DESIGN AND IMPLEMENTATION OF E-COMMERCE SITE FOR ONELINE SHOPPING

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This Report Presented in Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science Computer Science and Engineering

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APPROVAL

This Project titled **"Using cryptography to secure E-order"**, submitted by Md. Golam Rabbi ID No: 151-15-242 and Md. Shahinur Islam ID No:151-15-250 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md**. **Mahfujur Rahman, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Online means to easy way for everyone from anywhere for any product. In our daily busy life, it too hard and difficult to maintain our time. Sometime we forget to buy fruits or may be its urgent for next day office meeting and came home early, then we remember that there is no oil from which we can cook. Or on other way, suppose you bought fresh fish from the market but after buying a lot of things you forget to take that fish home. It is so embracing. So it's tough maintain all this kind of problems from one place. E-COMMERCE is a site which can help people to main all those problems, this site will help people to save their valuable time, cost, money everything and make their life so easy and beautiful. In this online system, a user can create an account or without any account a user can use this system. Buy a lot of things, free home delivery and more. Our proposed system is "Online E-COMMERCE site". This system is used for online marketing and the system will have automated checking of ordered items and free delivery to the user address. It is a good source of interaction between the user and shopkeepers. This project helps the users to make their life easy, save their valuable time and money. With the proper use, the user like general people and the businessman both will be profited. After implementation of all functions, the system is tasted in different platform and it performs successfully as a prototype.

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CHAPTER 1

INTRODUCTION

1.1 About the Project

The E-Commerce site is an online based website application for e-commerce business. This system saves our valuable time and minimize the hardest way of living. The main objective of our system is to efficiently serve the people through a fully automated system that not only saves lot of time but also makes life easy. Reduce the cost and working procedure. This can be used in any institution, any place, government and nongovernment organization everywhere. For ordering an item or items, the user location is mandatory. We can order from anywhere or anytime. No restriction and fully hassle free. Just order and sleep, the take your order and check everything then pay your bills.

1.2 The Problem Statement

Now a days, our life is busy and most important is we all are smart and going smarter day by day. So, to reduce the cost and work, and with saving the time, online system is most powerful now a days to do any actions, to order any items, from anywhere. There is no need to wait for anything. You have every access of your choice. It's flexible.
Go to the website, if you wish then create an account or otherwise there is no need to create an account, just select your choice, find your items, mark them, select the quantity, enter your address and wait a little bit, your ordered items are waiting in front of your door.

1.3 The Purpose

The purpose of e-commerce site is to save time, limit the cost, no need to forget what people want. A customer can save his/her time of shopping and give their family a special moment of that time wasted in shopping. Our project is fully automated system that not only saves time or cost but also give the customer satisfaction.

1.4 Scope

- This e-commerce site is for everyone
- This site can be used from anywhere at any time

- Every Item can be found in this website
- The customer satisfaction is the main theme

1.5 Benefits of the Project

i.   This online system will help people to reduce physical work and maintaining precision.

ii.   There will grow more employments.

iii. Everyone starting from general people to businessman, both will be benefited.

iv.   It also helps to save time.

v.   It help to increase interaction between customer and shopkeeper.

vi.   Customers does not need to go far way for any item for home, office or any place.

vii. Service will be for 24/7.

1.6 Outline the Project

Picture says a lot about anything, so it is better to present the whole project in a simple way with the help of a figure for better understand about the project. The project report consist of 6 chapter. Outline of this chapter with a brief summery is discussed below through demographic representation:
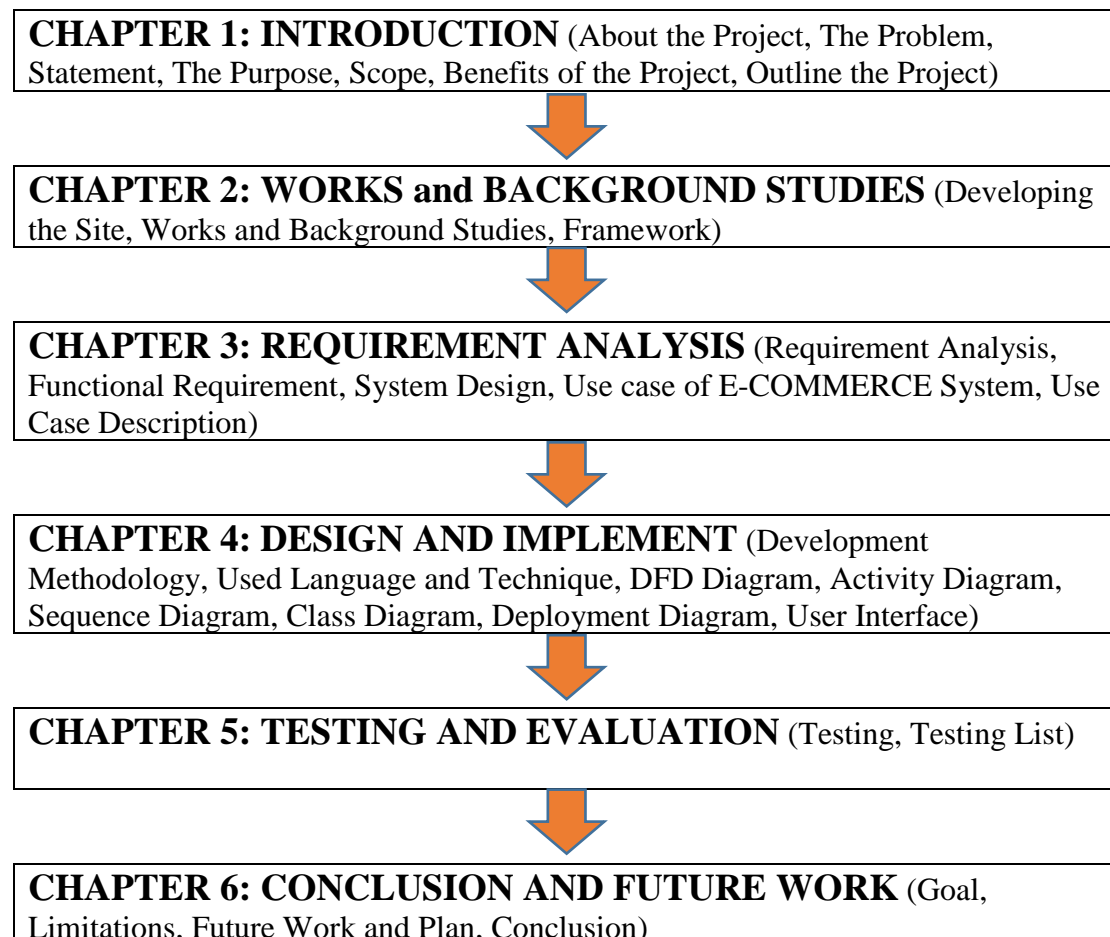
CHAPTER 1: INTRODUCTION (About the Project, The Problem, Statement, The Purpose, Scope, Benefits of the Project, Outline the Project)

CHAPTER 2: WORKS and BACKGROUND STUDIES (Developing the Site, Works and Background Studies, Framework)

CHAPTER 3: REQUIREMENT ANALYSIS (Requirement Analysis, Functional Requirement, System Design, Use case of E-COMMERCE System, Use Case Description)

CHAPTER 4: DESIGN AND IMPLEMENT (Development Methodology, Used Language and Technique, DFD Diagram, Activity Diagram, Sequence Diagram, Class Diagram, Deployment Diagram, User Interface)

CHAPTER 5: TESTING AND EVALUATION (Testing, Testing List)

CHAPTER 6: CONCLUSION AND FUTURE WORK (Goal, Limitations, Future Work and Plan, Conclusion)

Figure 1.6.1: Outline the project

CHAPTER 2
WORKS and BACKGROUND STUDIES

2.1 Developing the Site

We got an idea from many websites that came out but not perfectly running in the online market or online system but we got the main idea that what is the lacking of the other sites and will provide those services and we have successfully done it. Now we have an online marketplace where customer and seller both can get in touch without any hassle.

2.2 Works and Background Studies

2.2.1 Retailbd

Retailbd is online e-commerce website where people can find a limited items like watch, wallet, sunglasses, bag and belt. There is options for men and women. You can select your category. They use high quality picture with details so that you can easily get details for what you are looking.
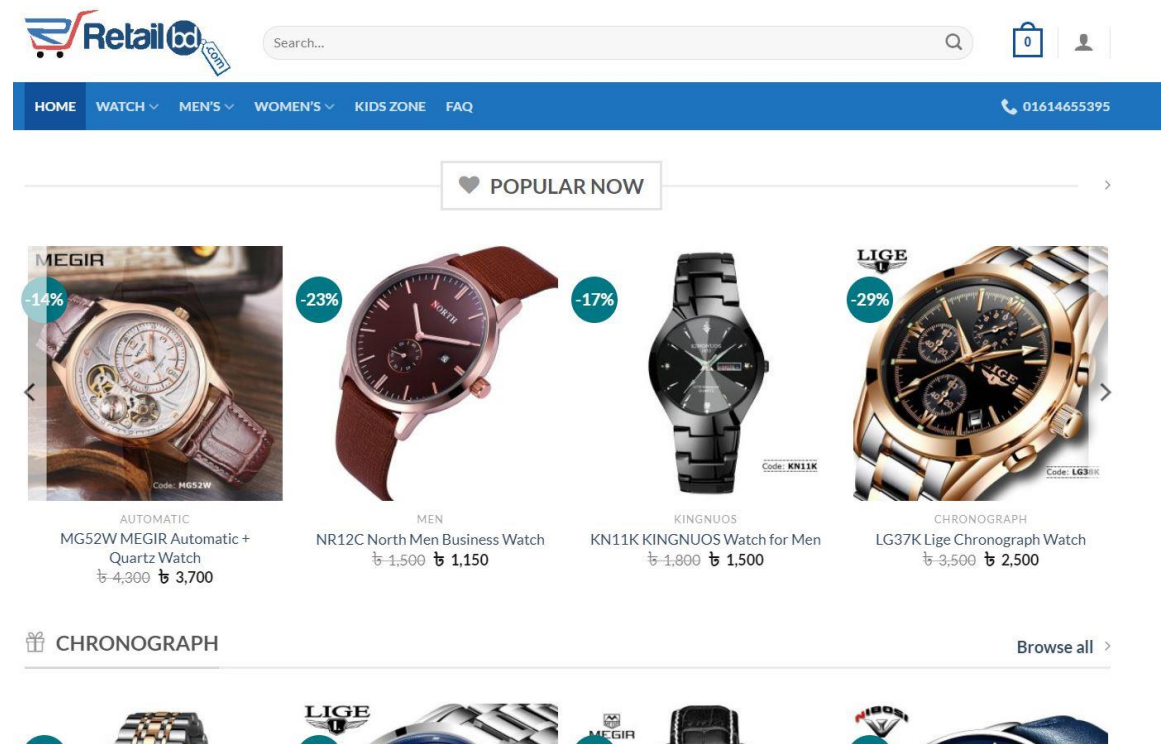

Figure 2.2.1.1: Home page of retailbd.com

2.3 Framework

A conceptual framework is a methodical tool with several variations and contexts. It is used to make theoretical differences. This conceptual frameworks capture something real that is easy to remember and apply. The conceptual frameworks in this study is defined as the body of ideas that are viewed to be more in explaining format of online exam system. The study is presented as follows:
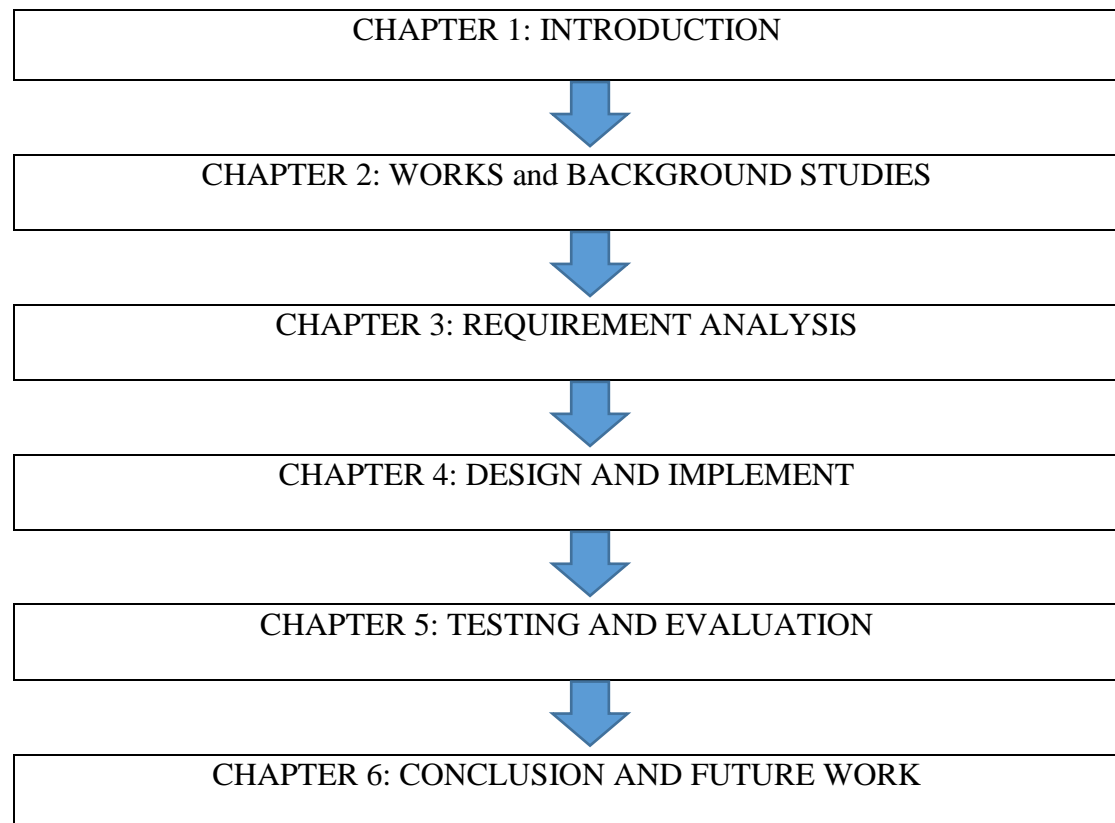
CHAPTER 1: INTRODUCTION

CHAPTER 2: WORKS and BACKGROUND STUDIES

CHAPTER 3: REQUIREMENT ANALYSIS

CHAPTER 4: DESIGN AND IMPLEMENT

CHAPTER 5: TESTING AND EVALUATION

CHAPTER 6: CONCLUSION AND FUTURE WORK

Figure 2.3.1: Conceptual Framework of the Study

CHAPTER 3
REQUIREMENT ANALYSIS

3.1 Requirement Analysis

Requirement analysis is a very important process for any development project. It must be documented, computable and testable. It also can be architectural, structural, functional, non - functional. The development project needs some requirement to make project run better. The project maker should determine minimum requirement for both hardware and software.

Requirement analysis has two phases:
   i.   Primary Research: Collect all requirement from different sources and survey.
   ii.   Secondary Research: It will compare the requirement of other existing software

3.2 Functional Requirement

- Registration page with login option
- Cart System to add items selected by user
- Automatic selected item list with price
- Authorize the user
- Security for both side clients

3.3 System Design

System design is a process to determine the architecture, modules to satisfy the requirement.

It helps to client chose hardware and software for a specific project.

3.4 Use case of E-COMMERCE System
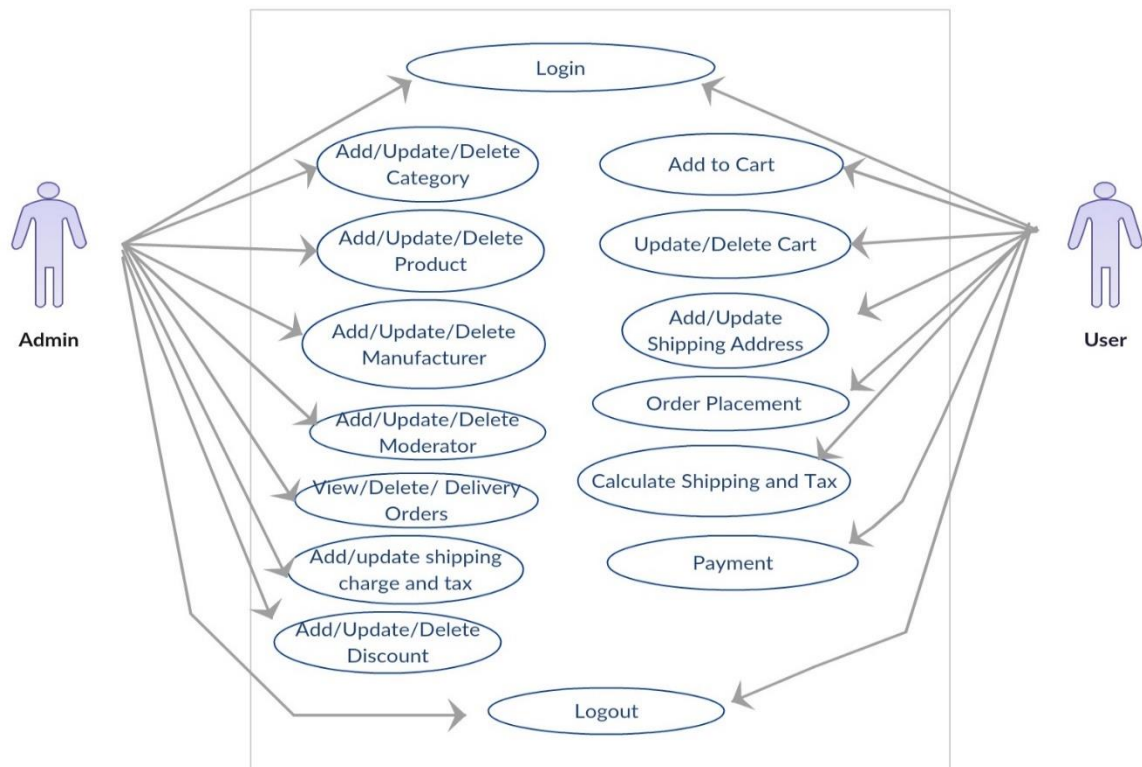
E-COMMERCE WEBSITE

Figure 3.4.1: Use Case Diagram of E-Commerce Website

3.5 Use Case Description

Use case interacts between user and system without specify the user interface. It describe the system for external user and in a manner that can be understand.

List of use cases are:
- Registration
- Login
- Select Category
- Add to Cart
- List the Items
- Order Item
- Final Price with Quantity
- Authorization
- Security
- Feedback

Registration Use Case

Use Case Name	Registration
Primary Actor	Everyone
Description	Registration the System
Precondition	Users fill up all required field
Post condition	Users are Registered

Login Use Case

Use Case Name	Login
Primary Actor	Registered users
Description	Login into the System
Precondition	All authorized has the user name and password and verified by the system
Post condition	System accept the User

Select Category Use Case

Use Case Name	Item Selection
Primary Actor	General Users
Description	Select item from menu
Precondition	All users, registered or unregistered can select any item for order products
Post condition	System show the options, menu category

List the Item Use Case

Use Case Name	List the item
Primary Actor	Selected item will be listed
Description	List item with quantity and price
Precondition	Any user can add items
Post condition	System will create a database for user

Authorization Use Case

Use Case Name	Authorization
Primary Actor	System Admin
Description	System will check users address, email, phone number etc is valid or not
Precondition	User must enter address, email and phone number
Post condition	System will automatically place the order

CHAPTER 4

DESIGN AND IMPLEMENT

4.1 Development Methodology

Development methodology is a discipline of planning, motivation, controlling to achieve the goal. A project has a temporary attempt with beginning and end to meet the specific goal. For development this application we used agile method.

There are some stages for our project development. These are given bellow:

- ✓ Initiation
- ✓ Planning and Design
- ✓ Execution and Construction
- ✓ Monitoring and Controlling System

4.2 Used Language and Technique

Tools that have been used in developing our application are listed below:
- **Software Tools**
  1. Local Server
     - ➢ WAMPP (version 3.33)
  2. Database Server
     - ➢ MySQL
  3. IDE
     - ➢ PhpStorm

- Languages
  - Laravel as backend
  - HTML5
  - CSS3
  - and Bootstrap and jquery as frontend framework

4.3 DFD Diagram
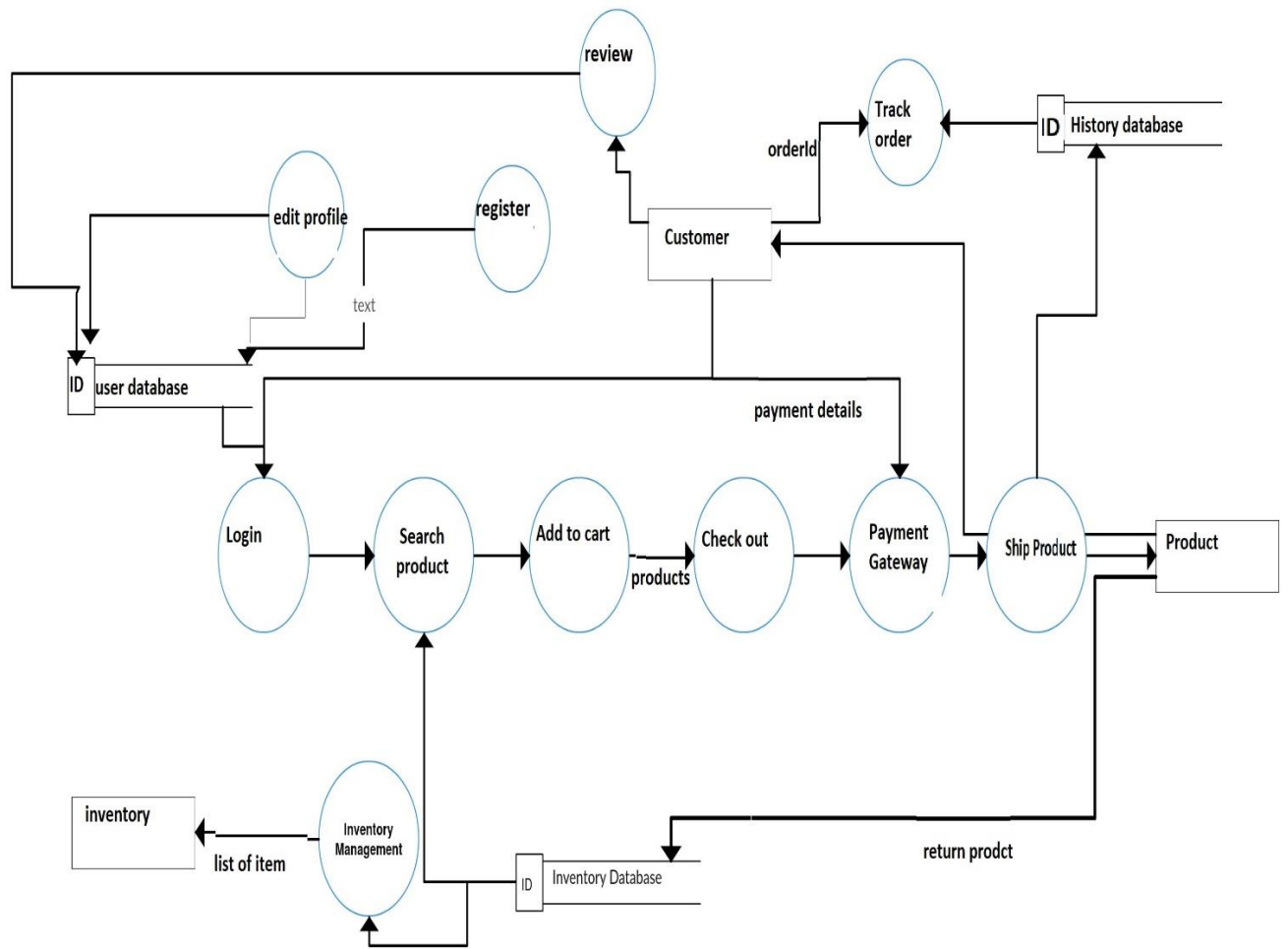
Figure 4.3.1: DFD Diagram of E-Commerce Website
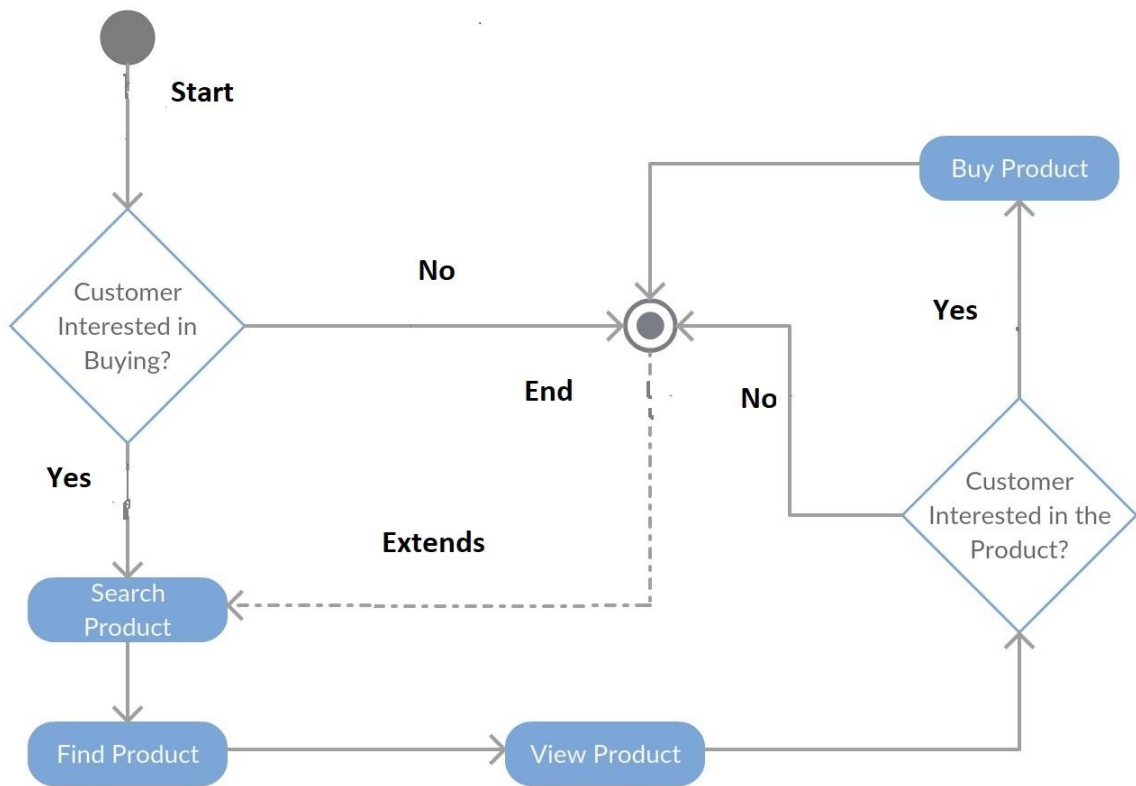
4.4 Activity Diagram

Figure 4.4.1: Activity Diagram of E-Commerce Website
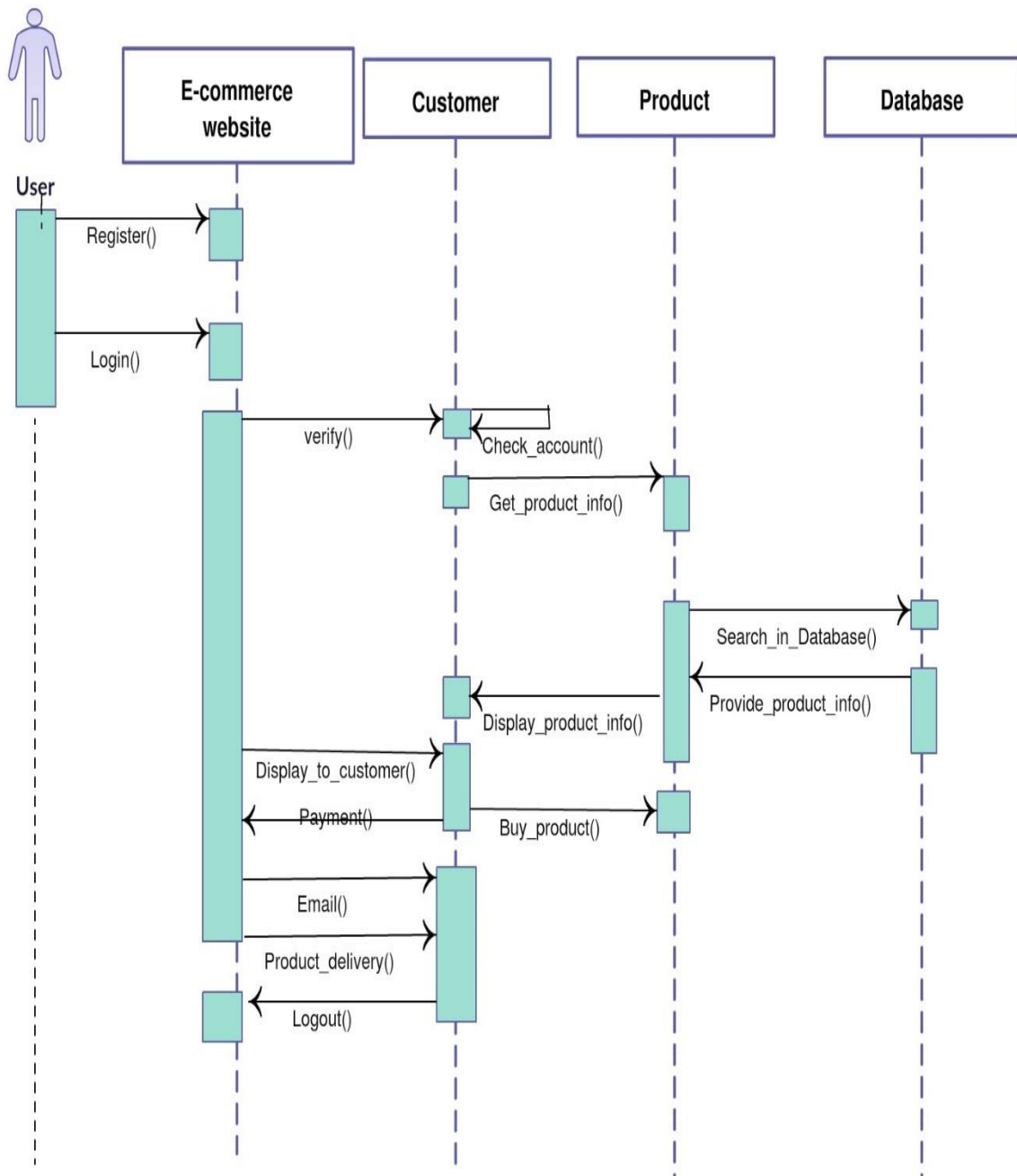
4.5 Sequence Diagram

Figure 4.5.1: Sequence Diagram of E-Commerce Website
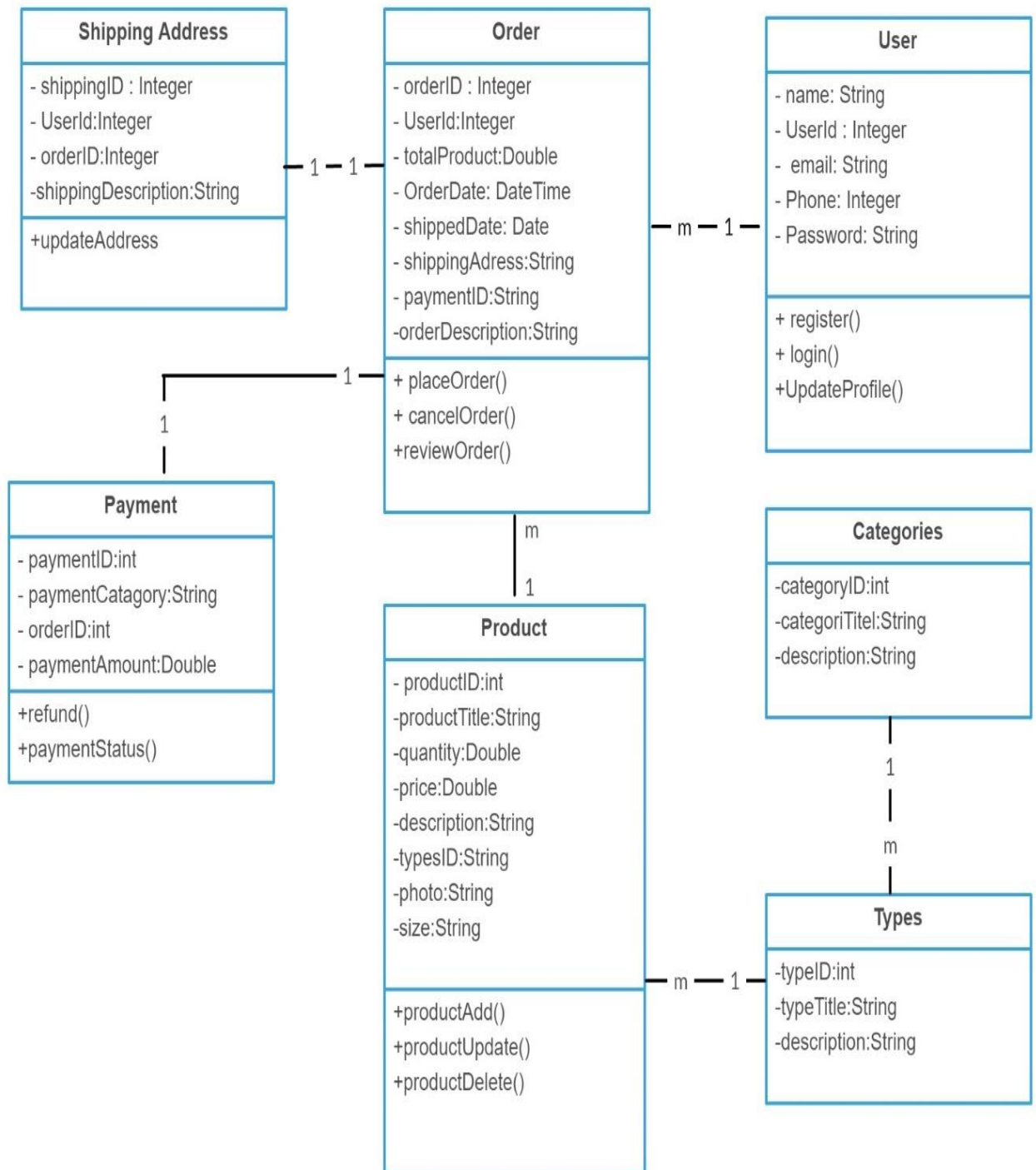
4.6 Class Diagram

Figure 4.6.1: Class Diagram of E-Commerce Website
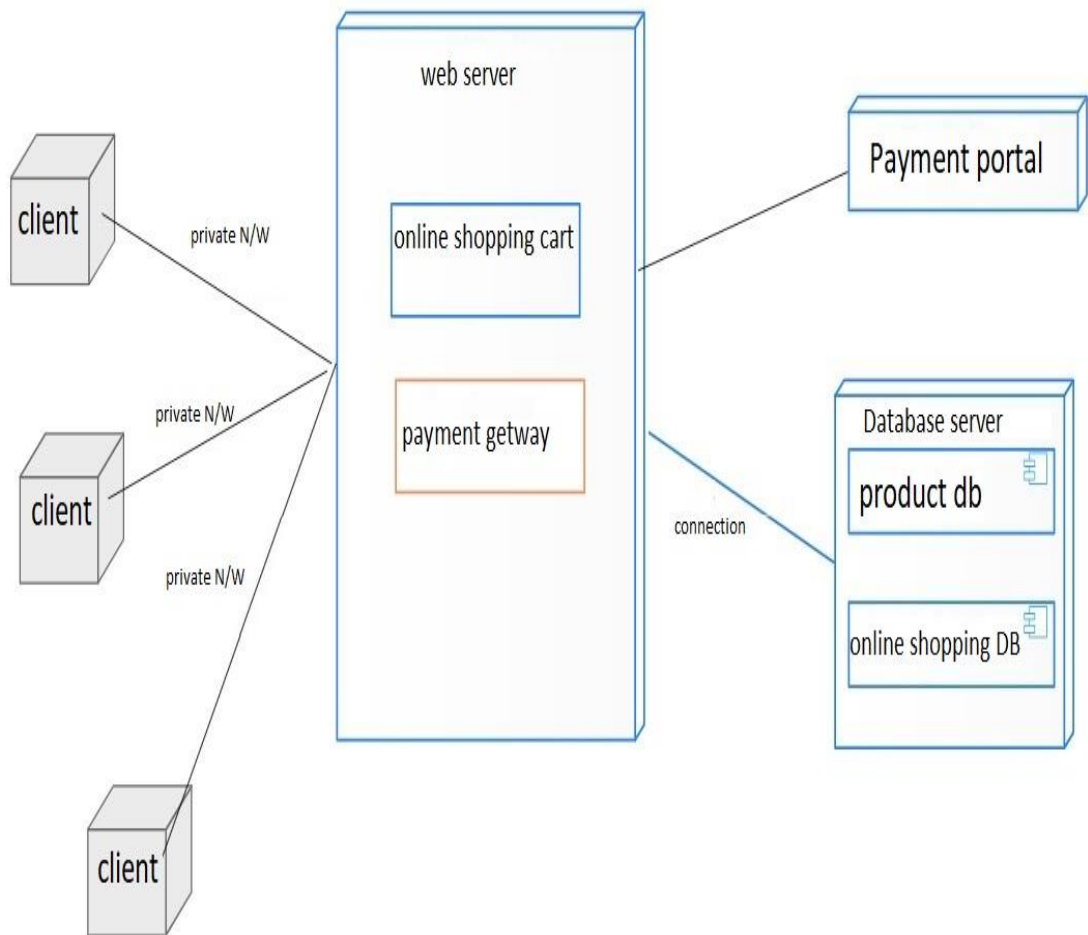
4.7 Deployment Diagram

Figure 4.7.1: Deployment Diagram of E-Commerce Website
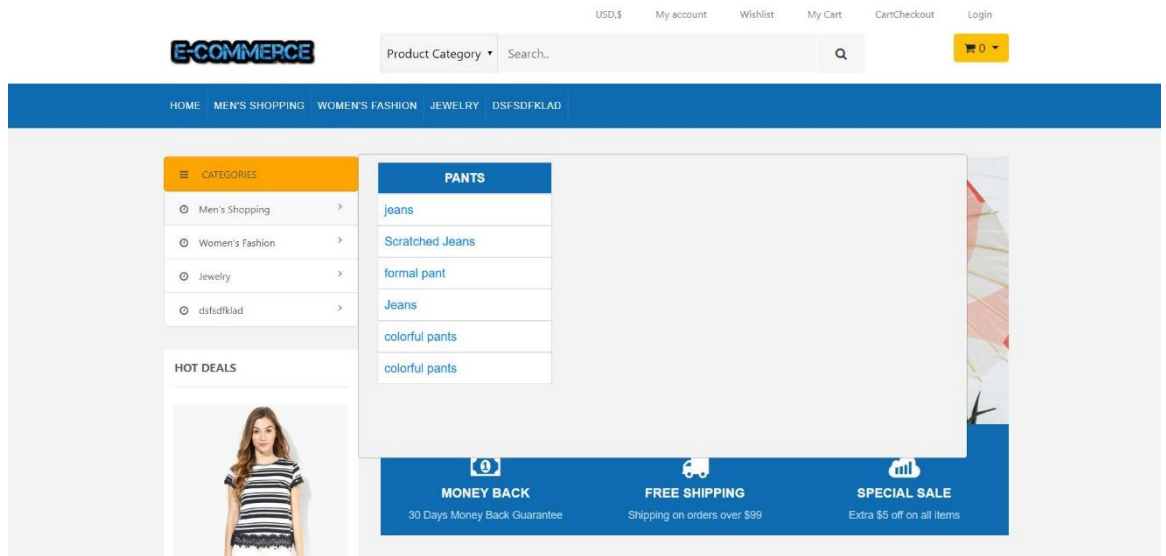
4.8 User Interface

🔸 Home page

Figure 4.8.1: Screenshot of Home page

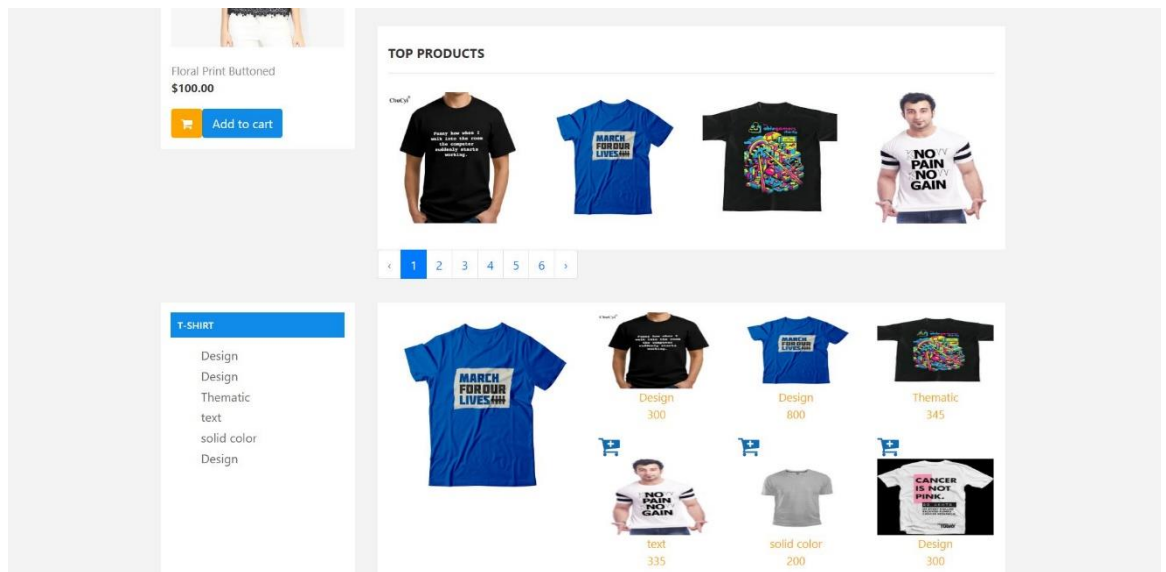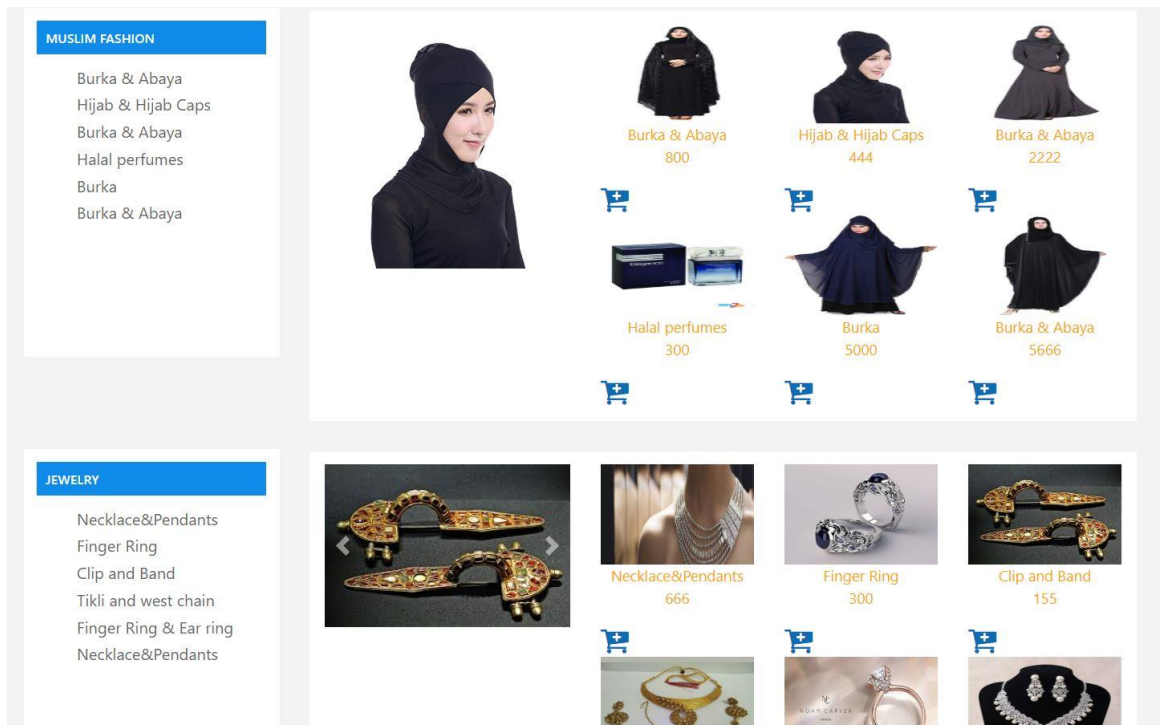

Figure 4.8.2: Screenshot of Home page

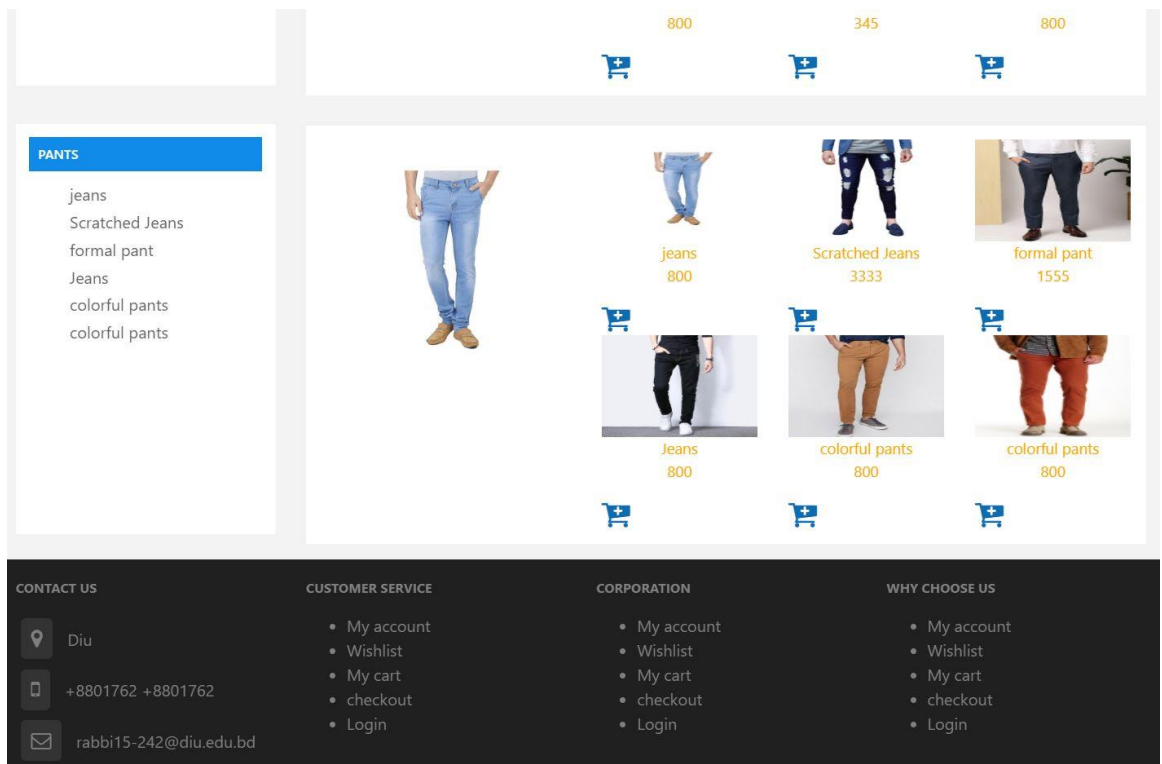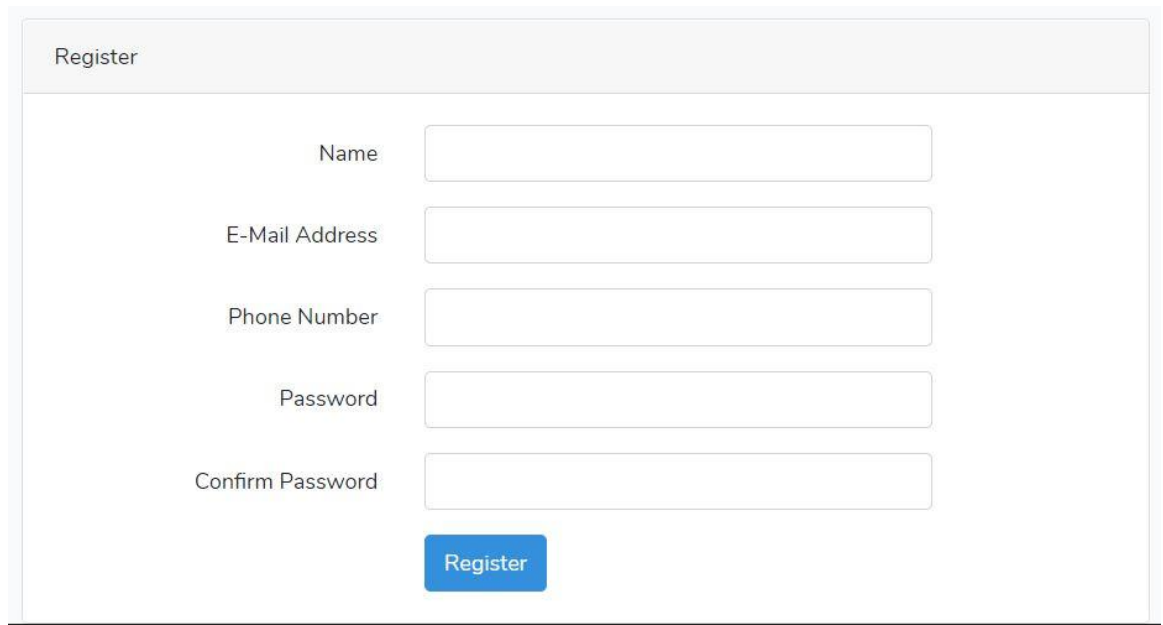Figure 4.8.3: Screenshot of Home page

Figure 4.8.4: Screenshot of Home page

Output: This is the home page of our website. First of all, we have login for further access. Before login a user can view any item. After registration a user can login into the system. Also a user can know about this website with every details and buy products without registered user.

➕ **Registration page**

Figure 4.8.5: Screenshot of Registration page

Output: This is our registration page. Here both user must give their valid information to create an account for further use of this website. A valid email address, phone number must need for registration.

Login page

User Login: OR registration

E-Mail Address

Password

☐ Remember Me

Login   Forgot Your Password?

Figure 4.8.6: Screenshot of login page

Output: This is the login page. After giving registered email and password, you will be send to the next page. A registered user will get further information like user can know every details of what is done by the user. A simple example is, a user added 5 items in the cart for next order. Then after log in the user can see what he added in the cart and place that order. But without registration or login the cart will be lost. If anyone forget his password, he can reset his password easily by clicking on "Forgot Your Password".
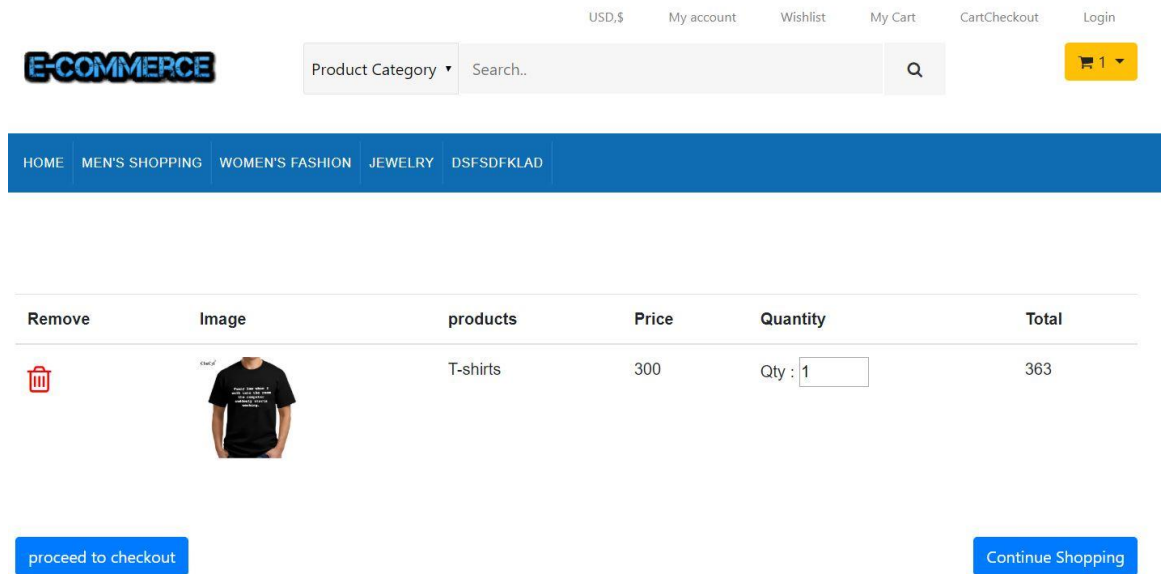
♣ Cart item page

Figure 4.8.7: Screenshot of Cart item list

Output: This is the view cart item list page where user can see what he have added in the cart, with product name, image, price, quantity, and total price. The user can even delete any item from cart. The user can also change the quantity of any product from the cart. After clicking on continue shopping the system will place the order for the user.

♣ Order Info page

Figure 4.8.9: Screenshot of Order information and shipping address

Output: This is the Order information page where user can see what he has ordered, with order id, product name, quantity, and total price. Also a user can see the shipping address. the user can even update shipping address.

Update Shipping Address

Figure 4.8.10: Screenshot of Update Shipping Address

Output: This is the update shipping address page where user can update his shipping address with Appropriate Information. User have to submit his name, email, phone no, city and Full description of Address.

➕ Money Receive

MONEY RECEIPT

PRODUCT INFORMATIONS

OrderID	Product	Qty	Total
27	Burka & Abaya	1	800
27	Burka & Abaya	1	800

SHIPPING ADDRESS

orderId	name	email	phone	city	fullAdd
27	Golam	golamrabbi@gmail.com	1762337526	Savar,update	Savar,Dhaka,bangladesh

Figure 4.8.11: Screenshot of Money Receive

Output: This is the money receive. After complete the order user can download money receive from order information page.

CHAPTER 5
TESTING AND EVALUATION

5.1 Testing

Testing is a simple term to check web application for bugs before it's going live. After finding bugs we use some testing method to solve this bugs.

5.2 Testing List

1. Functionality Testing
2. Usability Testing
3. Interface Testing
4. Database Testing
5. Compatibility Testing
6. Performance Testing
7. Security testing

5.2.1 Functionality Testing

This testing is used for checking all the links of the web pages, from testing, cookie testing and database connection.

Test Forms are working as probable. That will include-
- ✓ If a user doesn't fill up the mandatory field, then it will show error massage.
- ✓ Populated default values are being checked.
- ✓ It will check if a user submitted its information into database.

Test Cookies are working as expected. It is a small file that keeps data from active user so that you don't need to login again and again.
- ✓ When cache is deleted cookies are also deleted

Test HTML and CSS
- ✓ Check syntax error
- ✓ Readable Color Schemas
- ✓ Check standard compliance such as W3C, OASIS.

5.2.2 Usability Testing

Usability testing checks the navigation bar and grammatical error of the web pages. It also ensures if it is user friendly.

Navigation testing:

Links, button, menu should be work properly in different pages and reliable on all web pages.

***Content Testing*:**

- ✓ It checks the grammatical error and spelling of the content.
- ✓ If the image is missing then show the "alt" text.

5.2.3 Interface Testing

Interface testing check the proper interaction between user input values and database server. This method confirm that don't show any error messages.

There are three types of interface testing:

- ✓ **Application**: If the request are sent properly to the database server then user get proper result. We do not get proper result, if we sent wrong information.
- ✓ **Web Server**: Manage all application requests short of any service rejection.
- ✓ **Database server**: Queries request to the database and then show exact result.

5.2.4 Database Testing

Database testing is one acute element of web application.

- ✓ This test will maintain data integrity while CURD operation in database.
- ✓ Check we get a proper result while executing queries.
- ✓ Database testing check the response time of query.
- ✓ Data read from database and show accuracy in our application.

5.2.5 Compatibility Testing

Compatibility testing check responsive in different device. That is include-

Browser Compatibility Test:

Different browser will show same website in differently. Checking responsive the different device. Check all the function that are work properly in different browser like google chrome, Mozilla Firefox, opera etc. And also check the mobile browser.

5.2.6 Performance Testing

Performance testing includes web load testing and web stress testing. Web load testing technique checks if many users can access the same page at the same time and whether a web page can handle heavy load on any specific page. Web stress testing is done on the site to see that how will the site react and recover during the stress time.

- ✓ Application response time depends on internet speeds.
- ✓ Reduce load time for server side cache enable.
- ✓ Test if a crash occurs due to peak load, how will the site recovers from such an event.
- ✓ If our application crash due to maximum load then how will the site recover from such an event.

5.2.7 Security testing

Security testing tests the security of our system. Without login we cannot access internal pages. Some data not accessible for end user. Security testing will include-

- ✓ Without login user cannot access secure pages.
- ✓ Without appropriate access some documents should not be downloadable.
- ✓ Sessions are automatically deleted when user long time inactive.

CHAPTER 6
CONCLUSION AND FUTURE WORK

6.1 Goal

The main objective of our project is a good interaction between the buyer and seller. Make easier to the marketing system and save the time. We are trying to do this project at level best to satisfy all the users. It is very certain that if we can represent and bring it out with a proper way the design and development of E-Commerce site can replace the total usual system within few months.

6.2 Limitations

i. International or long distance product order may take long time.

ii. After placing an order, user cannot displace that order.

iii. Without registration, a user can not add items in the cart for further order.

6.3 Future Work and Plan

Improve Security to find out real users. Get customers feedback to find real seller with original product. Integrate Payment system.

Conclusion

Think out that in abroad, they fully give priority of their family because they know how much important is a family member. So finally, time is very valuable and we will ensure that you will have your family with you and we will provide every needs of you. Just you need you visit us online, place your order. Your time, money everything will be saved.Our website will create more employment, reduce physical work for you, no need to forget about anything or any product, save time.We developed this site because many other sites like this have many problems that we are trying to solve with our one.

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