ONLINE SHOPPING MANAGEMENT SYSTEM



Inspiring Excellence

Report submitted in partial fulfilment of the requirement for the degree of Masters of Engineering in Computer Science and Engineering Under the supervision of Dr. Jia Uddin

By

Most. Akhi Sultana (16373011)

School of Engineering and Computer Science

24th December 2017 BRAC University, Dhaka, Bangladesh

Declaration

This is certifying that the project entitled "Online Shopping/ecommerce management system", which is submitted by Most. Akhi Sultana (ID-16373011), in partial fulfillment of the requirement for the award Of degree of Masters of Engineering in Computer Science & Engineering to the department of Computer Science & Engineering, BRAC University, 66 Mohakhali C/A, Dhaka, 1212, comprises only my original work and due acknowledgement has been made in the text to all other material used. The result of the project has not been submitted to any other university or institute for the award of any degree or diploma.

Signature of Supervisor:

24/12/2018 Dr. Jia Uddin,

Assistant Professor, Department of Computer Science & Engineering, BRAC University, BRAC.

Signature of Authors:

Most. Akhi Sultana, 16373011

Prof. Dr. M A Mottalib Chairperson Dept. Computer Science & Engineering BRAC University 45 Mohakhali, Dhaka-1212 28.12.17

Acknowledgement

All thanks to Almighty ALLAH, the creator and the owner of this universe, the most merciful, beneficent and the most gracious, who provided me guidance, strength and abilities to complete the report.

First, I would like to thank Dr. Jia Uddin Sir, my project supervisor, for guiding me through each and every step of the process with knowledge, suggestions and endless support. This project would not have been possible without his continuous support. Thank you for your advice, guidance and assistance.

Finally, I would like to thank my beloved parents, sister, guardians and husband for their neverending support, motivation and believe on me.

ii

ABSTRACT

The primary goal of this e-commerce site is to sell goods and services online. This project deals with developing an e-commerce / Online Shopping Management System for online product sale. It will provides the user with a category of different products available for purchase in the store. In order to facilitate online purchase a shopping cart will provided to the user. The system is implemented using a 3-tier approach, with a backend relational databases (such as MySQL), a middle tier of Object-Oriented PHP, and a web browser as the front end client. This is a project with the objective to develop a basic website where a customer is provided with a shopping cart application and also to know about the technologies used to develop such an application. This system involves its own database to be maintained. The information or details about the products are stored in the database. The server process is for dealing with the customers detail and the items that are shipped to different locations based on the addresses provided by the customers. The application design contains two modules one is for the customers who wish to buy the product and another is for the store owners who maintains and updates the information regarding to the product and about the customers. The end user to use this site are the common people for whom this application is to be hosted on the web and the admin maintains the database.

TABLE OF CONTENT

Dec	laration		i
Acl	cnowledge	ment	ii
AB	STRACT		iii
Tał	ole of Cont	ent	iv-vi
Lis	t of Figure		vii
Lis	t of Table		viii
1.	Chapter 0	1: Introduction	
	1.1. Motiv	ation	1
	1.2. Contr	ibution Summary	1
	1.3. Report	rt Outline	2
2.	Proposed	System and Methodology	
	2.1. System	m Benefit	
	2.1.1.	Existing system	3
	2.1.2.	Proposed System	
	2.1.3.	Benefits of Proposed System	
	2.2. Softw	are Process Model	
	2.2.1.	The Systems Development Life Cycle (SDLC)	
	2.2.2.	Why following a model?	6
	2.3. Meth	nodology	
	2.3.1.	Waterfall model	6
	2.3.2.	Advantage	7
	2.3.3.	Why choose WATERFALL model?	7
	2.4. Feasi	bility study	8
3.	Chapter (3: Requirement Analysis	

iv

	3.1. User Requirement
	3.2. Administrator Requirements
	3.3. System Requirement
	3.3.1. Functional Requirement
	3.3.2. Non-Functional Requirements
	3.4. Use Case Diagram
	3.5. Used Platform/Tools
4.	Chapter 04: Analysis
	4.1. Activity Diagrams
	4.1.1. Admin Panel Login Activity Diagram15
	4.1.2. Add Product to List Activity Diagram16
	4.1.3. Order Process Activity Diagram
	4.1.4. Checkout or Payment and Shipping Activity Diagram
	4.2. Risk Engineering 19-22
	4.2.1. Type of Risk
	4.2.1.1. Software Risk19
	4.2.1.2. Technological Risk
	4.2.1.3. Business Risk
	4.2.2. Risk Identification20
	4.2.3. Risk Projection
	4.2.4. Risk Analysis
	4.2.5. Project specification and scheduling
	4.2.5.1. Function Specification
	4.2.5.2. Function Description
	4.2.5.3. Project Schedule Chart

5.	Chapter 05: Design
	5.1. Project Design
	5.1.1. Data Model
	5.1.1.1. Entity Relationship Diagram
	5.1.2. Process Model
	5.2. Database Design
	5.3. Database Field Design
	5.4. Modules of System
	5.5. Interface Design
6.	Chapter 06: Testing
	6.1. Software Verification and Validation
	6.1.1. Verification
	6.1.2. Validation
	6.2. Software Quality Assurance (SQA)
	6.3. Test Plan
7.	Chapter 07: Implementation and Maintenance
	7.1. Implementation
	7.2. Maintenance
8.	Chapter: 08: Conclusion, Future Plan
	8.1. Limitations and Future Plan
	8.2. Experiences
	8.3. Conclusion
9.	Appendix
Aj	opendix- A. Glossary
Re	eference

Titer

.

LIST OF FIGURE

Figure 01: Software Development Life Cycle (SDLC)	5
Figure 02: Waterfall model	6
Figure 03: Use Case Diagram	12
Figure 04: Admin Panel Login Activity Diagram	15
Figure 05: Add Product to List Activity Diagram	16
Figure 06: Order Activity Diagram	17
Figure 07: Checkout or Payment and Shipping Activity Diagram	18
Figure 09: Entity Relationship Diagram (ERD).	29

LIST OF TABLE

Table 01: Risk Projection	21
Table 02: Risk Analysis	22
Table 03: Function Specification	23

Chapter 01: Introduction

1.1 Motivation

The main objective behind this project is to develop a web oriented application which can provide an online shopping feature to the users. In other words, this project aimed at creating a virtual shop environment for users, in some handy form, which will be available to them through internet. Although the idea of developing online shopping websites are not new in the electronic market and has been evolved soon after the World Wide Web (www). 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. Customers can browse the catalog and select products of interest. User can login into ecommerce website, once he logged in then automatically one shopping cart will be created, once user select an item for buy it will add to that cart. In case user thinks the selected item is not useful for him, then he can delete that item form the cart. More information will be needed to complete the transaction if customer want to buy item. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and select payment option. This system has been designed keeping in mind all the aspects such as loading the data, complexity and maintaining the security of user credentials.

1.2 Contribution Summary

In current system user must go to shop and order products. It is difficult to identify the required product. Also there are expenses for travelling from house to shop. It requires lots of time and time means a lot to everyone. Now people trying to make shopping system more easer by using online shopping system. Previously many work has been done on online shopping system but those are less user-friendly because user interface is not user friendly. All are focused some special types of customer that's why there interface is not user-friendly for all. Here my system ensure that every one can use this system more easily, we focused everyone, and interface is more user friendly for all. Here we focused on this problem and make a user friendly interface for all, here is no need to special knowledge for buying anything. Customer can buy product easily.

1.3 Report Outline

- Chapter 02 contains existing system, proposed system and its benefit also discus on SDLC and Methodology which is used in this project and that is waterfall model.
- Chapter 03 discus about all types of requirements of this system also use case diagram and all the tools which is used in this project.
- Chapter 04 contain total analysis and diagrams also discus on project risk, project schedule and all the function's description.
- Chapter 05 shows the interface of this system
- Chapter 06 shows some of the row code of this system
- Chapter 07 discus about testing phases of this project.
- Chapter 08 discus on maintenance and implementation.
- Chapter 09 concludes the report also discusses about future opportunities from this project and experience.

Chapter 02: Proposed System and Methodology

2.1 System Benefit

2.1.1 Existing system

The present scenario for shopping is to visit the shops and market manually and then from the available product list one needs to choose the item he or she wants and then payment for the same item mainly in cash mode is done, as not every society is well educated and aware to use net banking or card modes or wallets etc. This system is not much user friendly as one needs to go to the market physically and then select items only from the available list. So mostly it is difficult to get the product as per our desire. Description about the products are less available and are mostly verbal only. For this type of shopping one needs to have ample amount of free time. Also not really good markets exist everywhere, so many times good markets become out of reach for certain people. This existing system of buying goods has several disadvantages. It requires lots of time to travel to the particular shop to buy the goods. It is having lots of manual work. Since everyone is leading busy life now a days, time means a lot to everyone. Also there are expenses for travelling from house to shop. It is less user-friendly. In current system user must go to shop and order products. It is difficult to identify the required product. More over the shop from where we would like to buy something may not be open 24*7*365. Hence we have to adjust our time with the shopkeeper's time or vendor's time. In current system user have to go shop to view the description of the product.

2.1.2 Proposed System

The proposed system helps in building a website to buy, sell products or goods online using internet connection. Unlike traditional commerce that is carried out physically with effort of a person to go and get products, my project will make it easier for human to reduce physical work and to save time. The basic concept of the application is to allow the customer to shop virtually using the Internet and allow customers to buy the items of their desire from the store. In this proposed system customers need not to go to the shops for purchasing the products [6].

Customer can order the product he/she wishes to buy through the use of this system. The shop owner can be the admin of the system. Shop owner can appoint officials particularly to handle this, who will help owner in managing the customers and product orders. The system also endorses a home delivery system for delivering the purchased products. Enables consumers to shop or do other transactions 24 hours a day, all year round from almost any location. It can be accessed over the Internet. Purchasing of goods online, user can choose different products based on categories, online payments, delivery services and hence covering the disadvantages of the existing system and making the buying easier and helping the vendors to reach wider market. It provides consumers with more choices. Customer can purchase products online.

A good ecommerce site fulfill the following factors [4, 5]:

- 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.
- ✓ Admin has the authority to add new particulars to the items list whenever needed.
- Permission to administrator to remove items, anytime.
- ✓ Allows the admin to modify the price of each item, whenever required or felt like.
- ✓ Admin has the authority to update the description of each item.
- Permission to the admin to view information about each customer who checkouts the items list.

2.1.3 Benefits of Proposed System

The main advantage of this system over traditional commerce is the user can browse online shops, compare prices and order merchandise sitting at home on their PC [4]. Secure registration and profile management facilities for customers.

Shopping cart feature allows online shopping customers to "place" items in the cart. It decreases the cost of creating, processing, distributing, storing and retrieving paper-based information. Expands the marketplace to national and international markets. Upon "checkout" the software calculates as total for the order including shipping and handling postage, packing and taxes, if applicable. Reduces the time between the outlay of capital and the receipt of products and services.

2.2 Software Process Model

2.2.1 The Systems Development Life Cycle (SDLC)

It is a conceptual model used in project management that describes the stages involved in an information system development project from an initial feasibility study through maintenance of the completed application. Various SDLC methodologies have been developed to guide the processes involved including the waterfall model (the original SDLC method) [2, 3]. Some methods work better for specific types of projects, but in the final analysis, the most important factor for the success of a project may be how closely particular plan was followed [1,2].

A Software Development Life Cycle is essentially a series of steps, or phases, that provide a model for the development and lifecycle management of an application or piece of software. The Software Development Life Cycle is a process that ensures good software is built. Each phase in the life cycle has its own process and deliverables that feed into the next phase. Phases are given bellow: \rightarrow Requirements Gathering and Analysis \rightarrow Design \rightarrow Coding \rightarrow Testing \rightarrow Maintenance

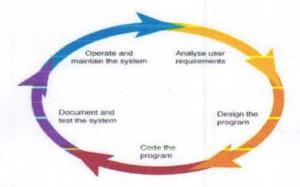


Figure 01: Software Development Life Cycle (SDLC)

SDLC Models are:-

- Water Fall Model
- > The Prototyping model / Evolutionary development
- Spiral Model
- The Incremental model
- Agile Model

2.2.2 Why following a model?

- Without using of a particular life cycle model the development of a software product would not be in a systematic and disciplined manner.
- When a software product is being developed by a team there must be a clear understanding among team members about what to do and when to do [1, 2].
- Not following = confusion and project failure.

2.3 Methodology

2.3.1 Waterfall model

Here using waterfall model for this project.

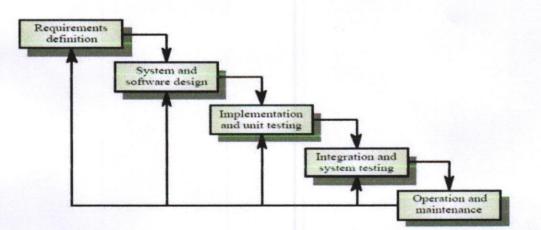


Figure 02: Waterfall model

2.3.2 Advantage

- The waterfall model are that documentation is produced at each phase and that it fits with other engineering process models.
- Disciplined approach
- Careful checking by the Software Quality Assurance Group at the end of each phase. (Or testing in each phase.)
- > Documentation available at the end of each phase
- Linear model.
- Easy to understand and implement [1].
- Identifies deliverables and milestones

2.3.3 Why choose WATERFALL model?

For following reason we used this model

- My requirements are very well known, clear and fixed.
- Product definition is stable.
- Technology is understood [1].
- > There are no ambiguous requirements
- > Ample resources with required expertise are available freely
- The project is not so long.

2.4 Feasibility study

The software is said to have life cycle composed of several phases. At the feasibility stage, it is desirable that two or three different configuration will be pursed that satisfy the key technical requirement but which represent different level of ambition and cost. Feasibility is the determination of whether or not a project is worth doing. A feasibility study is carried out select a best system that mate performance requirements. The data collected during primary investigation examines system feasibilities that is likelihood that the system will be beneficial to the organization. Four tests for feasibility study are as follows:-

Technical Feasibility: This is concerned with specifying equipment and software that will successfully satisfy the use considerably, but might include

- ✓ The feasibility to produce output in a given time because system is fast enough to handle multiple users.
- Response time under certain circumstances and ability to process a certain volume of transaction of a particular speed.
- ✓ Feasibility to communicate data to distant location.

All this are successfully fulfil this project.

Economic Feasibility: Economically this system is feasible.

Operational Feasibility: It is mainly related to human organizational as social aspects. The points to be considered are - this system interface is standard, user friendly and provides extensive help. Hence no special training is not required.

Social Feasibility: Social feasibility is determination of whether a proposed project will be acceptable to people or not, so this project is totally Social and Feasible.

Chapter 03: Requirement Analysis

3.1 User Requirement

End user features that facilitate the enjoyment of Internet shopping include the following [8]:

- Users should be able to use the ecommerce application from any Web browser supporting HTML 3.2 (or later) and cookies.
- Visitors new to the site should be able to register by themselves. Users will be differentiated by unique user identifiers.
- Transactions should be secure. That is, a basic authentication mechanism must be built into the application to prevent unauthorized persons from making transactions on a user's behalf. Site visitors should be able to purchase goods or services via the electronic store.
- > Users should be able to view a complete list of specified items available through the site.
- Users should be able to search for items by related attributes. For example, visitors might search for CDs by artist, album title and/or genre or search for books by author, title and/or ISBN number.
- Site visitors should be able to search the database using relevant keywords to identify items of interest.
- Users should be able to select items of interest and add them to their shopping carts for future purchase.
- Visitors should be able to modify the quantities of items in and/or delete items from their shopping carts before checkout.
- > All selected items should be shipped to the user following purchase.
- > Users should be able to view the status of items they have ordered.
- Large numbers of users should be able to use the application simultaneously.
- The performance of the application should not degrade with an increase in the number of goods or services offered.

3.2 Administrator Requirements

Administrators who manage the site have specific requirements of their own [8]

- Administrators should be able to manage ecommerce applications using web browsers.
- Data managers should be able to delete users.
- Site administrators should be able to change the status of goods purchased by users after items have been shipped.
- Administrators should be able to view all user transactions.
- Site managers should be able to view all transactions for the day.

3.3 System Requirement

The System must provide following [8].

- User should have appropriate version of windows.
- System should have up to 2 GB ram minimum requirement for the application.
- Site should be uploaded on server.
- Need a web browser.
- Need an installed code editor.

So, this is the overall process of making the Online Shopping system worked, and user can get the policy without any headache of agent and sometime don not need to provide commission to them.

3.3.1 Functional requirement

The System must provide following functionalities [8]

- Keeping records of registration of customers.
- Keeping the records of products.
- Keeping the daily sell Information.
- Storing the feedback given by the customer.
- Keeping details about the product it is delivered or not etc.

- Storing the items selected by the customer in the temporary storage/Wish list.
- Full control of admin panel will be in admin hand.

3.3.2 Non- Functional Requirements

Following Non-functional requirements will be there in the Insurance on internet [8]:

- Secure access of confidential data (customer's details).
- 24 X 7 availability.
- Better component design to get better performance at peak time.
- > Flexible service based architecture will be highly desirable for future extension

Nonfunctional requirements define system properties and constraints. It arise through user needs, because of budget constraints or organizational policies, or due to the external factors such as safety regulations, privacy registration and so on.

Various other Non-functional requirements are [9, 10]:

- ✓ Security
- ✓ Reliability
- ✓ Maintainability
- ✓ Portability
- ✓ Extensibility
- ✓ Reusability
- ✓ Application Affinity/Compatibility
- ✓ Resource Utilization

3.4 Use Case Diagram

Following figure 03 show the use of functionality of User and the Admin of this system. Admin can access all the part of this system but user can only access some of the feature which are only free for them.

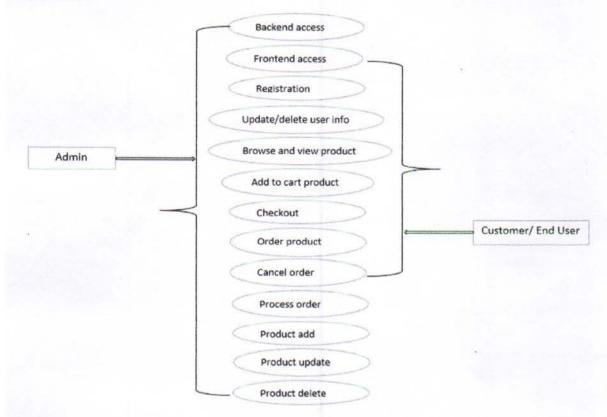


Figure 03: Use Case Diagram

3.5 Used Platform/Tools

Front-End: Web pages using HTML, CSS and JavaScript. Programming Language: PHP Back-End: MYSQL Server: XAMPP/ WAMPP (Apache)

- HTML -It is used to generate web page. HTML, an initials of Hypertext Markup Language, is the predominant markup language for web pages. It provides a means to describe the structure of text-based information in a document — by denoting certain text as headings, paragraphs, hists, and so on [14].
- CSS –For design front end used CSS.
- JavaScript It is used for checking User information before sending to JavaScript is a scripting language most often used for client-side web development. It is a dynamic, weakly typed, prototype-based language with first-class functions.
- PHP- PHP is a technology that lets you mix regular, static HTML with dynamically-generated HTML [14]. Many Web pages that are built by CGI programs are mostly static, with the dynamic part limited to a few small locations. But most CGI variations, including servlets, make you generate the entire page via your program, even though most of it is always the same. PHP is a widely used, general-purpose scripting language that was originally designed for web development, to produce dynamic web pages. It can be embedded into HTML and generally runs on a web server, which needs to be configured to process PHP code and create web page content from it. It can be deployed on most web servers and on almost every operating system and platform free of charge. PHP is installed on over 20 million websites and 1 million web servers.

MySQL is a relational database management system (RDBMS) which has more than 6 million installations. MySQL stands for "My Structured Query Language". The program runs as a server providing multi-user access to a number of databases [14, 15]. The project's source code is available under terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL is commonly used by free software projects which require a full-featured database management system, such as WordPress, phpBB and other software built on the LAMP software stack.

It is also used in very high-scale World Wide Web products including Google and Facebook. Its popularity for use with web applications is closely tied to the popularity of PHP, which is often combined with MySQL. Several high-traffic web sites (including Flickr, Facebook, Wikipedia, and Google (though not for searches), Nokia, Auction arts and YouTube) use MySQL for data storage and logging of user data.

WAMP/ XAMPP SERVER - Apache is a web container, or application server developed at the Apache Software Foundation (ASF). It adds tools for configuration and management but can also be configured by editing configuration files that are normally XML-formatted. Apache includes its own internal HTTP server.

Online Shopping Management System

14

Chapter 04: Analysis

4.1 Activity Diagrams

4.1.1 Admin Panel Login Activity Diagram

Below figure 04 shows the login activity of admin panel means how to login the admin panel of this system [16, 17]. First admin will input username and password if information is valid than admin will see the admin panel if info is invalid than it will stop access to admin panel.

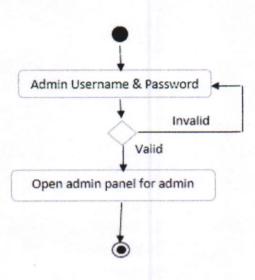


Figure 04: Admin Panel Login Activity Diagram

4.1.2 Add Product to List Activity Diagram

Following figure 05 shows how admin can add a product in product list [17, 18]. First admin will login by inputting username and password if it is valid than admin can add product in list otherwise not. If admin add product without any error than system will show successful message if not than system will show error message.

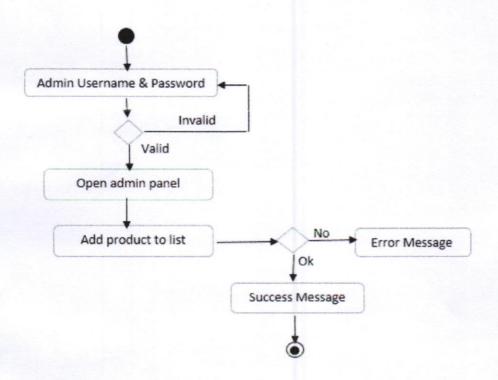


Figure 05: Add Product to List Activity Diagram

4.1.3 Order Process Activity Diagram

Following figure 06 shows the order process activity of this system [16, 18].

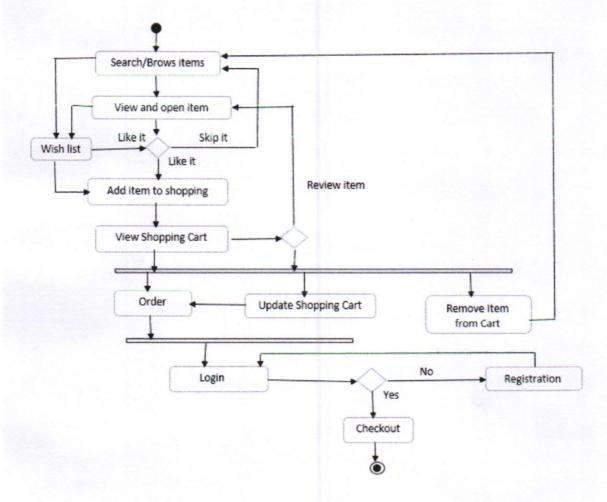


Figure 06: Order Activity Diagram

4.1.4 Checkout or Payment and Shipping Activity Diagram

Following figure 07 shows the total process of checkout or payment and shipping activity of this system [18]. It start from confirm checkout phase. If customer want to buy than must have to choose payment option and must have to input their card detail also the have to give their shipping or billing address. After that order will be go on progress mode than admin will confirm the order and send it to the customer and deliver the order to the customer. If customer select cash on delivery mode than before receive product customer must have to pay the bill. Than will be complete.

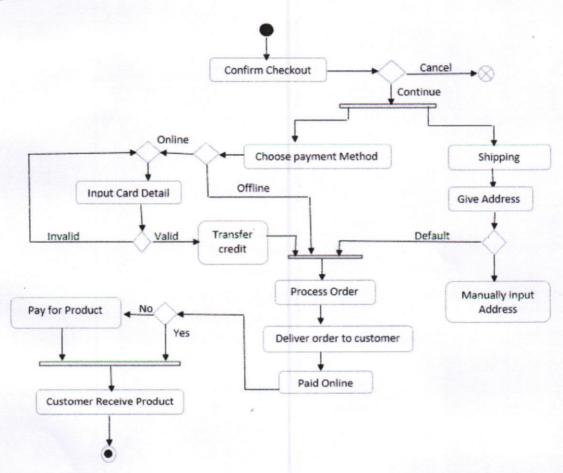


Figure 07: Checkout or Payment and Shipping Activity Diagram

4.2 Risk Engineering

4.2.1 Type of Risk

There are several kinds of risks that should be considered in any software project. The following categories of risks had considered in this software project:

4.2.1.1 Software Risk

These risks can hamper the project plan. If these risks become real, it is likely that the project schedule will slip and that costs will increase. Project risks identify potential budgetary, schedule, personnel, resource, customer and requirement problems and their impact on the software project.

4.2.1.2 Technological Risk

These risks threaten the quality and timeliness of the software to be produced. If a technical risk becomes a reality, implementation may become difficult or impossible. Technical risks identify potential design, implementation, interface, verification and maintenance problems.

4.2.1.3 Business Risk

These risks threaten the viability of the software to be built. The business risks can be -

- Market risks: Building a system that no one really wants
- Strategic risks: Building a system that no longer fits into the overall business strategy for the company Building a system whose business needs have been changed.
- Management risks: Losing the support of senior management due to a change in focus or a change in people
- Budget risks: Losing budgetary or personnel commitment

Before analyzing and managing the risks, it was necessary to identify the potential risks in this project.

4.2.2 Risk Identification

Risk Identification is a step by step process to specify risks to the project plan. By identifying known and predictable risks, it is possible to avoid or mitigate the identified risks.

The identified risks of different categories of this software project are given below:

- Size estimate may be significantly low
- Larger number of user than planned
- Unavailability of the development software
- Unavailability of the required hardware
- Delivery deadline will be tightened
- ➤ Customer will change the requirement [12]
- Technology will not meet the expectation
- Stuff inexperience
- Users resist the new system

4.2.3 Risk Projection

Risk projection attempts can happen in two ways –Likelihood or Probability. That the risk is real and the consequences of the problems associated with the risk. The risk projection is also known as risk estimation.

Four risk projection activities have been performed to measure the risks in this project [12]. They are:

- ✓ establish a scale that reflects the perceived likelihood of a risk
- \checkmark define the consequences of the risks
- ✓ estimate the impact of the risk on the project and the product
- ✓ note the overall accuracy of the risk projection

Following Table 01 shows the risk projection

	No Internet connection	1
Technology	The database used in the system cannot process as many transactions per second as expected	2
	It is impossible to hire staff with the skills required.	3
> People	Key staffs are ill and unavailable at critical times.	4
	Required training for staff is not available.	5
	The code generated by software code generation tools is inefficient.	6
> Tool	Software tools cannot work together in an integrated way.	7
> Requirement	Changes to requirements that require major design rework are proposed.	8
	Customers fail to understand the impact of requirements changes.	9
Estimation	The time required to develop the software is underestimated.	10
	The rate of defect repair is underestimated.	11
	The size of the software is underestimated.	12

Table 01: Risk Projection

4.2.4 Risk Analysis

Following Table 02 Analysis the risks of this project.

Table 02: Risk Analysis

Risk	Probability	Effects
No Internet connection. (1)	Moderate	Serious
The database used in the system cannot process as many transactions per second as expected. (2)	Moderate	Serious
It is impossible to hire staff with the skills required. (3)	Moderate	Catastrophic
Key staffs are ill and unavailable at critical times. (4)	Moderate	Serious
Required training for staff is not available. (5)	Moderate	Tolerable
The code generated by software code generation tools is inefficient. (6)	Moderate	Tolerable
Software tools cannot work together in an integrated way. (7)	Moderate	Insignificant
Changes to requirements that require major design rework are proposed. (8)	Moderate	Serious
Customers fail to understand the impact of requirements changes. (9)	Moderate	Tolerable
The time required to develop the software is underestimated. (10)	High	Serious
The rate of defect repair is underestimated. (11)	Moderate	Tolerable
The size of the software is underestimated. (12)	High	Tolerable

4.2.5 Project Specification and Scheduling

4.2.5.1 Function Specification

Following Table 03 shows the function specification of this project.

Table 03: Function Specification

Function Name	Specification	
Login information	F1	
Customer information	F2	
Product information	F3	
Checkout Information	F4	
Wish list Information	F5	
Product Category Information	F6	
Product Brand information	F7	
Cart information	F8	
Order Information	F9	
Compare Product Information	F10	
Search information	F11	
Update information	F12	
Delete Information	F13	

4.2.5.2 Function Description

Function description describes the functions in details. It concerns on three factors: what is the possible input, possible output for a particular function and which table of the database uses by that function.

Login Information F1

Input: Admin/Customer username and password. Output: activate tbl_admin and tbl_customer table and display Admin Panel for admin and checkout page for Customer.

User table of the database: Database: db_shop; Table: tbl_admin and tbl_customer

Customer Information F2

Input: After login click profile

Output: Activate tbl_customer and display customer information in a page.

User table of the database: Database: db_shop; Table: tbl_customer

Product information F3

Input: Click homepage

Output: Activate tbl_product table and display in a page.

User table of the database: Database: db_shop; Table: tbl product

Checkout Information F4

Input: Insert customer username and password

Output: Activate tbl_order table and display in a page.

User table of the database: Database: db shop; Table: tbl order

Wish list Information F5

Input: Insert customer username and password

Output: Activate tbl_wishlist table and display in a page.

User table of the database: Database: db shop; Table: tbl wishlist

Product Category Information F6

Input: Insert Admin username and password

Output: Activate tbl_admin and tbl_category table and display admin panel with category list User table of the database: Database: db_shop; Table: tbl_admin and tbl_category

Product Brand Information F7

Input: Insert Admin username and password

Output: Activate tbl_admin and tbl_brand table and display admin panel with brand list

User table of the database: Database: db_shop; Table: tbl_admin and tbl_brand

Cart Information F8

Input: Insert customer username and password

Output: Activate tbl cart and tbl admin table and display homepage from there click cart page.

User table of the database: Database: db_shop; Table: tbl_cart and tbl_admin

Order Information F9

Input: Insert Admin username and password

Output: Activate tbl admin and tbl order table and display admin panel with order list

User table of the database: Database: db_shop; Table: tbl_admin and tbl_brand

Compare Product Information F10

Input: Insert customer username and password

Output: Activate tbl_cart and tbl_admin table and display homepage from there click compare page.

User table of the database: Database: db_shop; Table: tbl_cart and tbl_admin

Online Shopping Management System

25

Search Information F11

Input: Search information.

Output: Activate required table and display information in a page.

User table of the database: Database: db_shop; Table: required table

Update Information F12

Input: Insert updated information.

Output: Activate required table and display in a page.

User table of the database: Database: db shop; Table: required table

Delete Information F13

Input: Delete information.

Output: Activate required table and display in a page.

User table of the database: Database: db_shop; Table: required table

4.2.5.3 Project Schedule Chart

Following Figure 08 shows the Schedule of this project. How much time it take to complete. It also shows which part take how much time for completing this project.

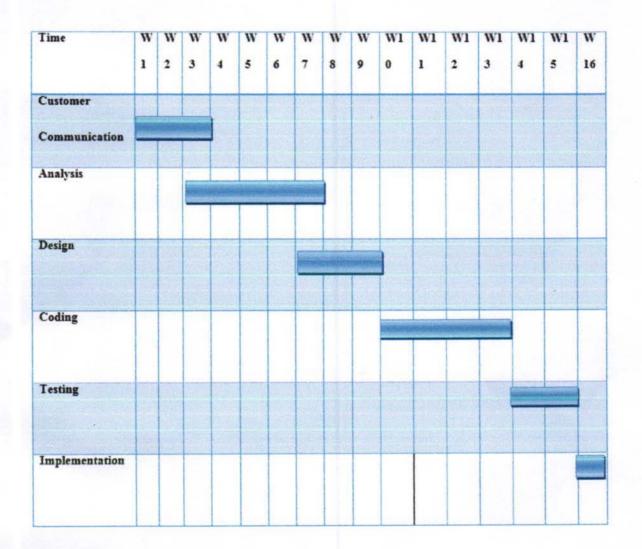


Figure 08: Project Schedule Chart

Chapter 05: Design

5.1 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 [19, 20]. The process model is used to design the queries that will access and perform operations on those tables.

5.1.1 Data Model

A data model is a conceptual representation of the data structures that are required by a database. The first step in designing a database is to develop an Entity Relation Diagram (ERD) [19, 20]. The ERD serves as a blue print from which a relational database maybe deduced. Figure below shows the ERD for the project.

5.1.1.1 Entity Relationship Diagram

Now we will discuss the whole ER-diagram to make better understanding. Here we have different Entities such as Order, Customer, Product, Payment, Cart, Brand let looks one by one which is as follow. It shows all the relationship of this system database. Entity has 3 types of relationship 1st one is one to one, 2nd one is one to many and 3rd one is many to many which are stand for 1:1, 1:N, N:M [19, 20].

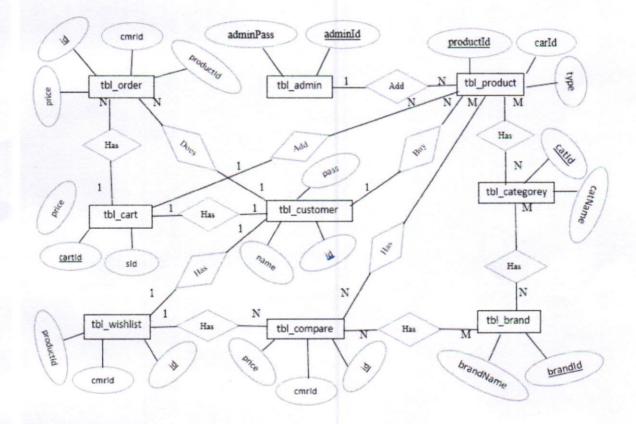


Figure 09: Entity Relationship Diagram (ERD).

5.1.2 Process Model

A Process Model tells us about how the data is processed and how the data flows from one table to another to gather the required information. This model consists of the Functional Decomposition Diagram and Data Flow Diagram.

5.2 Database Design

In this section, the basic structure of the tables composing the database for the project are shown along with information about primary and foreign keys.

Database Name: db shope

Stru	icture [S		Search	Query	Expo	a 👾 I	mport	P Operat	tions	Privileges &	Routine	s 😇 Ev
Tab	ole =	Actio	on						Rows 🕹	Туре	Collation	Size	Overhead
tbl_	admin	禽	Browse	K Structure	Rearch	3-i Insert	💮 Empt	y 🤤 Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
tbl_	brand	-	Browse	K Structure	🔹 Search	3 insert	😭 Empt	y 🥥 Drop	7	InnoDB	latin1_swedish_ci	16 K1B	-
tbl_	cart	ŵ	Browse	M Structure	Search	3-i Insert	📻 Empt	y 🥥 Drop	9	InnoDB	latin1_swedish_ci	16 K1B	-
thi_	category	1	Browse	K Structure	🤹 Search	Se Insert	Empt	y 🤿 Drep	20	InnoDB	latin1_swedish_ci	16 KIB	-
tbl_	compare	ŵ.	Browse	K Structure	Rearch] € Insert	m Empt	y 🤤 Drop	2	InnoDB	latin1_swedish_ci	16 KiB	-
🗇 tbl	customer	\$	Browse	K Structure	Search	≩é Insert	He Empt	y 🤤 Drop	2	InnoDB	latin1_swedish_ci	16 %1B	
tbl_	order	俞	Browse	M Structure	Rearch] ∉ Insert	🛒 Empt	y 🤤 Drop	1	InnoDB	latin1_swedish_ci	16 K1B	-
tbl_	product	*	Browse	K Structure	🕴 Search	3 insert	Empt	y 🗢 Drop	10	InnoDB	latin1_swedish_ci	16 Kib	-
tbl_	wlist	*	Browse	K Structure	Rearch	Je Insert	🔗 Empty	y 🤤 Drop	3	InnoDB	latin1_swedish_ci	16 K1B	-
9 ta	bles	Sum							55	InnoDB	latin1 swedish c	144 KiB	0 8

5.3 Database Field Design

From page 31-32 shows database table and field

Product Table

Br	owse 🦌 Str	ucture 🗐 SQL 👒 Search	že	Insert	🖶 Export 🔙	Import	• Pri	ivilege	15	Operation		Tracking	3. Trig	gers
N.	Table structure	sta Relation view												
	Name	Type Collation Attributes	Null	Default	Extra	Action								
1	productid 🔑	int(11)	No	None	AUTO_INCREMENT	Chang	e 🥥 Dr	op 🔊	Primary	Unique	index	Spatial	T Fulltext	₩ Mare
2	productName	varchar(255)	No	None		2 Chang	e 🥥 Dr	op 🤌	Primary	Unique	lindex]	Spatial	T Fulltext	- More
3	catld	int(11)	No	None		J Chang	e 🥥 Dr	op 🔎	Primary	Unique	Index	Spatial	T Fulltext	- More
4	brandld	int(11)	No	None.		6 Chang	e 🥥 Dr	op 🏓	Primary	Unique	[] Index]	7 Spatial	T Fuiltext	₩ More
6	body	text	No	None		🥔 Chang	e 🎯 Dr	top 🤌	Primary	Unique	Index	Spatial	T Fulltext	- Mon
6	price	float(10.2)	No	None		🥔 Chang	e 😂 Dr	nop 🤌	Primary	Unique	lindex !	T Spatial	T Fulltest	- Mor
- 7	image	varchar(255)	No	None		🥜 Chang	e 🍘 Dr	rop 🤌	Primary	U Unique	E Index	Spatial	Fulltext	- Mor
8	type	tinyint(4)	No	0		Chang	e 🖨 Dr	no >	Primary	u Unique	-) Index	P Spatial	T Fulltext	- Mor

Cart Table

- 1		1117 12 C . 1 1 1	. Cinder	th shops	the Particle of	4		ANTI A STEP		Carlos and		-		19 Bach	Stand.		
副	Bre	wsa 🦗 Str	ucture 🗐	SQL	, Search	24	Insert	😸 Export 🔒	Impor	(=	Privile	eges d	⁶ Operation	19 10	Tracking	au Trig	igers
9	1	able structure	🕼 Rela	tion view													
-		Name	Туре	Collation	Attributes	Null	Default	Extra	Action								
	1	cartid 🔑	int(11)			No	None	AUTO_INCREMENT	Ch	ange	🍪 Drop	🔑 Prima	ry 👿 Unique	E Index	T Spatial	T Fulltex	- More
5	2	sid	varchar(255)			No	None		0 Ch	ange	Drop	>> Pnma	ry 🛄 Unique	index	Spatial	T Fulltex	t → More
	3	productid	int(11)			No	None		2 Ch	ange	Orop	🔑 Prima	ry Unique	E Index	Spatial	T Fulltex	More
1	4	productName	varchar(255)			No	None		Ch	ange	Orop	🥜 Prima	ry 😈 Unique	E Index	Spatial	T Fulltex	t 🕶 Mare
-	5	price	float(10.2)			No	None		Ch	ange	😄 Drop	🔑 Prima	ry 🙀 Unique	🛃 Index	Spatial	T Fulltex	v ▼ More
0	6	quantity	int(11)			No	None		0 Cł	ange	Drop	🤣 Prima	ny 😈 Unique	E Index	TT Spatial	T Fulkex	t 🕶 More
-	7	Image	varchar(255)			No	None		Ch	ange	Crop	🤌 Prima	ry Unique	index 🗧	Spatial	T Fulltex	t. 🗢 More

Compare Table

1	Bro	owse 🦗 Str	ucture	-	SQL	Search	24	insert	-	Export 📔	Im	pon		Privile	eges	8	Operations	-	Tracking	24	Trigge	1
y	6 7	able structure	12	Relat	ion view																	
		Name	Туре		Collation	Attributes	Null	Default	Extra		A	tion						1.21				
1	1	id 🔑	int(11)				No	None	AUTO	INCREMEN	T 🥒	Change	0	Drop	Pri Pri	imary	Unique 🐖	Index	Spatial	T Fu	iltext 🔻	Mo
ī	2	cmrld	int(11)				No	None			2	Change	0	Drop	P	imaty	u Unique 😕	Index	FT Spatial	T Fu	illext 🗢	Mo
2	3	productid	int(11)				No	None			6	Change	6	Drop	Pr Pr	imary	u Unique 🥐	Index	TT Spatial	T Fu	litext 🗸	Mo
3	4	productName	varchar	(255)			No	None			0	Change		Drop	Pr	imary	y Unique 👱	Index	T Spatial	T Fu	iltext 🕶	Mo
3	5	price	float(10	2)			No	None			ø	Change	0	Drop	P Pr	mary	Unique 🥌	Index	TT Spatial	T Fu	litext 💌	Mo
ą.	6	Image	varchan	(255)			No	None			0	Change	. 0	Drop	Pr	imary	U Unique	Index	T Spatial	TE	litext 🔻	Mo

Order Table

3 8	Browse 🧏 Su	ucture	SQL	 Search 	30	Insert	Ex	cport .	e in	nport #1	Privileges	0 0	perations	Traci	ing 😞	Trigger
N	Table structure	Alt Rela	ation view	12												
	Name	Туре	Collation	Attributes	Null	Default		E	xtra		Action					
3	i id 🔑	int(11)			No	None		A	UTO	INCREMEN	T 🥜 Change	😂 Dro	p 🥟 Primary	Uniqu	e 🕗 Index	c → More
	cmrld	int(11)			No	None					🥜 Change	Cro	p 🧀 Primary	y Uniqu	e 🗾 Index	 ✓ More
	productid	int(11)			No	None					🥖 Change	Oro	p 🔑 Primary	Uniqu	e 🐖 Index	w More
3	productName	varchar(255)			No	None					Change	Ore	p 🥜 Primary	Uniqu	e 🛃 Index	c ▼ More
3	quantity	int(11)			No	None					🥜 Change	Oro	p 🤌 Primary	U Uniqu	e 刑 Index	w More
1	5 price	float(10.2)			No	Norie					🥜 Change	G Dro	p 🏓 Printery	y Uniqu	e 🧾 Index	✓ More
	image	varchar(265)			No	None					🥜 Change	😁 Dro	p 🥬 Printery	Uniqu	e 📶 Index	v More
1	date	datetime			Ne	CURREN	IT_TIMES	STAMP			Change	Oro	p 🧽 Primary	Uniqu	e 🔛 Indea	c 🗢 Mare
	status	int(11)			No	0					Change	Dro	p 🥜 Primary	Uniqu	e 🗾 Indes	w More

5.4 Modules of System

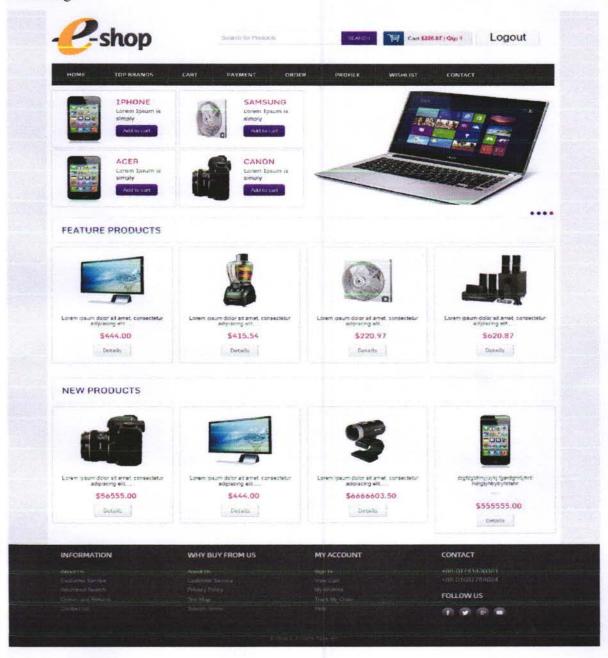
This project is divided into 9 modules:

- i. Registration Module
- ii. Products Browse Module
- iii. Products Search Module
- iv. Shopping cart Module
- v. Shipping & Billing Module
- vi. Payment Module
- vii. Admin User Management Module
- viii. Admin Catalog Management Module
- ix. Admin Order Management Module

5.5 Interface Design

This is one of the main task of the developer to design a graphical user interface that user attracts to and can use easily, in one word it should be user friendly. So for this we should have better understanding of customers likes and dislikes and the features that are in trend and mesmerize the public easily, initially we need to locate the targeting people that what kind of application do they need. After getting all this information we should start to design the application. After checking Online Shopping Management System 32

all the information than design this project interface. From page 33-38 shows the user interface screen shot of this project.



Home Page

Customer Registration and Login Page

-2-shop	Search for Products	SARAH T Carr (Employ)	Login
- Shop			
HOME TOP BRAN	DS CONTACT		
Existing Customer	Register New Account		
Sigs to with the form below	Name:	Aptress	
	457	Caulty	
dimension in the second	Zp-Cica	Phone	
Sign In	Erral.	Passesit	
	Create Account By disong Gre	une account you agree to the <u>Terma & Contellona</u>	

Cart Page

. C @	(i) localhost/shop/cart.cho?id=	live		🐨 🏠 🔍 Sev	Incib	W.	10
e	shop	Search for Product		SEARCH 📜 Cart S	565555 į Qtyr 1	Logout	
номе	TOP BRANDS CART	PAYMENT	ORDER	PROFILE COMPARE	WISHLIST	CONTACT	
Your (Contraction of the second second						
SL 1	Product Name	Image C	Price \$ 585555 00	Quantity	Total Price \$ 565555	Action X	
				Sub Total : VAT : Grand Total :	\$ 565555 10% = \$ 56555 ! \$ 622110.5	5	
			-	Checkout!			

Product Single Page

shop	Straight for Products	SEARCH	Can \$220.97 Og: 1 Logout
ME TOP BRANDS	CART PAYMENT C	RDER PROFILE	WISHLIST CONTACT
	LOREM IPSUM IS	SIMPLY	CATEGORIES
A TOTAL	Price: \$ 56555.00		· Phips
and the second	Category: Camera		- Clathing
Contract of the local division of the local	Brand: Canon		 camera
	Non-Garlor	-	 ayesha akter sathi
	1	Buy Now	Claberg
8	Add to Company 5	Save to Last	- akts
			- xemu - Books
			 Sports and Fitness
		COLUMN 2 IS NOT THE OWNER.	Sports & Pitnass
IODUCT DETAILS			. Management
			Toys, Kids & Bebies
	adjusting alt, Bad of Unit gets or md		
ete non aliquet, ac, esiamod egel le	gula. Integer tempos sepien ut velit tin	sdurit effectur. In blandit cons-	ality Beauty & Healthcare
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L		schurt effectur. In blandit oonse re id aliquat brown. Morbi finda	elliv Beauty & Healthcare dunt - Home Decor & Kitchen II tellio
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt effectur. In blandit oonse re id aliquat brown. Morbi finda	alliv - Beady & Healthcare dust - Home Decor & Kitchen In tellus - Clothing
ite non afiquet, ac, esiamod eget (s get fringella litiero feuspat lacula). L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt effectur. In blandit oonse re id aliquat brown. Morbi finda	ellie - Beauty & Healthcare duant - Home Decor & Katchen In Tellica - Clateing - Fostwear
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt effectur. In blandit oonse re id aliquat brown. Morbi finda	ellis - Beachy & Healthcare duant - Home Decor & Katchen In Tellica - Clateing - Fostwear - Sousear - Seustary
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellis - Beachy & Healthcare duant - Home Decor & Katchen In Tellica - Clateing - Fostarear - Jeunstary - Sports & Filming
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellie - Beachy & Healthcare duant - Home Decor & Kotchen In Tellica - Clateing - Fostaetaar - Jewisflary - Sports & Pitnesa - Softwaar.
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellis - Beachy & Healthcare duant - Home Decor & Katchen In Tellica - Clateing - Fostarear - Jeunstary - Sports & Filming
ite non afiquet, ac, esiamod eget (s get fringella litiero feuspat lacula). L	gula, integer tempos sagien ut velit tin In quis nume vitae enim elefend vulgata	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellie - Beauty & Healthcare durat - Home Decor & Kotchen - Clateing - Footwear - Jewisflary - Sports & Pimesa - Software - Software - Software - Software - Software - Software
rte non aliquet, ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velt tin In quis nume vites enm elefend voipute	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellie - Beauty & Healthcare durat - Home Decor & Kotchen In tellica - Clateing - Fostavitar - Gatwistary - Sports & Phresis - Software. - Accessories
ete non aliquet ac, esiamod eget is per fringella libero feugar lacula. L	gula, integer tempos sagien ut velt tin In quis nume vites enm elefend voipute	schurt efficieur. In blandit oons- re id aliquat brown. Morbi finsi	ellie - Beach & Healthcare duant - Home Decor & Kotchen In tellica - Clateing - Fostaetaar - Jewistary - Sports & Pimina - Software - Software - Accessories - Desktop
te non elidaert ac, existende egol (s get fringella iñserg Respect accias) neo d'am plesenic, hendrer L'brod	gula Infager Tempes searen ut welt tin In quis nunc witze some siedend volpora Junt welt scavipt. Donec in finigilia ex.	sdant efficient. In blandit consi re id aleguat bream. Model tand opet vennenalitä felitä, Veskibular MY ACCOUNT	elis - Beady & Healthcare dunt - Home Decor & Kitchen - Clotting - Footwear - Jewistary - Sports & Filmons - Software - S
te non elidaert ac, existende egol (s per fringella iñsero Respect accisa) neo d'am presento, hendrer L'brod UNEORMATION	gula. Integer tempes seven ut wells the in quis nume where enim sheftend volume durt wells solvopt. Donec in finisgilia ex. WHY BUY FROM US Anne He	sdant efficient. In blandit consi re id aliguet bream. Model tends opet veneralisti feliti. Veskluuler MY ACCOUNT Sen tr	elis - Beady & Healthcare dunt - Home Decor & Kitchen - Clotteng - Fosturear - Sports & Filmose - Software -
te non elidaert ac, existende egol (s get fringella iñserg Respect accias) neo d'am plesenic, hendrer L'brod	gula Infager Tempes searen ut welt tin In quis nunc witze some siedend volpora Junt welt scavipt. Donec in finigilia ex.	sdant efficient. In blandit consi re id aleguat bream. Model tand opet vennenalitä felitä, Veskibular MY ACCOUNT	elive - Beauty & HealthCare durant - Home Decor & Katchen - Clothing - Footsear - Sports & Filmens - Software - Software
te non elidaert, az, waiamed egyel (s per fringella ilisere fluiget access) neo d'am precend, frencher (Linod UNFORMATION Access (In Castante Sterve)	gula. Integer tempes seuen ut welt tin in quis nune witze enim steafend volonta dunt velit scavapit. Donec in finigilia ex WHY BLIY FROM US Avect le Colontar Samta	schent, efficience, im blandit consu re i di aliquat loncers. Model tinco sopet venesesia felici, Vesi buler MY ACCOUNT Sum In View Carc	elis - Beady & Healthcare dunt - Home Decor & Kitchen - Clotteng - Fosturear - Sports & Filmuss - Sports & Filmuss - Software - Accessories - Desklop - laptop

Order Payment Page

	NDS CART	PAYMENT OR	DER PROF	ILE.	WISHLIST CONTACT
No Product	Price	Quantity Total	Your Sh	ippir	ng Details
1 Lorem tosum is sin	mply \$ 220.97	1 \$ 220.97		.hbu	
	Sub Total	\$ 220.97	Name		Most. Akhi Suttana
	TAV	10% = \$ 22.097	Phone		01700000000
	Grand Total	5 243.067	Emeil	1.4.3	akhi@gmail.com
	Quantity	. 1	Address		House#47, Road#12, Sector#10, Uttara, Dhaka-12,
			City	ET (Dhaka
			Zipcode		1230.
			Country	10	Bangladesh
			The second second		Update Details
INFORMATIC		WHY BUY FROM US	rder MY ACCOU	NT	CONTACT
				all:	
					FOLLOW US

Admin Panel Login Page

40 ROMAND 10/0031-0-44	🖉 🛅 Login 🛛 🗙 🗱 🗰			anime plant = (- , Ø _ H
€ → C @	O localhost/d-oc/admin/logio.php	© ☆	Q. Searce	₩ 2 0 0 =
		Admin Login		
		Usemane		
		Passion		
		Log In		
		e-shop admin togin		
	i 💿 客 💿 🙆		C. The Automation	

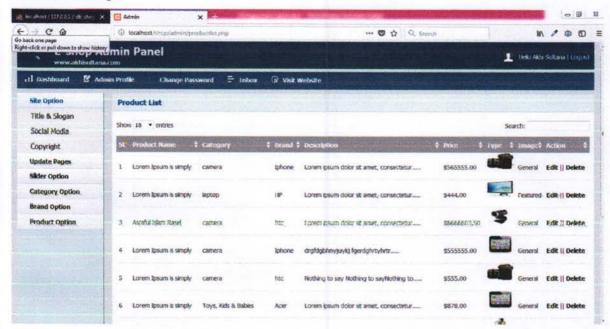
Admin Panel Page

www.akbisutta		Inbox G Visit Website			-		-
site Option	Inbox						
Title & Slogan Social Media	Show 10 • entries					Search:	
Copyright	10 Onler Time	‡ Product	# Quantity	\$ Price	\$ Cust ID	* Address	: Action
Ipdate Pages	61 November 7, 2017, 8:56 am	Lorem Ipsum is simply	2	\$ 441.94	1	View Details	shifted
ilder Option	62 November 23, 2017, 1:01 am	Lorem Ipsum is simply	1	\$ 565555,00	1	View Details	shifted
ategory Option	Showing 1 to 2 of 2 entries						
itand Option	19						
Product Option							

Product Insert Page

lecelhost / 127.0.0.3 7 db_shop	🗙 🛄 Admin	×		a standard a standard and a standard a standa	- A
- C @	Iocalhost, the	o/adirhin/productadd.php		🖸 🟠 🔍 Search	n / 0
tl Dashboard 🖉 A	dmin Prolike C	hange Password 🚍	Inhox G Visit Website		The second
Site Option	Add New Pro	duct			
Title & Slogan					
Social Media	Name	Enter Product Name			
Copyright	Category	Select Category			
Update Pages	Brand	Select Brand	-		
slider Option	Description			wagnaph + Font/Family + Font Size +	
Category Option	No. of Street,	× -> 45 48 69 45		· · · · · · · · · · · · · · · · · · ·	
Brand Option					
Product Option		14 - 15 U 34 1-	· · · · · · · · · · · · · · · · ·		
	E.				
	1	Pathr p			
	Price	Enter Price			
	Upload Image	Browse No file se	elected.		
	Product Type	Select Type			
	No.	Save			
	No.	Jave			

Product List Page



Chapter 06: Testing

6.1 Software Verification and Validation

Software testing is used in association with verification and validation. In this stage, both individual components and the integrated whole are methodically verified to ensure that they are error-free and fully meet the requirements outlined in the first step.

Test whole software into two parts

- ➢ HARDWARE
- ➤ SOFTWARE.

Type of testing is 2-types

- ✓ Inside test.
- ✓ Outside test.

6.1.1 Verification: Have we built the software right? (i.e., does it match the specification?)

Yes we built the right software. It match al specification.

Verification is the process of evaluating a system or component to determine whether the products of a given development phase satisfy the conditions imposed at the start of that phase.

6.1.2 Validation: Have we built the right software? (i.e., is this what the customer wants?)

Validation is the process of evaluating a system or component during or at the end of the development process to determine whether it satisfies specified requirements. Validation has been done of this project.

6.2 Software Quality Assurance (SQA)

After examine and change the software engineering process itself to reduce the amount of faults that end up in the delivered software: the so-called defect rate. It has also been checked by the specialist.

6.3 Test Plan

Thorough testing is critical to ensuring systems meet organizational and end-user requirements. Test plans created during initial project phases enhance an organization's ability to create detailed tests. A **bottom-up** approach tests smaller components first and progressively adds and tests additional components and systems. A **top-down** approach first tests major components and connections and progressively tests smaller components and connections. Bottom-up tests often begin with functional (requirements based) testing. Functional tests should ensure that expected functional, security, and internal control features are present and operating properly. Testers then complete integration and end-to-end testing to ensure application and system components interact properly. Users then conduct acceptance tests to ensure systems meet defined acceptance criteria. For testing of the website:

- \checkmark All the features of the website are tested by running each function available in the website.
- \checkmark The results of the tests conducted on the website are analyzed properly.
- Only after getting satisfactory results of testing the website can be uploaded on the network i.e. internet.

Done above all of the test for this project.

Chapter 07: Implementation and Maintenance

7.1 Implementation

Though this project was only for education purpose, implement it properly by the help of some of friends and users. The implementation phase involves installing approved applications into production environments. Primary tasks was include announcing the implementation schedule, training end users, and installing the project. Additionally, my friends input and verify data, configure and test system and security parameters, and conduct post-implementation reviews. After installing the project, Input pre-existing data manually and electronically to the new system. Verifying the accuracy of the input data and security configurations was a critical part of the implementation process.

Organizations often run a new system in parallel with an old system until they verify the accuracy and reliability of the new system. Employees should document any programming, procedural, or configuration changes made during the verification process.

For implementation of the website project [13, 14]:

- The website can be installed on a computer or a server which has PHP and MYSQL installed in it.
- The owners of the website are to be properly trained to use all the features of the website, giving details of each features of the website.
- To show the accuracy of the website and conformance of the website to the requirements of the owners or users of the website

7.2 Maintenance

The maintenance phase involves making changes to hardware, software, and documentation to support its operational effectiveness. It includes making changes to improve a system's performance, correct problems, enhance security, or address user requirements. To ensure modifications do not disrupt operations or degrade a system's performance or security,

Organizations should establish appropriate change management standards and procedures. Routine changes are not as complex as major modifications and can usually be implemented in the normal course of business. Routine change controls should include procedures for requesting, evaluating,

Approving, testing, installing, and documenting software modifications. Maintaining accurate, upto-date hardware and software inventories is a critical part of all change management processes. Management should carefully document all modifications to ensure accurate system inventories. Management should coordinate all technology related changes through an oversight committee and assign an appropriate party responsibility for administering software patch management programs. Quality assurance, security, audit, regulatory compliance, network, and end-user personnel should be appropriately included in change management processes. For maintenance of the website:

- > The database has to be updated regularly according to new available information.
- Redundant and false information must be removed from the database.
- Newer version of PHP and MYSQL can be used for up gradation of website and to improve the overall performance of the system [13, 14].

Chapter 08: Future Plan, Conclusion

8.1 Future Plan

Some of the features that will be modified and added to this system in future. Online transaction/Credit card validation is not done. Third party proprietary software can be used for validation check. An e-mail notification is sent to the customer as soon as the order is placed.

8.2 Experiences

During the making/developing of this project explored new ideas and functionality behind the working of a notepad. This project is the output of our planning, schedule, programming skill and the hard work, and this report reflects our steps taken at various levels of programming skill, planning and schedule. Learnt a lot during this project and liked the improvement in my testing skills and deep concept related to these kinds of projects.

8.3 Conclusions

Finally successfully develop and implement the site 'Online Shopping Management System'. With the help of various kinds of links and tools, includes all the features which was basic requirement for an ecommerce web site. Provide an ecommerce site which is live and running on the web. Finally got success in our attempt to take care of the needs of both the customers as well as the administrator which was our main objectives.

Appendix

Appendix- A. Glossary

Project scheduling - Project scheduling is an activity of distributing the estimated efforts within the planned project duration

Entity Relationship (ER) diagram - The Entity Relationship diagram describes data as entities, relationships and attributes. ERD is known as the graphical representation of the database

Entity - An entity is an object with physical existence or may be an object with conceptual existence.

Attribute - Attributes are the particular properties which are used to describe the entity.

Relationship - A relationship is a logical linkage between two or more entities which describes how the entities are associated with each other.

Primary Key: A primary key is an attribute or collection of attributes that allow us to identify an entity uniquely.

Foreign key: A foreign key is an attribute of a relation which refers to an existing attribute of another relationship

HTML: Hypertext Markup Language, is the predominant markup language for web pages.

CSS -For design front end need CSS.

PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

MySQL: Stands for "My Structured Query Language".

JavaScript: It is a scripting language most often used for client-side web development.

Reference

- I Putu Dody Lesmana, Rinda Nurul Karimah, Beni Widiawan, "Agile-Waterfall hybrid for prevention information system of dengue viral infections: A case study in Health Department of Jember East Java Indonesia", *ICT and Knowledge Engineering (ICT&KE)* 2016 14th International Conference on, pp. 1-6, 2016, ISSN 2157-099X.
- Adel Mohammad, Ja'far Alqatawna, Mohammad Abushariah, "Secure software engineering: Evaluation of emerging trends", *Information Technology (ICIT) 2017 8th International Conference on*, pp. 814-818, 2017.
- P. M. Khan, Kaleem A. Quraishi, "Impact of RACI on Delivery and Outcome of Software Development Projects", Advanced Computing & Communication Technologies (ACCT) 2014 Fourth International Conference on, pp. 177-184, 2014.
- 4. Liu Meilu, Li Xiaoping, "Under the environment of B2B logistics service quality and relationship quality", *An Empirical Study of Commercial Economic Research*, pp. 41-42, 2015.
- W. H. DeLone, E. R. McLean, "Measuring e-Commerce Success: Applying the DeLone & McLean Information Systems Success Model", *International Journal of Electronic Commerce*, vol. 9, no. 1, pp. 31-47, 2004.
- Y. Bakos, "The Emerging Landscape for Retail E-Commerce", Journal of Economic Perspectives, vol. 15, no. 1, 2001, pp. 69-80.
- S. Morasca, "Software Measurements" in Handbook of Software Engineering and Knowledge Engineering 1, World Scientific Publishing Co. Pvt. Ltd, 2001.
- 8. C. Ebert, "Understanding the Product Life Cycle: Four Key Requirements Engineering Techniques", *IEEE Software*, vol. 23, no. 3, pp. 19-25, May 2006.
- Richard R. Maiti, Frank J. Mitropoulos, "Capturing eliciting predicting and prioritizing (CEPP) non-functional requirements metadata during the early stages of agile software development", *SoutheastCon 2015*, pp. 1-8, 2015, ISSN 1558-058X.
- Abubaker Wahaballa, Osman Wahballa, Majdi Abdellatief, Hu Xiong, Zhiguang Qin, "Toward unified DevOps model", Software Engineering and Service Science (ICSESS) 2015 6th IEEE International Conference on, pp. 211-214, 2015, ISSN 2327-0594.

- 11. Sharon McGee, Des Greer, "A Software Requirements Change Source Taxonomy", *Software* Engineering Advances 2009. ICSEA '09. Fourth International Conference on, pp. 51-58, 2009.
- Lin Shi, Qing Wang, Mingshu Li, "Learning from evolution history to predict future requirement changes", *Requirements Engineering Conference (RE) 2013 21st IEEE International*, pp. 135-144, 2013.
- Ismail Keshta, Mahmood Niazi, Mohammad Alshayeb, "Towards Implementation of Requirements Management Specific Practices (SP1.3 and SP1.4) for Saudi Arabian Small and Medium Sized Software Development Organizations", *Access IEEE*, vol. 5, pp. 24162-24183, 2017, ISSN 2169-3536.
- D. Anderson, M. Hills, "Query Construction Patterns in PHP", Proceedings of SANER 2017. IEEE, pp. 452-456, 2017.
- 15. P. Klint, T. van der Storm, J. Vinju, "EASY Meta-programming with Rascal", *Post-Proceedings of GTTSE'09 ser. LNCS. Springer*, vol. 6491, pp. 222-289, 2011.
- Barry Norton, Carlos Pedrinaci, Laurent Henocque, Mathias Kleiner, "3-Level Behavioural Models for Semantic Web Services", *International Transactions on Systems Science and Applications*, pp. 340-355, 2008.
- B. Anda, K. Hansen, I. Gullesen, H. K. Thorsen, "Experiences from introducing UML-based development in a large safety-critical project", *Empirical Software Engineering*, vol. 11, no. 4, pp. 555-581, 2006.
- D. K. Deeptimahanti, R. Sanyal, "Static UML model generator from analysis of requirements (SUGAR)", *Proceedings of the 2008 Advanced Software Engineering and Its Applications*, pp. 77-84, Dec. 2008.
- S. Jajodia, P.A. Ng, F.N. Springsteel, "The Problem of Equivalence for Entity-Relationship Diagrams", *Software Engineering IEEE Transactions on*, vol. SE-9, pp. 617-630, 1983, ISSN 0098-5589.
- 20. K. Barker, "A logical model and schema integration architecture for determining equivalence in ER-diagrams", Computing and Information 1992. Proceedings. ICCI '92. Fourth International Conference on, pp. 320-324, 1992.