THE DESIGN & DEVELOPMENT OF AN E-COMMERCE SITE AND A MULTI-PURPOSE BOOTSTRAP TEMPLATE

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DECLARATION

I hereby solemnly declare that the project work entitled "THE DESIGN & DEVELOPMENT OF AN E – COMMERCE SITE AND A MULTI-PURPOSE BOOTSTRAP TEMPLATE", has been supervised by Tanveer Ahmed, Lecturer of the department of Computer Science & Engineering, Stamford University Bangladesh. I hereby ensure that the project report has not been submitted either in whole or part for any Degree or Diploma in any University previously.

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I further undertake to indemnify the University against any loss or damage arising from breach of the forgoing obligation.

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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 for Online Book Sale. It provides the user with a catalog of different books available for purchase in the store. In order to facilitate online purchase a shopping cart is provided to the user. The software and tools used for this project includes HTML, CSS, Java Script, php as Programming Language, and MySql as the backend database. The system is implemented and testing using web platform and different features are verified. The system is incorporate with mobile payment system supported by Bkash, DBBL Mobile Banking. The registered users are allowed transaction for this system. In the future the system will be furthered enhanced based on extended requirements.

This document will discuss each of the underlying technologies to create and implement an e-commerce website.

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CHAPTER 1

INTRODUCTION

1.1 Background

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, and home appliances) 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 and many other important information. An e- mail notification is sent to the customer as soon as the order is placed.

1.2 Literature Review

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. According to Norman, "feedback--sending back to the user information about what action has actually been done, what result has been accomplished--is a well-known concept in the science of control and information theory. Imagine trying to talk to someone when you cannot even hear your own voice, or trying to draw a picture with a pencil that leaves no mark: there would be no feedback".

Web site feedback often consists of a change in the visual or verbal information presented to the user. Simple examples include highlighting a selection made by the user or filling a field on a form based on a user's selection from a pull down list. Another example is using the sound of a cash register to confirm that a product has been added to an electronic shopping cart.

Completed orders should be acknowledged quickly. This may be done with an acknowledgment or fulfillment page. The amount of time it takes to generate and download this page, however, is a source of irritation for many e-commerce users. Users are quick to attribute meaning to events. A blank page, or what a user perceives to be "a long time" to receive an acknowledgment, may be interpreted as "there must be something wrong with the order." If generating an acknowledgment may take longer than what may be reasonably expected by the user, then the design should include intermediate feedback to the user indicating the progress being made toward acknowledgment or fulfillment.

Finally, feedback should not distract the user. Actions and reactions made by the web site should be meaningful. Feedback should not draw the user's attention away from the important tasks of gathering information, selecting products, and placing orders.

1.3 Project Goal

To make Shopping for consumer easier and time saving we are about to make an Ecommerce site. Our project is about making a site of e-commerce for general consumer who can buy product using internet. The modern world is growing too fast. Peoples also need to contribute. Keeping it in mind we are trying to make such a website where consumer can show their products category and able to buy this products through this website. Customer also can get products news from here. The news of success in technological field also will be published here so that anyone can get an idea of our technical state.

1.4 Advantages of online shopping

E-commerce is must to make best use for online shopping. Convenience, no pressure shopping, savings in time, consistency between advertised price and site price, no driving and parking, sometimes no cost delivery even to third party receiver, information on product comparison easily available, sometimes price comparison available online, third party shopping sites keeping merchants competitive hence offering the best products and prices, 24/7 shopping, ease in merchandise cancellation or return, sometimes tracking of shipping available, large online shopping site offering store comparison and sometimes no taxes. For getting maximum output for our website, people can able to buy their goods and products by online system. For payment to the consumer mobile can be a handy medium. Recently Grameenphone, Banglalink and Robi are the largest mobile companies in Bangladesh has launched a money transfer process named 'Bkash'. That is an easiest

and fastest way of transferring money. We can use this service for paying our customer.

1.5 E-Commerce

The Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. Providing a quick and convenient way of exchanging goods and services both regionally and globally, e-commerce has boomed.

Electronic commerce, commonly known as e-commerce, refers to the buying and selling of product or services over electronic systems such as the internet and other computer networks. Electronic commerce is generally considered to be the sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions.

- Electronic Data Interchange (EDI), the business-to-business exchange of data
- E-mail and fax and their use as media for reaching prospects and established customers
- Business-to-business buying and selling
- The security of business transactions

1.6 Methodology and Tools

The system is implanted using a 3-tier approach, with a backend MYSQL database, a middle tier of Apache Server and PHP, and a web browser as the front end client. HTML, CSS is used in interface design. JavaScript is used for client slide scripting. System development life cycle (SDLC) model has been used for software development.

1.7 Conclusion

This chapter illustrates theoretical aspects of the project. It also gives a clear view of the background of the project, problems and solution to the problems. Moreover, this project illustrates the methodology and tools used in this project. After reading this chapter one can easily get a small idea about our project of E-commerce.

This is to conclude that the project that I undertook was worked upon with a sincere effort. Most of the requirements have been fulfilled up to the mark and the requirements which have been remaining, can be completed with a short extension.

CHAPTER 2

SYSTEM ANALYSIS AND DESIGN

2.1 Preface

This project contains the model for the Online Shopping Cart system, including all the models used to specify and realize the IT system. This model addresses the development of an online shopping cart system that allows suppliers to sell their products directly online to customers. It is provided as a UML example covering the analysis of the business context and processes, and the design and deployment of a possible implementation. The goal is to show the power UML brings to analyzing and designing a robust system that corresponds to the initial requirements.

For building our website perfectly we did various analysis. We made different analysis for easy understanding of the process, the data flow and the relationship among entity. In this chapter we have given some Data Flow Diagram (DFD) and use case model for getting better idea to create such E-commerce website. Unified Modeling Language(UML), most used modeling system now a days, which allows a software engineer to express an analysis model using a modeling notation that is governed by a set of syntactic, semantic, and pragmatic rules has been shown.

2.2 Requirement Analysis

Requirements Analysis is the process of understanding the customer needs and expectations from a proposed system or application and is a well-defined stage in the Software Development Life Cycle model.

Requirements are a description of how a system should behave or a description of system properties or attributes. It can alternatively be a statement of 'what' an application is expected to do. The Software Requirements Analysis Process covers the complex task of eliciting and documenting the requirements of all these users, modeling and analyzing these requirements and documenting them as a basis for system design.

To properly build the system I need to learn web site designing through HTML, Java Script, Photoshop, Macromedia dream waiver, Macromedia fireworks, PHP and CSS. For database we required MySQL and Apache Server. Simply

- Language: HTML
- Scripts: PHP, CSS, Java script
- Designs: Photoshop, Macromedia dream fireworks
- Database: MySQL
- Server: Apache Server

2.3 System Analysis

System analysis patterns or analysis are conceptual models, leading to specifications of a new system. Analysis is a detailed study of various operations performed by a system and their relationships within and outside the system. During analysis, data are collected on the available files, decision points and transactions handled by the present system.

Interviews, System observation and questionnaire are the tools used for system analysis.

2.4 System Design

Based on the user requirements and the detailed analysis of a system, the new system is designed. This is the phase of system designing. It is a crucial phase in the development of a system. Normally the design proceeds in two stages:

1. Preliminary or general design: My primary goal was to create system "Design and Development of an E-commerce Website" I needed to build a system with features of user online buying and payment process.

2. Structure or detailed design: In the detailed planning phase I did the following:

- Selected System platform: HTML,CSS, Java Script, Photoshop, MySQL, Macro Media Dream waiver, Macro Media Fireworks, Apache
- Analyzed the System
- Created drawings showing the future site
- Planned which tools and Forms to be used for providing treatment
- System creation started
- Created users to get feedback

2.4.1 Structured systems analysis and design method

The three most important techniques that are used in structured systems analysis and design method are:

Logical data modeling:

This is the process of identifying, modeling and documenting the data requirements of the system being designed. The data are separated into entities (things about which a business needs to record information) and relationships (the associations between the entities).

Data Flow Modeling:

This is the process of identifying, modeling and documenting how data moves around an information system. Data Flow Modeling examines processes (activities that transform data from one form to another), data stores (the holding areas for data), external entities (what sends data into a system or receives data from a system), and data flows (routes by which data can flow).

Entity Behavior Modeling:

This is the process of identifying, modeling and documenting the events that affect each entity and the sequence in which these events occur.

2.4.2 System Analysis Modeling

The analysis model, actually a set of models, is the first technical representation of a system. Over the years many methods have been proposed for analysis modeling. However, two now dominate. The first, structured analysis is a classical modeling method. The other approach, object oriented analysis, which we have used in the project.

The Systems development life cycle (SDLC), or Software development process in systems engineering, information systems and software engineering, is a process of creating or altering information systems, and the models and methodologies that people use to develop these systems. In software engineering, the SDLC concept underpins many kinds of software development methodologies. These methodologies form the framework for planning and controlling the creation of an information system.
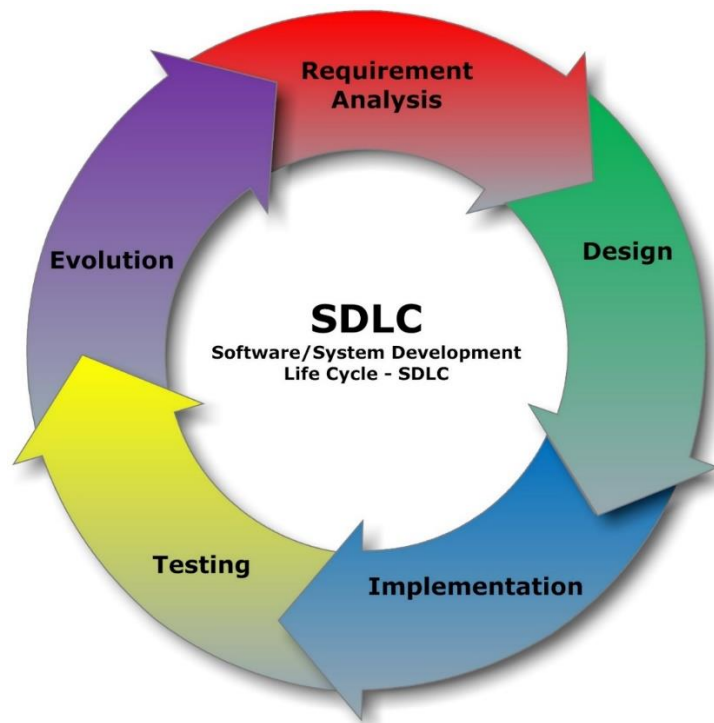

Figure 1.1: Model of the Systems Development Life Cycle

2.4.3 UML Modeling

A UML tool or UML modeling tool is a software application that supports some or all of the notation and semantics associated with the Unified Modeling Language (UML), which is the industry standard general purpose modeling language for software engineering.

Diagramming in this context means creating and editing UML diagrams; that is diagrams that follow the graphical notation of the Unified Modeling Language.

The use of UML diagrams as a means to draw diagrams of – mostly – object-oriented software is generally agreed upon by software developers. When developers draw diagrams of object-oriented software, they usually follow the UML notation. On the other hand, it is often debated whether those diagrams are needed at all, during what stages of the software development process they should be used, and how (if at all) they should be kept up to date. The primacy of software code often leads to the diagrams being deprecated.

2.4.4 Use Case Modeling

The use case model provides detailed information about the behaviors of the system or application that you are developing. It contains use case diagrams and activity diagrams that describe how users interact with the system.

The use case model identifies the requirements of the system in terms of the functionality that must exist to achieve the goals set out by the user or to solve a problem identified by the user. Uses cases describe the major behaviors that you identify in the requirements and describe the value that the results give the users; they do not describe how the system operates internally. Actors are the users of the system and represent the different roles that people and other systems play when they interact with the system.

Use case diagrams depict the relationships between the uses cases and actors and activity diagrams to describe the flow of objects and control in each identified behavior.
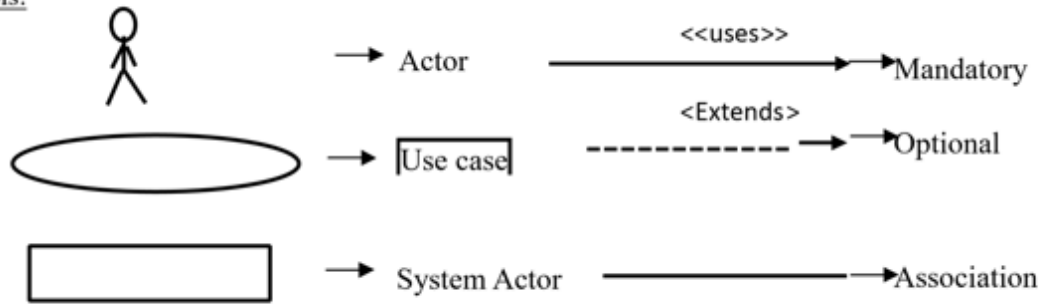
Symbols:

Figure: Symbols of Use Case Diagram

Actor	Description
Client	Person purchasing products online .The client, also known as customer, is the person that logs cart on to shopping online system to purchase products of his choice.
Administrator	Person responsible for the system. The administrator is the person in charge of managing and administering the system. He also assumes the role of supervisor in the sense that he enforces the "Terms of use" of the site, and has the right to revoke clients' privileges by deleting their account.
System	Dummy actor representing the system. This actor is a dummy actor used to represent the system in interactions diagrams for the use cases.

Table No 1: Descriptions of Use Case Actors

2.4.5 Use Case Model for Online Shopping System

Administrator adds his product in this website after login. Admin fill products information and save in to product category as list. This product then goes to the page specified by category. User can see product list and when customer want to buy, the system will automatically add the following product to cart list. Finally when customer will give complete requirement then product buy.
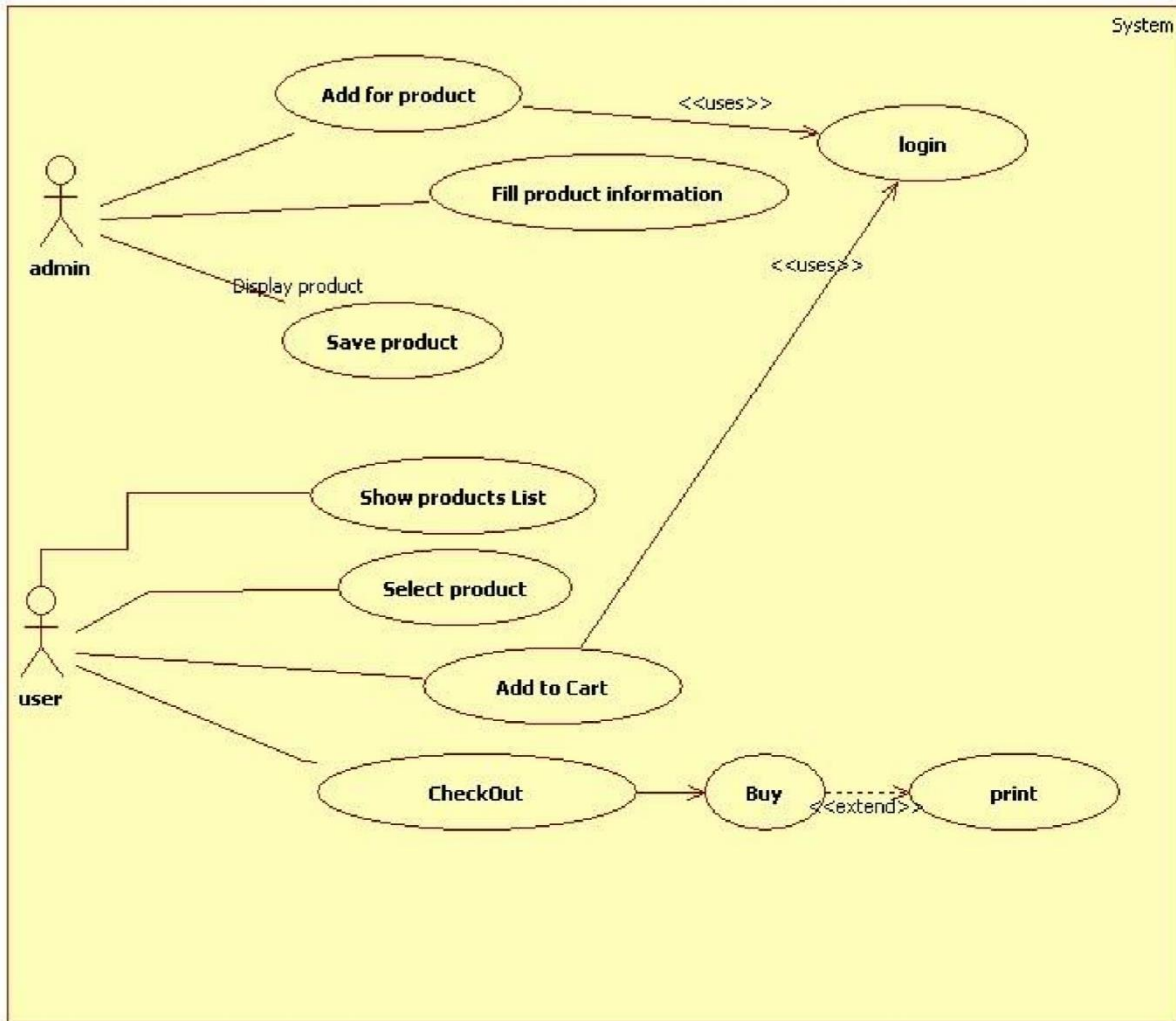

Figure 1.2: Use case model for online shopping

2.4.6 Product buys Use Case Model

User can see the product category, product as list and feasters when user needs to buy product he must be login and product add into add to cart list. Finally it needs to buy then fulfill the information of continue shopping to payment method.
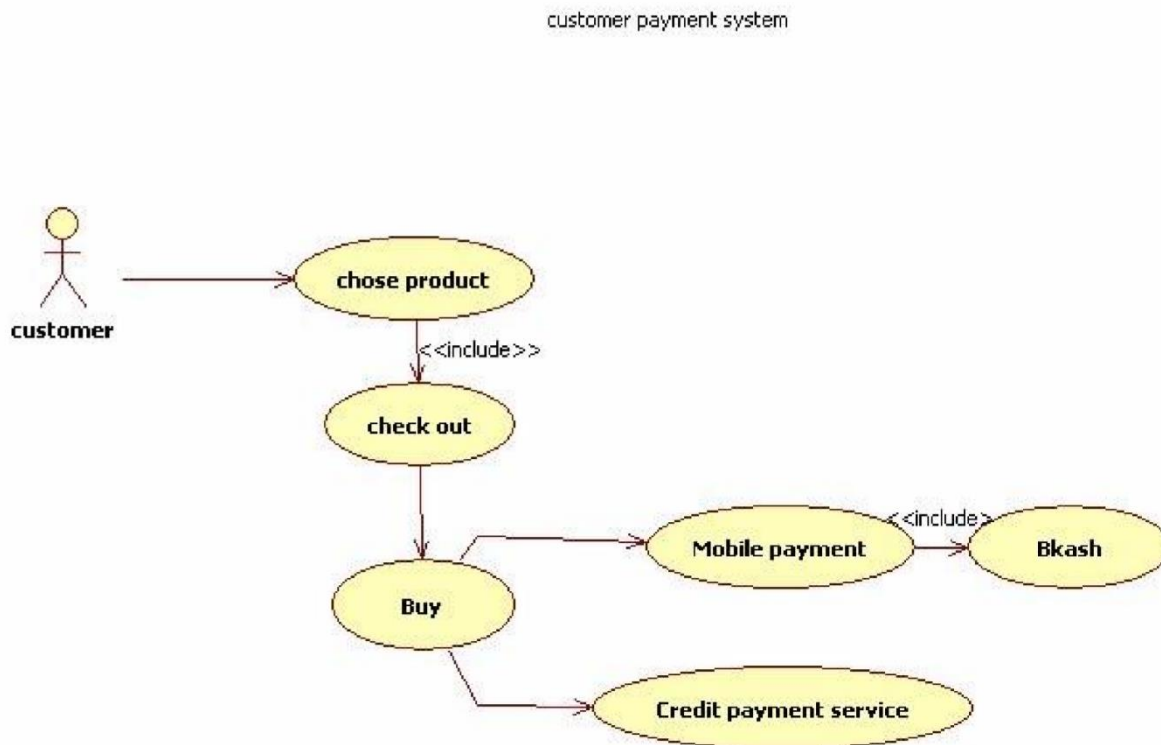

Figure 1.3: Payment system use case model

2.5 Phases of System Development Life Cycle:

Let us now describe the different phases and the related activities of system development life cycle in detail.

2.5.1 System Study /Initial Idea:

System study is the first stage of system development life cycle. This gives a clear picture of what actually the physical system is? After completing the system study, a system proposal is prepared by the System Analyst (who studies the system) and placed before the user. After that a system analyst also tries to take some feedback from users about the system.

To describe the system study phase more analytically, we would say that system study phase passes through the following steps:

- Problem identification and project initiation
- Background analysis
- Inference or findings

My project started with the idea of our honorable Tanveer Ahmed sir. To provide quality of online shopping in our country he suggests me to develop a "Design and Development of an E-commerce Website". During this time people need to go shopping any product in to shopping mall, it is very time consuming. So he thinks that this system can help this online shopping system.

This idea has prompted me to create Online Shopping System.

2.5.2 Feasibility Study

The feasibility study is basically the test of the proposed system in the light of its workability, meeting user's requirements, effective use of resources and of course, the cost effectiveness. The main goal of feasibility study is not to solve the problem but to achieve the scope. In the process of feasibility study, the cost and benefits are estimated with greater accuracy.

The system we are trying to build had a lot of Potential. Online Shopping System is an idea in our country and it will help to buy various products in this website.

The platform I have chosen are HTM, CSS, Java script, PHP, Macro media dream waiver, Macro media fireworks and Photoshop platform.

So my system is powerful, efficient, user friendly!

2.5.3 Development/Coding:

After designing the new system, the whole system is required to be converted into computer understanding language. Coding the new system into computer programming language does this. It is an important stage where the defined procedures are transformed into control specifications by the help of a computer language. This is also called the programming phase in which the programmer converts the program specifications into computer instructions, which refer as programs. The programs coordinate the data movements and control the entire process in a system.

My development occurred in following phases

- Platform selection: HTML, CSS, PHP, Java Script, Macro media fireworks, Adobe Photoshop, My SQL
- Observed a tutorial site of w3schools.com
- Created drawings showing the future system
- Planned which tools to be used
- Created new design of the system
- Received user reviews

2.6 Database Design:

Database design is the process of producing a detailed data model of a database. A properly designed database provides access to up-to-date, accurate information. Because a correct design is essential to achieving goals in working with a database, investing the time required to learn the principles of good design makes sense.

A good database design is, therefore, one that: Divides information into subject-based tables to reduce redundant data. Provides access with the information it requires to join the information in the tables together as needed. Helps support and

ensure the accuracy and integrity of information. Accommodates data processing and reporting needs.

Logical data model contains all the needed logical and physical design choices and physical storage parameter needed to generate a design in a data definition language, which can be used to create a database. In our project, Oracle is used to design the database.

2.7 Implementation

After having the user acceptance of the new system developed, the implementation phase begins. Implementation is the stage of a project during which theory is turned into practice. During this phase, all the programs of the system are loaded onto the user's computer. After loading the system, training of the users starts. Main topics of such type of training are:

- How to execute the package
- How to enter the data
- How to process the data (processing details)
- How to take out the reports

For our system all the volunteers were trained properly to use the system. After that they were monitored and guided to remove errors.

2.7.1 Testing

Software testing is an investigation conducted to provide stakeholders with information about the quality of the product or service under test.

Several testing types are available:

- Black Box testing.
- White Box testing.
- Alpha testing.
- Beta testing.
- Software application testing.

2.7.2 Maintenance

Maintenance is necessary to eliminate errors in the system during its working life and to tune the system to any variations in its working environment. It has been seen that there are always some errors found in the system that must be noted and corrected.

My system is undergone regular changes that were required to modify the system. Navigation was made easier for the users and the design was made much more attractive than before.

Another part of maintenance was to study the performance of the system. A system becomes more popular due to better performance. I checked my system regularly. It is observed that all the tools acted in normal speed. The speed was not compromised when the database grew bigger.

2.8 Conclusion

If a major change to a system is needed, a new project may have to be set up to carry out the change. The new project will then proceed through all the above life cycle phases.

System analysis is an important part of the project. System analysis is needed for designing and implementation of the project. The problems are analyzed to determine the nature of the system. System Analysis finds the different phase of a system and components of system design.

CHAPTER 3
SYSTEM DEVELOPMENT

3.1 Preface

System design focuses on the technical or implementation concerns of the system. When a system designer wants to design the system, he or she should have has enough sufficient knowledge about the detail system. Few steps can simplify the task of designing coding of a system dramatically. Every designer should take time to complete each of the following steps:

- Describe precisely the core functionality & the system design using data model such as ER data model.
- Normalization the system precisely the core functionality the system designs using Normalization and draws the DFD of the system.
- Describe precisely the core functionality & the system design using data model as DFD.

We now look at the database design requirements of the Online Shopping System. However I have attempted to design every aspect of the database design of my system.

This chapter also describes the methodology and tools used in developing the project. It includes software development process definition, software language, editor software and development environment creation software.

3.2 Software Requirement Analysis

This process is also known as feasibility study. In this phase, the development team visits the customer and studies their system. They investigate the need for possible software automation in the given system. By the end of the feasibility study, the team

furnishes a document that holds the different specific recommendations for the candidate system. It also includes the personnel assignments, costs, project schedule, target dates etc…. The requirement gathering process is intensified and focused specially on software. To understand the nature of the program(s) to be built, the system engineer or "Analyst" must understand the information domain for the software, as well as required function, behavior, performance and interfacing. The essential purpose of this phase is to find the need and to define the problem that needs to be solved.

3.2.1 System Analysis and Design

In this phase, the software development process, the software's overall structure and its nuances are defined. In terms of the client/server technology, the number of tiers needed for the package architecture, the database design, the data structure design etc… are all defined in this phase. A software development model is thus created. Analysis and Design are very crucial in the whole development cycle. Any glitch in the design phase could be very expensive to solve in the later stage of the software development. Much care is taken during this phase. The logical system of the product is developed in this phase.

3.3 Ideas of Database Management System

Data: Data are raw material for producing information. Information: Information is process data.

Data Base:

The collection of data usually referred to as the database. One or more large structured sets of persistent data usually associated with software to update and query the data. A simple database might be a single file containing record, each of which contains the same sat of fields where each field is certain fixed width. Each record in a database is composed of the important elements of information of a particular item. Each record is composed of a set of field.

Data model:

Data model is a collection of conceptual tools for describing data, data relationship, data semantics, and consistency constrains.

Database Administrator:

The person who has full control over a system is called the Database Administrator (DBA).

Database Users: we can specify the user in four categories –

- Application programmers are computer professionals who interact with the system through DML calls.
- Sophisticated users interact with the system without writing programs.
- Specialized users are sophisticated users who write specialized database application.
- Naïve users interact with the system invoking one of the permanent application programs that has been written previously.

3.3.1 Database Management System (DBMS)

A database management system consists of a collection of interrelated data and set of programs to access those data. The collection of data usually referred to as a database, contain information about one particular enterprise.

The primary goal of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving and storing database information. Database system is designed to manage large bodies of information. The database system provide for the safety of the information store, despite system crashes or attempts at unauthorized access. If data are to be shared among several users, the system must avoid possible anomalous result.

3.3.2 Database System Structure

A database system is partitioned into modules that deal with each of the responsibilities of the overall system. The functional components of a database system can be broadly divided into the storage manager and the query processor components. The storage manager is important because typically require a large amount of storage space. Usually the information is stored on disk and data are moved between disk storage and main memory as needed. Since the movement of data to and from disk is slow relative to the speed of the central processing unit, it is imperative that the database system structure the data so as to minimize the need to move data between disk and main memory.

The query process is important because it helps the database system simplify and facilitate access to data.

3.3.3 Data requirements

The Data Requirements Document is prepared when a data collection effort by the user group is required to generate and maintain system data or files. It is as detailed as possible concerning the definition of inputs, procedures, and outputs.

The Data Requirements Document provides a detailed description of the data model that the system must use to fulfill its functional requirements. Users and developers work jointly to identify requirements and with HUD Data Administration for defining the domain data model. In situations where users and Data Administration determine the model independently of developers, hold walkthroughs during the identification so that users can describe the requirements and the model to developers and receive feedback about the clarity and completeness of requirements. Separate the data description into two categories: static and dynamic data. Arrange data elements in each category in logical groupings, such as functions, subjects, or other groupings most relevant to their use. Describe the type of information required to document the characteristics of each data element. Specify information, including that related to sensitivity and privacy issues, to be collected by the user and developer.

3.4 Database

A database management system consists of a collection of interrelated data and set of programs to access those data. The collection of data usually referred to as database; contain information about one particular enterprise.

- Administrator DB
- Product category DB
- Add to cart DB
- Check Out DB

3.5 Conclusion

The process of doing database design generally consists of a number of steps which will be carried out by the database designer. Usually, the designer must determine the relationships between the different data elements and superimpose a logical structure upon the data on the basis of these relationships.

CHAPTER 4
SYSTEM SECURITY

4.1 Preface

Security is not only used to prevent unauthorized access to data but is also used to prevent accidental destruction of data. That is why in our project the administrator and the members created by the administrator have the privilege to read, insert, and update data. But any kind of major change in developing project documentation system can only be made by the super administrator. The general students can read, update and edit data.

They don't have any kind of access to the database.

4.2 Threats to System security

Research shows that the most damage comes from errors and omission-people making mistakes. The treat of external attack on a priority sequence, one would probably want to start from within the firm and work out.

The list of potential threats is:

- Errors and omissions.
- Disgruntled and dishonest users.
- Fire
- Natural disasters.
- External attack.

4.3 Secured admin area

In this system the admin area is fully secured. Without knowing the right password nobody can enter in the admin area. And without entering the in the admin area nobody can change the settings and other features of our system.

4.4 Session cookie secured

The session cookie is stored in temporary memory and is not retained after the browser is closed. Session cookies do not collect information from the user's computer. They typically will store information in the form of a session identification that does not personally identify user. Without cookies, websites and their servers have no memory. A cookie, like a key, enables swift passage from one place to the next. Without a cookie every time a user opens a new web page the server where the page is stored will treat the user like a completely new visitor.

Cookies are very important method for maintaining state on the web. "State" in this case refers to an applications ability to work interactively with a user, remembering all data since the application started, and differentiating between users and their individual data sets.

A cookie is a text-only string that gets entered into the memory of ones browser, the value of a variable that a website sets. If the lifetime of this value is set to be longer than the time you spend at that site, then this string is saved to file for future reference.

4.5 Database security

The data stored in the database need to be protected from unauthorized access and accidental introductions of inconsistency. Accidental loss of data consistency may result:

- Crashes during transaction processing.
- Anomalies caused by concurrent access to the database.
- Anomalies caused by the distribution of data over several computers.

So, to protect the database, steps are as follows:

- Unauthorized reading of data.

- Unauthorized modification of data.
- Unauthorized destruction of data.

4.6 Conclusion

Security is critical in system development. The amount of protection depends on the sensitivity of the data, the reliability of the user, and the complexity of the system. The motives behind security are to keep the organization running protect data as and seek management support for more installations.

CHAPTER 5

PROJECT DESCRIPTION & SCREENSHOTS

5.1 Preface

A web page is a resource of information that is suitable for the World Wide Web can be accessed through a web browser. This information is usually kept in HTML or CSS format, and may provide navigation to other web page via hypertext links.

Web page may be stored on a local computer or on a remote web server. The web server may restrict pages to a private network for example a corporate intranet, or it may publish pages on the World Wide Web. Web pages are requested and served from web server using Hypertext Transfer Protocol (HTTP).

Web pages may consists of files of static text within the web server's file system (static web pages), or the web server may read file of computer code that instruct it how to construct the (X)HTML for each web page when it is required by a browser (dynamic web page).

5.2 Web Page Design

Web page design is the process of organization content and images on a web page for the purpose of selling our ideas and information to visitors coming across our website. When I design a web page, I have to know the following things:

5.2.1 File Name Extension:

Static web pages usually have the file extension of.html. Dynamic web page file name extension usually reflects the language or technology used in the computer code Such as PHP etc. In these cases the web server must have been configured to

accept and understand these technologies, although the web browser need not as the server will provide it with plain HTML or XHTML after processing the server side code.

5.2.2 Color, typography, illustration and interaction:

Web page usually include instructions as to the colors of text and backgrounds and very often also contain links to images and something other media to be included in the final view.

Layout, typography and color-scheme information is provided by Cascading Style Sheet (CSS) instructions, which can either be embedded in the HTML or can be provided by a separate file, which is referenced from within the HTML. The letter case is especially relevant where one lengthy style sheet is relevant to a whole web site: due to the way HTTP works, the browser will only download it once from the web server and use the cashed copy for the whole site.

Images are stored on the web server as separate files, but again HTTP allows for the fact as images and style sheet will be requested as it is processed. An HTTP 1.1 web server will maintain a connection with the browser until all related resources have been requested and provided. Browser usually renders images along with the text and other material on the displayed web page.

Multimedia

Other media such as sound or video files may also be embedded within web pages, as part of the page or via hyperlinks. Games, animation and other computer-generated materials can also be embedded using technologies such as Adobe Flash and Java Applets. All of these depends on the client browser's ability to handle the material, and upon the client user's desire and ability to enable (when not enable by default) these features on their machine.

Dynamic Behavior

Client –side computer code such as JavaScript's or code implementing Ajax technique can be provided either embedded in HTML of a web page or like CSS style sheets as separate, linked downloads specified in the HTML (using for example is file extensions for JavaScript files). These scripts may run on the client computer, if the user allows them to, and can provide a degree of interactivity between the web page and the user after the page has downloaded.

5.2.3 Browsers:

A web browser can have a Graphical user interface, like Internet Explorer, Mozilla Firefox or Opera or can be text based like Linux, web users with visual impairments may use a screen reader to read out the displayed text or they may use a more specialized voice browser in the first place.

5.3 Project Screenshots

Project Screenshots provides a graphical view or preview of the following system. It will help us to identify the order of the system.

5.3.1 Home page of the system:

This is the home page of my system. When a user opens my system he will see this page.
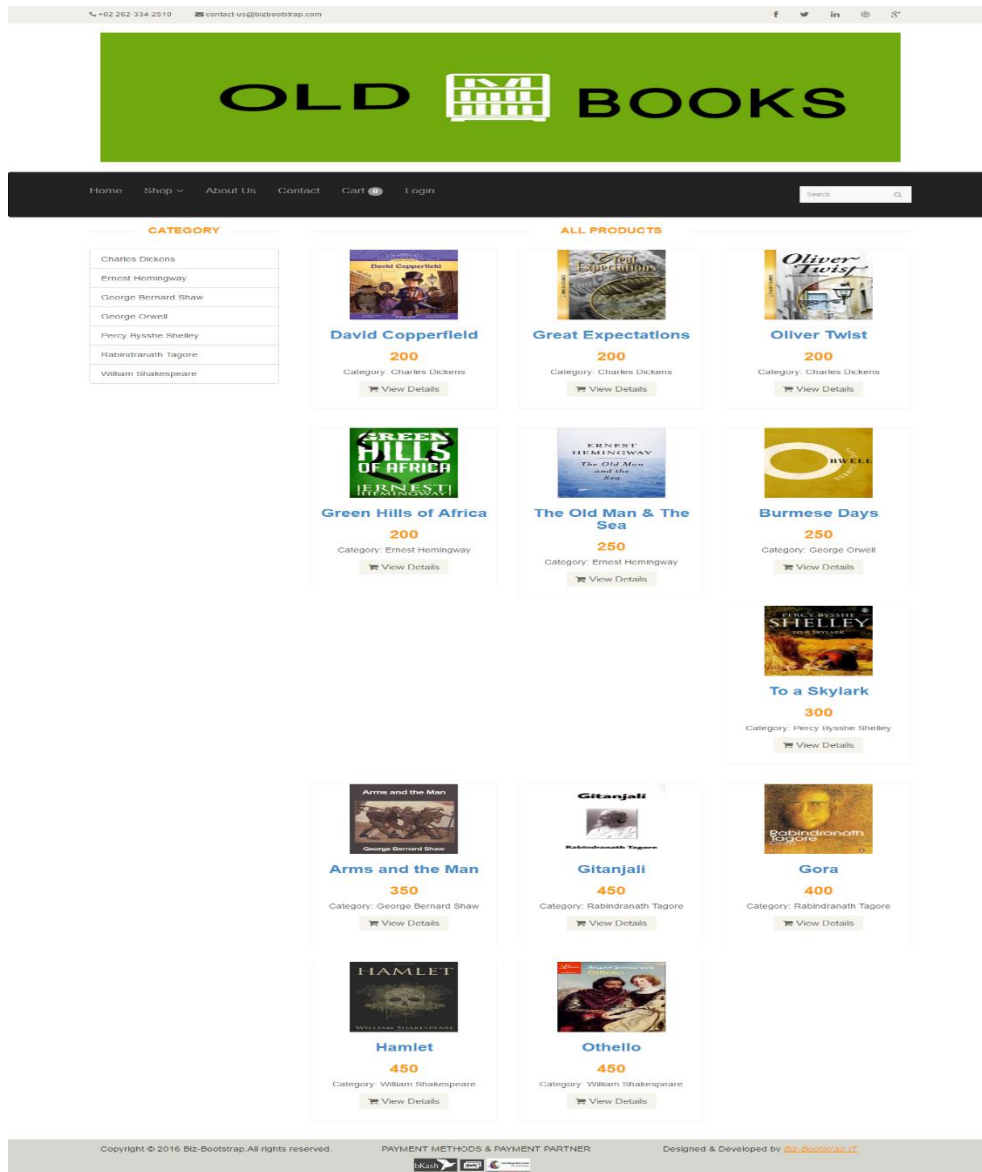
Figure 1.4: Home page of the system

5.3.2 About Us Page:
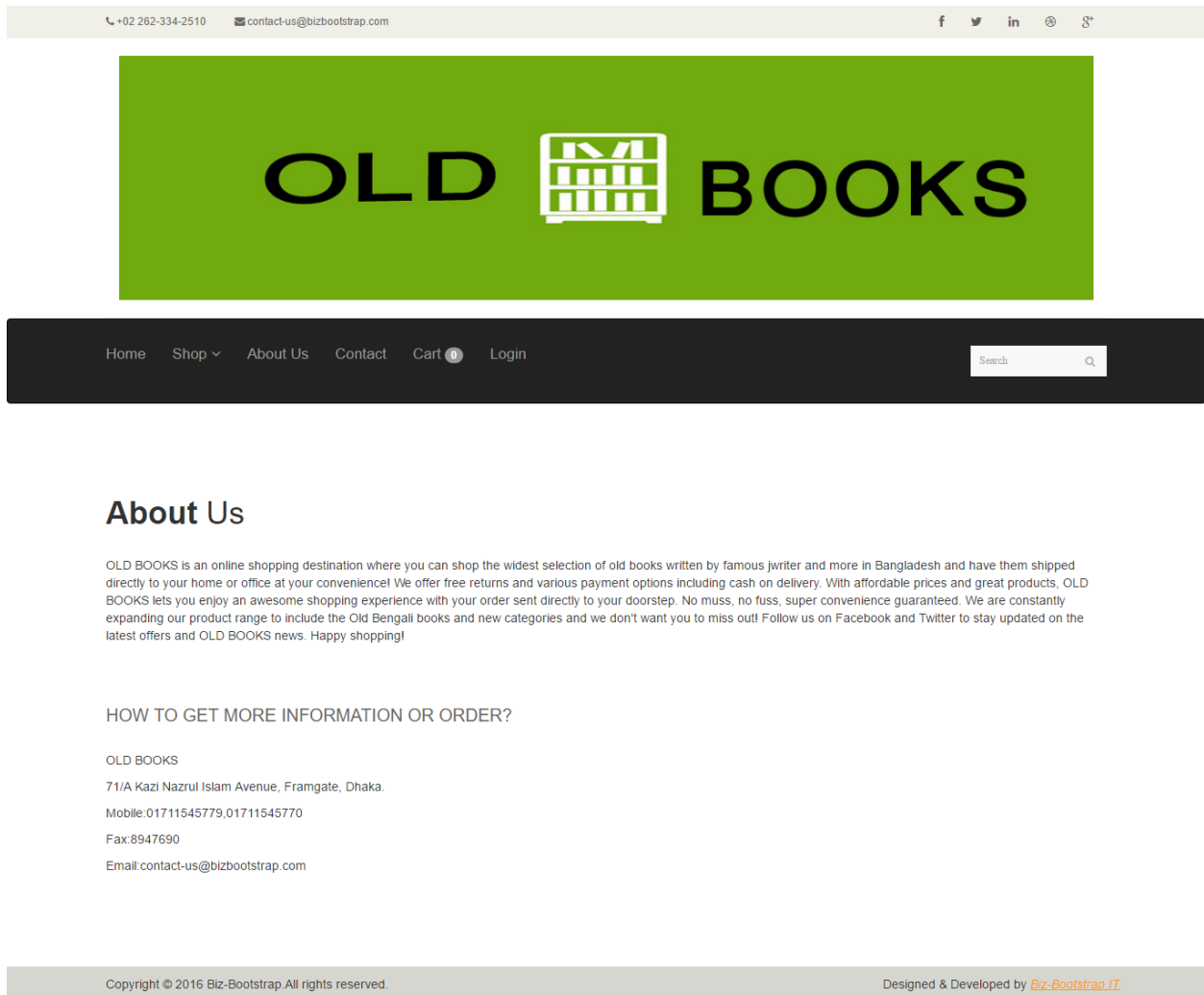
Figure 1.5: About us page

5.3.3 Contact Us Page:
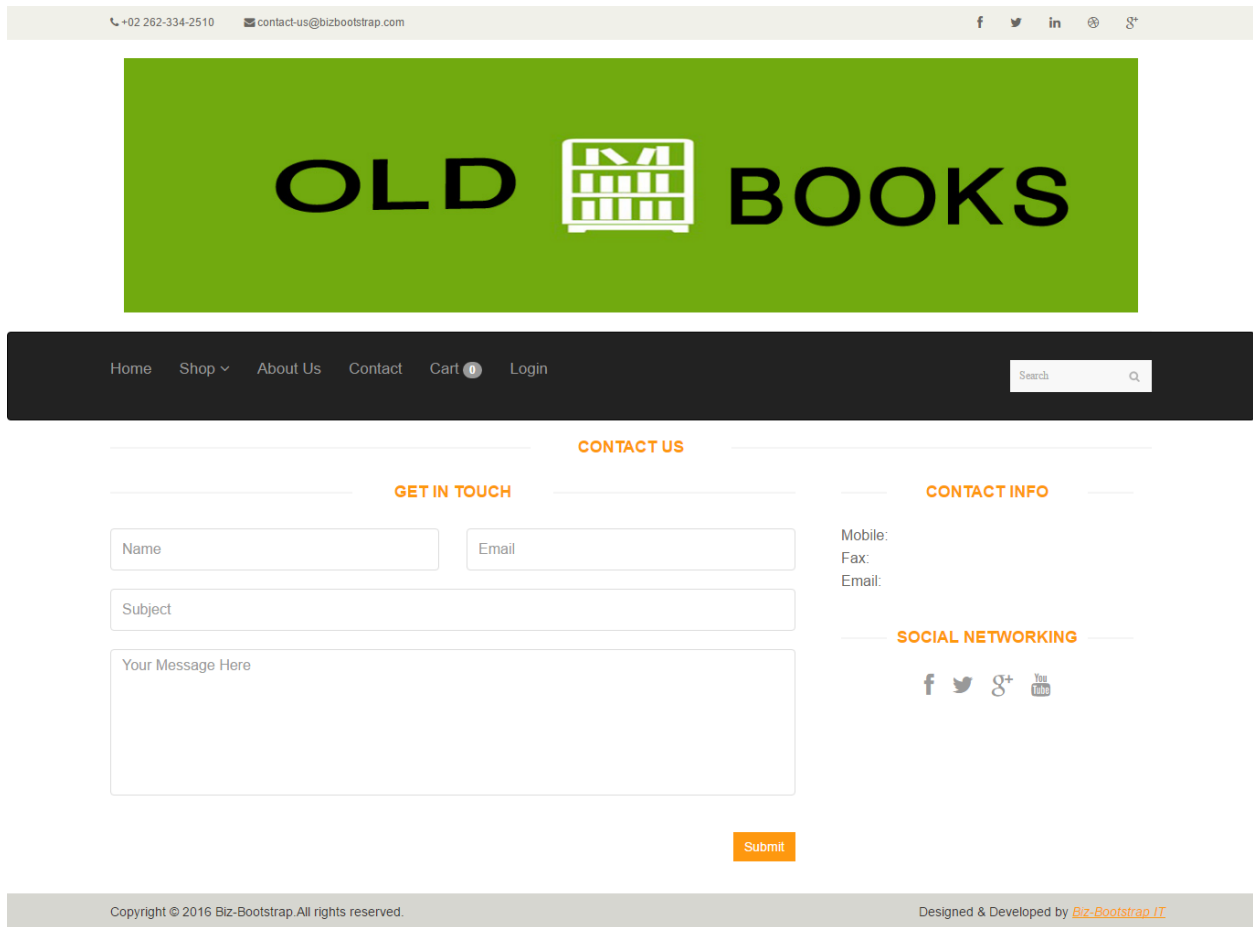
Figure 1.6: Contact us page

5.3.4 Product Details Page:

Figure 1.7: Product Details page

5.3.5 Shopping Cart Page:

Figure 1.8: Shopping Cart page

5.3.6 Check Out Modal:
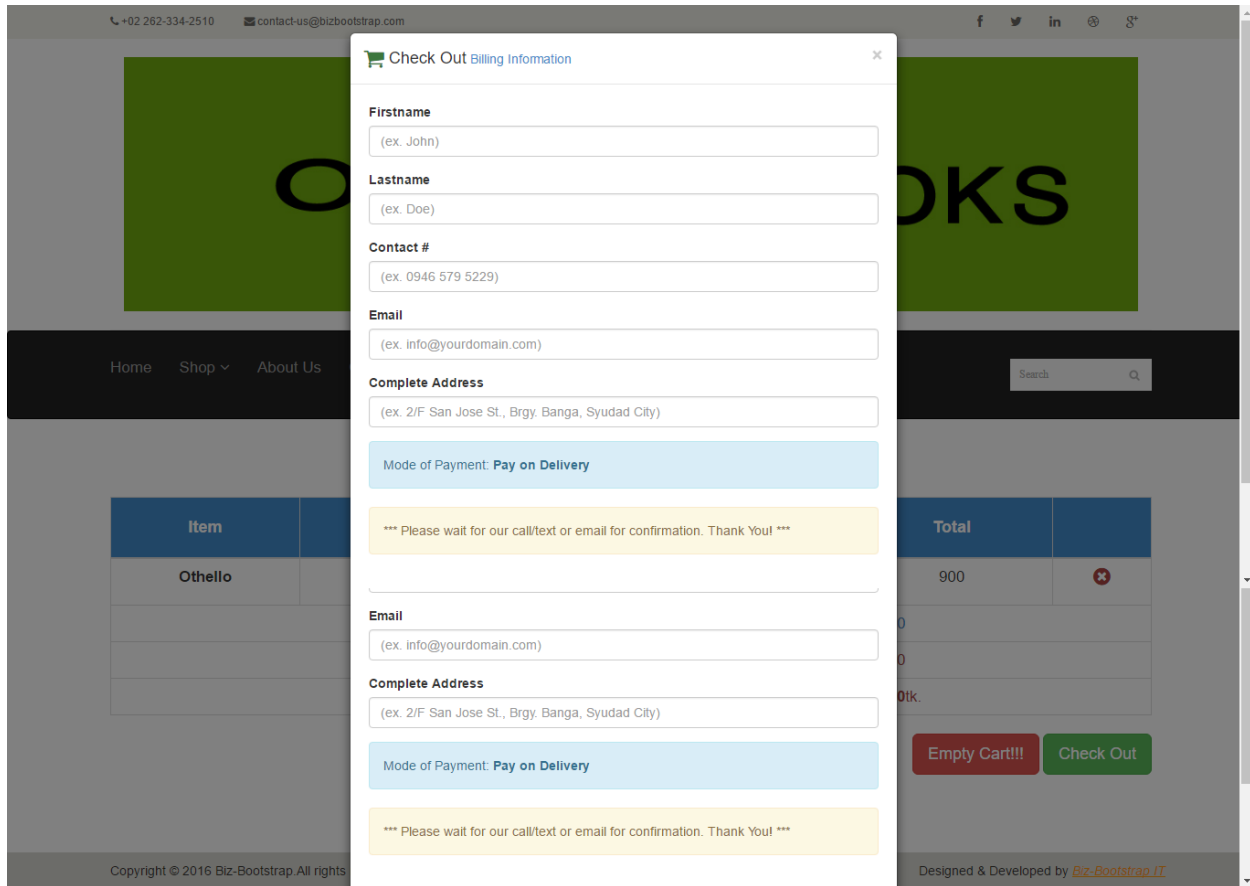
Figure 1.9: Check out modal

5.3.7 Admin Login Page:
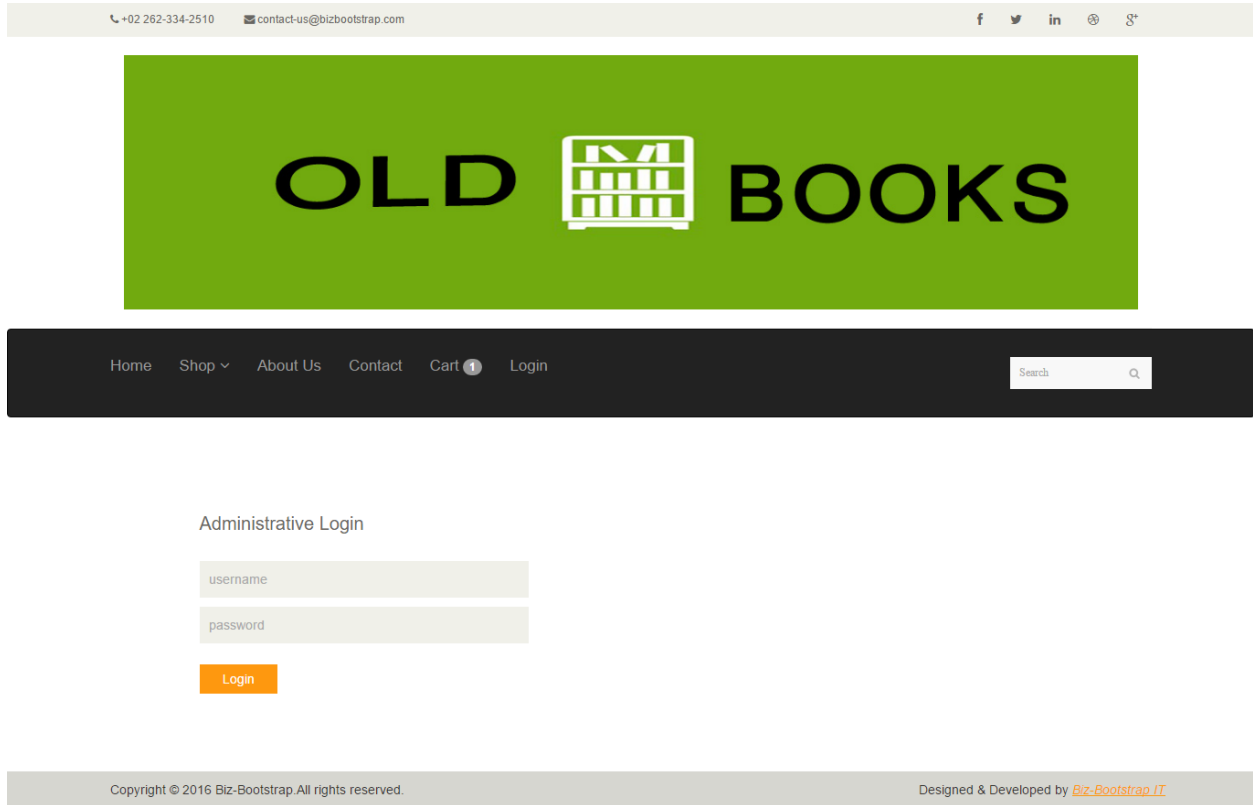
Figure 1.10: Admin Login Page

5.3.8 Admin Cpanel:

Figure 1.11: Admin Cpanel

In Admin Panel, we have add category section, Orders request & pending section which are these things control by admin. And also logout option for admin inside admin panel.

5.4 Preview of a Multipurpose Bootstrap Template
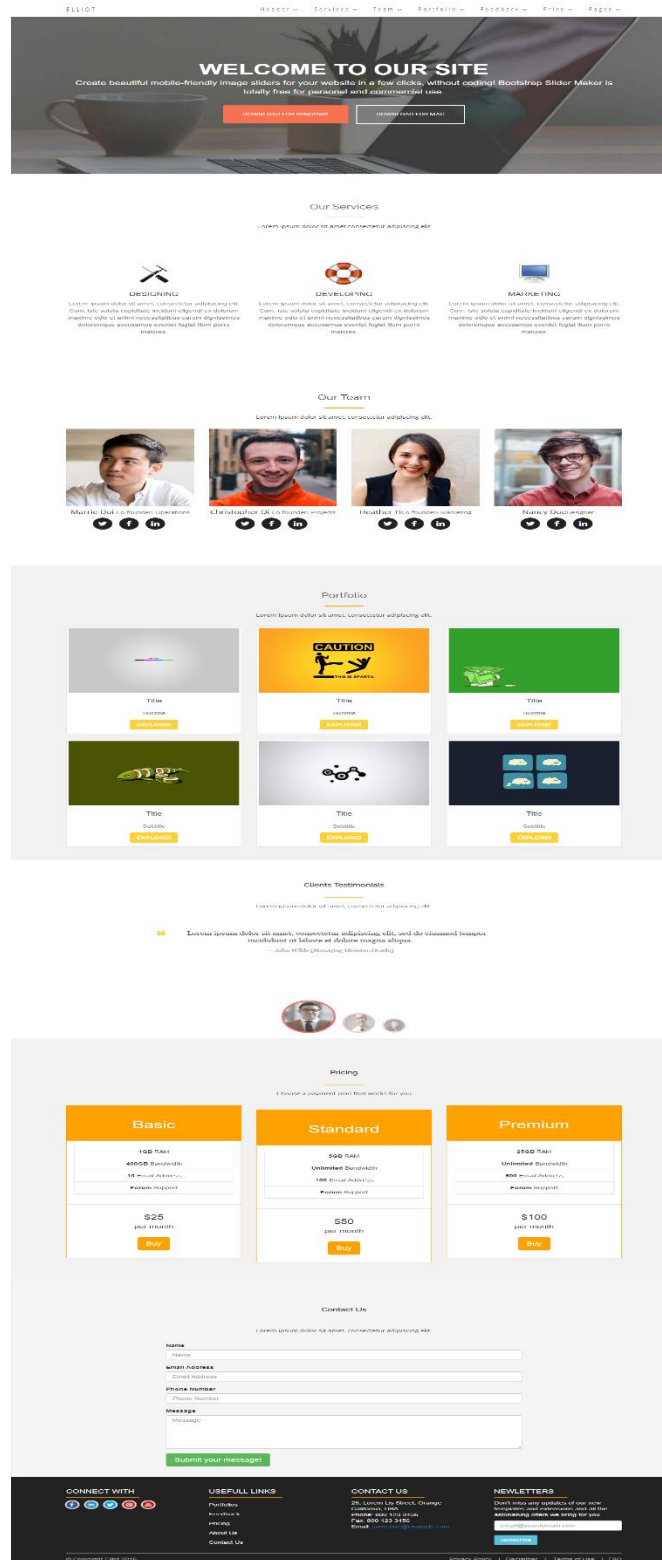
Figure 1.12: A Preview of Multipurpose Bootstrap Template

5.5 Tools and Techniques

The system is implemented using a 3-tier approach, with a backend Mysql database, a middle tier php and javascript, and a web browser as the front end client. HTML and JavaScript is used to make a dynamic website. System development life cycle (SDLC) model is used for the software development

5.6 Conclusion

Those points should be kept in mind while designing a web based system. A user friendly system becomes popular rapidly and thus benefits both the system developer and its users.

CHAPTER 6
PROGRAM TESTING

6.1 Preface

As each module has written, it is checked out to remove any obvious errors (modules are tested). The modules are then assembled to integrate to form the system. As the modules are integrated, the system is tested. When the integration is completed, the entire system is given further testing.

Testing is a very big stage and to test fully a system it needs lots of time to spend on testing. Delivery time is limited for our project, most of time gone to analysis, development and Design. Here it is planned for some testing.

To improving the efficiency of a task, make sure that the process is well defined and well tested. There are simple and cheap ways to make things go easier to test the system using computers and the errors can be overlooked. Testing ensures proper execution of system by checking for errors that will entail series of problems bugging the system.

6.2 System Testing

System Testing is actually a series of different tests whose primary purpose is to fully exercise the computer-based system. Although each test has a different purpose, all work to verify that system elements have been properly integrated and perform allocated functions.

There are four types of system testing.

- Recovery Testing
- Security Testing

- Stress Testing
- Performance Testing

6.2.1 Recovery Testing

Recovery is essential for a system that has large number of users and used heavily and regularly. When many users use the system the system can crush due to minor glitches and incorrect inputs. Recovery Testing is a system test that forces the software to fail in a variety of ways and verifies that recovery is properly performed. If recovery is automated (performed by the system itself), re-initialization, check pointing mechanisms, data recovery and restart are evaluated.

In my system, recovery testing is performed successfully. Such as when any user is trying to login with invalid username or password, then the system could be fail. But by recovering testing, I don't let the system fail. In this situation users are not allowed to access the system and user will try again.

In registration page, when Admin add a user in the system by registration it is necessary to fill most important field which is very essential e.g., E-mail address and Password.

When Admin is able to register a user in the system at that moment a message will show to admin/user that user information saved successfully.

6.2.2 Security Testing

Security Testing is the ultimate testing for a web based system. Admin put user personal information any breach in security will damage the user privacy and consequently site image. The Security Testing attempts to verify that protection mechanisms built into a system will, in fact, protect it from improper penetration. It maintains the security of the system.

My system is developed by using HTML and CSS for designing part of the system. To access my system need user name and password and I allow user email address as username to access the system. So it is prevent normal hackers to access the system.

In case of security testing, this system is more securing since here used MySQL and PHP which both popular to maintain security. In PHP I have created session that maintains the security of every page when session starts.

None user who has not any user name and password in the system they cannot access for buy product. A user needs a user name and password for proper use of the system.

To enter the database of MySQL, one has to know the valid username and password.

If these are unknown then no one can enter the database. Admin can edit the user information unless he/she is logged in and is allowed to do so.

6.2.3 Stress Testing

Stress is an important factor for a system with multiple users. The system has to make sure that many users can use the system simultaneously without crashing. The system must provide all facilities to everybody. The Stress testing exercise executes a system in a manner that demands resources in abnormal quantity, frequency and volume. A variation of the stress testing is a technique called sensitivity testing. Sensitivity testing attempts to uncover data combinations within valid input classes that may cause instability or improper processing.

In my system I used sample users to participate in the stress testing.

Several numbers of users used the system without any problems.

Users did not face resource sharing problems

All the given TOOLS worked properly

6.2.4 Performance Testing

Today there are many web based system which appeals to different users. For a successful web based system the system must run smoothly in different browsers without any graphical problems or content processing problems. The Performance test is designed to test the runtime performance of software within the context of an integrated system.

Performance testing occurs throughout all steps in the testing.

By performance testing I have seen that my system can run on any web browser i.e. Internet Explorer 6, Internet Explorer7, Mozilla Firefox, Google Chrome and Opera.

The site is navigated well in 32 bit resolution.

Each module of this system is tested perfectly. So I can say that the proposed system is generally bug free software.

6.3 Conclusion

During the design stage, the system under construction has decomposed in the place of tools management test reports. After testing, errors will be found and these on should be corrected.

CHAPTER 7
CONCLUSION

7.1 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:

1. The Administrator of the web site can be given more functionalities, like looking at a specific customer's profile, the books that have to be reordered, etc.

2. Multiple Shopping carts can be allowed.

7.2 Conclusion

The E-Commerce situation has been improved in the recent years in Bangladesh. There are many Business to Consumer websites doing business in Bangladesh. People are becoming familiar with these websites in spite of very low number of citizens have access to a computer and the internet. The purpose of this project was to develop an E-Commerce website system for selling and buying of different types of products like computer and its accessories, electronic goods, mobile phones and books. The intention was to fulfill the demand of the students, academics, and peripheral customers who are living in different districts. The websites is quite user

friendly. The website has very simple features which is easy to understand. Customers with minimum level of literacy with the computer and internet are able to buy products from the websites.

APPENDIX

DATABASE SCHEMA

Table: User

Field Name	Data Type	Size
id	Int	11
username	Text	----
password	Text	----

Table: Products

Field Name	Data Type	Size
ID	Int	11
imgUrl	Text	--
Product	Text	--
Description	Text	--
Price	Double	--
Category	Text	--

Table: Order

Field Name	Data Type	Size
id	Int	11
name	Varchar	100
contact	Varchar	100
address	Varchar	100
email	Varchar	100
item	Text	---
amount	Varchar	100
status	Varchar	100
dateOrdered	Varchar	100
dateDelivered	Varchar	100

Table: Category

Field Name	Data Type	Size
Id	Int	11
title	Varchar	50

Table: Cart

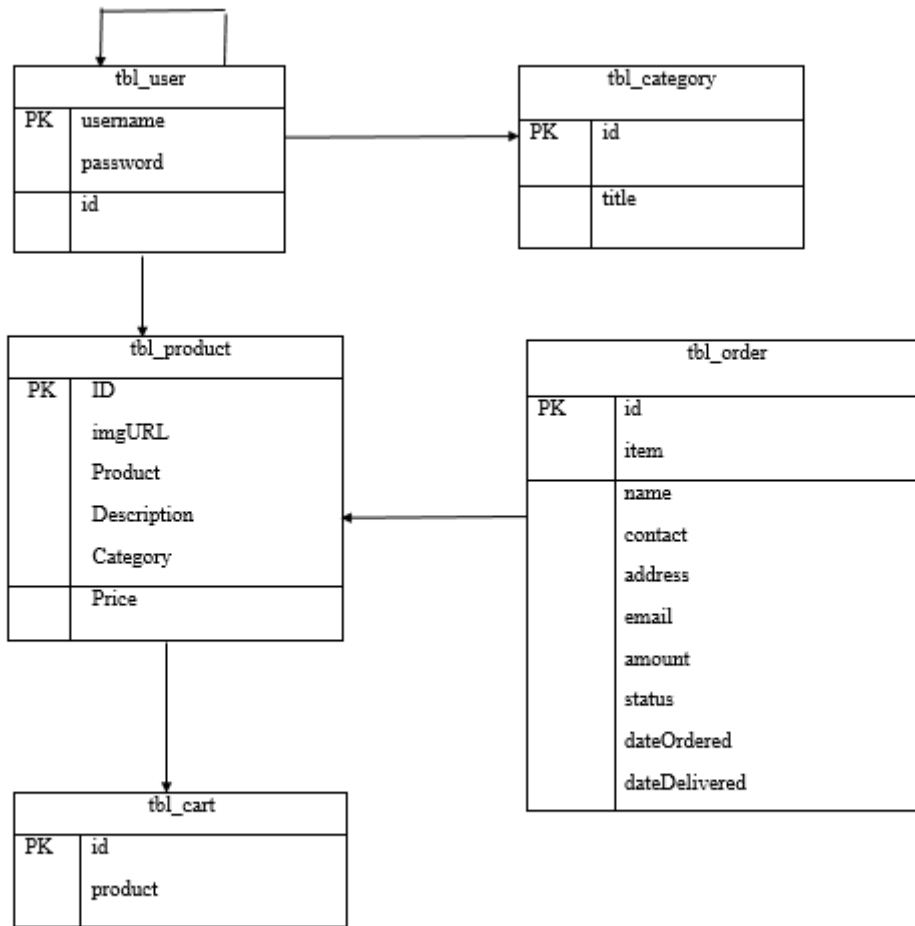| Field Name	Data Type	Size
ID	Int	11
Product	Text	---

Figure 1.13: Entity Relationship Diagram into different tables

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