NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

Department of Information Technology

Web Technology & Appilications (IT302)

Developing an E-commerce website

Submitted to
Mrs Chaitra Bhat M
Department of Information Technology
NITK Surathkal

Submitted by
Supriya Sahoo 15IT145
Akriti Kumari 15IT107
Ankita Bhalavi 15IT108
Vandana Baidya 15IT250

November,2017

CERTIFICATE

This is to certify that the project entitled **"E-commerce website development"** has been presented by Supriya Sahoo, Akriti Kumari, Ankita Bhalavi, Vandana Baidya, students of third year, B.Tech (IT), Department of Information Technology, National Institute of Technology Karnataka, Surathkal, on November _2017, during the odd semester of the academic year 2017- 2018, in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology at NITK, Surathkal.

Place: NITK, Surathkal

Date: 15/11 /2017   (Signature of the Examiner)

<u>ACKNOWLEDGEMENT</u>

ABSTRACT

The business-to-consumer aspect of electronic commerce (e-commerce) is the most visible business use of the World Wide Web. The primary goal of an e-commerce site is to sell goods and services online.

This project deals with developing an e-commerce website. In today's fast-changing business environment, it's extremely important to be able to respond to client needs in the most effective and timely manner. If your customers wish to see your business online and have instant access to your products or services. Online Shopping is a lifestyle e-commerce web application, which retails various fashion and lifestyle products .This project allows viewing various products available enables registered users to purchase desired .In order to develop an e-commerce website, a number of Technologies must be studied and understood. These include multi-tiered architecture, server and client side scripting techniques, implementation technologies such as PHP and MySQL, programming language and relational databases. This is a project with the objective to develop a basic website where a consumer is provided with a shopping cart application and also to know about the technologies used to develop such an application.

This project will discuss each of the underlying technologies to create and implement an ecommerce website. It outlines different aspects of developing an ecommerce website and the optimum solution to the challenges involved in developing one. It consists of the planning process, which starts with determining the use case, domain modelling and architectural pattern of the web application. The entire development process is primarily divided into two parts: the front-end development and the back end development. The database design is also discussed with an emphasis on its relational connectivity.

TABLE OF CONTENTS

1. Introduction :

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.

The objective of this project is to develop a general purpose e-commerce store where any product (such as books, CDs, computers, mobile phones, electronic items, home appliances,dresses) can be bought from the comfort of home through the Internet. However, for implementation purposes, this paper will deal with an online book store.

An online store is a virtual store on the Internet where customers can browse the catalog and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information such as credit card number. An e- mail notification is sent to the customer as soon as the order is placed.

2. Literature Review :

Electronic Commerce (e-commerce) applications support the interaction between different parties participating in a commerce transaction via the network, as well as the management of the data involved in the process .

The increasing importance of e-commerce is apparent in the study conducted by researches at the GVU (Graphics, Visualization, and Usability) Center at the Georgia Institute of Technology. In their summary of the findings from the eighth survey, the researchers report that "e-commerce is taking off both in terms of the number of users shopping as well as the total amount people are spending via Internet based transactions".

Over three quarters of the 10,000 respondents report having purchased items online. The most cited reason for using the web for personal shopping was convenience (65%), followed by availability of vendor information (60%), no pressure form sales person (55%) and saving time (53%). Although the issue of security remains the primary reason why more people do not purchase items online, the GVA survey also indicates that faith in the security of ecommerce is increasing. As more people gain confidence in current encryption technologies, more and more users can be expected to frequently purchase items online.

A good e-commerce site should present the following factors to the customers for better usability :

• Knowing when an item was saved or not saved in the shopping cart.
• Returning to different parts of the site after adding an item to the shopping cart.
• Easy scanning and selecting items in a list.
• Effective categorical organization of products.
• Simple navigation from home page to information and order links for specific products.
• Obvious shopping links or buttons.
• Minimal and effective security notifications or messages.
• Consistent layout of product information.

Another important factor in the design of an e-commerce site is feedback . The interactive cycle between a user and a web site is not complete until the web site responds to a command entered by the user.

3.Project Design :

In order to design a web site, the relational database must be designed first. Conceptual design can be divided into two parts: The **data model** and the **process model**. The data model focuses on what data should be stored in the database while the process model deals with how the data is processed. To put this in the context of the relational database, the data model is used to design the relational tables. The process model is used to design the queries that will access and perform operations on those tables.

The entire design comprises the platform of the website which is consisting :

- Login and register page
- Display of the available products
- Shopping cart
- Payment window
- Profile page for new customer
- Logout Option

Client Side Pages:

● index.php

This page is the welcome page for all customers. It has a link to all products section, help section and contact us section. It has links for a new customer to register and get logged in their respective accounts. If a customer forgets his/her password, he can reset his/her password through reset password page. It welcomes customer by providing them some information about the enterprise. It also lists some newly added products to the inventory.

● login.php

This page is shown when user clicks on login and if he is not already logged in. It asks user for his login id and his password and then if provided information is correct, user gets logged in.

● customer_orders.php

This page is shown when user clicks on products page. It displays all the products which are there in the inventory (database) with their image, name, price and a view option. It also allows user to sort the products with prices (both ascending and descending) and also by date_added. It also allows users to filter them with different available categories. Both sort and filter can simultaneously used to achieve various products view.

● logout.php

This page logs out a user and is only visible when he is logged in.

● product.php

This page displays when a user selects a particular product for detailed view. It allows users to see the full size HD image of the product along with name, price and an option for adding it to their own personal cart which only gets displayed when user is logged in.

● profile.php

This page is displayed when user wishes to edit his/her profile through Edit profile link. It allows user to change their Email Id's and their addresses.

● customer_registration.php

This page is displayed when a user wishes to register themselves on the website and have a separate account. It asks for various information: name, login name, passwords, security questions and answers for resetting password and finally their mobile numbers and addresses.

● cart.php

This page is displayed when a user is logged in and when he wishes to see his/her cart. When a customer selects add to shopping cart all product information is saved in their respective account carts with their quantities. Cart gets updated every time a product is added to the cart. All users accounts have their respective different carts. It gives options for emptying the whole cart and also displays the sum total of the products with their quantities.

4. Implementation Technologies :

4.1. MySQL Database
In this project, MySQL is used as the backend database. MySQL is an opensource database management system. The features of MySQL are given below:

• MySQL is a relational database management system. A relational database stores information in different tables, rather than in one giant table. These tables can be referenced to each other, to access and maintain data easily.

• MySQL is open source database system. The database software can be used and modify by anyone according to their needs.

• It is fast, reliable and easy to use. To improve the performance, MySQL is multithreaded database engine. A multithreaded application performs many tasks at the same time as if multiple instances of that application were running simultaneously.

4.2. Web Page Programming Options
An e-commerce organization can create data-based Web pages by using server side and client-side processing technologies or a hybrid of the two. With server-side processing, the Web server receives the dynamic Web page request, performs all processing necessary to create the page, and then sends it to the client for display in the client's browser. Client-side processing is done on the client workstation by having the client browser execute a program that interacts directly with the database.

4.3. Server-side processing
Generally dynamic or data-driven Web pages use HTML forms to collect user inputs, submitting them to a Web server. A program running on the server processes the form inputs, dynamically composing a Web page reply. This program, which is called, servicing program, can be either a compiled executable program or a script interpreted into machine language each time it is run.

4.4.Client-side scripts
In a client-side script, source code written in such languages as JavaScript and Jquery is embedded in an HTML document, along with the static HTML text; it is placed within delimiter tags to indicate to the user's browser that the text is code that must be interpreted. If the user's browser is able to recognize and interpret the code, it is processed. If the browser is unable to recognize and interpret the code, it is displayed as text on the Web page.
Although basic client-side scripts cannot be used by a Web page to interact with a remote database, they are often used to validate user inputs entered on HTML forms submitted for processing by a server-side program. To make the visuals of the website more appealing CSS and Bootstrap have been used.

4.5.Server-side scripts
It involves employing scripts on a web server which produce a response customized for each user's (client's) request to the website. The alternative is for the web server itself to deliver a static web page. In e-commerce applications it is very typical for the Web server to contact the database to get information as needed to facilitate which we are using php .

10

4.6.DataSet

The dataset is a disconnected, in-memory representation of data. It can be considered as a local copy of the relevant portions of the database. The DataSet resides in memory and the data in it can be manipulated and updated independent of the database. If necessary, changes made to the dataset can be applied to the central database. The data in DataSet can be loaded from any valid data source such as a text file, an XML database, Microsoft SQL server database, an Oracle database or MySQL database.

5. Limitations and Future Development :

There are some limitations for the current system to which solutions can be provided as a future development:
1. The system is not configured for multi- users at this time. The concept of *transaction* can be used to achieve this.
2. The Website is not accessible to everyone. It can be deployed on a web server so that everybody who is connected to the Internet can use it.
3. Credit Card validation is not done. Third party proprietary software can be used for validation check. As for other future developments, the following can be done:
4. The Administrator of the web site can be given more functionalities, like looking at a specific customer's profile, the products that have to be reordered, etc.
5. Multiple Shopping carts can be allowed.

6.Conclusion :

The Internet has become a major resource in modern business, thus electronic shopping has gained significance not only from the entrepreneur's but also from the customer's point of view. For the entrepreneur, electronic shopping generates new business opportunities and for the customer, it makes comparative shopping possible. As per a survey, most consumers of online stores are impulsive and usually make a decision to stay on a site within the first few seconds. "Website design is like a shop interior. If the shop looks poor or like hundreds of other shops the customer is most likely to skip to the other site". Hence we have designed the project to provide the user with easy navigation, retrieval of data and necessary feedback as much as possible.

This project helps in understanding the creation of an interactive web page and the technologies used to implement it. The design of the project which includes Data Model and Process Model illustrates how the database is built with different tables, how the data is accessed and processed from the tables.

7.References :

Articles
1. Chen, L. (2000). Enticing Online Consumers: A Technology Acceptance Perspective Research- in-Progress. *ACM Proceedings, SIGCPR*.
2. Diwakar, H., Marathe, M. (2000). The architecture of a one-stop web-window shop. December, *ACM SIGecom Exchanges*, Volume 2 Issue 1.
3. Morrison, M., Morrison, J., and Keys, A. (2002). Integrating Web Sites and Databases. *Communications of the ACM*, September, Volume 45, Issue 9.

Books
5. Anderson, R., Francis, B., Homer, A., Howard, R., Sussman, D. and Watson.(2001) *Professional ASP.NET*. Wrox Press Ltd.
6. Brown, S., Burdick, R., Falkner, J., Galbraith, B., Johnson, R., Kim, L., Kochmer, C., Kristmundsson, T. and Li S (2001). *Professional JSP*. Wrox Press Ltd.
7. Walther, S. (1998) *Active Server Pages*. SAMS Net.
8. Wagner, R., Daniels, K., Griffin, G., Haddad, C. and Nasr, J. (1997) *JavaScript Unleashed*. SAMS Net.
9. Wiley, Y. M. J. & Sons. (1997) *Creating the Virtual Store: Taking Your Web Site from Browsing to Buying*.