

2023-09-21

An Undergraduate Internship/Project on Single Vendor Ecommerce Website

Haque, Ariful

Independent University, Bangladesh

<https://ar.iub.edu.bd/handle/11348/674>

Downloaded from IUB Academic Repository



An Undergraduate Internship/Project on Single Vendor Ecommerce Website

By

Ariful Haque

Student ID: **1820224**

Summer, 2023

Supervisor:

Ajmiri Sabrina Khan

Senior Lecturer, CSE

Department of Computer Science & Engineering

Independent University, Bangladesh

September 21, 2023

Dissertation submitted in partial fulfillment for the degree of
Bachelor of Science in Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

I hereby attest that I, Ariful Haque (1820224), a student of Independent University Bangladesh, have completed the project report, and submitted it fulfilling the conditions for the Degree of Computer Engineering from Independent University, Bangladesh (IUB). By giving credit where credit was due for the sources of the information used in my project and report, I adhered to the advice of my esteemed supervisor, Ajmiri Sabrina Khan.



Signature

22/9/23

Date

Write Your Name Here

Ariful Haque

Name

Acknowledgement

First and foremost, I would want to give appreciation to the Almighty Allah, for Whom my internship was successfully finished.

Second, I would like to convey my sincere appreciation to my supervisor, Miss Ajmiri Sabrina Khan, a Lecturer in the Department of Computer Science and Engineering at Independent University, Bangladesh (IUB), for all of her priceless counsel, support, and inspiration. She was ready to help me whenever I reached out the entire time. We also like to express our gratitude to Subrata Kumar Dey sir, a distinguished lecturer in the Independent University of Bangladesh's (IUB) Department of Computer Science and Engineering who assisted us with any misunderstandings.

Working as an intern at 'Global Professional IT' has been a tremendous honor. The GPIT team has been really motivating and helpful. The time and expertise of my supervisor, both of which were essential to the production of this report, are acknowledged. Finally, we would want to express our gratitude to our parents, without whose help we might not have been able to survive. We are now close to graduation because of their unwavering support and prayers.

Letter of Transmittal

Ajmiri Khan
Senior Lecturer
Department of Computer Science and Engineering
School of Engineering and Computer Science Independent University, Bangladesh
Subject: Submission of Internship Report for the completion of graduation.

Dear Miss Ajmiri Khan,

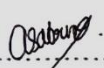
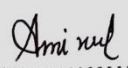
This letter is to inform you that myself Ariful Haque (1820224) would want to submit my internship report for the CSE 499 Internship Course for the Spring 2023 semester. This document is based on the project I completed while working for Global Professional IT and my internship program. In order to make my report as informative as possible, I did my best to draw on the experience I gained from my internship. Under Md. Emdadul Haque's supervision, I finished my internship program successfully.

I would appreciate it if you could look over this report and provide your wise opinion. The report that follows, in my opinion, will be adequate and get your approval.

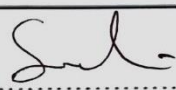
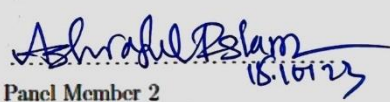
Evaluation Committee

Evaluation Committee

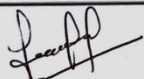
Supervision Panel

	
Academic Supervisor	Industry Supervisor

Panel Members

	
Panel Member 1	Panel Member 2

Office Use

	
Program Coordinator	Head of the Department

Abstract

I have summarized the knowledge and experiences I received while working as an intern at Global Professional IT (GPIT) in this project. We are embarking on the development of a web application, specifically a single vendor e-commerce platform. This platform aims to provide a seamless experience for customers to explore products and place orders via a web-based system. The central features should allow customers to browse available items, select what they desire, and proceed to place orders from the vendor. Payment option will initially be cash on delivery, with plans to integrate online payment gateways in future updates for added convenience and efficiency.

In the realm of administration, there will be several crucial functionalities. Administrators will possess the authority to manage orders, approving or disapproving them as necessary. They will also be able to oversee and update various aspects of the product database, encompassing brands, categories, pricing, and product variants. Moreover, administrators will hold the power to customize website settings, shaping the user experience and influencing how customers interact with the website.

For general users or customers, the focus will be on providing an intuitive interface for a smooth journey. Users have the ability to register on the platform, browse items, brands, and categories effortlessly. They should be able to seamlessly add or remove items from their shopping cart as they navigate through the platform. Once satisfied with their selections, customers can proceed to place their orders.

Contents

Attestation	i
Acknowledgement	ii
Letter of Transmittal	iii
Evaluation Committee	iv
Abstract	v
1 Introduction	1
1.1 Overview/Background of the Work	1
1.2 Objectives	1
1.3 Scopes	1
2 Literature Review	2
2.1 Relationship with Undergraduate Studies	2
2.2 Related works	2
3 Project Management & Financing	4
3.1 Work Breakdown Structure	4
3.2 Process/Activity wise Time Distribution	4
3.3 Gantt Chart	5
3.4 Process/Activity wise Resource Allocation	5
3.5 Estimated Costing	6
4 Methodology	7
5 Body of the Project	9
5.1 Work Description	9
5.2 Requirement Analysis	9
5.3 System Analysis	12
5.3.1 Six Element Analysis	12
5.3.2 Feasibility Analysis	13
5.3.3 Problem Solution Analysis	13
5.3.4 Effect and Constraints Analysis	14

5.4	System Design	14
5.5	Implementation	17
5.6	Testing	21
6	Results & Analysis	22
7	Project as Engineering Problem Analysis	23
7.1	Sustainability of the Project/Work	23
7.2	Social and Environmental Effects and Analysis	23
7.3	Addressing Ethics and Ethical Issues	23
8	Lesson Learned	24
8.1	Problems Faced During this Period	24
8.2	Solution of those Problems	24
9	Future Work & Conclusion	25
9.1	Future Works	25
9.2	Conclusion	25
	Bibliography	26

List of Figures

1		i
2		iv
2.2.1	Related Works	2
2.2.2	Related Works	3
3.1	Work Breakdown Structure	4
3.3	Gantt Chart	5
4.1	Software Development Cycle	7
4.2	Agile Model	8
5.2	Rich Picture	9
5.4.1	Use Case Diagram	15
5.4.2	Activity Diagram	16
5.5.1	Login Page	17
5.5.2	Login/Registration Page Code Fragment	17
5.5.3	Login Page Authentication Code	18
5.5.4	Database Table	19
5.5.5	Users Database Field	19
5.5.6	Brands Database Field	19
5.5.7	Products Database Field	20
5.5.8	Orders Database Field	20
5.5.9	Login/Registration Page Code Fragment	17

List of Tables

3.2	Process Wise Time Distribution	5
3.4	Activity wise Resource Allocation	6
5.1	Functional Requirement Table	11
5.3	Six Element Analysis	12

Chapter 1

Introduction

1.1 Overview/Background of the Work

The creation of a focused single vendor ecommerce platform is part of this endeavor. Customers can shop with ease on the platform, which will house a variety of products. It seeks to make purchasing different things easier while providing a productive and user-friendly interface for both the seller and the customers.

It will include details on brands, product variations, and product information in addition to user information, offering a simple and digital buying experience.

1.2 Objectives

This single vendor ecommerce platform's main goals are divided into two categories. First and foremost, it aims to provide customers with a seamless and effective shopping experience that makes it simple for them to navigate and buy a variety of goods. Second, the platform aims to empower the seller by giving them a user-friendly interface to successfully market their brands, goods, and variations. The platform's objective is to increase customer satisfaction, promote sales, and create a situation where the seller and the customers may both benefit from the platform's inclusion of complete product descriptions and streamlined digital purchasing procedures.

1.3 Scopes

This ecommerce site will help the vendor manage its products, brands and their respective details like pricings, orders, deliveries and quantities. This site is created for single vendors looking to expand their business in the realms of digital space where customers can seamlessly interact with the offerings of the vendor and undergo a seamless buying experience.

The application's capabilities will be expanded in the future by the developing company. Additionally, develop a mobile and desktop application with the same features or more.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

I acquired a lot of the knowledge and abilities I need to achieve this goal from some of the courses I was enrolled in throughout my undergraduate studies. My understanding of application development was strengthened and I was able to make adequate use of the knowledge I picked up from those courses. A few of those courses are as follows:

Data structure : For managing, coordinating, retrieving, and storing information, data structures are helpful. They can be categorized as simple or complex, and each one is made to coordinate data for a particular objective. Data organization is defined by data structures, making it easier for machines and people to handle data. The 'Webapp' contains numerous intricate data structures that were developed using what was learned in this course.

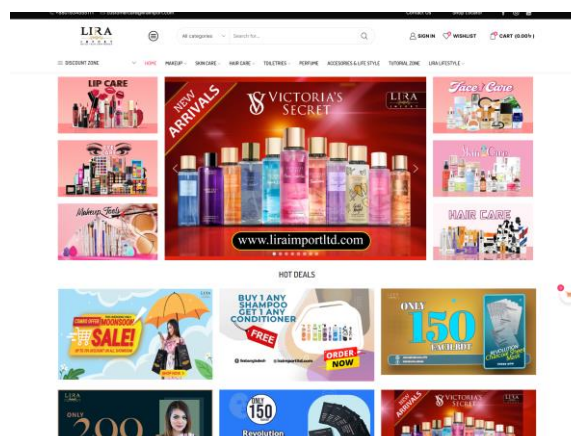
OOP : Information designs or things with certain features or qualities are defined in object-oriented programming. Classes and their associated programming objects are covered in the course. Additionally, each article could have its own set of guidelines/rules or standards. Connecting different pieces results in what is known as programming. OOP can be used to lessen the amount of labor needed for application planning and assembly. This course assisted me in gaining the foundational knowledge necessary to create the application using an OOP language.

System Design and Analysis : The methods and equipment utilized in the planning and designing of a system are covered in this course. This course covers a variety of subjects, including flow charts, decision tables, choice trees, and models for the frameworks advancement life cycle. This course made it possible for me to create the designs for our web app, including the activity diagrams, UML diagrams, system architecture, etc.

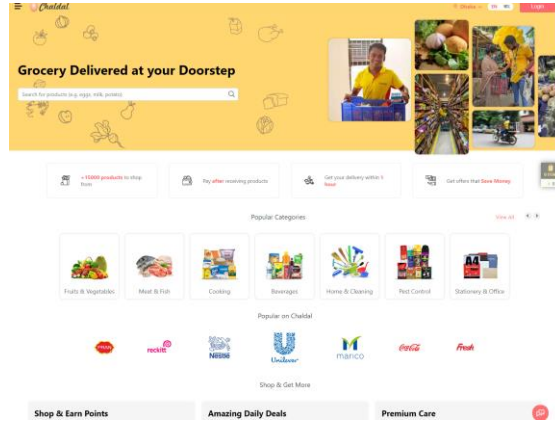
2.2 Related works

There are currently applications on the market that resemble my proposal. Following is a list of some of them:

- **LIRA Import BD :** Lira import is one of the leading cosmetic vendors in Bangladesh established in 2015. They have a web application where users can order or purchase their desired products from Lira import. Similar to the web app we have developed, their website also offers an intuitive user interface that benefits for the vendor and the customers and provides a seamless user experience for both sides. [1]



- Chaldal : Chaldal is one of the leading online grocery platforms in Bangladesh that had been operating since late 2013. Their dedicated web application is one of a kind and offers a vast array of features. Their web application is far more advanced than the current state of the one we developed but we have plans to expand the capabilities in the future. [2]



Chapter 3

Project Management Plan & Financing

3.1 Work Breakdown Structure

A hierarchical structure called the Work Breakdown Structure (WBS) illustrates how a project is broken down into smaller components. For our project, we developed a work breakdown structure (WBS) to make sure that our labor is synchronized. WBS ensures that important outcomes are not missed and gives a visual representation of all scopes, hazards, points of communication, responsibilities, and costs. It is the perfect team tool for cooperation and brainstorming. In creating our task breakdown structure, we took a top-down approach.

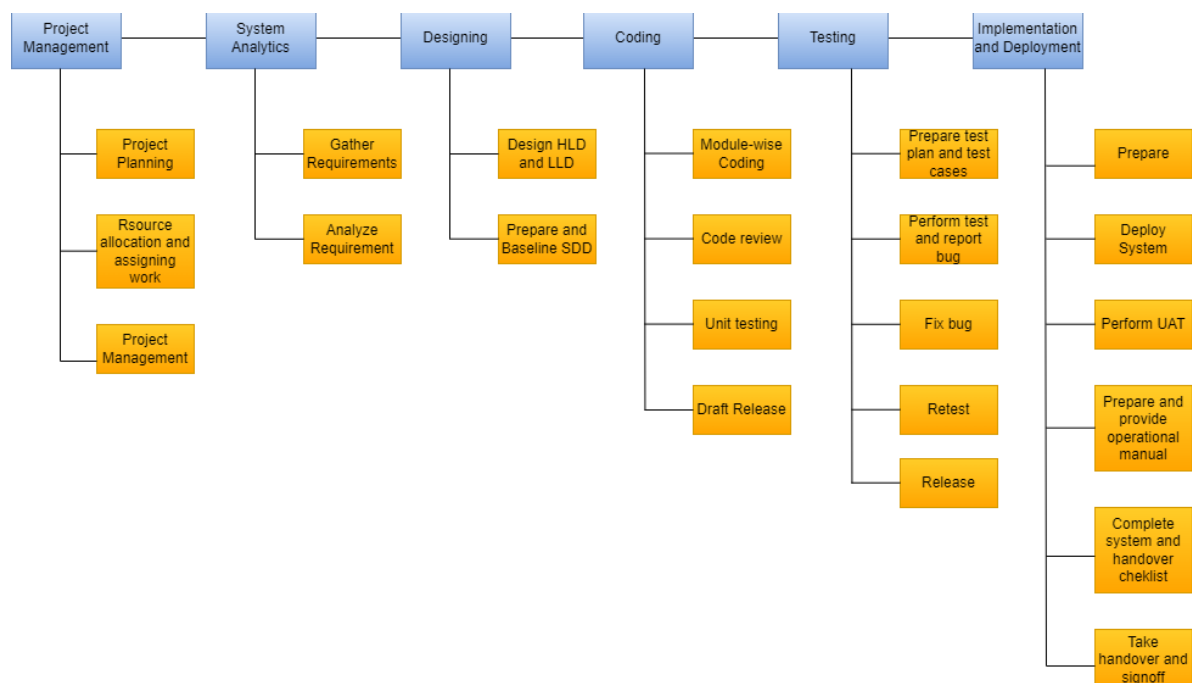


Figure 3.1: Work Breakdown Structure

3.2 Process/Activity wise Time Distribution

Process wise time distribution is determined by the anticipated length of time necessary to execute a project. This helps developers make a mind map of how quickly they need to work in order to fulfill deadlines. The most challenging obstacles in properly designing an application are time and time management. Therefore, it is necessary to fix the content first, and development must be based on this context. To effectively manage your time, you must plan and control how much time you spend on different things.

People who have effective time management can achieve more in less time, feel less stressed, and succeed in their careers. Time management is crucial for completing any assignment.

INDEX	ACTIVITY	DEPENDENCIES	DURATION (Days)
A	System Requirements	None	5
B	Cost Analysis	A	1
C	Risk Analysis	A	4
D	Design	A	12
E	Coding	A,D	35
F	Testing	E	5
G	Deployment	E,F	3

Table 3.2: Process wise time distribution

3.3 Gantt Chart

Gantt charts can be used to assist plan and schedule projects of any size, but they are especially useful for simplifying challenging jobs.

To indicate start and end dates, dependencies, scheduling, and deadlines, as well as the percentage of a task that has been completed in each phase and the task owner, horizontal bar charts are constructed utilizing project management timelines and tasks.

This is helpful for keeping tasks on track when there is a big team and many of stakeholders when the scope changes.

The following tasks include the usage of Gantt charts: - Establish an initial project schedule that details who will do what, when, and how long it will take.

- Distribute resources and ensure that everyone is aware of who is responsible for what.
- Make project-specific alterations; the original plan will need several changes.
- Progress is tracked and reported, keeping you on course.
- Manage and convey the schedule; produce simple visualizations for participants and stakeholders.
- Display milestones to highlight important occurrences.

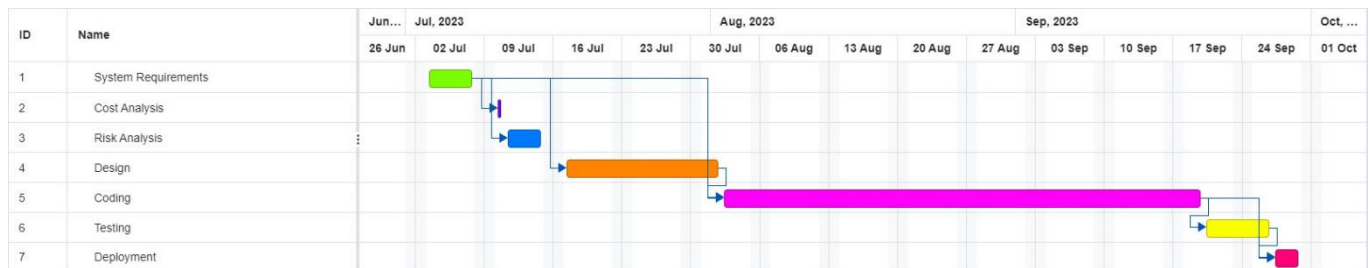


Figure 3.3: Gantt Chart

3.4 Process/Activity wise Resource Allocation

- **Planning:** During the planning phase, resources were allocated for gathering project needs, doing preliminary research, and creating an extensive project plan. This entailed the participation of project managers, business analysts, and subject matter experts who all contributed their knowledge to make sure the project had a solid foundation.
- **Data collection:** A lot of resources were required to compile the required knowledge and data.
- **Cost and Schedule Analysis :** Allocating resources properly was crucial to undertaking a thorough review of project costs and deadlines. To evaluate the budget, estimate expenditures, and establish reasonable timetables for each project phase, financial experts, project managers, and scheduling professionals worked together.

- **Risk analysis:** The project's management and risk assessment both required the deployment of resources. Risk management and related field experts investigated potential dangers, assessed their effects, and developed mitigation strategies.
- **Development:** During the core development phase, a significant amount of resources had to be allocated. Software engineers, programmers, and developers with extensive experience were entrusted with the design, coding, and integration of the many components.
- **Design:** User experience specialists were involved in the development of a user-friendly and aesthetically pleasing product.
- **Testing:** To assure the system's dependability and performance, quality assurance specialists, testers, and engineers that specialize in automation meticulously looked for and repaired any defects or issues.

ACTIVITY	DAYS	WORK PERCENTAGE
Planning	3	5%
Data Collection	2	3%
Cost Schedule Analysis	1	2%
Risk Analysis	4	6%
Development	35	55%
Design	12	18%
Testing	5	7%
Deployment	3	4%

Table 3.4: Table for Activity wise Resource Allocation

3.5 Estimated Costing

I was not disclosed any information regarding the cost of the project by my supervisor.

Chapter 4

Methodology

4.1 SDLC Model (System Development Life Cycle):

The phases of an information system development project are outlined in this theoretical framework for project management, from the initial feasibility assessment to system maintenance. Several SDLC models, including the waterfall model (the original SDLC method), have been developed to guide the activities involved. Sometimes work better for different project kinds, but ultimately, how closely a plan was followed may be the most important factor in evaluating a project's success. A software development life cycle, in its simplest form, is a series of procedures or stages that act as a framework for developing and maintaining a piece of software or an application. Through the software development life cycle, high-quality software development is ensured.

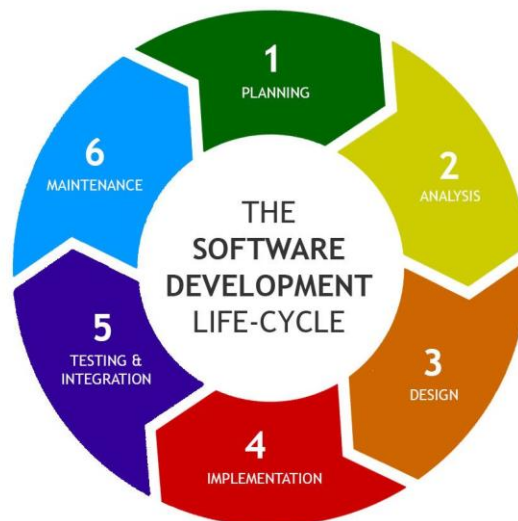


Figure 4.1: SDLC Diagram

The list below includes some of the most popular SDLC models:

- Incremental
- Spiral
- Prototype
- Waterfall
- Agile
- Rapid Application development

Why a model is being followed?

The team members must have a firm understanding of what to do and when to do it while building a software product since it is impossible to create software products in a systematic and disciplined manner without the usage of a specific life cycle model. Failure to follow through will lead to project failure and misunderstanding. The agile methodology has been chosen as the preferred strategy for our project.

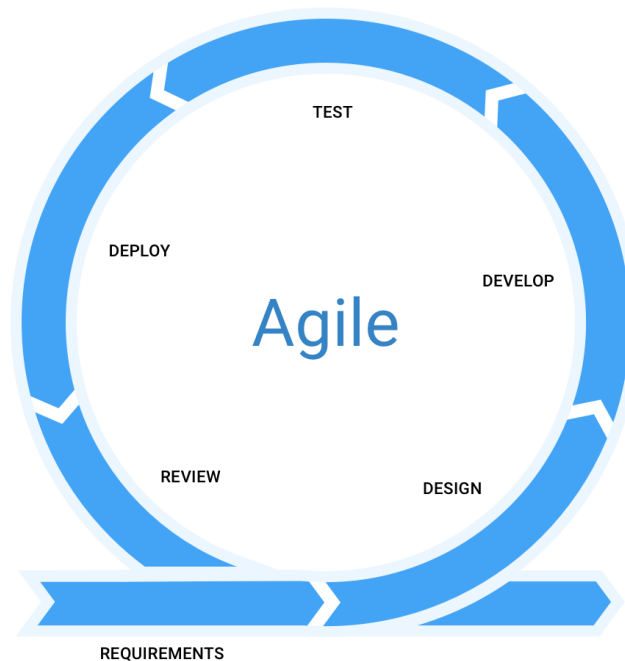


Figure 4.2: Agile model

Why are we using the Agile Model?

For your single vendor e-commerce site project, you chose the Agile SDLC technique to ensure flexibility and adaptation in the development process. Agile enables regular feedback loops and incremental improvements, allowing for quicker reactions to customer needs and market changes. It encourages teamwork, which improves production and communication. Agile's iterative process allows for changes and improvements throughout the project, resulting in a final product that exactly matches changing business requirements and customer expectations.

Chapter 5

Body of the Project

5.1 Work Description

Users open the program by typing the website's address into their browser, which directs them to the login/signup page. The user logs in or registers with the program. The admin and the customers are the system's two primary users. Each user of the system has access to a wide range of tasks. These components were chosen to boost the system's effectiveness and efficiency while maintaining a user-friendly design. The tasks that each user performed are discussed further in the body of the report along with figures and tables.

5.2 Requirement Analysis

Rich Picture

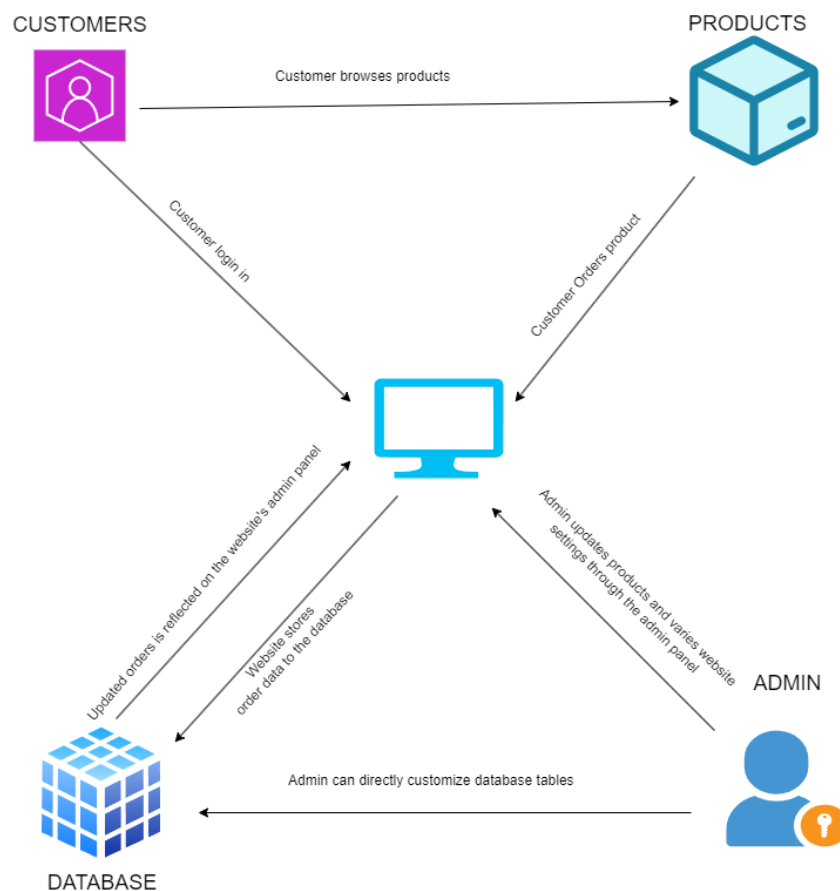


Figure 5.2: Rich Picture

As part of the system design process, a rich picture is used to create a full understanding of the system and its surroundings. A rich picture is a visual representation of the situation that incorporates images, text, symbols, and icons. A visual representation of the various system stakeholders, their interactions, and the fundamental components is provided by the detailed image.

Functional and Non-Functional Requirements

Functional requirements serve as a system's to-do list, outlining what it must accomplish and how it must react to user input. They are essential for ensuring that a system reaches its objectives by outlining the precise duties, functions, and characteristics it has to have. These specifications guarantee that the system operates as intended and reacts appropriately to user interactions. For a project to be completed successfully and so that the system serves the needs of its users, certain requirements must be met.

Non-functional requirements are significant guidelines that aid in evaluating a system's quality, but they are not directly related to what the system does. They assist us in assessing the system's efficiency, security, stability, usability, and other factors. These guidelines guarantee the system's efficiency and manageability over time. Functional requirements, on the other hand, describe what the system actually accomplishes. They serve as a kind of template for developing an effective system that delights users, like the Universal Transactional Middleware. By doing this, we make sure the system runs efficiently and satisfies user requirements.

Below are some:

- **Performance:** The application needs to be very fast. Actions like logging in, logging out, and starting up should happen really quickly and smoothly.
- **Usability:** Using the application should be a breeze. It should be simple and easy for everyone, no matter their age. One should be able to figure out how to use it in no time because it's straightforward. The design should be such that one will not need help to achieve what he/she wants to do.
- **Security:** User's info and login details should be kept safe in the database. Google Firebase helps with authorization, and even passwords will be encrypted and stored securely. The app and its data must be well protected from anyone who shouldn't have access.
- **Reliability and Availability:** The application will be tested thoroughly to make sure it works well for a long time. It will be dependable, and users can count on it to run smoothly.
- **Portability:** Users will not need a fancy device to run the application—any regular device will do, as long as it has internet access. Testing will be done on lots of different devices, and it should great on all of them.

Requirement	Description
User Registration	Customers will be able to register themselves on the website
Categories, Brands and Variants	Customers should be able to look up products based on brands and categories.
Add / Delete to and from cart	Customers should be able to add or delete their desired products to and from the cart
Order Placing	Customers should be able to place their orders when they are satisfied with their cart
Order Management	Admin should be able to see and manage the orders made by the customers
Product/Brand/ Category Management	Admin should be able to add/delete/update products and various product details according to their needs
Database Management	Admin should be able to manage user and website data when necessary
Profile Updating	Customers should be able to update their profile details like their image, phone number or address when needed.

Table 5.1: Functional Requirement Table

5.3 System Analysis

5.3.1 Six Element Analysis

\$	System Roles					
	Human	Non computing Hardware	Computing Hardware	Software	Database	Communication and Network
Admin login	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Admin add product	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Admin add category	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Admin add brand	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Admin manage orders	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any	My SQL	Internet

	browsing software					
Customer Login	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Customer add to cart	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Customer place order	User	N/A	Computer, Smartphone	Single Vendor Ecommerce (SVE) Web App, any browsing software	My SQL	Internet
Updates the system	Admin	N/A	Computer, Smartphone	Vs Code, Laravel	My SQL	Internet

Table 5.3: Six Element Analysis

5.3.2 Feasibility Analysis

Feasibility analysis determines whether a concept is feasible by identifying potential problems and determining whether the project can be continued. The web application System is developed utilizing well-known technologies like XAMPP, Laravel, PHP, and MySQL to ensure support from a large community. This is an example of technical feasibility.

5.3.3 Problem Solution Analysis

This project ran into a number of issues. These were resolved and put into practice using the following fundamental steps:

Identifying the problem: locating the source of the issue

Finding solution to the problem: developing precise and accurate answers
Implementing the solutions: putting them into practice and resolving the issues
Testing: to see whether the issues have been resolved. If not, the process starts over at step one.

5.3.4 Effect and Constraints Analysis

The software is still being developed. The payment mechanism for the application depends on yet-to-be-implemented online/mobile banking services. The application needs some time to launch and execute completely.

5.4 System Design

The system design phase is a crucial step in the development of the web application. It comprises selecting and creating the system's various architecture, modules, interfaces, and features while making sure they satisfy the necessary specifications. The goal is to create a system that successfully satisfies the specific goals and requirements of the project.

5.4.1 UML Diagrams

A use case diagram serves as a compact representation of the system and its users while providing an overview of the interactions taking place within it. The links and interconnections between the various system components are represented visually by this. The primary goal of a use case diagram is to summarize the essential details of how users interact with the system and the functionality it offers in return. [4]

Below is a use case diagram for the school management system and a list of all the different participants:-

Actors:- Admin, Users.

The following use cases correspond to these actors:

Admin: Log in, log out, add product, manage product, manage product details such as (variants, price, description, image etc), handle orders, and update data.

User: Login, logout, user profile, add or remove product from cart, place order.

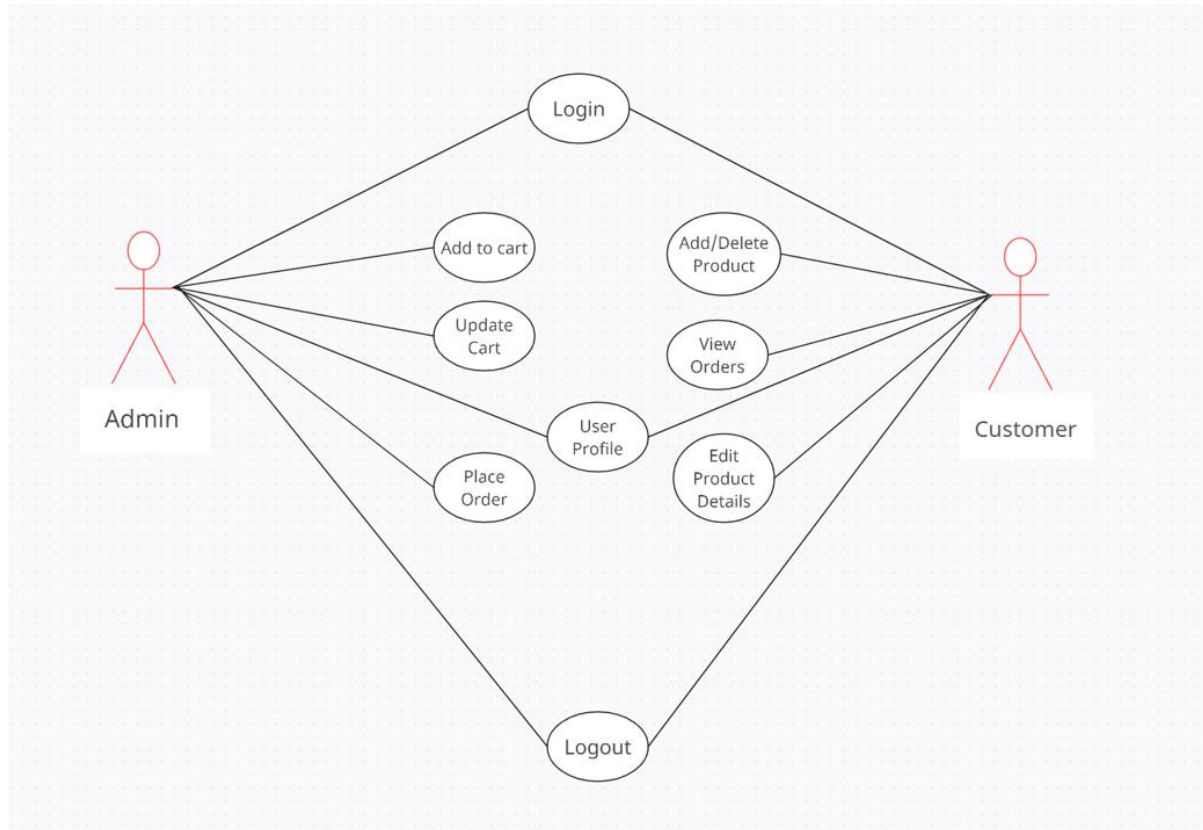


Figure 5.4.1: Use Case Diagram

5.4.2 Activity Diagram:

The activity diagram is a crucial component of UML that graphically represents the flow of activities inside a system. As flowcharts, they demonstrate how one activity leads to another. Activity diagrams show different flow control scenarios that make use of various parts like forks and joins. These examples are helpful for describing how a system functions dynamically and for encouraging cooperation and decision-making. They are crucial documentation artifacts that support process optimization and analysis during system development. In general, activity diagrams provide a clear and visual picture of how an activity flow occurs in a system.

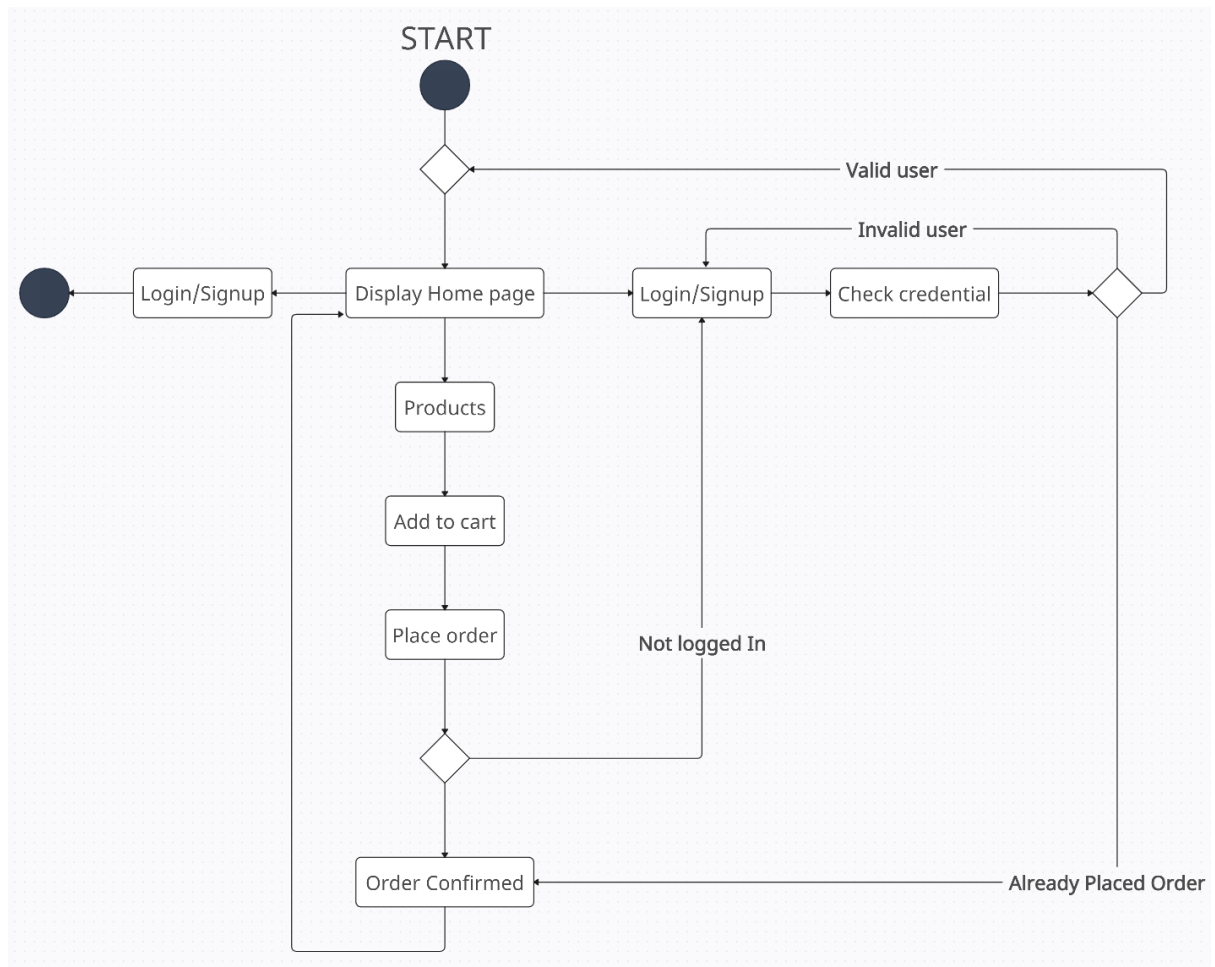


Figure 5.4.2: Activity Diagram

5.5 Implementation

User login Page:

Login
Login if you are a returning customer.

Email Address

Password

☐ Remember me [Forgot Your Password?](#)

Login

[Don,t Have an Account? Sign up now](#)

Create an Account
Register here if you are a new customer

Username

Email Address

Password

Confirm Password

Submit & Register

☐ I have read and agree to the terms & conditions

Figure 5.5.1: Login/Registration page

Login Page code snapshots:

```
resources > views > auth > login.blade.php > main.main__content_wrapper > div.login_section.section--padding > div.cont
14 <div class="account_login--header mb-25">
15 <h2 class="account_login--header_title h3 mb-1">
16 <p class="account_login--header_desc">Login if
17 </div>
18 <form method="POST" action="{{ route('login') }}">
19 @csrf
20 <div class="account_login--inner">
21 <input class="account_login--input" name="email"
22 <input class="account_login--input" name="passw
23 <div class="account_login--remember_forgot mb-
24 <div class="account_login--remember positic
25 <input class="checkout_checkbox--input"
26 <span class="checkout_checkbox--checkma
27 <label class="checkout_checkbox--label
28 Remember me</label>
29 </div>
30 <button class="account_login--forgot" type=
31 </div>
32 <button class="account_login--btn primary_btn"
33 <div class="account_login--divide">
34 <span class="account_login--divide_text">C
35 </div>
36
37 <p class="account_login--signup_text">Don,t Ha
38 </div>
39 </form>
```

Figure 5.5.2: Login/Registration page code fragment

```

app > Http > Controllers > Auth > LoginController.php
25     /**
26      * Where to redirect users after login.
27      *
28      * @var string
29      */
30     // protected $redirectTo = RouteServiceProvider::HOME;
31     protected $redirectTo;
32     /**
33      * Create a new controller instance.
34      *
35      * @return void
36      */
37     public function __construct()
38     {
39         if (Auth::check() && Auth::user()->role->id == 1)
40         {
41             $this->redirectTo = route('admin.dashboard');
42         } else {
43             $this->redirectTo = route('author.dashboard');
44         }
45         $this->middleware('guest')->except('logout');
46     }
47 }
48

```

Figure 5.5.3: Login page authentication code

Database - :

As part of the database design process, a model of the data is created that takes into account the relationship between the kind of data and the data itself .A small quantity of analysis uses some of the information needed to model a database, implement the interface design architecture, or follow a comprehensive strategy or procedure technically or as necessary. A precise model of the database is created through the process of database design.

	Table	Action	Rows	Type	Collation	Size	Overhead
☐	brands	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	categories	★ Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	colors	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	deliveries	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	failed_jobs	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	lebens	★ Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	migrations	★ Browse Structure Search Insert Empty Drop	15	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	orders	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	order_items	★ Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	password_resets	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	personal_access_tokens	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	48.0 KiB	-
☐	products	★ Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_unicode_ci	64.0 KiB	-
☐	roles	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	settings	★ Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-
☐	users	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
☐	variants	★ Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	16.0 KiB	-

Figure 5.5.4: Database Tables

Database field design:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	id	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
☐ 2	name	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐ 3	email	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐ 4	email_verified_at	timestamp			Yes	NULL			Change Drop More
☐ 5	role_id	int(11)			No	2			Change Drop More
☐ 6	password	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐ 7	remember_token	varchar(100)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 8	created_at	timestamp			Yes	NULL			Change Drop More
☐ 9	updated_at	timestamp			Yes	NULL			Change Drop More

Figure 5.5.5: Users database field

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	id	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
☐ 2	brand_name	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐ 3	brand_logo	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 4	brand_slug	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐ 5	brand_short_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 6	status	int(11)			No	1			Change Drop More
☐ 7	meta_title	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 8	meta_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 9	image_alt	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 10	meta_keyword	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 11	fb_title	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 12	fb_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 13	fb_image	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 14	custom_code	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐ 15	created_at	timestamp			Yes	NULL			Change Drop More
☐ 16	updated_at	timestamp			Yes	NULL			Change Drop More

Figure 5.5.6: Brands database field

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1 id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
☐	2 product_name	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐	3 product_code 🔑	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐	4 brand_id	int(11)			Yes	NULL			Change Drop More
☐	5 variant_id	longtext	utf8mb4_bin		Yes	NULL			Change Drop More
☐	6 colour_id	longtext	utf8mb4_bin		Yes	NULL			Change Drop More
☐	7 category_id 🔑	bigint(20)		UNSIGNED	No	None			Change Drop More
☐	8 lebls_id	longtext	utf8mb4_bin		Yes	NULL			Change Drop More
☐	9 product_short_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	10 product_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	11 product_slug 🔑	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
☐	12 product_image	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	13 images	longtext	utf8mb4_bin		Yes	NULL			Change Drop More
☐	14 product_video	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	15 product_show	tinyint(1)			No	1			Change Drop More
☐	16 product_selling_price	decimal(10,2)			Yes	NULL			Change Drop More
☐	17 product_offer_price	decimal(10,2)			Yes	NULL			Change Drop More
☐	18 product_coupon	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	19 product_date	timestamp			No	current_timestamp()	ON UPDATE CURRENT_TIMESTAMP()		Change Drop More
☐	20 status	tinyint(4)			No	1			Change Drop More
☐	21 meta_title	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	22 meta_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	23 image_alt	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	24 meta_keyword	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	25 fb_title	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	26 fb_description	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	27 product_fb_image	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	28 custom_code	text	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	29 created_at	timestamp			Yes	NULL			Change Drop More
☐	30 updated_at	timestamp			Yes	NULL			Change Drop More

Figure 5.5.7: Products database field

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1 id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
☐	2 user_id	bigint(20)		UNSIGNED	Yes	NULL			Change Drop More
☐	3 total_amount	decimal(10,2)			Yes	NULL			Change Drop More
☐	4 first_name	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	5 last_name	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	6 company	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	7 address1	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	8 address2	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	9 city	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	10 country	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	11 postal_code	varchar(255)	utf8mb4_unicode_ci		Yes	NULL			Change Drop More
☐	12 save_info	tinyint(1)			No	0			Change Drop More
☐	13 status	enum('pending', 'completed', 'cancelled')	utf8mb4_unicode_ci		No	pending			Change Drop More
☐	14 created_at	timestamp			Yes	NULL			Change Drop More
☐	15 updated_at	timestamp			Yes	NULL			Change Drop More

Figure 5.5.8: Orders database field

5.6 Testing

5.6.1 Input

User Input:

1. User Registration:
 - Input: User provides their name, email, password, contact number, and address during the registration process.
 - Output: User is registered and can log in to the app.
2. User Login:
 - Input: User enters their registered email and password.
 - Output: User is authenticated and gains access to the app's features.
3. Order Placement:
 - Input: User places order after adding the required products to the cart.
 - Output: An order is created and sent to the system for processing.
4. Category/Brand Browsing:
 - Input: User clicks on brands or categories.
 - Output: User is presented with a list of available brands or categories according to the stock that the vendor has.

5.6.2 Output

System Output:

1. Order Processing:
 - Input: The system receives order details from users.
 - Output: The system processes the order, stores it in the database and send the order request to the admin panel.
2. Error Handling:
 - Input: Various inputs may lead to errors or exceptions.
 - Output: The system provides appropriate error messages and notifications to users.

5.6.3 Test Results

Test Results for Users:

Test Case 1 - User Registration:

- Test Status: Pass
- Test Summary: Users can successfully register on the SVE web app. Registration emails are sent promptly, and account setup is smooth.

Test Case 2 - Placing Orders:

- Test Status: Pass
- Test Summary: Users can create orders without encountering issues.

Test Results for Admins:

Test Case 1 – Admin Login:

- Test Status: Pass
- Test Summary: Admin can successfully login and access the admin dashboard and control various aspects of the web app.

Test Case 2 - Viewing Orders:

- Test Status: Pass
- Test Summary: Any new test order is successfully displayed in the orders section of the admin dashboard.

Test Case 3 – Adding and Updating products:

- Test Status: Pass
- Test Summary: Admin can successfully add, delete or edit products and various aspects of the products like its price, variant, brand and category.

Chapter 6

Results & Analysis

While testing our system, we encountered certain issues. These mostly concerned making sure that only the appropriate individuals could access particular areas. To strengthen the security of our system, we corrected these problems. To ensure the system functions well, we also created some thorough plans and tested it in various ways.

We tested the system again using some specific scenarios after we fixed the issues. For instance, we played different users or examined what occurs when the system boots. In this manner, we could be certain that the system continues to function properly even in tricky circumstances.

We recorded the actions we took and the outcomes of these tests. We then considered what all of this meant. We came to the conclusion that by resolving the problems we discovered, our system is now more dependable and secure. . We also used a special technique where we pretend to be something else when testing to be extra sure everything works correctly. This helped us in identifying and fixing any underlying problems. Overall, these tests and modifications have improved and strengthened our system.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

A web application system's sustainability ensures that it can be used for a long time. Determining how to make the web application quickly respond to future modifications is the most crucial component of web application engineering. Continuous quality monitoring maintains the web application system's sustainability throughout its maintenance phase. It is crucial to build the web application with a low environmental effect and sufficient economic balance throughout the original web application development process.

We are developing a user-friendly online marketplace for sellers and customers. It's going to be a really great website, in our opinion. By teaching our employees more and holding specialized learning sessions, we can improve it even further. Additionally, as visitors utilize the website and let us know what they like and dislike, we can make adjustments to improve both its functionality and appearance. Continually improving the website and learning new things are important to us.

7.2 Social and Environmental Effects and Analysis

The key to social sustainability is to develop tools that boost the value of social capital. It is crucial to concentrate on the social ideals of the program as a result. We must conduct research into how this software affects societal sustainability.

Environmental sustainability focuses on minimizing the environmental impact of software creation, use, protection, and disposal. The software's energy consumption can be managed through the efficient use of energy, runtime, algorithms, processor density, and memory utilization. We must consider how the program may impact the environment during its creation and upkeep. It was made sure that no environmental harm was done while developing this application and that just a minimal amount of electrical energy was consumed.

7.3 Addressing Ethics and Ethical Issues

The "Software Engineering Code of Ethics and Professional Practice" describes the fundamental ethical principles that should drive software engineers' actions and decisions. The guiding principles ensure that the public's health, safety, and well-being come first in all decisions. Each choice in the application's development is based on a number of factors, including the budget at hand, the needs of the users, the software at hand, the need for reliability, and societal implications.

Basic user data is gathered by this web application, including a user's name, mobile number, and email address. Because hackers have the potential to harm actual people and legitimate businesses in the long run, the security of these data was given top priority. Data is gathered and managed in a way that prevents sharing with anyone or anywhere. Instead of concentrating solely on getting the product to market, security is taken into consideration during development and after code release.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

There are benefits and drawbacks to being employed as an intern at a startup business. Start-up companies frequently aren't equipped with the necessary personnel or resources to handle the massive workload. I had never worked in an office under a supervisor before, so at first, everything appeared very intimidating. At first, learning about new languages and adjusting to the corporate atmosphere seemed like a lot of strain. I had the option of working in a hybrid setting, so I was not needed to come into the office every day. A hefty workload was made sure by the weekly check-in meetings and monthly presentations I attended to discuss and assess the task's progress. Missing deadlines was occasionally a tight call, and I had to put in extra time to study and finish my allocated responsibilities. I had never used a new web application development framework like Laravel before, so at first it looked intimidating. It initially seemed difficult and complex to learn new syntaxes and their functions. Finally, it became out that applying what had been learnt to actual circumstances was even more challenging. Longer programs nearly always have bugs. The application used to crash on its own as a result of these bugs, and locating them was difficult. It was harder to get rid of them even after they were found.

8.2 Solution of those Problems

I eventually adapted to the corporate environment and could do things on schedule as time went on. Working for a small business gave me the opportunity to obtain practical experience and allowed me to fully understand everything at my own pace and comfort. My four years as an undergrad taught me a lot about perseverance and hard work. I had to create a timetable in advance and adhere to it meticulously to fulfill all the deadlines in order to manage the enormous workload and time constraints. I was able to stay composed and satisfied with my tasks by not accumulating too much work or leaving things till the last minute. I used my leisure time to educate myself online on Laravel and bootstrap through numerous documents and videos, which made it easier for me to handle the tasks given to me at work. In order to solve various problems, I frequently looked up documentation on sites like "Stack Overflow," "Geeks for Geeks," etc. I was able to solve the issues most of the time on my own. Every time I went to my boss with a problem, he was always eager to help.

Chapter 9

Future Work & Conclusion

9.1 Future Works

As the business expands, more features will be added to the current system. Prior to that, the application's present stage is still being developed.

A few of the possible future upgrade plans:

- Developing a mobile and desktop app version of the ecommerce platform
- Modifications of features based on user reviews and future requirements from admins
- Adding online payment gateways and further streamline the payment process and methods
- AI chat bot system will be added to facilitate customer support, upon further advancement of the current AI movement

9.2 Conclusion

During my internship, I picked up a lot of knowledge about creating web applications and company culture. I learned a lot about software development while using Laravel and bootstrap because I had to overcome new challenges every day. The most important lesson throughout the entire curriculum was to employ several approaches to overcome every difficulty. Finding and fixing bugs required a lot of patience, but giving up was not an option. My ability to do research and locate resources to back up my work has also improved. I was able to work in my field of interest and gain professional experience. I have no doubt that this internship program will help me in my future career goals.

I'm appreciative to Global Professional IT for giving me the chance to study web application development and for helping me get ready for the corporate world. I was able to patiently learn everything from beginning thanks to my supervisor's advice.

Bibliography



An Undergraduate Internship/Project on Topic Single Vendor E-commerce Website

By

Ariful Haque

Student ID: 1820224

Summer, 2023

Consent from Supervisor

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during and/or before final viva, and the department can use this version for archiving as well as the OBE course material for CSE499.

This internship report is checked with Turnitin and/or Ithenticate plagiarism checker, and the score is:

Turnitin Score (%) : 13%

Ithenticate Score (%) :

(Signature of the Supervisor)

Ms. Ajmiri Sabrina Khan

Department of Computer Science & Engineering
Independent University, Bangladesh