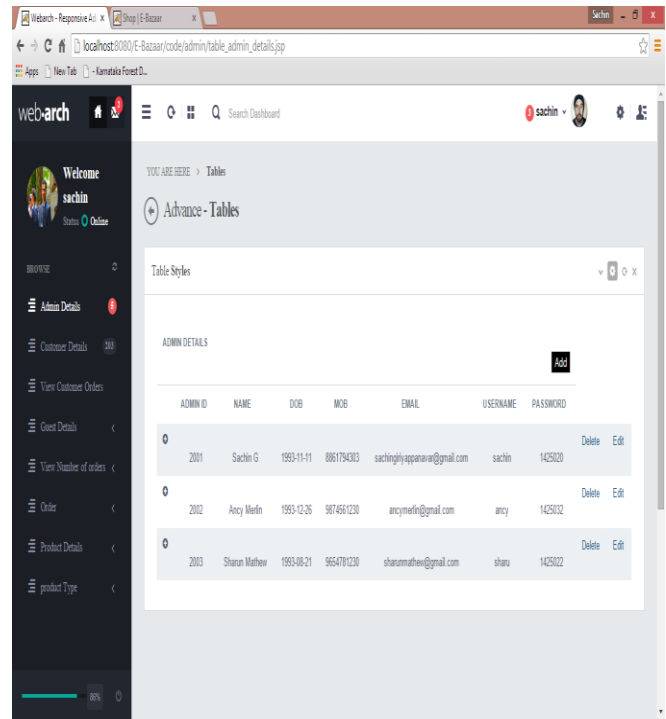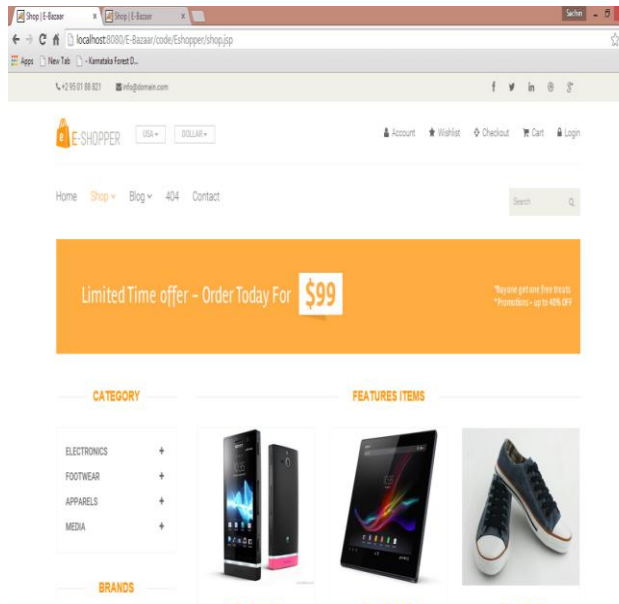
Once the order is placed the next step would be to give the shipping details. The user is asked to type his address, pin code. Pin code is used to check the availability of the shipping service to that place. The next step is payment. The payment can be done through credit card, debit card, pay pal and cash on delivery. If the user wishes to make the payment via credit card or debit card, then the card details are asked. Once the user enters the card details the user is directed to a payment gateway for the transaction to take place. Once the order is placed the user is sent an email about the same. The user is informed via e-mail while the order is processed, shipped, and delivered at the destination.

The user will be given an order id which will help in tracking the order. The order can be cancelled before it is being shipped. The return policy is specified by the admin. The recently viewed products are displayed on the user's home page. The user can assign rating to products, review the products and give feedback. The purchase history of the user is maintained.

Results:

The proposed system is designed using HTML as front end, JSP as middle tier and My SQL as back end. The results are shown in the screen shots followed by an explanation.

Home page: The customer can navigate to different pages from the home page. The cart, order details, wish lists can be accessed through the user's home page.

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Reports:

The reports on number of orders processed per month, inventory and sales reports are generated for the convenience of the management.

CONCLUSION

World Wide Web has become a major resource in modern business; it gives business new opportunities. An online website can be compared to a shop's interior. If the website is attractive, provides easy navigation, multiple options in terms of brands, color and design the customer would stay on the site. This paper supports a flexible, attractive and an easy to use environment for an online website along with the addition feature like an offsite wish list. This paper proposes an easier design to implement the website, provides easy navigation, onsite and offsite wish lists, and online payment. The off-site wish list is a new feature proposed in this paper.

Any system is subject to the improvements as change is a must in any field. Hence as future enhancements to the proposed system the following features[3].

1. Multiple shopping carts can be provided per user.
2. A mobile application for the website can be developed.
3. Payment through e-wallets could be made possible.
4. Send SMS alerts to the users.

REFERENCES

1. http://www.investopedia.com/
2. E-Commerce in India by Abhishek, http://www.slideshare.net/
3. The design and implementation of E-Commerce site by Swapna Kodali.
4. http://www.slideshare.net/
5. http://www.business-standard.com/
6. http://www.firstdata.com/icicimerchantservices/icici-insights/ecommerce-in-india-unique.pdf
7. Emerging Trend of E-Commerce in India: Some Crucial Issues, Prospectus and Challenges by Sarbapriya Ray, Assistant Professor, Shyampur Siddheswari Mahavidyalaya, University of Calcutta, India.