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An Undergraduate Internship on Topic E-Commerce Website Design and Development

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An Undergraduate Internship on Topic E-Commerce Website Design and Development

By

Tamanna Shabnam

Student ID: **1821801**

Autumn, 2022

Supervisor:

Mr. Mahmudul Islam

R&D Officer

Department of Computer Science & Engineering

Independent University, Bangladesh

February 2, 2023

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

I am Tamanna Shabnam my id is 1821801, a student of Computer Science and Engineering, hereby declare that the report entitled "E-Commerce Website Design and Development", embodies the results of my own work, pursued under the supervisor Mr. Mahmudul Islam, R&D Officer, Department of Computer Science Engineering, Independent University, Bangladesh. I also declare that this paper is my original work and has been prepared for the academic purpose internship program and as a whole or any part of this report has not been submitted to any other university for any degree.

Tamanna Shabnam — Signature

02.02.2023 — Date

Tamanna Shabnam — Name

Acknowledgement

First and foremost, I want to give thanks to Allah, who is the Almighty and without whom we would not exist. After that, I'd like to thank my dear parents for always inspiring me and helping me make the correct choices in life.
For his guidance and for giving me the chance to start my internship report, I would like to thank my academic supervisor,
Mr. Mahmudul Islam, R&D Officer, Department of Computer Science and Engineering, Independent University, Bangladesh. I want to express my gratitude to him in more particular terms for his support, understanding, encouragement, and willingness to share his time and wisdom. I want to express my sincere gratitude to my technical supervisor, Rizwan Faruque , Software Engineer,, all of my coworkers at Tec Logicians Solution, and everyone else who helped prepare this report, both directly and indirectly. I regret to the individuals whose identities I did not mention in my report; yet, I will always be grateful for their selfless assistance. Last but not least, I would like to extend my heartfelt thanks to Independent University, Bangladesh for providing me with the chance to complete my graduate degree as well as the chance to gain real-world experience and further my knowledge, all of which will undoubtedly be helpful to me in my future professional life. May Almighty Allah bless us all, Ameen.

. . . . . .
Tamanna Shabnam
ID:1821801

Letter of Transmittal

Mr. Mahmudul Islam,
R&D Officer,
Department of Computer Science and Engineering,
Independent University, Bangladesh
Subject: Submission of internship report
Dear Sir,
Having said that, I would like to let you know that it gives me great pleasure to submit the internship report on "E-Commerce Website Design and Development" as required for the fulfilment of the graduating program. I'm writing to let you know that I've finished my internship program and its report. Since September 15, 2022, I have been working as an intern. At Tec Logicians Solutions, I finished my internship. Based on my personal experience, this report. Gaining experience in all the company's various technology-related departments was the main objective of my internship. During my time as a Tec logicians Solutions intern,I discovered that I had picked up and used numerous new techniques and technology. The business is made up of a team that works together to develop and learn. I want to express my gratitude to you for all of your advice and assistance. I thus ask that you accept my report and make appropriate recommendations for how I should proceed with my professional life. I also pray and hope that you will be generous enough to overlook any errors this report may include. Finally, I kindly request your consideration as you evaluate this report.
Yours Sincerely
Tamanna Shabnam
ID:1821801

Evaluation Committee

Signature

Mahmudul Islam

Name

Supervisor

Asif Bin Khaled

Signature

Asif Bin Khaled

Name

Internal Examiner

1.02.22

Signature

Md. Mahmudul Kabir Peyal

Name

External Examiner

Signature

Name

Head,Depertment of Computer Science & Engineering

Abstract

This report was created as a result of my internship with Tec logicians Solutions. I worked as an intern as a developer for Tec logicians Solutions. To gain experience and further my education, I was also involved in various elements of the project that I worked on as an intern. My internship entailed participating in an e-commerce project. Throughout, my boss provided me with guidance for the whole undertaking and the internship.
In this report, I've incorporated all the project-related content that was produced. I am discovering a lot of new things as I work on this project. Working on the development team provided me the information on how to successfully plan and complete a system from start to finish. The experience also includes learning how to build a solid system with PHP acting as the backbone ends. Putting what I had learnt in my college classes into practice was tremendously fulfilling.
This report covers the entire project that I gained knowledge of throughout my internship. Prior to beginning any projects, I had to finish my learning sessions. During this learning session, I was tasked with creating a web page, a dashboard, several interfaces for various elements, and some back-end coding.
Finally, I learned how to taking on feedback, Patience, Responsibility, Team work, Communication skill, Decision making, Leader Ship, Punctuality Overall, I learned a lot from my internship, which will undoubtedly be very beneficial for my future.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

The e-commerce website has a link to its database, which contains details about the website's categories, products, their weights and dimensions, articles and other content, pictures, etc. This information is needed by the website in order to dynamically render any requested web pages. A potential buyer browses the eCommerce website, adds something to their virtual shopping cart, and then chooses to complete their purchase. By checking out and completing the transaction, the customer completes the transaction.

1.2 Objectives

The effort on the framework for online shopping has as its main goal to monitor the subtle aspects of shopping. Client, Instalment, Web, and Item. The data related to shopping, conveyance, clients, and shopping are all under its supervision. It has been fully constructed and in a sense, the chairman is guaranteed access to the regulatory conclusion. for which construction of an application program to reduce the manual labor of control of the Web, transportation, and purchasing items. Every point of interest is tracked by a client for web installation.

1.3 Scopes

A project scope the system will offer the CEO numerous kinds of data graphs that will aid in understanding the state of the items. As a CEO, you can also add, remove, or change goods or managers because this user category has the greatest potential for the

program. A manager can enroll products and their qualities and update or remove them. For instance, introducing new products, reclassifying an outdated product, removing a product that is presumably no longer available or being sold, etc.is a thorough review of all components of a project, including all associated tasks, materials, deadlines, and goals as well as the limitations of the development. Users of this web application who are employed by this company will be required to authenticate themselves.[1]

Chapter 2

Literature Review

A literature review is a thorough summary of earlier studies on a subject. The literature review examines scholarly books, journals, and other sources that are pertinent to a particular field of study. In other words, a literature review gives the reader context and places the current study within the overall body of pertinent literature. In such a scenario, the review of the work is typically written before the technique and outcomes sections.

2.1 Relationship with Undergraduate Studies

I was able to use many things I learned in my class. Learned in web development and design class to design. Knowledge and skills gained from undergraduate courses have helped in the development of "E-Commerce Website Design and Development" project. I am from the Department of Computer Science and Engineering, so this research relates to my undergraduate studies. I picked up coding so I could make many of applications. Some of the courses are:
CSE 203- Data Structure:
The emphasis of this course is on managing and using complex arrays, objects, classes, arrays of objects, objects of arrays, nested arrays, and other structures. A data structure is employed for purposes beyond merely organising data. It is used for data processing, retrieval, and archiving as well. Numerous fundamental and sophisticated types of data structures are used by almost all software systems and applications that have been developed. We must therefore be knowledgeable about data structures. The skills learned in this course make it much easier to manage the different complex data structures used in "E-Commerce Website Design And Development."
CSE 213- Object-Oriented Programming:
This course focus on Java. Here we learn to make projects for real life. In this pro-

gram Code is simple to maintain because of classes and objects, which makes it easier to maintain than to restructure. Additionally, it aids in data concealment, protecting information and data from leaking or being made public.
CSE 303- Database Management:
The first course that covered project planning and design was this one. It covered a variety of well-known planning and strategy methodologies, including the System Development Life Cycle, Rich Pictures, Requirement Analysis, and Entity Diagrams representing relationships, business processes, and notations. These strategies and planning tools aided in the creation of "E-Commerce Website Design and Development."
CSE 307 - System Analysis and Design:
During my internship, I'm working on a project involving e-commerce. Therefore, the knowledge I gained from my undergraduate degree on System Analysis will be very helpful for my research form this course, we learn:
Development methodologies, systems, and roles. Recognizing and simulating organisational structures. Project administration. Interactive Methods for Information Gathering. Unobtrusive Methods for Information Gathering.

CSE 309- Web Applications and Internet: In this course, the creation of web applications was discussed. Since "E-Commerce Website Design and Creation" is a web application built using web technologies and includes a backend server that had to be deployed to the server as well, the tools and technologies learned from this course greatly aided in its development. These included HTML, CSS, Bootstrap, JavaScript, PHP, query, View Engines (Handlebars and embedded JavaScript), Node.js, Express.js, and Mongo DB.

2.2 Related works

There are so many e-commerce sites in Bangladesh.my website is inspired from this site Daraz.com:
Having internet storefronts in Pakistan, Bangladesh, Nepal, Sri Lanka, and Myanmar, Daraz is a global marketplace. Daraz offers e-commerce, shipping, payment infrastructure, and financial services, providing their vendors and customers with an end-to-end commerce solution. It features a web version and a mobile version, and the web version uses the Larval framework, which is identical to our main frontend library.
chaldal.com
Bangladeshi online grocery delivery and shopping. Purchase things for babies, personal care, and fresh food. It comes in web and mobile app versions, and in the web version, a framework was used to create the website.Basically above two sites provide, Search for any kind of products, payment , add cart, select products, feedback ,comment section have all these features.

Chapter 3

Project Management & Financing

3.1 Workflow Organization:

Common productivity advice for making work more manageable and accessible is to break it up into smaller tasks. A work breakdown structure (WBS) organizes a project's duties in a hierarchical manner (WBS). The WBS "breaks down" the structure of a project into manageable deliverables. According to the needs of the project, each deliverable has a job, or collection of activities, assigned to it that can be further subdivided into smaller tasks.[2]



Figure 3.1: Work Breakdown Structure" e-commerce website system

3.2 Process/Activity wise Time Distribution

Each organization's forms are signed separately in agreement that the project will take around three months to complete. The fundamental way strategy was employed in the time conveyance. A methodology for assessing plan adaptability and identifying the tasks necessary to complete a project is the major way strategy (CPM). The longest sequence of tasks that must be accomplished on schedule in order for the job to be finished is known as a basic course in project management.

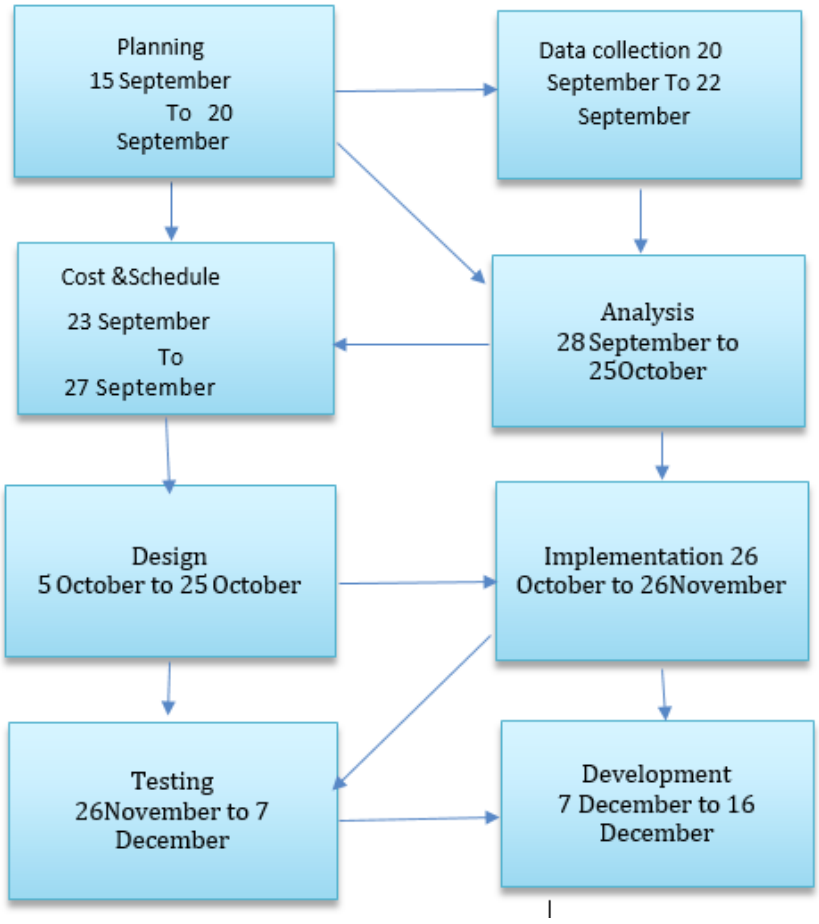

Figure 3.2: Critical Path Method

3.3 Gantt Chart

The many project-related activities are mapped out against a predetermined timeframe using a Gantt chart, a project management tool. The chart offers a visual representation

of the start and finish dates of various activities, as well as their current states and completion statuses. Each activity is spoken to by a bar, whose location and length show the activities begin, term, and conclusion dates.
Gantt charts are used for the following purposes: Teams can more effectively allocate resources and plan their work using Gantt charts. Gantt charts are another tool used by project planners to keep an overview on their initiatives. They show, among other things, the relationship between the beginning and ending dates of tasks, milestones, and dependent tasks.it Monitor and report progress. and Display milestones and show key events.

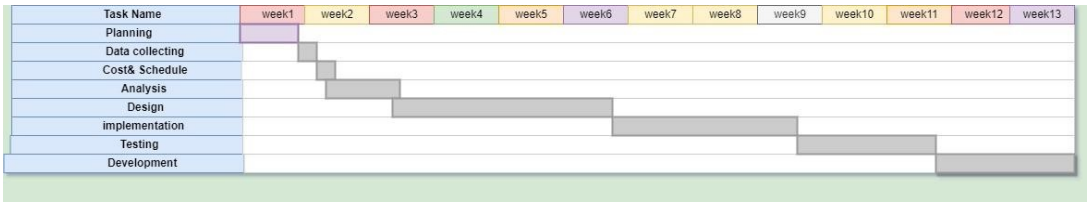

Figure 3.3: Gantt chart of Project

We have seen the project's time distribution in section 3.3‘ It is evident from the Gantt chart above that the majority of the project's time was spent on implementation and design. Abstractly speaking, it is evident that in order to construct the whole.
The design and implement section was given the task.

3.4 Process/Activity wise Resource Allocation

Scheduling and assigning resources to specific tasks is part of the process of allocating resources to project tasks. This project was divided into a number of sections and stages, including:

1. Requirement Analysis: It took 7 working days, or a week, to manage all the requirements for this project so that building could start right away the maximum. Project management duties are distributed among each individual. The older the first few days were spent by the CEO and engineers discussing how to construct the project .From top to bottom, what language(s) would be used. Subtasks are then separated out into their own projects so that time allocation may be planned .It is simpler for personnel to organize and complete their tasks when goals and other deadlines are established on the project.

2. Planning: Because it requires the input of all team members, this stage was completed with everyone's participation. Setting objectives and other deadlines makes

it simpler for the team members to organize and finish their work. 10 percent of the overall work was spent on the next section.

3. Designing: The design engineers and architects will be primarily responsible for this procedure .Two people have been earmarked for this. The next section was one of the longest and took up 20percent of the whole workload.

4. Implementation: All of the planning and designing has been completed at this point. Currently, the complete program is integrated into a framework and tested dozens at a time to confirm each modification that has been made. As modifications are made, both the front-end and the back-end are developed and tested. The front-end of the application is initially constructed using React (a JavaScript library), and it is then connected to Larval 8 (a PHP framework), which will take care of the back-end operations. The 'web. php' file and middleware portion are then used for larval routing and authentication. Finally, using Larval, all of the front-end page functionality is documented in PHP and is tested after every update .This implementation took a lot of time and accounted for half of the project's work in total. Additionally, it took 41 days, or roughly 325 working hours, to finish this project.

5. Testing: There is a divided testing framework for each project. They often have one or two group members. Even though the engineer carried out a number of tests as part of the usage, the project's final testing must be carried out by the extending director. All of the criteria necessary for the test will be met throughout this testing. If problems are discovered during the test, the project will be returned to the designers along with the problems discovered for correction and, if necessary, encourage usage.

6. Development and Delivering: The management staff often keeps an eye on the delivery stages. They may choose a single individual to oversee the delivery procedure. The project will be put into use by the client in a practical manner during the deployment. Depending on the project type, there are various forms of deployment. This project will be deployed as a website that may be accessed globally from any location because it is a web-based application.
noindent

Serial No.	Task Name	Duration	Work Percentage
01	Requirement Analysis	10 days	10%
02	Planning	5days	5%
03	Designing:	20 days	20%
04	Testing:	13 days	12%
05	Implementation	30 days	40%
06	Development and delivering	9 days	13%

Table 3.1: Activity Wise Resource allocation

3.5 Estimated Costing

A project cost estimate is the procedure a business uses to calculate the overall cost of a project after carefully outlining its scope of work. In order to estimate the entire cost of a project, the activities, timeline, and resources required must all be taken into account. The closer an estimate comes to the real cost of a project, the more likely it is that expenses will stay below budget after the project gets going. Although estimating project costs might not be the most fun aspect of our business, getting the budget correct can be the difference between our project succeeding or failing. Project cost estimating relies on linking costs to a scope of work, thus the approach must describe how long tasks will take and who will do them in addition to continuously monitoring the project. Cost estimation is a continual process that needs to be monitored and adjusted as a project progresses.

Serial No	Features	Cost (Taka)
1.	Internet Bills	4500
2.	Domain	3500
3	. Hosting	1500
4	Project Manager	40,000
5	Designer	60,000
6	frontend and backend Developer	60,500
7	Total Cost	1,50,000

Table 3.2: Estimated Costing

Chapter 4

Methodology

4.1 Reasons to use waterfall for this project

Our project's development followed the Iterative and Incremental Development methodology (ID). Iterative waterfall development is another name for this process. The design or iterative process is a software development methodology in opposition to the waterfall paradigm. This plan was developed to handle such a huge assignment. Larger, more challenging projects demand thorough development and testing. The waterfall methodology is well-known for its extensive testing. . As a result, we decided to create my software using the waterfall methodology. A methodology is a thorough, step-by-step approach for locating, processing, and analysing a variety of data about a certain topic. It entails researching the operation of the suggested system and transferring it to a platform with a more streamlined version of that system's efficiency. During my internship, I worked on a web application that employed the idea of methodology to add new features and functionalities to the website to make it more flexible for the consumers. Using the idea of technique, I was able to first comprehend how management functions. I then broke the system down into various components to thoroughly understand each one so that I could. . Resulting in a more straightforward, manageable system. The streamlined system is also simple to comprehend and apply as a web application. Methodology made it simple for me to convert it into a digital application because I needed to understand how it would simplify my clients' work. The Software Development Life Cycle (SDLC) is a metaphor used in project management that describes the processes involved in a data framework development project, from an initial possibility assessment to the maintenance of the finished program. [2] During the program improvement stage, various computer program improvement life cycle models are shown and outlined.

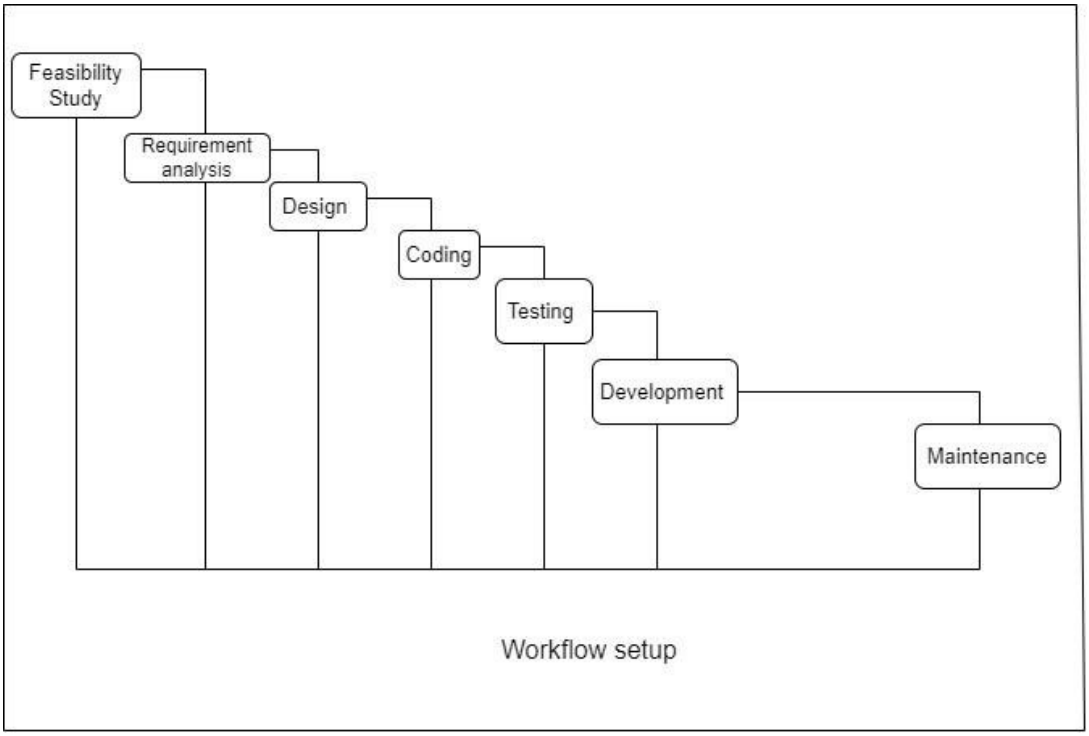

Figure 4.1: Workflow setup

Because this project is being developed by a small group, we needed a strategy that was simple to understand and put into practice. This demand is easily satisfied by waterfall. A strict model that was easy to follow was also something we needed.
The waterfall model is straightforward, but it is rather inflexible.// A waterfall method enables each phase to be processed and finished independently. This leads to a small-team structure that is advantageous. Waterfalls are renowned for their aesthetic appeal. If the criteria are properly established, smaller efforts can succeed. This was therefore the most advantageous and secure choice.

4.2 Phases

The development life-cycle is divided into four stages. Each stage of the construction process, as well as the actions required to complete it, is defined. For this project I chose Agile Methodology.
1. Faster to market.
2. Build Right Project
3. Customer
4.Satisfaction.
5. Better quality.
4. Efficiency.

Chapter 5

Body of the Project

5.1 Work Description

Simple elements are on my project. I have create the user interface first, so check it out. Give the main Online Shop home Link a responsive home button. Include corporate services that inform users thoroughly about who is eligible to use and buy from our website. It also displays numerous product discounts. Every website has a standard statement about us.
Contains information on how to reach us, where our company is located, and social networking icons. The customer can use our Facebook page and email address to contact us whenever they want.The fundamental terms and conditions and privacy policy.

5.2 Requirement Analysis

Rich Picture

A Rich Picture can help you examine, characterise, and express a situation using charts to create a mental demonstration that is ready for action. Rich visuals are a diagrammatic technique to tie your claim experiences and realizations to a specific issue situation by providing distinguishing evidence and connecting a collection of concepts. The formation of a rich image provides a group with a frame of reference for considering almost a specific situation. Rich images should focus on both the forms and the organization of a particular setting. A graphic tool called the rich picture creates cartoon depictions of issue situations in companies. When we have a whole picture, we can see connections and relationships that we might otherwise miss. It helps identify one or more themes that participants might decide to look into and explore in more detail. Thus, rich photos are

always used during the reanalysis stage.

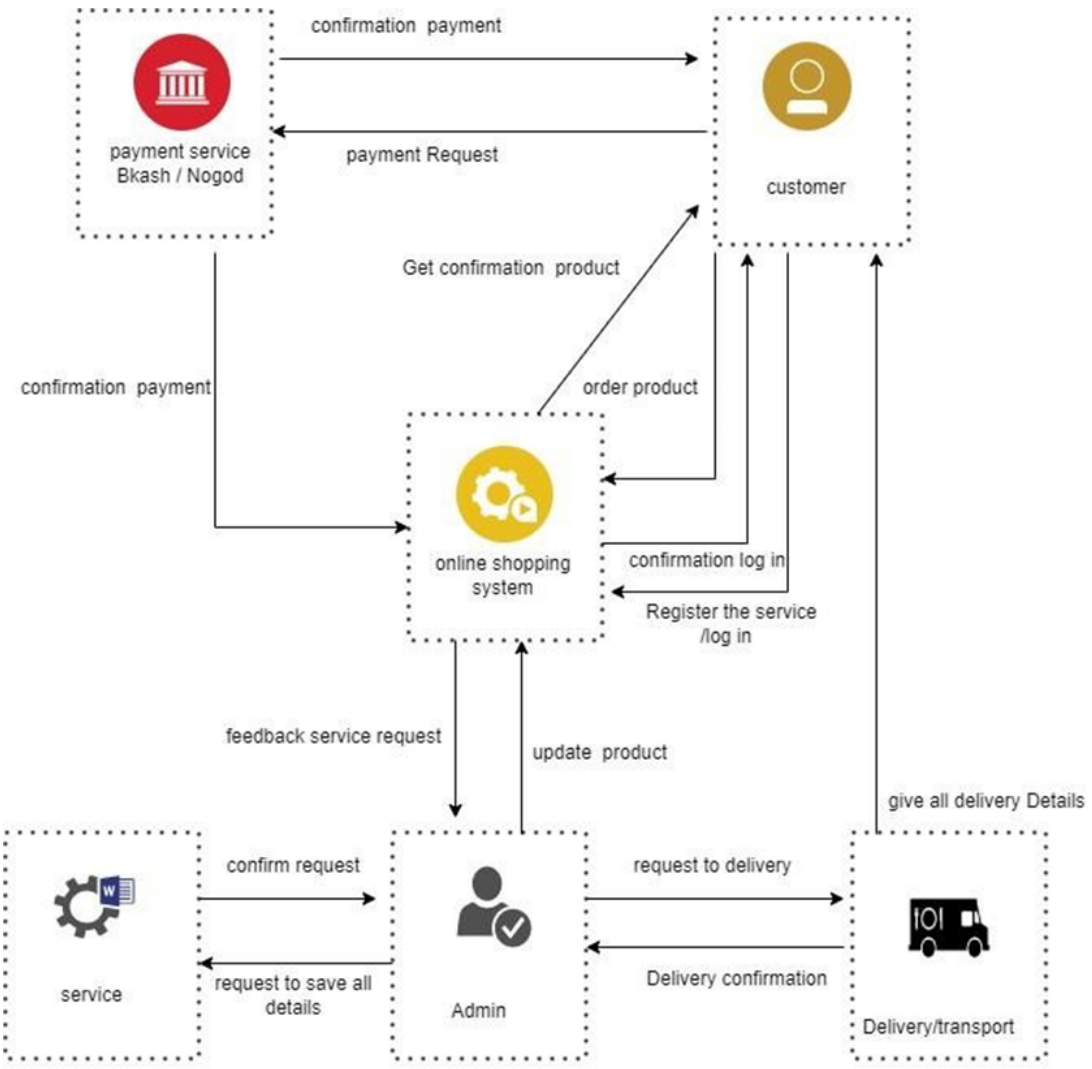

Figure 5.1: Rich picture of e-commerce website

Functional and Non-Functional Requirements

Functional Requirements

1. Web-based system is a need
2. All data that is sent from the client to the server must be encrypted and secure.
3. Any loading page must accommodate 5000 users per hour and have a response time of 5 seconds or less in Chrome or Firefox desktop browsers, including text and image rendering, when accessed over an LTE connection.

Function : Create product category by system admin .		
Input : product name , size , pictures , Model.	**Process :** Add to category details and save.	**Output:** Show category successfully .
Precondition : Must have internet access with browser .		
Postcondition: Get confirmation or Error SMS.		

Figure 5.2: Functional Requirements -Add products category

4. Databases should have the capacity to store at least 100,000 user accounts.
5. Every three hours, all databases must be backed up.
6. The system should be upgradable and easy to deploy changes and upgrades in the future.
7. The SSL/TLS protocol security should be used, and the system should be extremely secure.
8. The entire system needs to be regulated and must abide by domestic and international regulations.
9. Usability must be extremely good and suitable for users of all ages.
10. The website shouldn't come off as patronising or ambiguous to users.
11. It is necessary to keep track of each time a user tries unsuccessfully to enter into the system.
12. Audits should be performed on data privacy, the export of prohibited technologies, intellectual property rights, etc.
13. The system must log and save the times of each login and logout

5.2.1 Six Element Analysis

When performing a six elements analysis, we look at a certain process and look for all six factors that are related to it. Five specific processes have to be analysed for this project in

order to learn more about them and how they might be used in the future. However, current research tends to focus on psychological militants and fear-based oppressor groups. The rapid development of the social organisation concept provides a modern viewpoint for the investigation of counter-terrorism. The "six-element".

Examination technique for fear-based oppressor exercises based on social systems is first suggested in this research. To be more precise, a number of sub-networks are formed in accordance with the relationships among the six elements—people, organisation, time, location, way, and occasion. Through the use of centrality examination, cohesive subgroup examination, spatial relationship investigation, immunity investigation, and graphic measurement investigation, these sub-networks are assessed; the traits and regulations of psychological militant exercises are revealed from a number of different angle.

Process	Human	Computing Hardware	Software	Database	Communication and Network
View Customer Information	Admin	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
View order information	Admin	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
Order	User	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
Add to cart	User	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN

Process	Human	Computing Hardware	Software	Database	Communication and Network
Log in and Registration	User	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
Add Products	Admin	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
View page	User	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN
Add category	Admin	Smart Phone / Computer	Chrome, FireFox, Microsoft Edge etc.	MySQL	WAN/LAN

Figure 5.3: Six elements of e-commerce website

A thorough evaluation of each of a project's 5 assessment areas is contained in a project feasibility report. A well-crafted feasibility analysis may include facts on the history of the firm or project, the nature of the product or service, accounting records, managerial information, sales projections and procedures, financial statistics, legal requirements, and tax obligations. To determine whether the project will fulfil the organisation's purpose after completion and justify the amount of work, effort, and time expended on it, a possibility analysis is carried out. The engineer can envision the project's value and future through a potential contemplate. A framework proposal's work ability is evaluated using

an attainability analysis, which takes into account the proposal's impact on the organization, ability to satisfy client needs, and efficient use of resources. An attainability study is done to determine the viability of an idea. It can be used, for instance, to determine whether a business idea is ethically acceptable, practically feasible, and financially viable. To make a decision, one considers the possibilities. It shows whether a project is worthwhile to invest in and, in some situations, it shows whether a project will be successful. In order to maximize advantages, achieve ability considers empowering firms to recognize and arrange all of the delicate components needed to make a trade successful.

Possibility-thinking is useful for separating calculated difficulties from all other business-related problems and their answers. The development of displaying techniques that persuade financial experts or a bank that investing in the business may be a wise decision can also come about as a result of achieve ability considerations. To determine the viability of a suggested framework in terms of technical, operational, and financial factors, a capability analysis is done. We will gain a comprehensive knowledge of the system's focal points and barriers after completing a potential analysis. Technical Possibilities
Active Server Page, Java Script, and HTML are used to create the front end of the proposed system, while PHP and a MySql database are used to create the back end. To handle user requests, the suggested solution needs a personal web server. The Windows operating system's web pages can be accessed using the web browser. Windows 10, Windows 9, Windows 9x, Windows NT, and Windows 2000 are all supported by the proposed system. All required hardware and software are readily available on the market. The system is therefore technically sound.

5.2.2 Feasibility Analysis

Functionality in Operation
For the reasons given below, the suggested system is operationally practicable.

1. Because the bulk of his time is saved, the client gains the most.

2. The customer receives service at his place of job.

3. The cost of the suggested solution is almost negligible in light of the advantages received.

Financial viability
The initial investment is the sole expense and does not require further improvements

because the required hardware and software are inexpensive. It is therefore economical. Every aspect of the system is workable, which promotes involvement in the design process. Legal Possibilities
This analysis investigates whether any arrangement-related elements violate any regulations, including zoning laws, security legislation, or social media laws. Expect a business to want to establish an empty office space in the specified area. A skill evaluation may reveal that the company's designated location isn't the best for that line of business. That trade has fairly saved some time and energy by idealizing for that kind of trade. That business has fairly saved some time and energy by realizing early on that their idea was impossible.

5.2.3 Problem Solution Analysis

Define the Problem: Consider the situation after careful consideration, focusing on the issue rather than its symptoms. When defining and analyzing fundamental causes, cause-and-effect graphs can be used, as can using flowcharts to show the planned steps of a plan. Detailed explanations of important problem-solving steps are provided in the sections below. These actions support the grouping of interested parties, the utilization of accurate information, the comparison of wants to reality, and a focus on a problem's underlying causes.
Generate alternate solutions:
By delaying the selection of a particular answer until a number of potential solutions have been put up. Multiple options might help your ideal arrangement stand out from the crowd. Once you've made a decision regarding the "what ought to be" demonstration, this target standard becomes the foundation for constructing a roadmap for evaluating alternatives. In this style of problem-solving, conceptualizing and teamwork are both useful tools. Following the identification of all data sources, the company may become more knowledgeable about transmitting data to the enterprise systems. On the other hand, a thorough cleaning operation can be required. As different divisions handle nearly identical clients, products, and transactions, businesses frequently have redundant copies of the same data in their systems.
Implement and follow up the solution: Maintaining the quality of the data before moving it to the enterprise systems may require a significant amount of work in and of itself, involving evaluation, removal of duplicates, and replacement of missing data. We carefully analyzed fresh information before making any final adjustments to the systems.

1. Create a practical method for controlling operations in online stores.

2. Create an efficient mechanism for communication between the customer, website administrators, and product delivery.

3. Coordination tool for the operations of the management system for online shopping.

5.2.4 Effect and Constraints Analysis

The focus of constraint analysis is on the restrictions present inside an organization. According to this perspective, a manager should completely focus on maximizing a bottleneck's productivity because the barrier is in charge of the entire company's profitability. Focusing on any other area of the company has little impact on returns. Since bottlenecks can develop everywhere in an organization, this concept is essential. A corporation won't be able to increase sales incrementally until it can hire and train new salespeople, for instance, if sales need a high level of technical ability and all of its salespeople are already fully used. Similar to this, if a crucial component is only available from one supplier, and that supplier is at capacity, a company will not be able to produce any additional widget units. We encountered several limitations as we were creating this project. They also have some really negative effects on development. Constraints: It is quite tough to find a solution for this website. For a while, the outdated method was used, however the manual method is more time-consuming. The total process had a higher cost, and the price was variable. However, a specific sum of money must be paid on the hosting, domain, etc. for the existing website. The website's budget was initially a challenge, but subsequently revisions were made and several functions and burden for the website were reduced in order to fulfil the budget. For the business, this website was effective. Time and extra money are saved.

5.3 System Design

UML Diagrams

A graphical representation of a user's potential intuitive with a framework is called a use case chart. A use case graph displays the various uses cases and unique types of customers the framework has, and other types of charts will frequently accompany it. Either circles or circles speak to the utilize instances. Artists who perform are frequently portrayed as cult figures.

Log in to Module 1.
Manager, CEO, customers, and users are the actors.

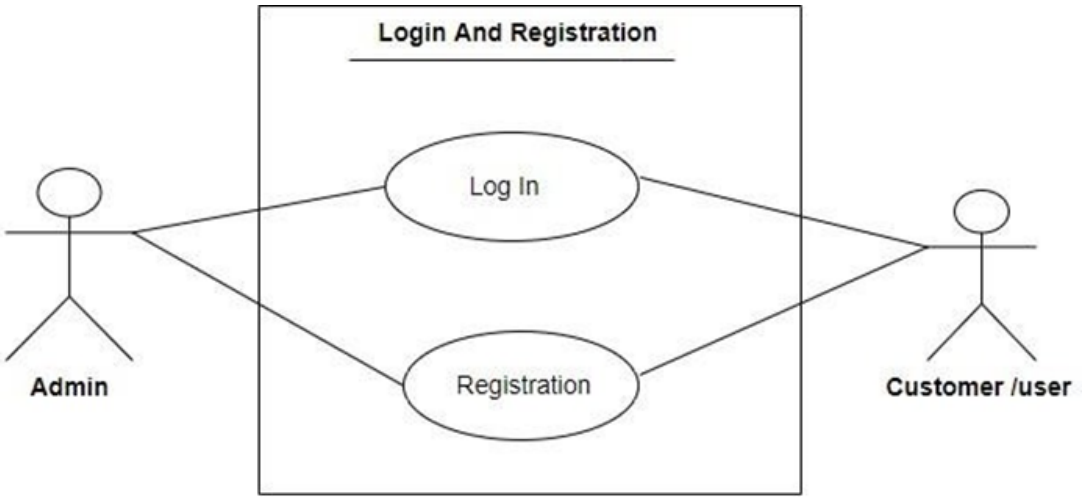

Figure 5.4: Log in process of project

Module 2: Add products.
Manager and CEO are the actors.

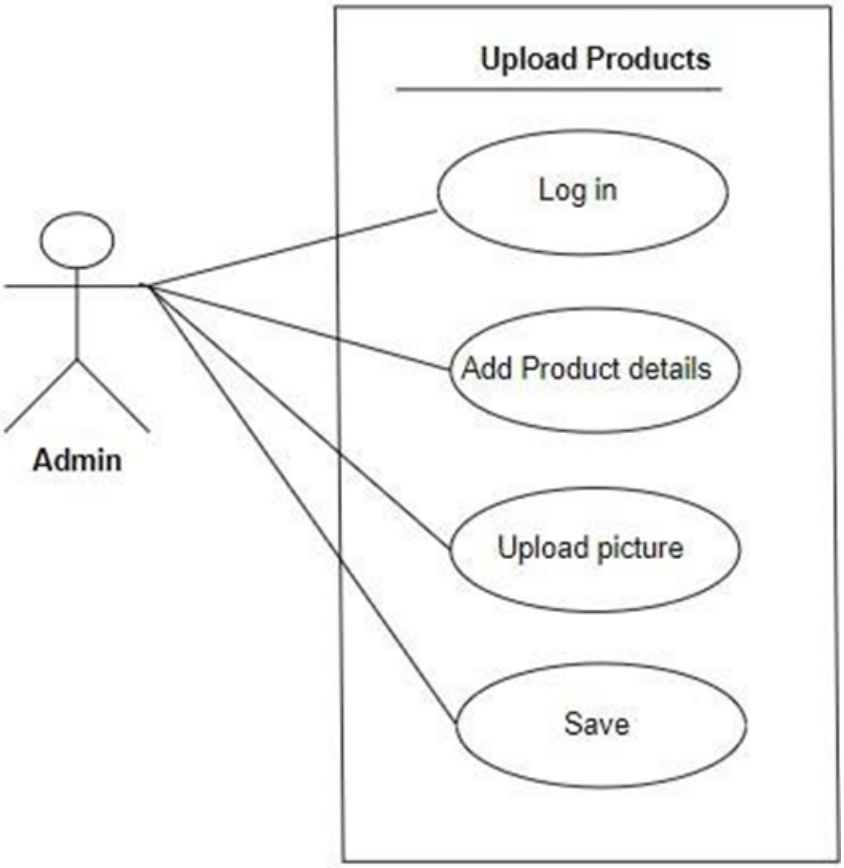

Figure 5.5: Picture upload of project

Module 3: Place product orders. Actors: Customers.

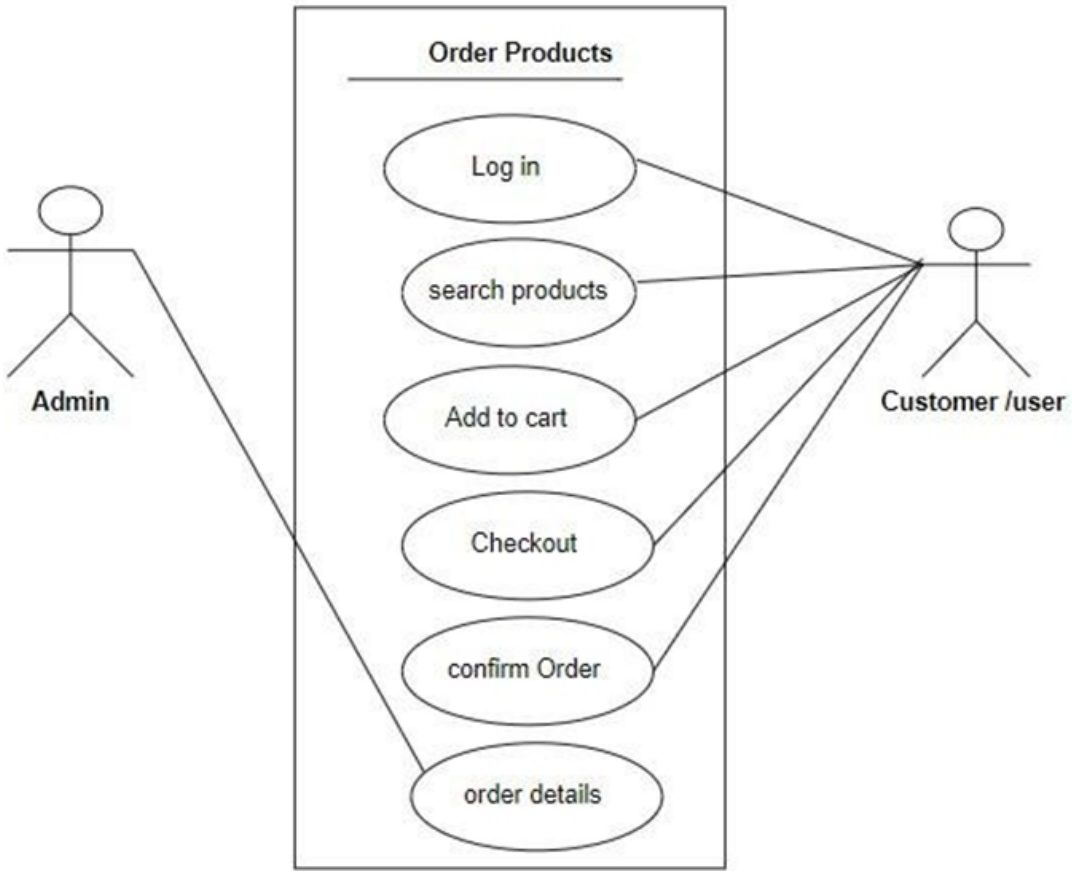

Figure 5.6: System of order

An activity graph in UML describes how activities are grouped together in a handle to show how a framework behaves. Because they show the flow between actions, action charts are similar to flowcharts; however, action graphs can also show parallel or concurrent streams as well as substitute streams. Activity hubs and action edges are used in movement graphs to show how information and control flow between activities.

Activity Diagram:

Model components in movement diagrams are described in the following details: - Exercises: In the UML, exercises are holder components that represent an action chart's most extreme level of behavior. A few action nodes and movement edges in exercises speak to how tasks are arranged in a workflow to produce a behavior.
Activities: In the UML, an activity refers to a specific useful unit inside an activity. Activity edges that signify the flow of command and information to and from other action hubs are approaching and active. When all of the input requirements are satisfied, an

activity begins. To show the values that are passed to and from the activity when it begins, input pins and yield pins can be added.
Control hubs: A control hub in a movement chart is a hypothetical movement node that makes it easier for an activity's stream of control to flow.[3]

Object hubs: An object hub in an action graph is a hypothetical movement node that contributes to the description of the inquiry stream in a movement. A demonstration hub explains how a classifier event might be available at a particular stage of the activity. Action edges are the coordinated connections between two activity nodes in action graphs. The activity edge moves the stream to the next activity within the grouping when a particular activity in motion is finished. The following are activity diagrams for "e-commerce websites":

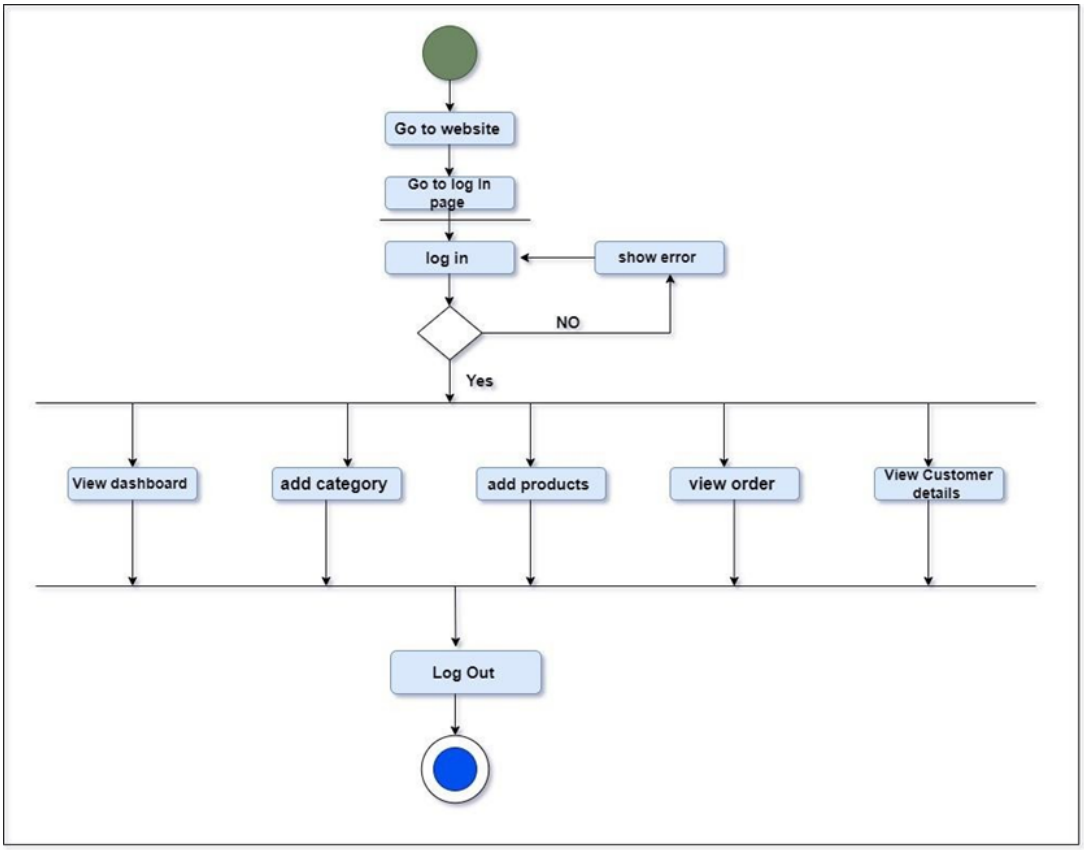

Figure 5.7: Activity diagram of Admin

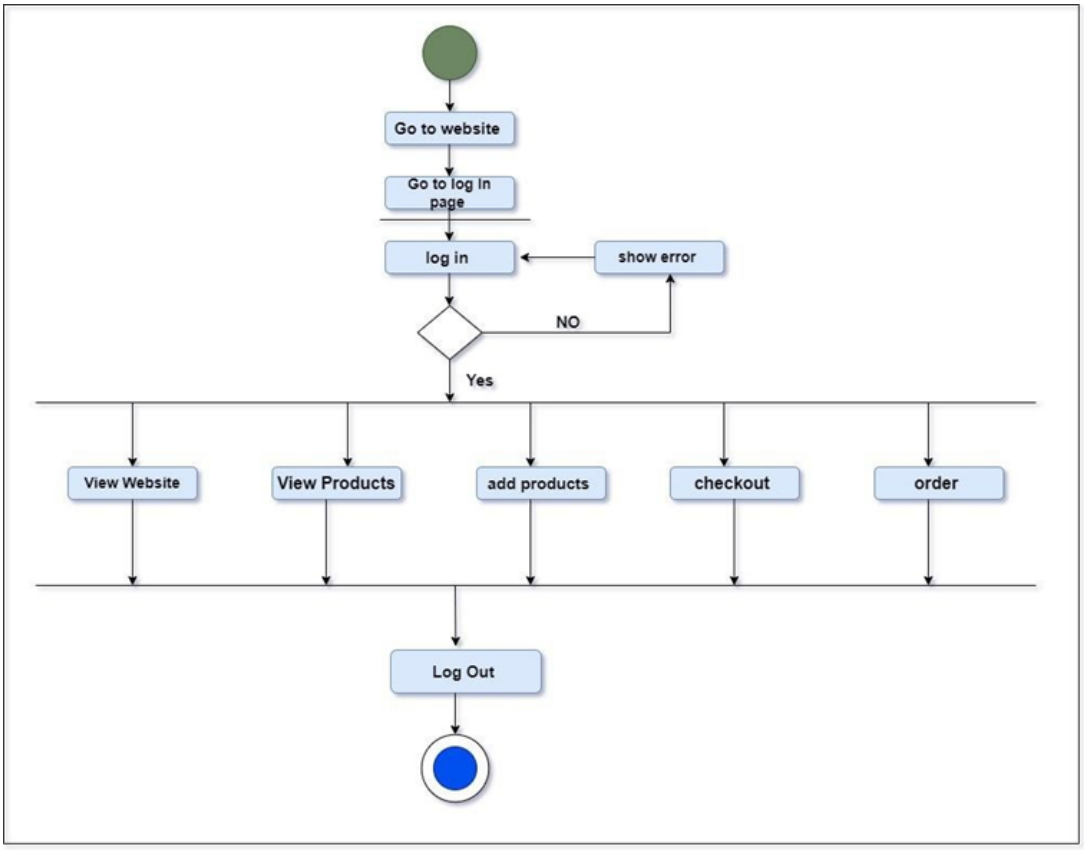

Figure 5.8: Activity diagram of Customer

Input

Input

This covers how the areas are organised, how the form appears on the page, and how the various areas are logically connected. These are spaces designated for client input, such as content areas, secret word areas, check boxes, radio buttons, sliders, and others. The optimum place for instant acceptance is to the right of the input, or if that fails, rapidly underneath. This works best when a client and overseer are facilitating a conversation while also gaming a routinely repetitive handle of form inputs. A variety of solutions are included in input astuteness controls to address frequent end user input errors." Exchange logs, which provide a record of all changes done inside the database to provide security and suggest recovery in the event of any failure, are used to provide audit trails for the information section and other framework operations. They also include checks on the importance of individual regions, both for organization and the accuracy of all inputs. Exchange logs, which provide a record of all changes done inside the database to provide security and suggest recovery in the event of any failure, are used to provide audit trails for the information section and other framework operations.

Input of “E-commerce website”	
Process	Field Type
Log in	UserID–string, Password-string
Registration	Name-string Email-string Password-String Phone-integer Address-string City-string
Search product	Product Name-string Product category-string
Add products	ID-string Total product-integer Category-string Model-integer
Order	Product ID-string Total product-integer

Table 5.1: input for ”e-commerce website”

Output

The most important task for every framework is to design the output. Engineers distinguish the types of yields needed while designing yields, as well as important output controls and model report forms. Outside yields are made and planned by producers for printers. Outside yields give the framework the ability to take off the trigger actions on behalf of or affirm the activities to their beneficiaries. A few of the outside yields are described as turnaround yields, which take on a form and re-enter the framework as an input.

Output of “E-commerce website”	
Process	Field Type
Log in	On Success-Redirect to dashboard On Fail-Show Error Message
Registration	On Success-Show “Registration successfully” On Fail-Show ”Registration not done”
Search product	On Success-Show the product On Fail-Show product not found
Add products	On Success-Show product at list On Fail-Show Upload Failed
Order	On Success-Show message Order done Successfully” On Fail-Show “please try again”

Table 5.2: Output for ”e-commerce website”

Chapter 6

Results & Analysis

6.1 Result

We would like to describe the conclusion of the one straightforward method as the result. The administrator creates a new proprietors account and adds information. After that, a customer requests a service or product from the business owner, and owner successfully receives the service request. Additionally, the procedure by which admin can review feedback and add remarks is also demonstrated as a result. During the program's testing after the framework's development, a few flaws were discovered. This was a minor difficulty that was swiftly resolved. When these problems were resolved, test cases were preserved. A framework should always be thoroughly tested following the development stage before being made available for general use. . The process of ensuring that the developed framework satisfies all standards is referred to as endorsement. The main goal of program testing is to locate application flaws. All test cases were encouraged to make use of testing techniques. The testing was carried out on a nearby server. The framework will be tested again soon after the final mailing, and any necessary adjustments will be made if necessary. To ensure performance accuracy, I've included a few screenshots of a couple of the forms that have been used.
This chapter includes screenshots of a few major Website pages so that readers can see how the site actually looks.
Homepage: From this page, the user can access all the site's essential pages and read a succinct summary of everything it contains. The system recognized attempts to log in using unregistered email addresses and displayed an error. This proves that the authentication process is efficient. The system recognized attempts to log in using unregistered passwords and displayed an error notice.This proves that the authentication process is efficient.



Figure 6.1: login system

put in a working gmail and password. There is a username field in the login frame. The client can access the restricted page after the code checks on the login frame are completed.

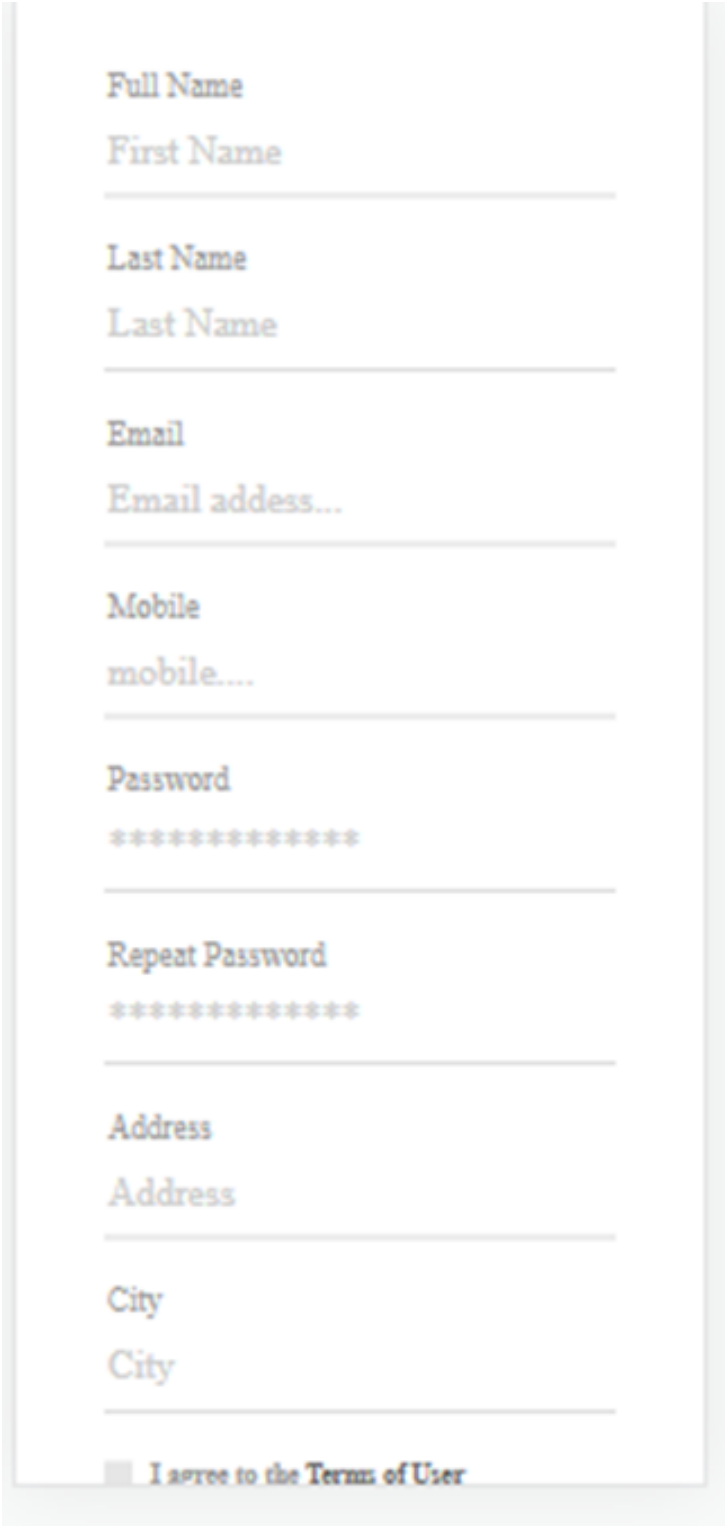

Figure 6.2: Registation page of e-commerce website

Access the system by providing a valid user name, phone number, address, and gmail

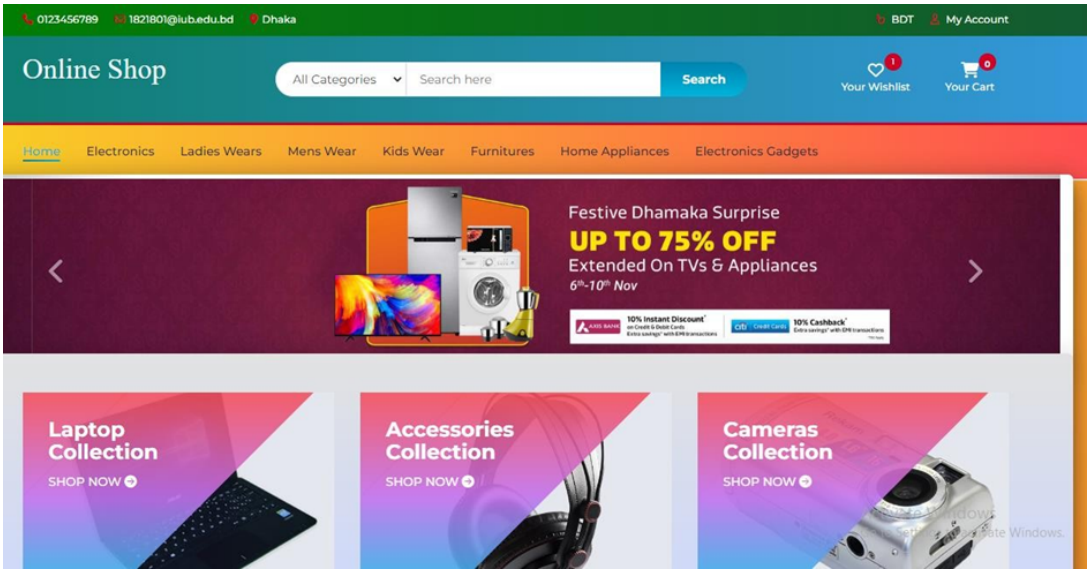

Figure 6.3: Home page of e-commerce website

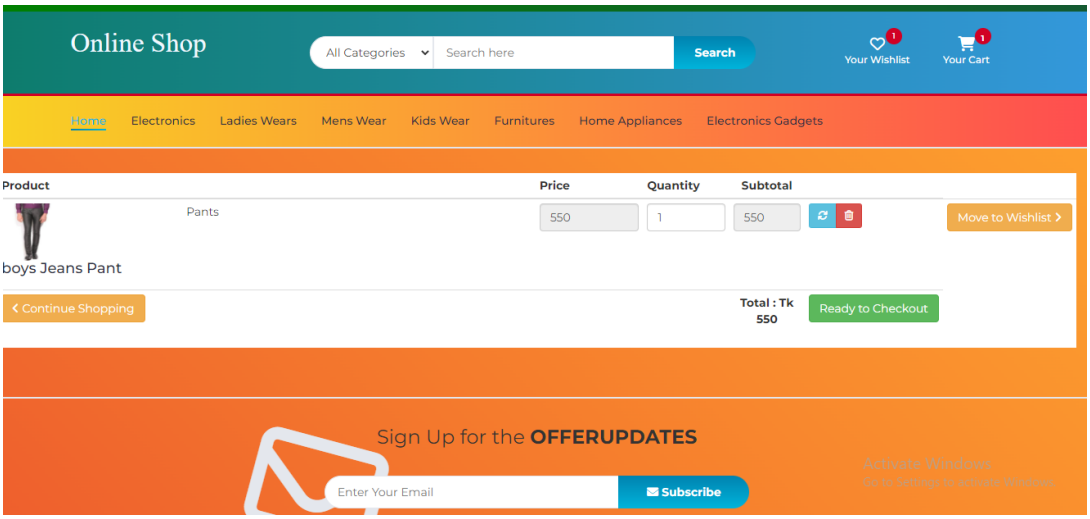

Figure 6.4: User interfcae page of e-commerce website

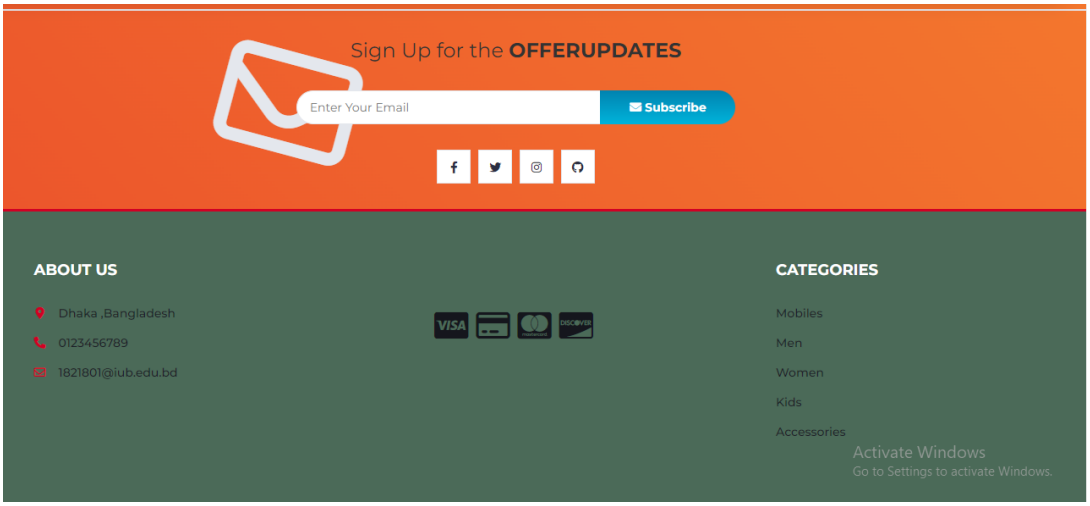

Figure 6.5: User interfcae page of e-commerce website

Administrators have the ability to modify, add to, and remove categories. It only allows admin access.

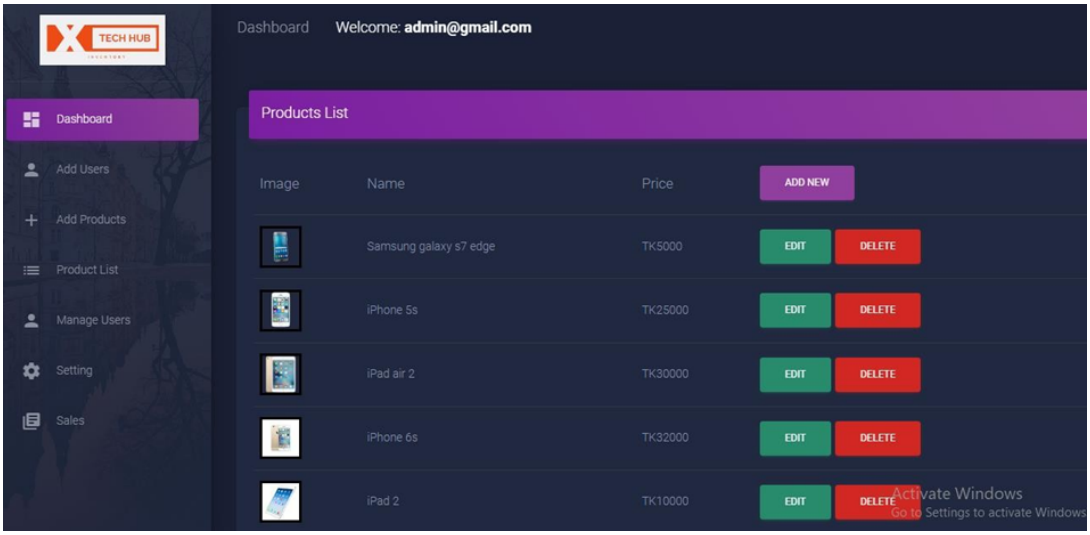

Figure 6.6: admin page

Admin can add to the new feature and also edit and delete the features. It only access for admin .



Table	Action	Rows	Type	Collation	Size	Overhead
admin_info	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16.0 KiB	-
brands	Browse Structure Search Insert Empty Drop	6	InnoDB	latin1_swedish_ci	16.0 KiB	-
cart	Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16.0 KiB	-
categories	Browse Structure Search Insert Empty Drop	7	InnoDB	latin1_swedish_ci	16.0 KiB	-
email_info	Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16.0 KiB	-
logs	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16.0 KiB	-
orders	Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KiB	-
orders_info	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	32.0 KiB	-
order_products	Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	48.0 KiB	-
products	Browse Structure Search Insert Empty Drop	72	InnoDB	latin1_swedish_ci	16.0 KiB	-
reviews	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16.0 KiB	-
user_info	Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KiB	-
user_info_backup	Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KiB	-
wishlist	Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16.0 KiB	-
les	Sum	105	InnoDB	utf8mb4_general_ci	272.0 KiB	0 B

Console

Figure 6.7: Database page of e-commerce website

The owner could see all of the orders listed here that he needed to deliver.During our initial testing, all of these processes were functioning effectively.

6.2 Analysis

We discovered that our initial version was functioning properly through manual testing and bug remediation. However, there were still a few requirements-related capabilities to be included. Therefore, some of the projects are still in progress. Update versions of the applications will be made available as soon as development is complete. Laravel was unable to synchronise the sending and receiving of data from the database.The owner could see all of the orders listed here that he needed to deliver.During our initial testing, all of these processes were functioning effectively.

Finding and Fixing Bugs: I encountered a number of bugs while implementing for the front-end when it came to reacting. Software testing is the process of confirming and assuring that software or applications are free of distractions, meet technical requirements as required for their layout and development, and meet customer needs effectively and efficiently by handling all uncommon circumstances and limits. The front-end and back-end development of the program were both significantly and critically altered by the application's debugging. Numerous test scenarios were executed exactly as had been previously planned. Development of the project did not begin until each test case produced the anticipated results. The application was progressively brought to life using this technique.
In this first section of my e-commerce website management project, I go over the project's

introduction, background, and goals. Here, I'll only give a brief overview of my project. how anybody can learn about my project. Additionally, we discuss here how our projects' methodology relates to our studies. My supervisor assembles a group and assigns the project duties to them. They divide into groups at the outset of a project and just talk about it before getting to work. where I learn about their operational strategy. Although it was a difficult effort, I can still learn a lot from them. Learn how to establish a business climate that is sustainable. Specifically addressing ethics and ethical issues is crucial. I am also knowledgeable with managing database security and copyright ownership. Finally, we would like to note that the investigation shown in this research has focused on finding navigational and usage designs as well as user interface and preferences, giving special attention to the purchasing process. The versatility and expressiveness of the show checking approach used and the gadget implemented are two factors that have enabled this inquiry. As a result, we have been able to conduct intricate investigations to identify nontrivial behavioral patterns. In any event, by adopting the same methodological approach used in this domain, the same approach might be used to assess different types of designs.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Sustainability is one of a project's key components. In order for a project to be sustainable, the software or application must be maintained, and the project must be monitored so that any issues may be addressed as they arise. The accounting system for this project is currently being developed, but after it is released, the company will maintain it on a regular basis. The team will also look for new technologies and features to use in this project. The team will also keep an eye on consumer feedback and, based on what they think, will either update those features or address any reported bugs. Essentially, a project must be sustainable in order to satisfy the demands of the present generation without jeopardising the ability of future generations to satisfy their own needs.[4] There are two characteristics that can be used to gauge a project's sustainability. 1. Business Sustainability. 2. Environmental Sustainability. Business Sustainability From this angle, we must take into account if and how the project will result in budgetary gains or benefits and continue to run on earned salaries. Additionally, projects of this kind that focus on career development could include this as a cross- cutting theme. We want to offer the best administration possible for our project.

Transportation will be hassle-free for both our clients and their clients. Our app will receive a little exchange fee for each arrangement, which will help our framework keep up its business appearance. Environmental Sustainability.

In this light, we should discuss the resources that our business uses in such a way that the necessary resources never run out. This is frequently, or rather, in exceptional circumstances, a kind of project maintainability.

7.2 Social and Environmental Effects and Analysis

Based on the following criteria, trust and fulfilment can be used to gauge the social impact of e-commerce: expanded use of the Web Students and young people are the fastest-growing demographic group and the most advanced users of cutting-edge software and online technologies. On the other hand, this project does little to directly change how the environment is affected. E-commerce websites enable businesses to offer significantly better customer services. E-commerce has a significant impact on how trade forms are organized and accelerates their efficiency. It reduces the amount of printed content while increasing organizational effectiveness. The main benefit of buying online is that you can never know the specifics of the item you want to buy. You can also compare the product's quality and features to those of other brands that are competing with it on the market and to customer reviews. E-commerce may effectively oversee, collaborate on, and facilitate business activities, but it can also have certain unfavorable effects, such as pollution and radiation damage. Three main issues—vitality, resources, and contamination—have been the focus of this study since they are key factors in global warming. Individually, people buy more because online purchasing is so convenient. The three areas of energy, resources, and pollution that e-commerce has an impact on the environment are discussed here. As of right now, neither scientists nor decision-makers have made definitive claims regarding how e-commerce affects the environment. E-commerce Benefits the Environment Avoiding driving can save fuel.

Additionally, with fewer people on the road, there is less traffic, which results in less gasoline being wasted by idle cars. E-commerce may effectively oversee, collaborate on, and facilitate commercial activities, but it may also have certain unfavourable effects, such as pollution, radiation damage, etc. This consideration has concentrated on three key issues: vitality, resources, and contamination because these are main drivers of global warming. People buy more since online buying is so convenient for them. Three viewpoints are at the core of e-natural commerce's impact: vitality, assets, and contamination. Researchers and decision-makers still don't have a good understanding of how e-commerce affects the environment as of right now. Shopping online benefits the environment: Saving Fuel by staying at home. Additionally, when fewer people are driving, there is less activity, which means fewer automobile engines are idling and waste fuel due to blockages.

E-commerce creates new organisations and offers much better customer service. E- commerce alters trade forms and makes them more efficient and rapid.

7.3 Addressing Ethics and Ethical Issues

The moral code that governs daily activity includes rules of conduct that categorise certain actions as proper or bad. Unreliable users may take use of the Web's extensive

knowledge base and strong communication capabilities to their own financial and personal advantage at the expense of others. A framework for using the Internet safely is provided by the Internet Code of Conduct, which modifies general ethical norms for the purpose. Moral conflicts that need to be resolved develop in situations known as moral difficulties. In other words, it's a period when moral principles can be called into doubt. Even if it's rarely the first thing that comes to mind when developing a website, technical considerations like functionality and project specifications must be made. But what we frequently forget to consider is the direct impact that software and technology have on people's lives, with both the potential to enhance and degrade them. It is impossible to separate technology from the ethical questions that it poses since it has gotten so ingrained in our daily lives. They have an impact on what we consume and produce. When working on this project, several of the typical ethical dilemmas that developers encounter were taken into consideration. 1. Information assurance for customers: One of the most pressing issues in the digital era is personal information security because of the sensitive data that our clients entrust us with. Therefore, when creating this project, information security was given the highest priority.

2. Copyright ownership: No one is permitted to copy, convey, exhibit, or modify this extension's code since it is the company's property without their permission. I recently had to sign a copyright agreement with the corporation while working on their company project as an intern.

3. Managing database security: The company's senior engineers still have access to the database and back-end server. I had no direct authority because I was an understudy.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

In order to achieve our goals, everyone of us must overcome obstacles. Both the project and I experienced the same issue. For me, it was a completely wasted opportunity. As a contemporary understudy, I had to memorise a part requiring both specialised and interpersonal skills. It was also quite challenging for me to learn in the workplace because I had to put in extra effort to take in and comprehend my work. Although they are helpful, the coworkers are frequently busy due to their own deadlines.
The most difficult issue I first had to deal with was spending a lot of time in the office sitting still and paying attention. . Even though I had everything down pat for the duration of my internship, adjusting to the office atmosphere was still an important step for me. Learning while working was also challenging because I had to put in extra effort to request and obtain my work. The colleagues are friendly, but they are typically busy because they all have claim due dates to meet. I believe that 4 months is not enough time to change and learn the standard workflow and procedures of a business with so many distinct projects and offices. We overcame a minor problem. I was forced to work full- time hours because my official hours were from 9:00 am to 6:00 pm. Due to my engagement requirement, it was difficult for me, but I do appreciate it.

8.2 Solution of those Problems

Actually, I had to push myself to get into the flow of things. Suddenly, everything started to fall into place. Organising my time and my belongings greatly aided me in resolving all of my problems. Working throughout the entire episode only made the situation more

terrible. In any event, allowing half of the MPs to work remotely was a wise decision on the part of the administration. After some time, the workflow became considerably more extensive. Everything went according to schedule. However, we were forced to delay several stages of improvement for many weeks because we were unable to make up for the time lost due to the outbreak. However, things have unavoidably started to fall into place.
Despite the fact that they work on a huge variety of projects—more than enough for this company—they lock in during particular exercises. In any event, my proposal will have a more unique quality.

Place a strong emphasis on the value of training as an investment: Although the upfront costs might seem extravagant, keep in mind that training is an ongoing investment in the growth of your company's staff.
Promotional endeavours: Despite the fact that they work on a lot of projects, this is more than enough for their business. My advice will, nevertheless, be more commercial in nature.
System upkeep: Because the Techlogicians Solutions Department is in charge of so many different clients and systems, diligent system upkeep from competent management is necessary.
Maintain a high level of product quality: Maintaining a high level of product and service quality is necessary.
Follow the Outcome: A training program won't be successful until I oversee it. To get the most out of your training, specify the key competencies you need to strengthen and the time limit for doing so. Despite the fact that they work on a lot of tasks, this organisation can handle more than enough. I'll make a recommendation that is more commercial in character.

Chapter 9

Future Work & Conclusion

9.1 Future Works

The system was created with the use of cloud computing, which is the current trend in computing, in mind. As a result, it is adaptable and simple to turn into a cloud server that multiple online shops may use to access the necessary information and make use of different functions.
We will look at SMS integration, which will allow customers to receive warnings and notifications via their mobile phones, though, in the near future. However, in the near future, we'll look into SMS integration, which will let consumers get alerts and notifications on their phones.
The "e-commerce website" project is still in its early phases of development, and various new features are scheduled for the not too distant future. Here are a few illustrations: 1. Service support for SMS. 2. Support for 3 chat services. 3. Include a variety of products, including organic ones. 4. Including a live chat feature. 5. A video background is step six. 6. Create a system for forgotten passwords and registrations. 7. Linking a user's social media accounts to their particular user profiles. 8. A chat facility for instant communication between the client, admin, and client for improved services. 9. Offering a premium edition with additional features. 10.Add payment flexibility. Our continuous approach would be to update and maintain existing implemented functionalities in addition to adding new capabilities.

9.2 Conclusion

It was challenging for me to determine what areas of computer science and engineering (CSE) I was truly passionate about because of the wide range of specializations available. But throughout the four years of my academic journey, as I completed the essential

courses, my interest in the web development field grew more intense. This is why I opted to pursue an internship in this department: I hope to gain real-world experience in this industry by working with a professional team and honing my communication and interpersonal skills. I've always yearned to be a part of the business world. I started this internship by taking the first step. I can say that this internship was an excellent experience for me now that it has come to a close. Throughout this internship, I picked up a lot of contemporary knowledge from my seniors. As part of my internship at Techlogicians Solutions, I produced this report. And I want to express my sincere gratitude to Techlogicians Solutions for giving me the chance to work with such an outstanding team. I gained a lot of knowledge from the team members throughout this time. I want to express my gratitude to Rezwan Faruque,

my supervisor, for guiding and instructing me during this course. He really pushed me to adapt the business culture and gave me confidence boosts. For a brand-new intern like me, his advice was very much needed. Finally, it was a terrific experience for me to work there and watch these projects come to reality.

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An Undergraduate Internship on Topic E-Commerce Website Design and Development

By

Tamanna Shabnam

Student ID: **1821801**

Autumn, 2022

The student modified the internship final report as per the recommendation made by his or her academic supervisor and/or panel members during final viva, and the department can use this version for achieving.

Signature of the Supervisor

Mr. Mahmudul Islam
R&D Officer
Department of Computer Science & Engineering
School of Engineering, Technology & Sciences
Independent University, Bangladesh