



Daffodil
International
University

Project Title: E-Commerce Website Design and Development (E-Shop)

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This Project report has been submitted in fulfillment of the requirements for the Degree
of Bachelor of Science in Software Engineering.

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APPROVAL

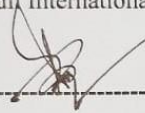
This project titled on “E-Commerce website design and development”, submitted by **Md. Shadhen Parves (ID: 162-35-1682)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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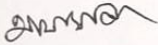
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DECLARATION

I hereby declare that I carried out the work reported in this report in the **Department of Software Engineering, Daffodil International University**, Under the Supervision of **Afsana Begum**.

I solemnly declare that to the best of my knowledge no part of this report has been submitted here or elsewhere in a previous application for degree.

Supervised by


.....

Afsana Begum

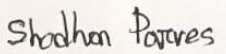
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ACKNOWLEDGMENT

First and foremost, I would want to thank God sincerely for giving me the chance to finish this job successfully.

I really appreciate Daffodil International University's Department of Software Engineering. I owe a debt of gratitude to my project supervisor, Afsana Begum, an assistant professor in the Daffodil International University Department of Software Engineering, for her unwavering supervision, wise counsel, and unceasing encouragement, all of which were essential to this project's successful completion.

My sincere gratitude also goes out to all of my instructors and friends for their insightful advice, help, and encouragement throughout the project. Finally, I want to respectfully thank my parents for their constant patience and support.

ABSTRACT

An effortless online purchasing experience for customers is the goal of the Business-to-Consumer (B2C) e-commerce application E-Shop. A variety of features are available on this platform to improve the shopping experience. E-Shop is designed to facilitate the effective and user-friendly purchasing of necessary items by clients via the use of PHP, HTML, CSS, JavaScript, and MySQL.

When a user visits the site, they may register, connect into their accounts, explore items by category, and securely process payments. Along with placing orders, clients may use the system to ask about goods and services whenever they want, from anywhere. By providing an adaptable, safe, and user-friendly online purchasing experience, E-Shop seeks to be a complete solution.

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CHAPTER – 1

INTRODUCTION

1.1 Case Study

E-commerce websites offer consumers the convenience of shopping from anywhere at any time, without the need to visit physical stores. This flexibility allows consumers to browse products, compare prices, and make purchases at their own pace and convenience. Overall, e-commerce websites serve as a convenient and efficient platform for businesses to sell products and services online, while also providing consumers with access to a wide range of choices, competitive prices, and secure shopping experiences.

1.2 Finding Gaps

The gap analysis highlights several areas where the current state of E-shop Retail's e-commerce platform falls short of industry standards and customer expectations. By addressing these gaps and implementing targeted improvements, E-shop Retail can enhance user experience, drive sales, and position itself as a competitive player in the e-commerce market.

1.3 Motivation

Building an e-commerce website presents an opportunity for entrepreneurs to start and grow their own business, whether it's selling niche products or creating a marketplace for various vendors. E-commerce websites offer flexibility and agility in adapting to market trends and customer preferences. With the ability to quickly update product offerings, pricing, and promotional campaigns, e-commerce businesses can stay agile and responsive to changing market dynamics.

1.4 About the Project

A completely functional project built on top of an online store using a MySQL database and PHP programming language.

1.5 Objective

- The goal of the project is the result, or what we will have at its conclusion.
- Creating an e-commerce platform that makes it simple for customers to select what they want.

1.6 Stakeholders

- Admin
- User

CHAPTER - 2

SYESTEM ANAYLYSIS

2.1 Feasibility Study

I will be considering all relevant aspects, including technical, operational, and financial ones, while determining the viability of this software project. I will be able to decide whether or not to proceed with this project after conducting a feasibility assessment. Conducting a thorough feasibility assessment for the creation of an e-commerce website is the aim of this document. We will examine a number of variables in this study, such as the project's operational, technological, and economic viability, in order to assess its viability.

2.2 Operational Feasibility

Resource Allocation: Determine the human and technological resources required for website development, maintenance, customer support, and order fulfillment.

Workflow Analysis: Define the operational workflow, including order processing, inventory management, shipping logistics, and customer service protocols.

Training Needs: Identify the training needs of staff members to effectively operate and manage the e-commerce platform, including website administration, inventory management, and customer support

2.3 Technical Feasibility

Technology Stack: Identify and evaluate the appropriate technology stack for website development, including programming languages, frameworks, databases, and third-party integrations.

Scalability: Assess the scalability of the chosen technology stack to accommodate future growth in terms of website traffic, transactions, and product/service offerings.

Security Measures: Put strong security measures in place to guard against cyberattacks and data breaches affecting payment gateways, website infrastructure, and sensitive customer data.

2.4 Economic Feasibility

Cost-Benefit Analysis: Evaluate the costs associated with website development, including design, development, hosting, maintenance, and marketing. Compare these costs with the potential benefits such as increased sales, customer reach, and brand visibility.

Market Analysis: Analyze the current market trends, competition, and consumer behavior to assess the demand for the products/services offered through the e-commerce platform.

Revenue Projections: Estimate the potential revenue generation through the e-commerce website based on sales forecasts and pricing strategies.

2.5 Possibility from a Legal Perspective

Not a single component of the project violates any national legislation. Since data storage is so important, I have examined whether our project violates any data protection laws. The republic's access to current technology services will be made possible by this system.

2.6 Scheduling Feasibility

Four months have been set aside for the project. Because of the way the project is set up, the most time has been set aside for gathering requirements, implementing them, and testing them. Section 2.2's figure illustrates the estimated time.

.

2.7 Estimation of Time

Activities	Prior Activity	Count of the days			<u>Here, $t_o + 4t_m + t_p$</u> $t_e = 6$
		t_o	t_m	t_p	
Gathering Requirements (A)	None	4	5	7	5.2
Assessment of Feasibility (B)	A	4	6	9	6.16
Making Diagrams (C)	A, B	4	6	10	6.33
Designing UX/UI interfaces (D)	A, C	6	7	12	7.66
Design of Architecture (E)	A, C, D	8	11	15	11.16
The programming (F)	A, E	15	21	30	21.5
Checking (G)	E	4	5	7	5.2

Table 1.2 estimation of time

CHAPTER - 3

SOFTWARE REQUIREMENT SPECIFICATION

3.1 Functional Requirement Specification

A functional requirement (FR) is a specification used in software development that outlines the functions, features, and user-interface behavior of a system. It focuses on the real features and deliverables that the system must have in order to serve the desired function. The "E-commerce Website's" functional requirements are:

FR 01 - Registration

FR 02 - login

FR 03 - Add product category

FR 04 – Add/Delete product

FR 05 – Show dashboard

FR 06 – Manage product

FR 07 – Offer (promoted by admin)

FR 08 – Search product

FR 09 – View product

FR 10 – Product category

FR 11 – Selected product list

FR 12 – Edit profile

FR 13 – Change password

FR 14 – Add to cart by product

FR 15 - Price

FR 16 - Order

FR 17 – Logout

3.2 Specification for Non-Functional Requirements

Non-functional requirements (NFRs) specify the extent to which a system fulfills its intended functions. They concentrate on the system's features, including security, performance, usability, and other aspects. Think of them as the components that elevate a cake's flavor above its component parts. The following are "E-Shop" non-functional requirements:

NFR01-Privacy

NFR02: Dependability

NFR03-Performance

NFR04: Execution

3.3 Requirements of Data

The requirements of data for e-commerce website development encompass various essential elements crucial for its functionality and effectiveness. These include product data such as descriptions, prices, and inventory levels, customer information like contact details and order history, order data including IDs and statuses, and authentication data for user security. Additionally, analytics, content management, inventory management, payment, security, compliance, localization, and customer support data are necessary. Each category serves distinct purposes, from facilitating transactions to ensuring regulatory compliance and enhancing user experience. Proper handling, encryption, and compliance measures are vital to safeguard sensitive information and maintain trust with customer.

3.4 Functioning

NFR-01	In a split second, the landing page will react.
Description	It must show on the screen in no more than five seconds when responding to view information.
Stakeholders	Developer

NFR-02	E-shop all action process
Description	Product add to cart or manage of online be processed within 2 seconds.
Stakeholders	User

NFR-03	Search Functionality
Description	The search function should display results within 3 seconds.
Stakeholders	Developer

3.5 Maintenance

NFR-04	The system assists in updating any data at any moment.
Description	Any information can be updated or changed by the admin as needed.
Stakeholders	Administrator

3.6 Security

NFR-05	Ensure that every activity in this module is done with the highest level of security.
Description	Enrollment through secure protocols guarantees the authenticity of every user, incorporating multi-layered authentication via one-time passwords to uphold security at the user and administrative levels..
Stakeholders	Administrator

CHAPTER - 4

**SYSTEM ANALYSIS AND
DESIGN**

4.1 Model of Development

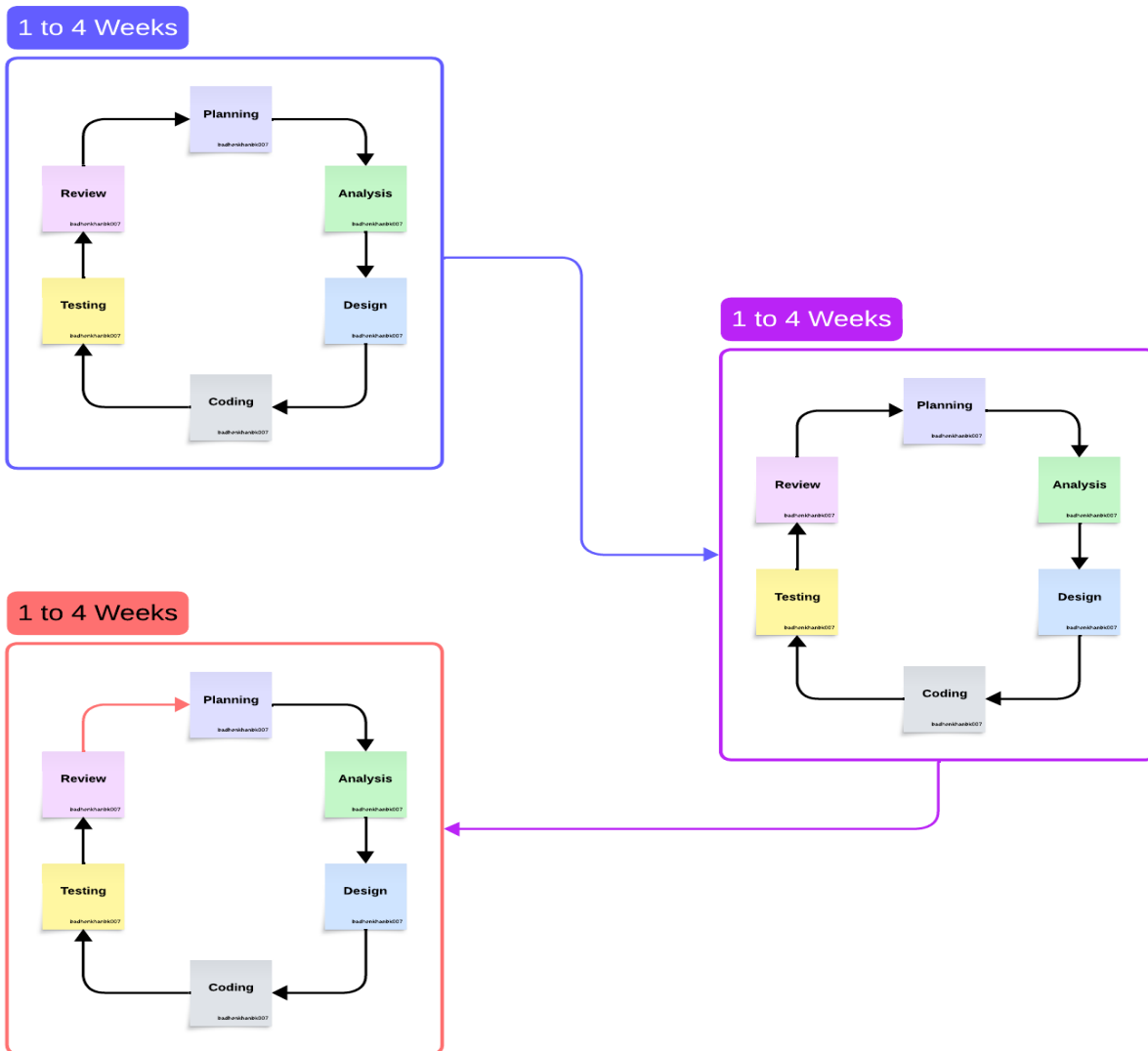


Figure 1.1 Agile Model

The "E-shop" project was developed using an AGILE SDLC paradigm. Because a successful project requires both incremental and iterative development, the Agile SDLC model made the process easier to adopt for me by breaking the project down into manageable chunks. Throughout the course of the project, these components are implemented iteratively. In this case, an iteration lasted anywhere from a week to a month. Following each iteration, my supervisor tested, assessed, and implemented some of the project's features while backlogging some of the duties. Every iteration works on a number of stages at the same time, including planning, designing, coding, testing, requirements engineering, and continuous integration and deployment.

4.2 Diagram for Use Case

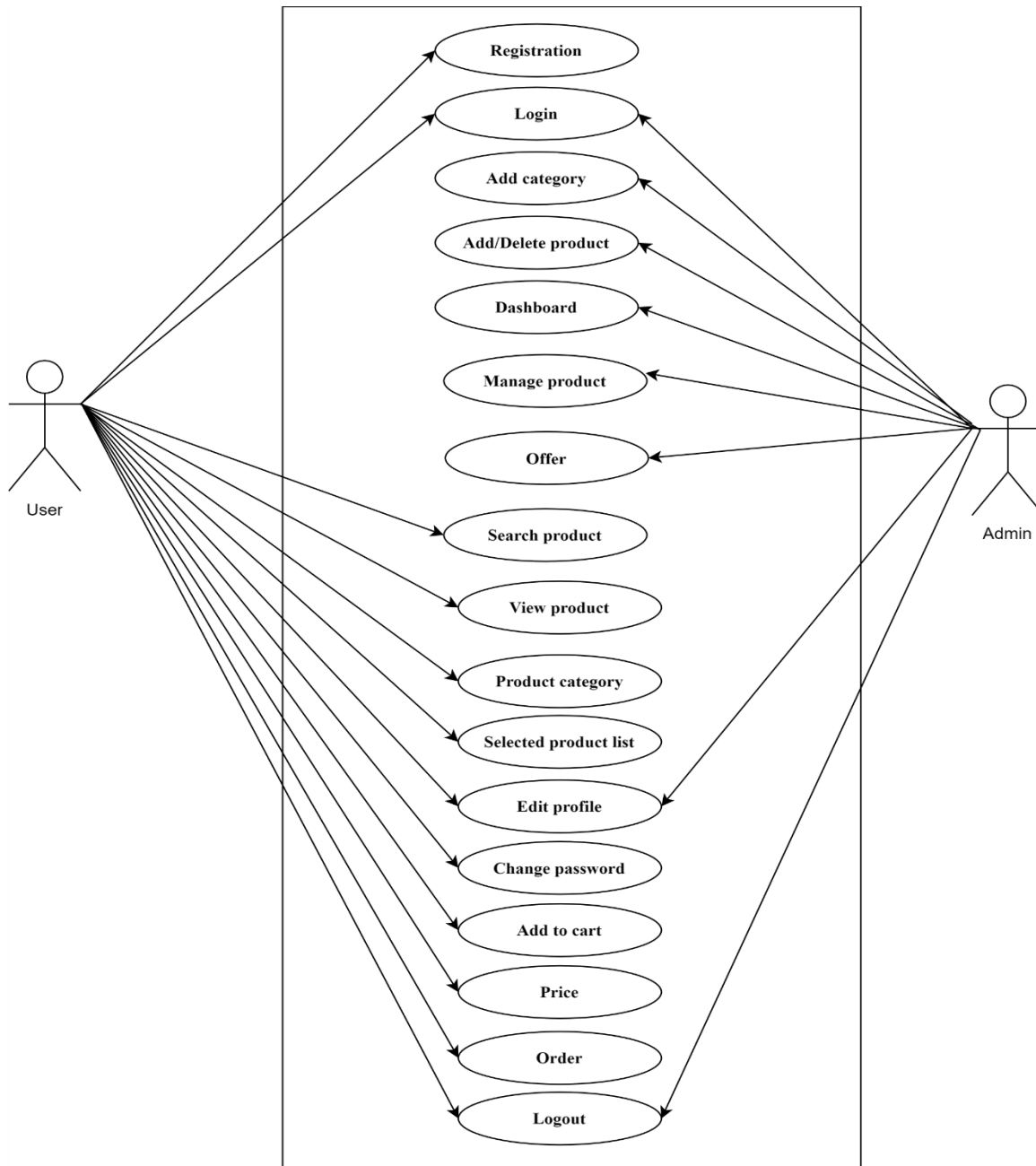


Figure 1.2: User case E-shop

4.3 Description of Use Case

4.3.1 Registration

ID: FR-01
Name of Requirement: Register
Description: By entering their email address and password, users will be able to register using the software. Users will get a verification email with a six-digit PIN after registering. The user's registration will be finalized and they will become a registered user after they have validated the PIN.
Stockholders: User

4.3.2 Login

ID: FR-02
Name of Requirement: Login
The program would enable users to sign in with their password and email. All the admin can do, though, is use a pre-set password and email address to log in.
Stockholders: user, admin

4.3.3 Add Category

ID: FR-03
Name of Requirement: Add product category
Description: Following a successful system login. Product categories may be created by the admin.
Stockholders: Admin

4.3.4 Add/Delete product

ID: FR-04
Name of Requirement: Add/Delete product
Description: Following a successful login to the system. The administrator can see every product and take action to add or remove them.
Stockholders: Admin

4.3.5 Dashboard

ID: FR-05
Name of Requirement: Dashboard
Description: Following a successful system login. The administrator displays every product's detail.
Stockholders: Admin

4.3.6 Manage Product

ID: FR-06
Name of Requirement: Manage Product
Description: The Admin Product Management section offers the admin the ability to add new products to the e-commerce website, modify the details of current products, and remove products that are out of stock or irrelevant.
Stockholders: Admin

4.3.7 Offer

ID: FR-07
Name of Requirement: Offer
There is a special, time-limited offer going on right now on an e-commerce website! Save big on a variety of items, such as home goods, clothing, electronics, and more.
Stockholders: Admin

4.3.8 Search Product

ID: FR-08
Name of Requirement: Search product
Description: Easily found their product in search bar and buy the products.
Stockholders: User

4.3.9 View Product

ID: FR-09
Name of Requirement: View Product
Description: The "View Product" use case allows users to browse and view product details on the e-commerce website. Users can access product listings, view product images, read descriptions, check pricing, and explore additional details before making a purchase decision.
Stockholders: User

4.3.10 Product Category

ID: FR-10
Name of Requirement: Product Category
Description: The users to explore and navigate through product categories on the e-commerce website. Users can access category listings, view subcategories, and browse products within their area of interest.
Stockholders: User

4.3.11 Selected Product List:

ID: FR-11
Name of Requirement: Selected product list
Description: Users to review and manage the list of products they have selected or added to their shopping cart or Wish list on the e-commerce website.
Stockholders: User

4.3.12 Edit Profile:

ID: FR-12
Name of Requirement: Edit profile
Description: After entering the system and logging in successfully. The user's profile may have the necessary information added by both the administrator and the user.
Stockholders: Admin, User

4.3.13 Password Change:

ID: FR-13
Name of Requirement: Change password
Description: Anyone wishing to change their password and using the e-commerce website
Stockholders: User

4.3.14 Add to Cart:

ID: FR-14
Name of Requirement: Add/delete product
Description: Users may choose items to buy and add them to their virtual shopping cart for later checkout by using the "Add to Cart" option.
Stockholders: User

4.3.15 View Price:

ID: FR-15
Name of Requirement: : View Price
Description: The "View Product Price" use case allows users to access and view the prices of products listed on the e-commerce website.
Stockholders: User

4.3.16 Order:

ID: FR-16
Name of Requirement: Order
Description: User place an order for a specific product.
Stockholders: User

4.3.17 Logout:

ID: FR-05
Name of Requirement: Login
Description: In this section admin and user logout by this website.
Stockholders: Admin, User

4.4 Diagram of Activity

4.4.1 Registration Activity

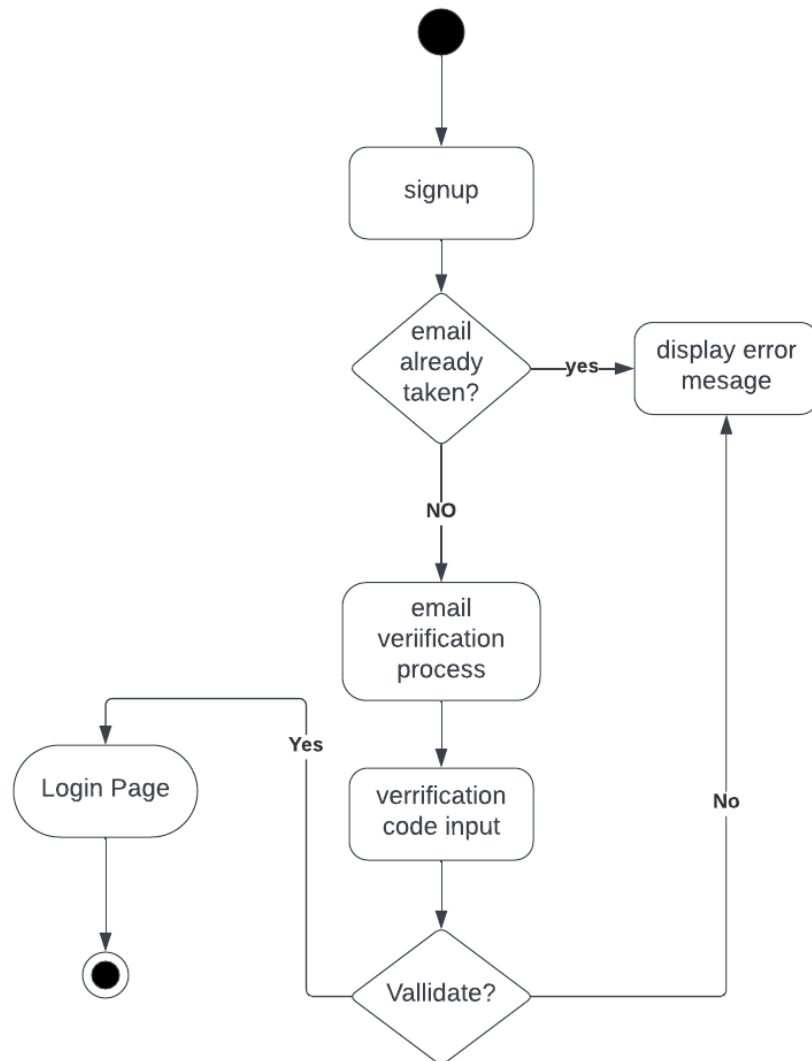


Figure 1.3 Registration for activity diagram

4.4.2 Login Activity

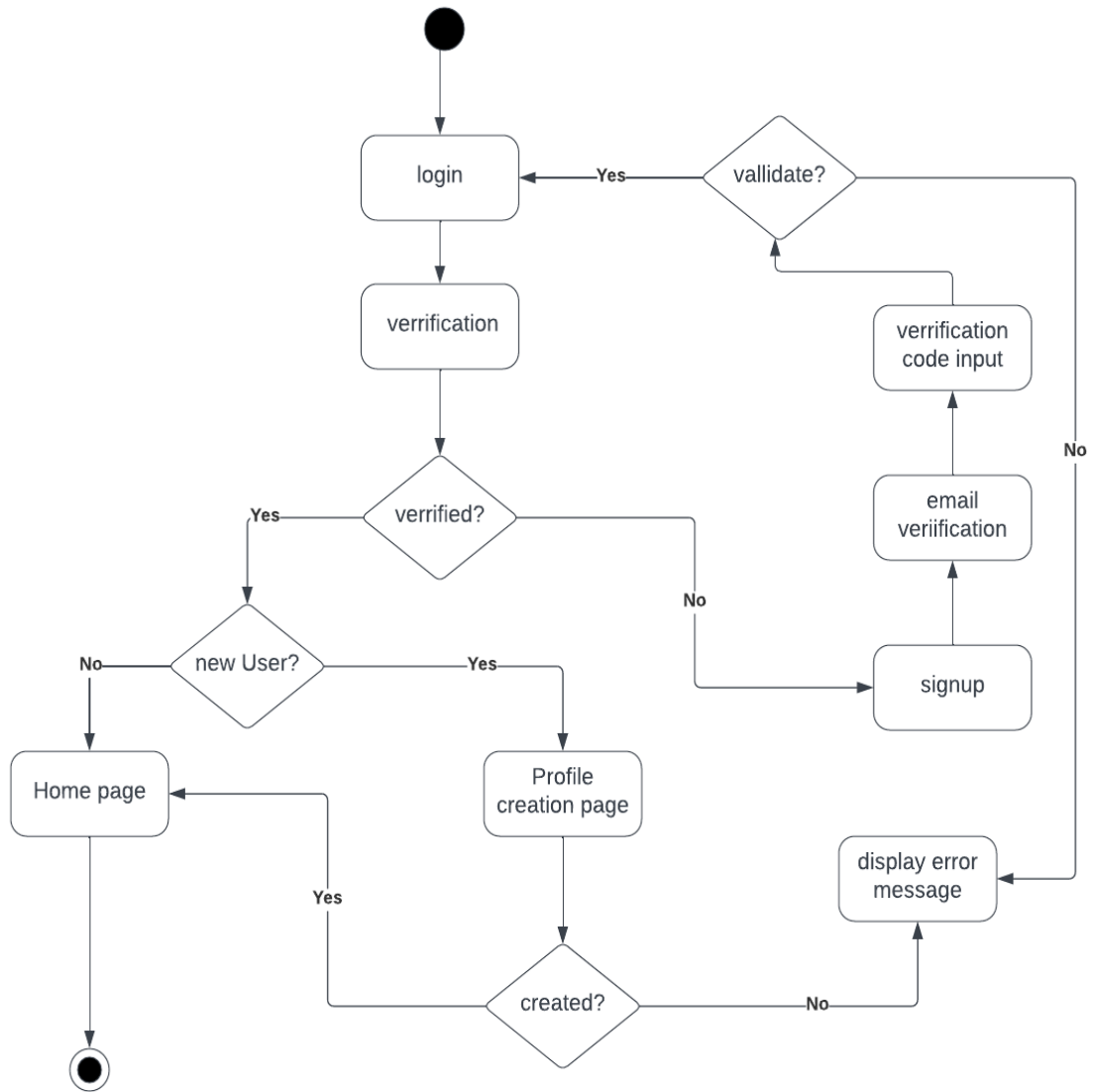


Figure 1.4 Login for Activity Diagram

4.4.3 Add Category

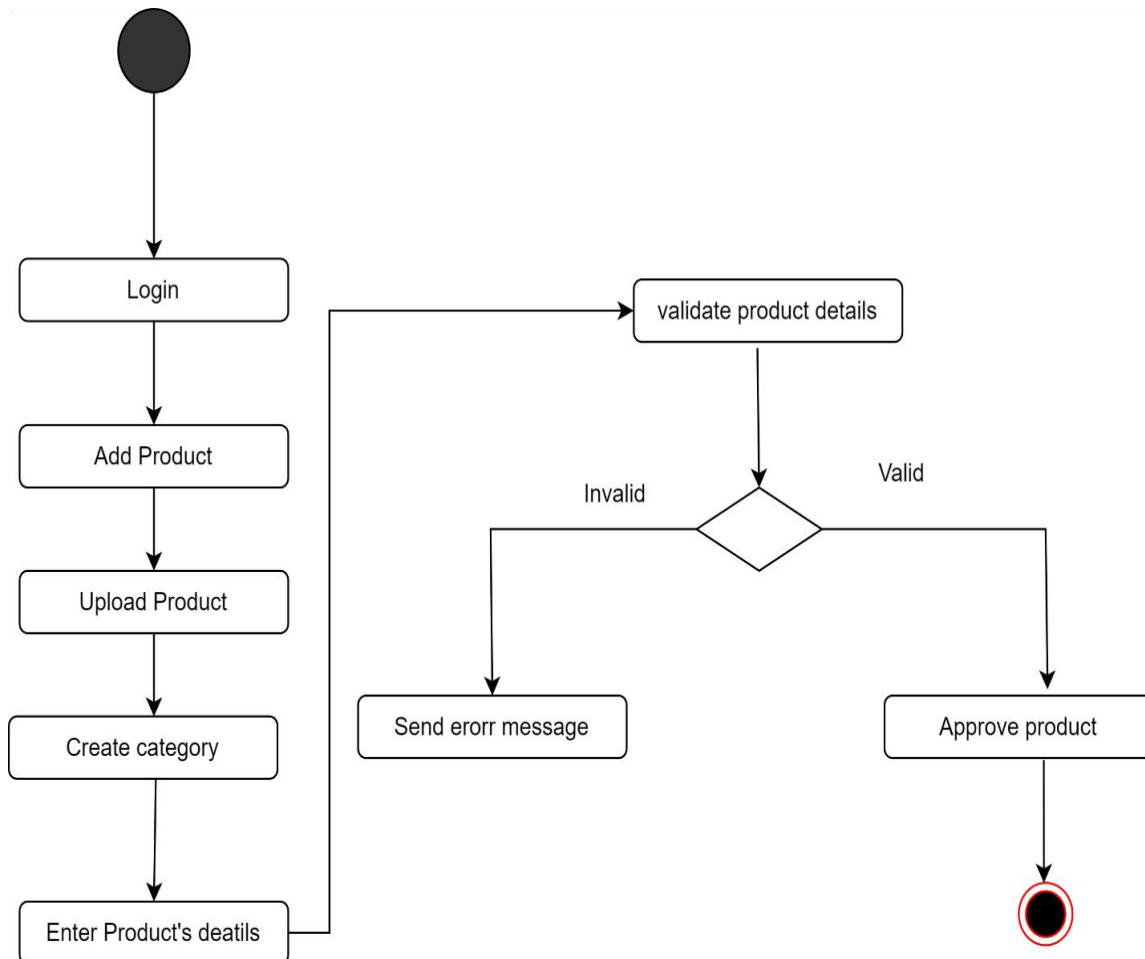


Figure 1.5 Add Category to Activity Diagram

4.4.4 Add products

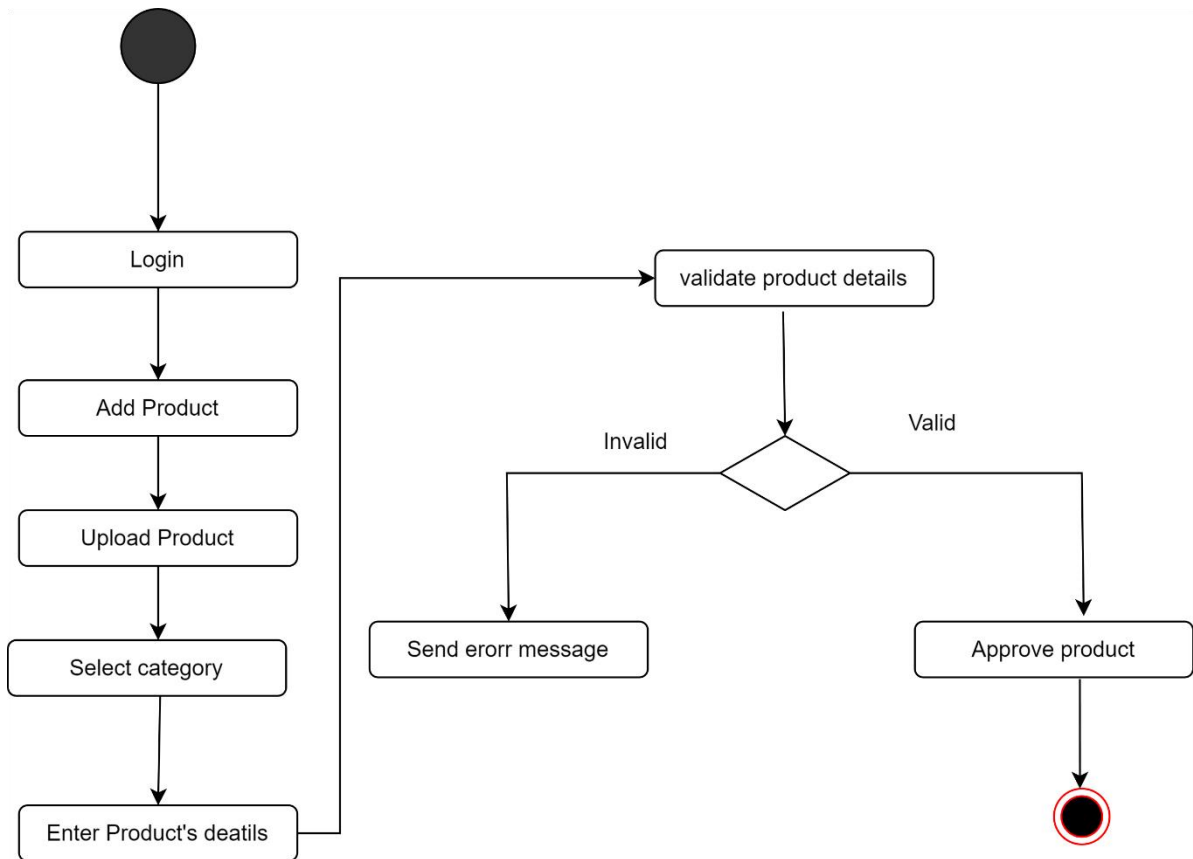


Figure 1.6 Add product to Activity Diagram

4.4.5 Delete Products

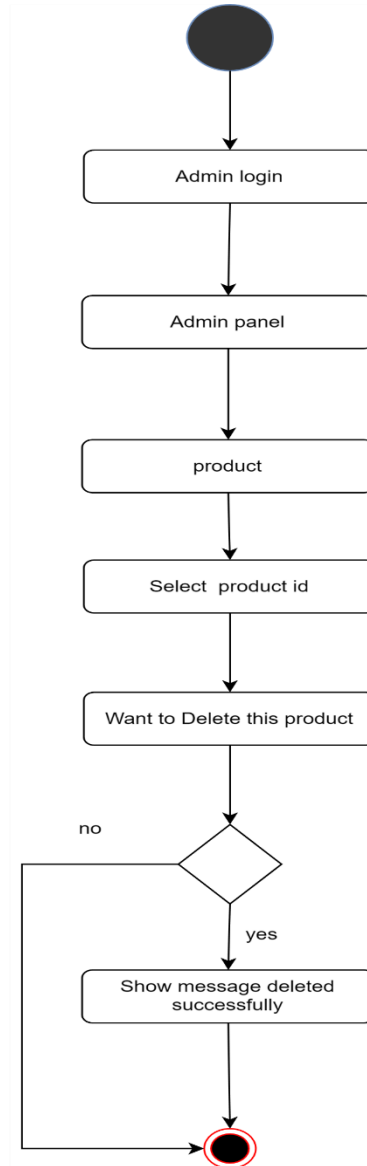


Figure 1.7 Delete to Activity Diagram

4.4.6 Dashboard

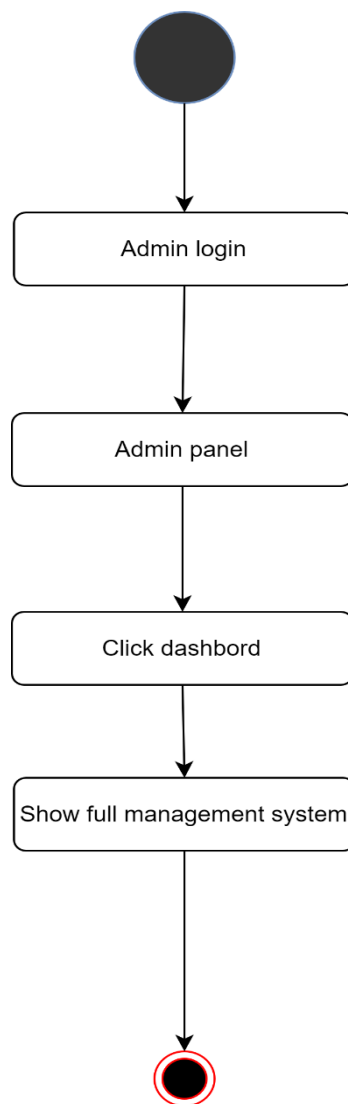


Figure 1.8 Dashboard to Activity Diagram

4.4.7 Manage Products

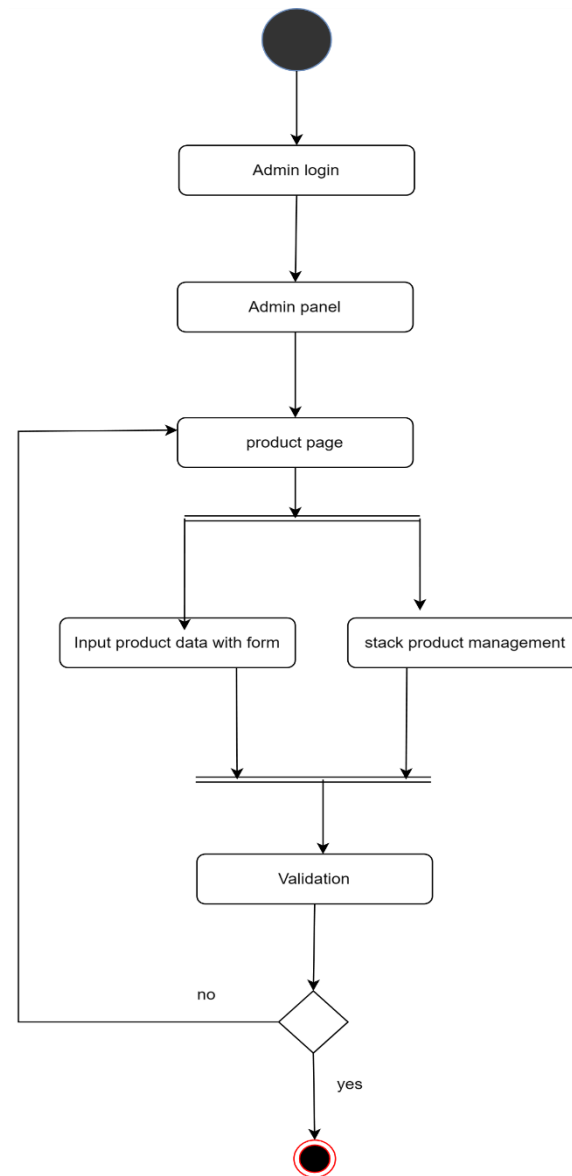


Figure 1.9 Manage product to Activity Diagram

4.4.8 Offer

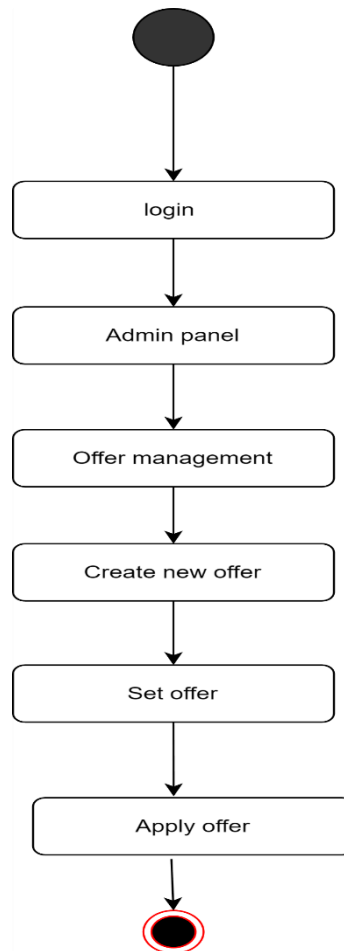


Figure 2.1 Offer to Activity Diagram

4.4.9 Search Products

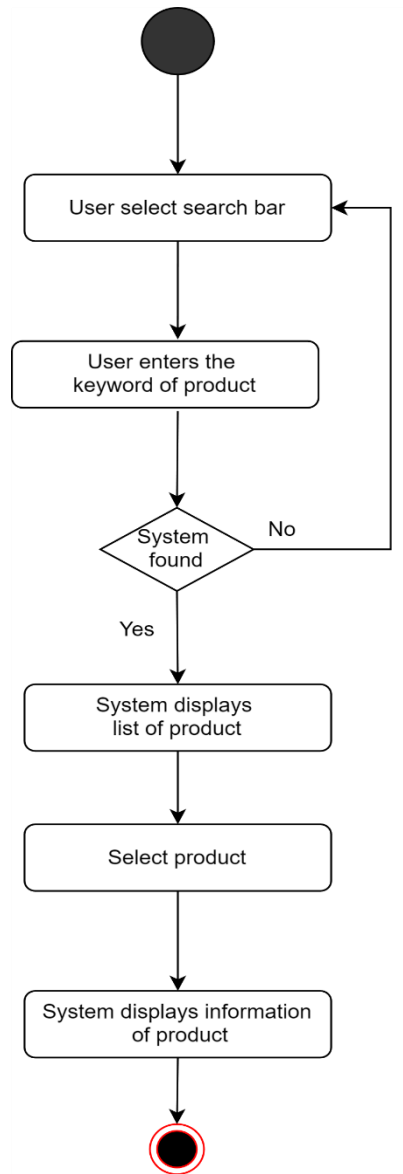


Figure 2.2 Search products to Activity Diagram

4.4.10 View Products

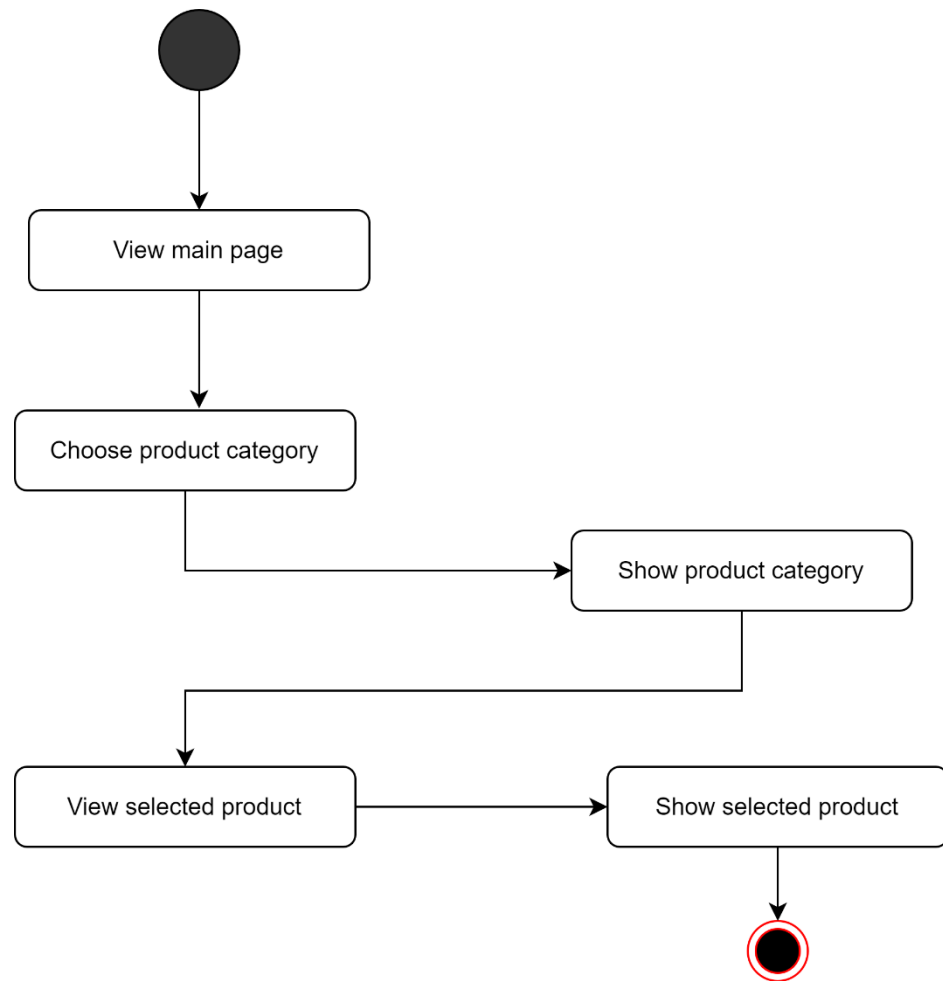


Figure 2.3 View products to Activity Diagram

4.4.11 Product Category

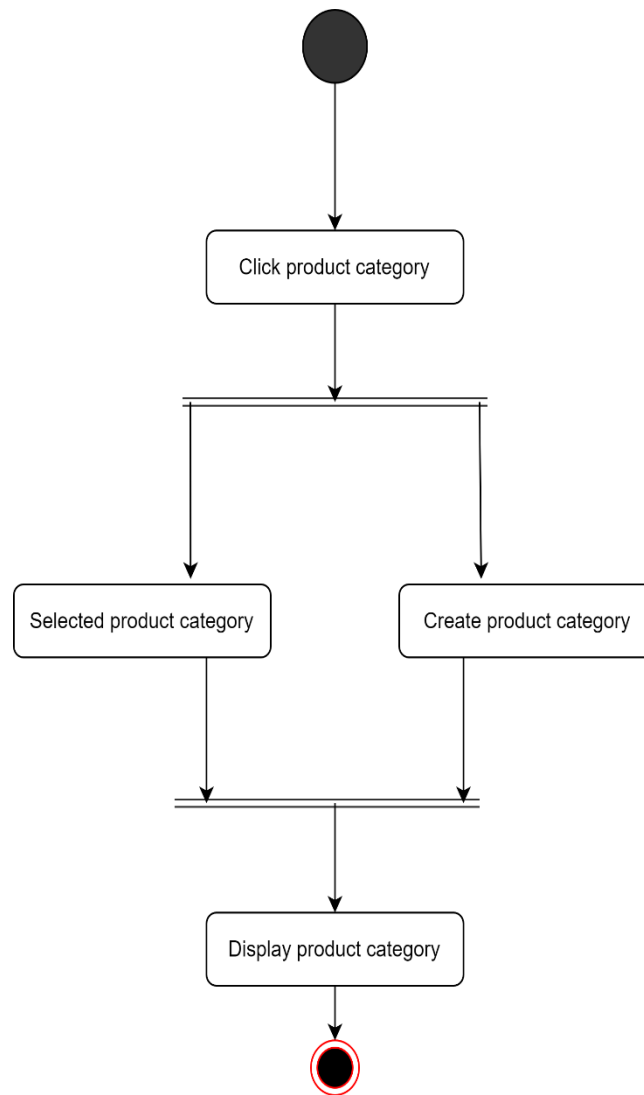


Figure 2.4 product category to Activity Diagram

4.4.12 Selected Product List

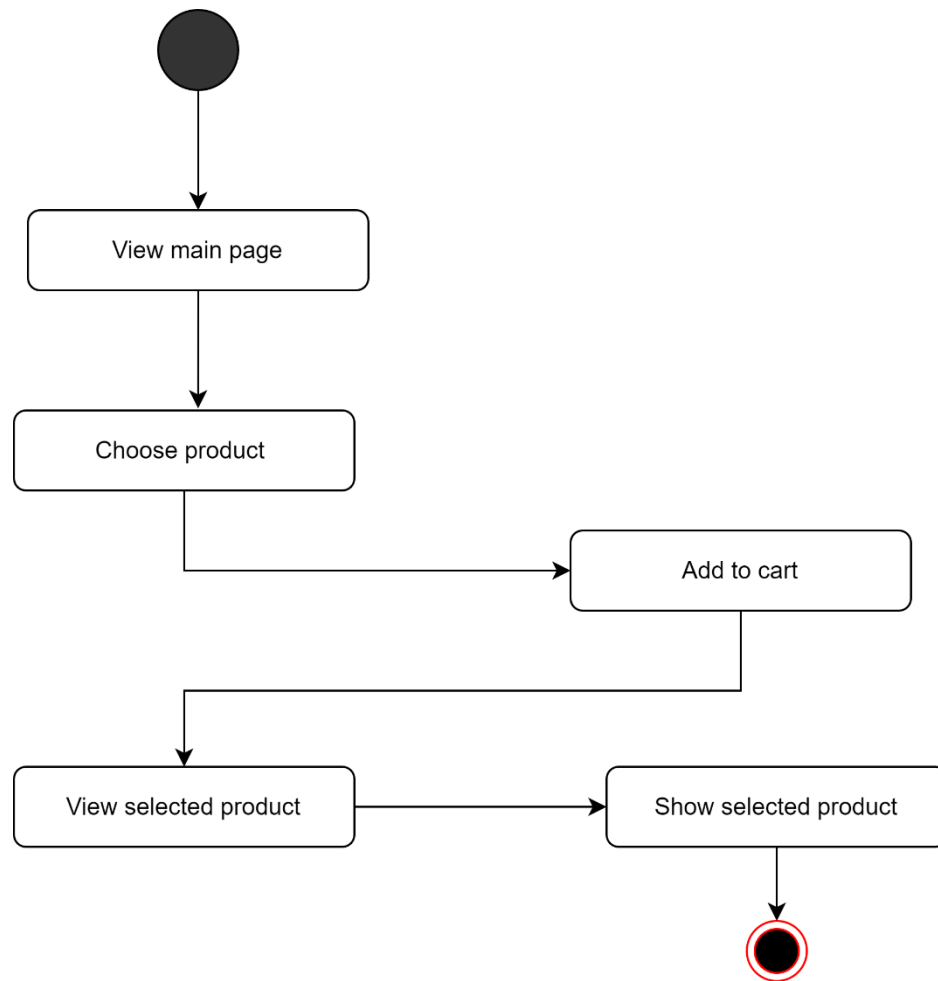


Figure 2.5 Select product list to Activity Diagram

4.4.13 Edit profile

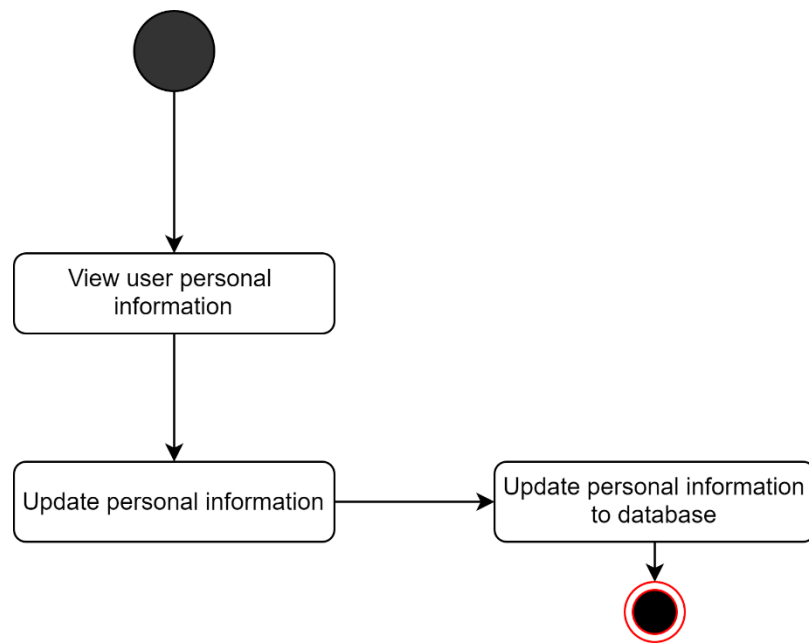


Figure 2.6 Activity Diagram of Edit profile

4.4.14 Change the password

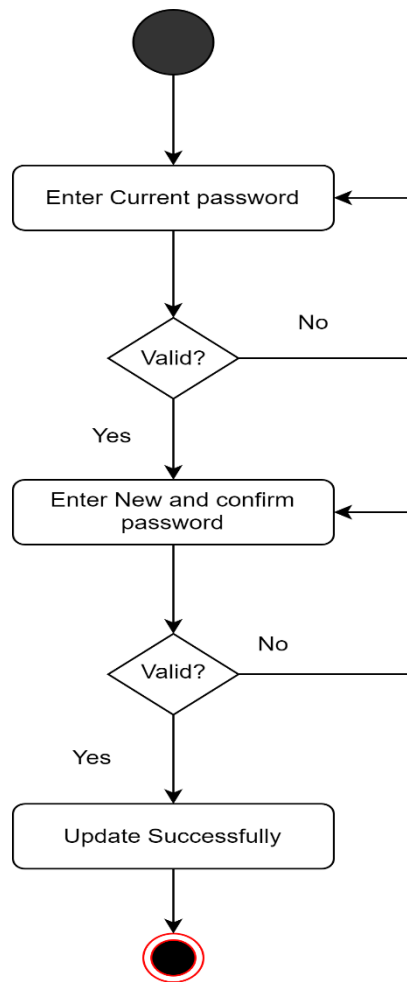


Figure 2.7 Change the password to Activity Diagram

4.4.15 Add to Cart

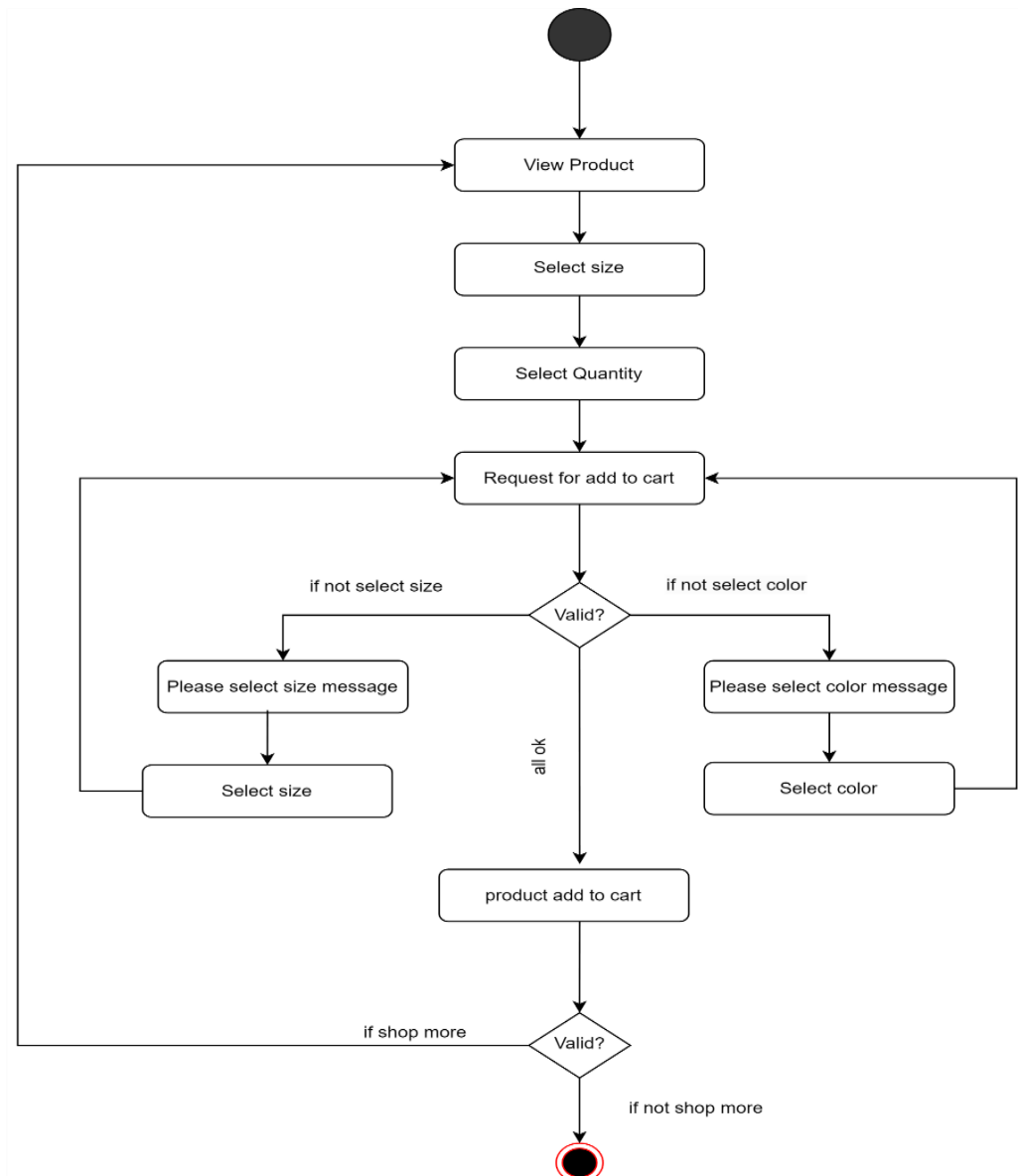


Figure 2.8 Add to Cart to Activity Diagram

4.4.16 View Price

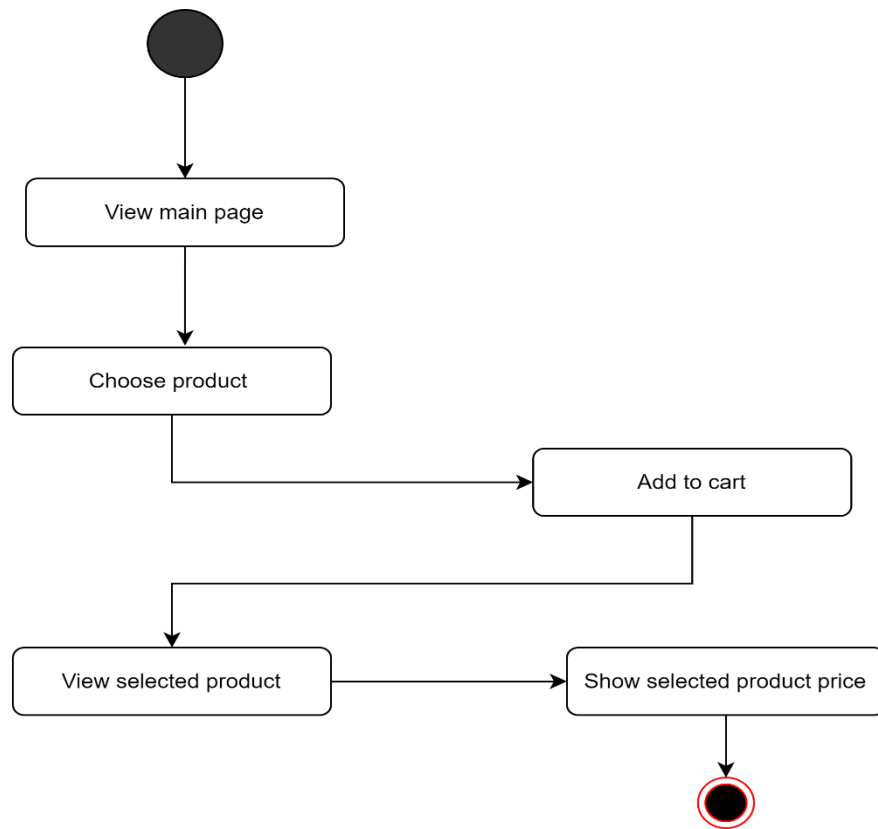


Figure 2.9 Activity Diagram of View price

4.4.17 Order

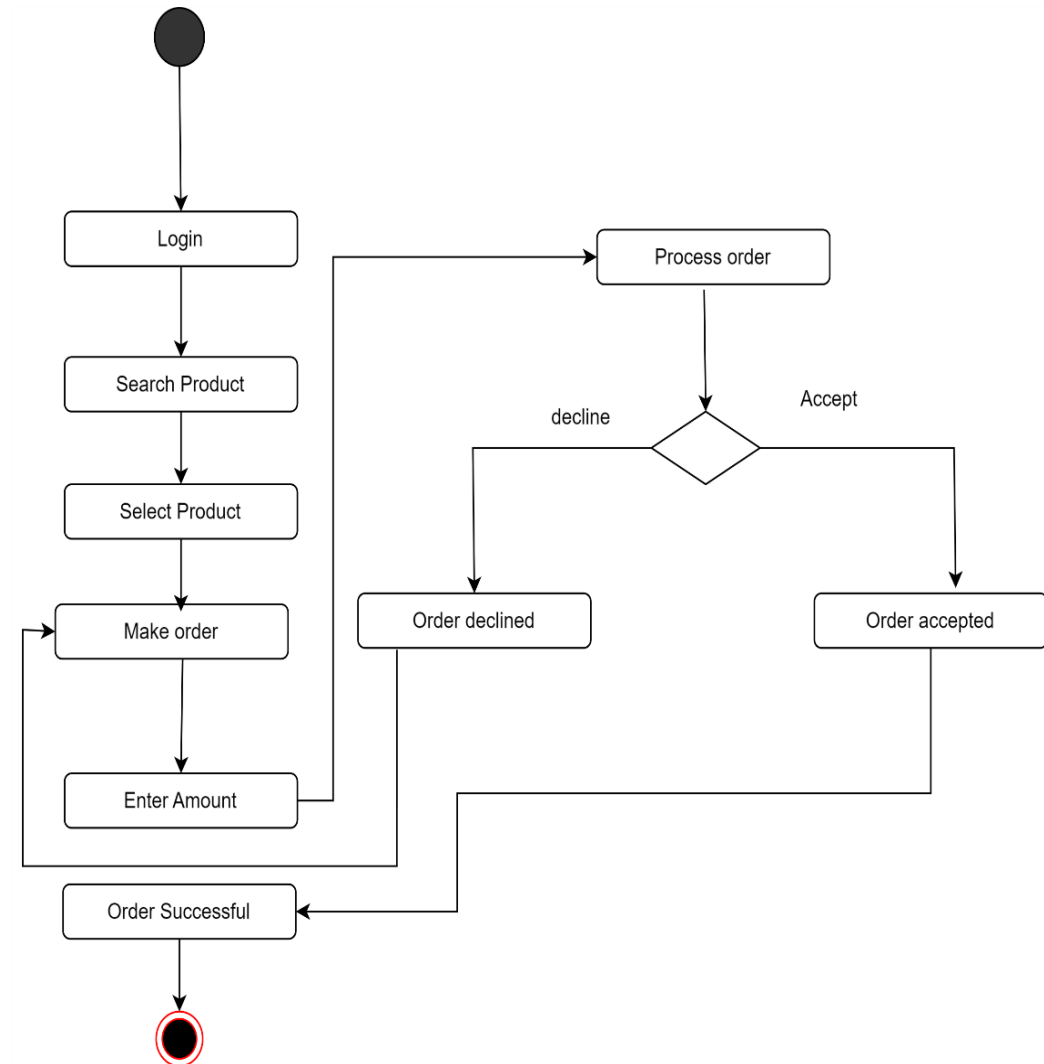


Figure 3.1 Order to Activity Diagram

4.4.18 Logout

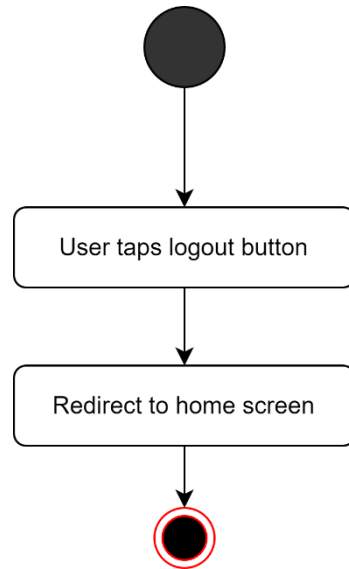


Figure 3.2 Logout to Activity Diagram

4.5 Sequence Diagram

4.5.1 Registration

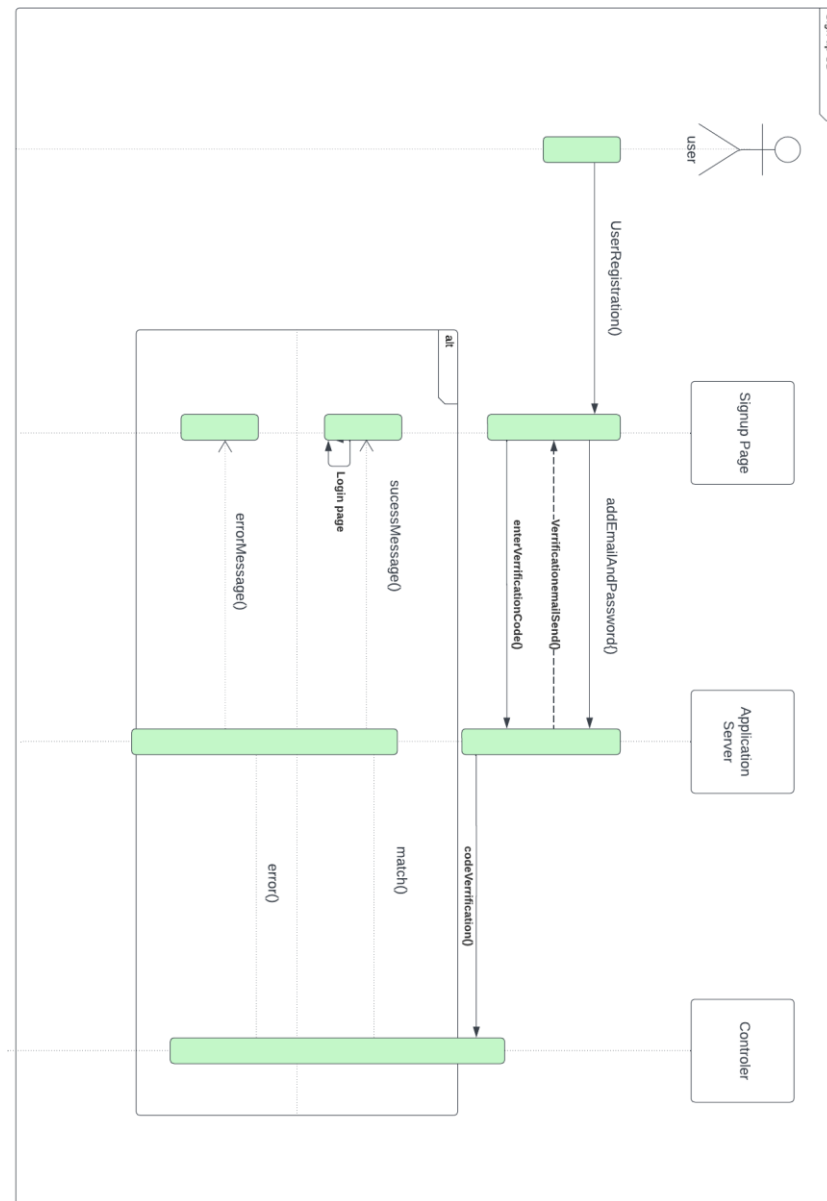


Figure 3.3 Registration Sequence Diagram

4.5.2 Login

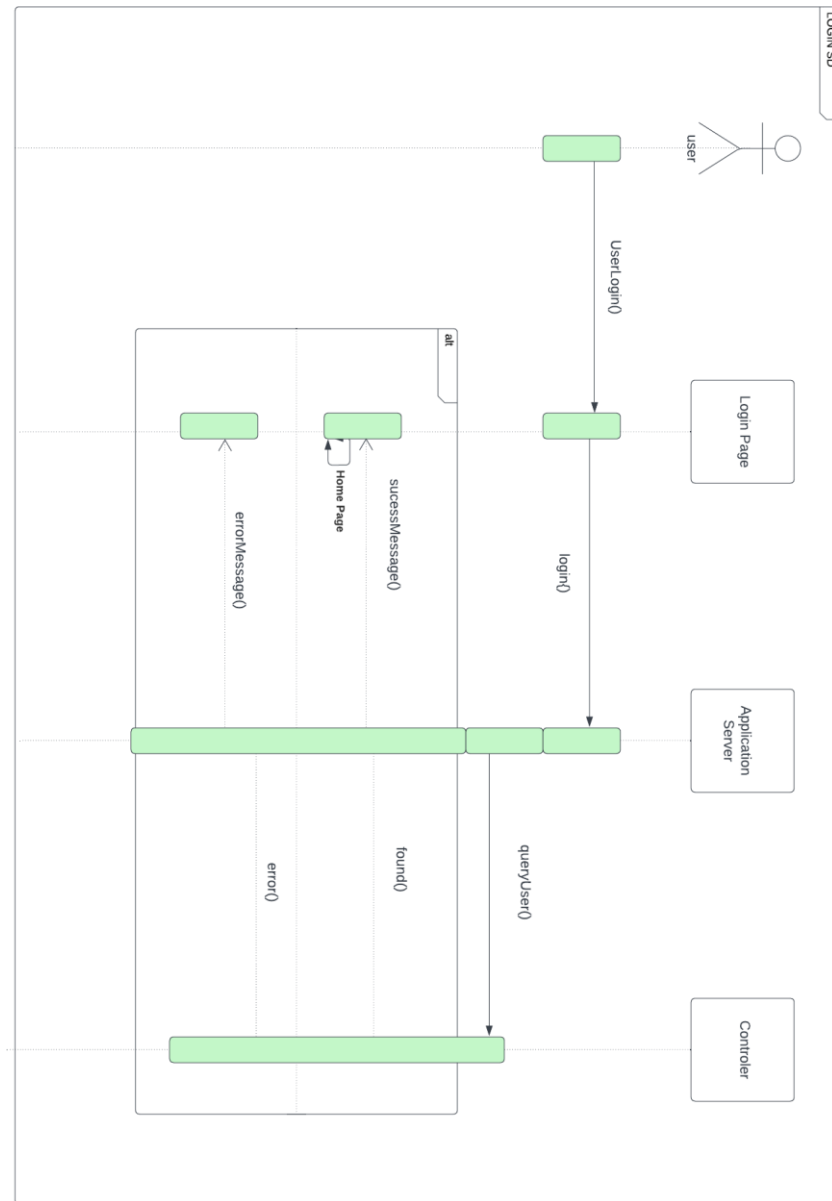


Figure 3.4 Login Sequence Diagram

4.5.3 Edit Profile

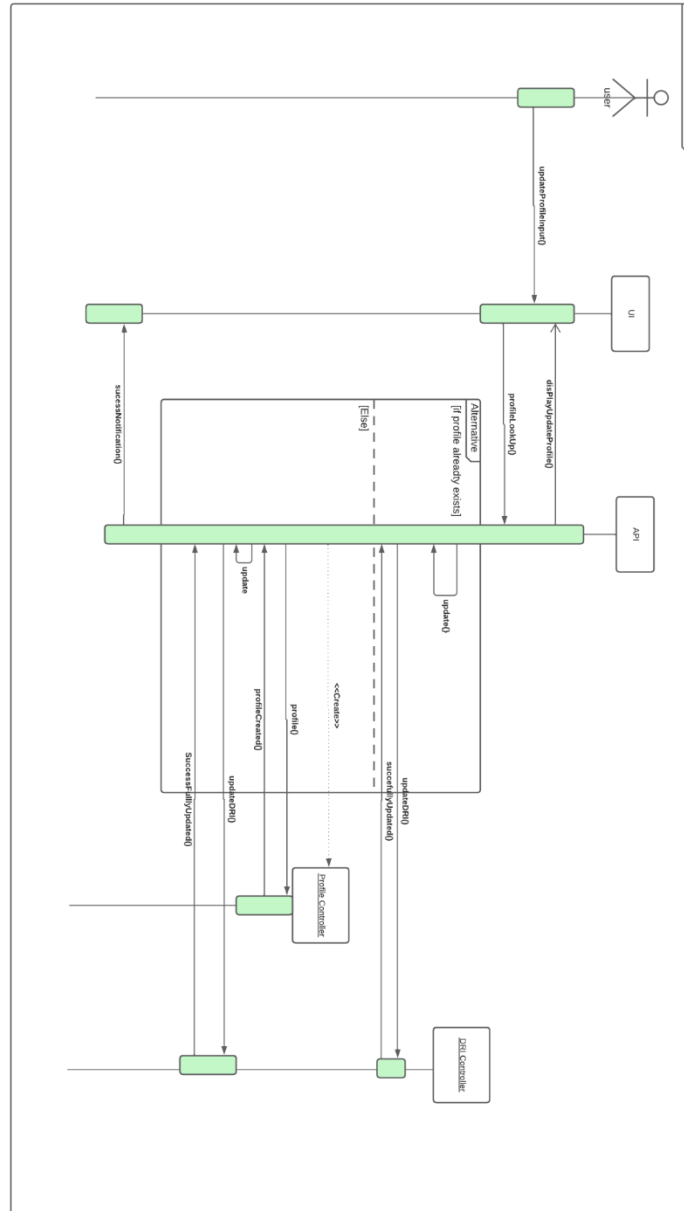


Figure 3.5 Edit Profile Sequence Diagram

4.6 ER Diagram

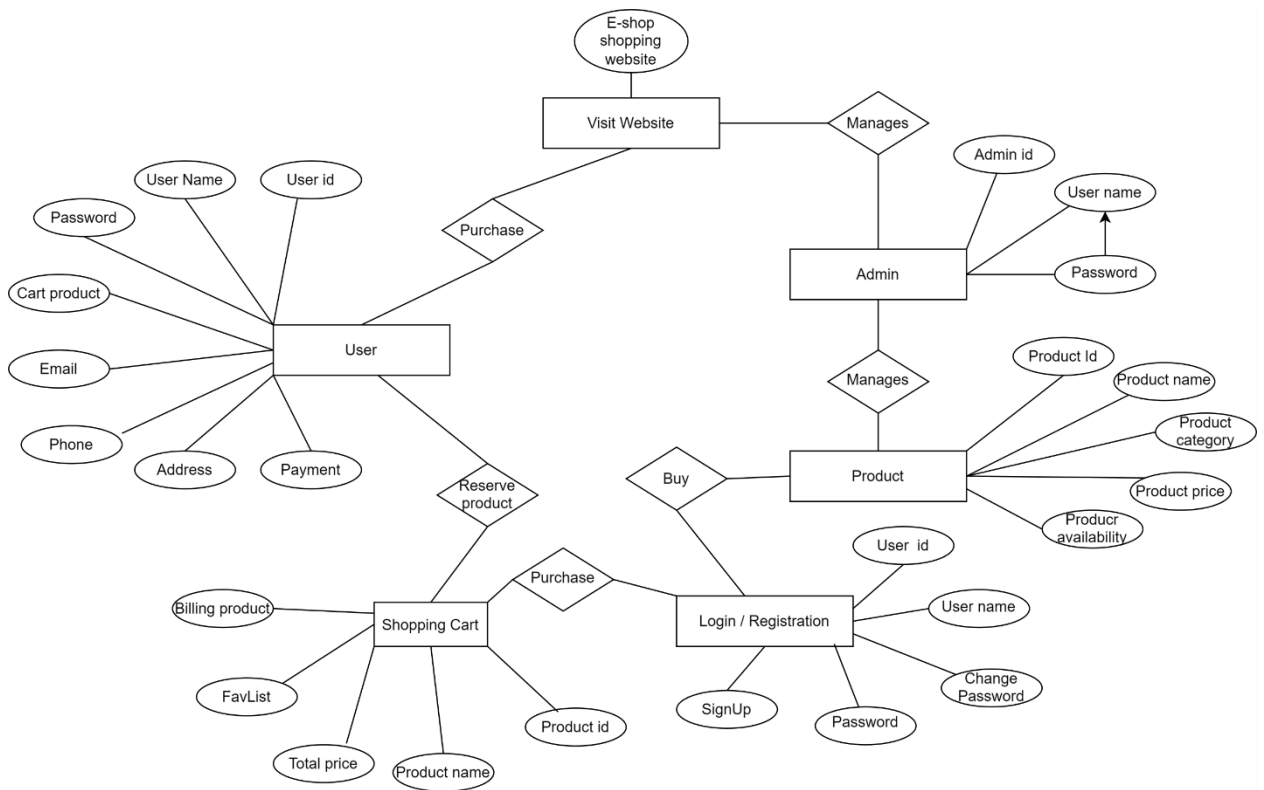


Figure 3.6 ER Diagram

CHAPTER - 5

SYSTEM TESTING

5.1 Testing Features

Several iterations of a feature are assessed to find the optimal user experience as part of the software development process known as feature testing. With this method, we can determine which variation of a new feature is most successful and determine whether it is appropriate for a web page or app. Feature testing helps create online applications that are secure, dependable, efficient, and valuable.

5.1.1 Functionalities to be tested

Features	Priority	Description
Login Admin & User	High	Prior to utilizing the system, the user must authenticate themselves.
Log out Admin & User	Low	After logging out, the session needs to be terminated.
Sign-Up Admin & User	High	The ability to register via email and create a password through email verification is a prerequisite.
Create/Update Profile User	High	Once the user has successfully logged into the system, they must be allowed to change their profile.
Add to Cart	Medium	The user needs to be able to display selected products.
Order	Medium	Checking the order is a necessary for the user.

Table 1.2 Functionalities to be tested

5.2 Test-Taking Techniques

5.2.1 Test Methodology

Two different testing techniques are Black Box Testing and White Box Testing have been used to guarantee the system's quality.

1. Black Box Testing: Often referred to as functional testing, Black Box Testing is concerned with assessing the system's outputs solely on the basis of inputs provided, disregarding its internal workings. The function is considered correct if the generated outputs and the expected results match.
2. White Box Testing: Also known as structural testing, White Box Testing entails dissecting the system's internal operations. In order to make sure the system works as planned, this approach takes into account the logic and internal structure.

5.2.2 Timetable for Testing

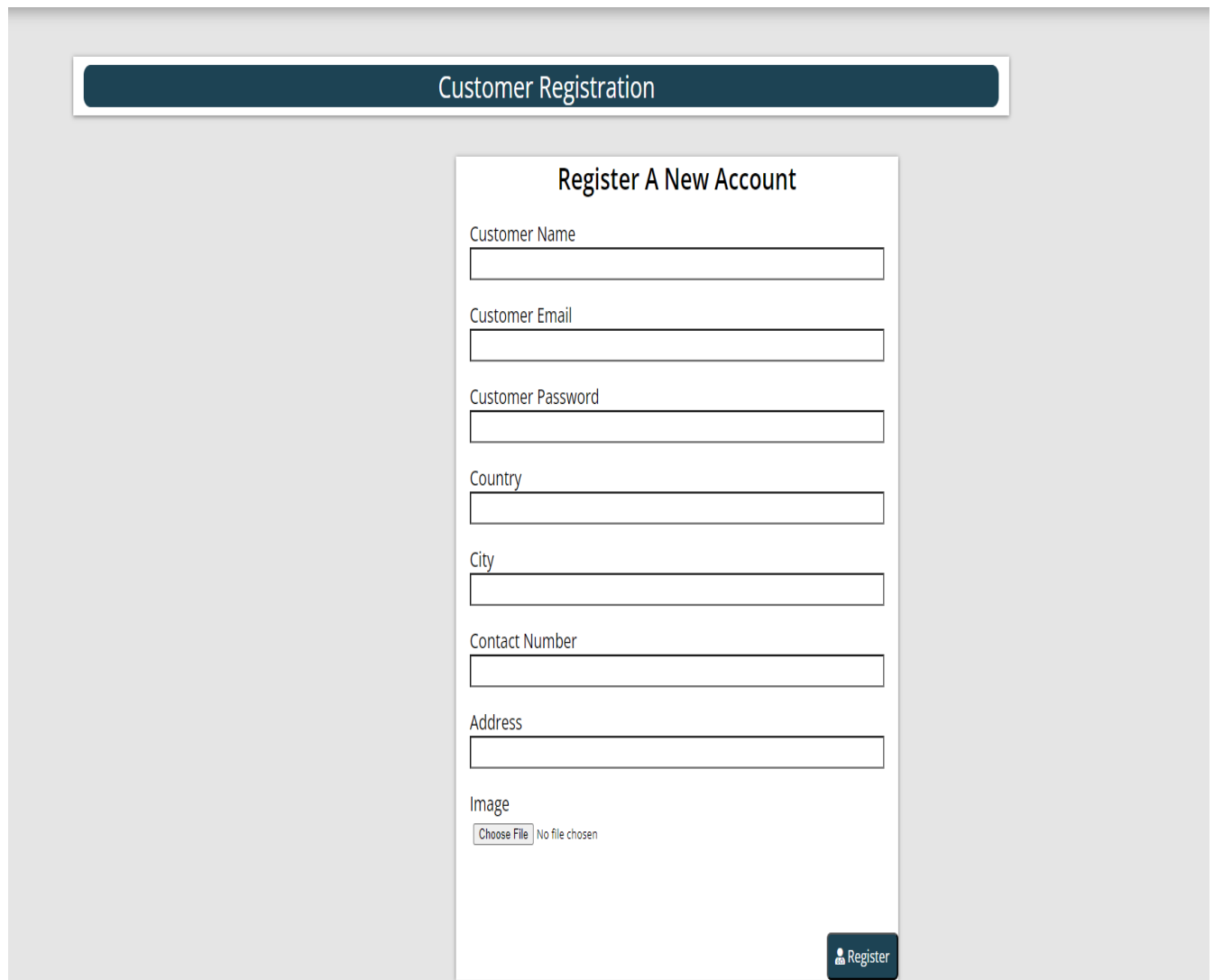
Test Phase	Time
Developing a Testing Plan	2 Week
Unit testing	In the Process of Development
Component testing	In the Process of Development
Testing user interfaces	In the Process of Development
Performance test	1 Week
Accessibility test	2 Week

Table 1.3 Timetable for Testing

CHAPTER - 6

USER MANUAL

6.1 E-shop Registration



The image shows a web interface for customer registration. At the top, there is a dark blue header bar with the text "Customer Registration" in white. Below this, the main content area is a light gray rectangle. Inside this area is a white rectangular form titled "Register A New Account". The form contains several input fields: "Customer Name", "Customer Email", "Customer Password", "Country", "City", "Contact Number", and "Address". Each field is a simple white rectangle with a thin gray border. Below the "Address" field is an "Image" section with a "Choose File" button and the text "No file chosen". At the bottom right of the form is a dark blue button with a white user icon and the text "Register".

Customer Registration

Register A New Account

Customer Name

Customer Email

Customer Password

Country

City

Contact Number

Address

Image
 No file chosen

 Register

Figure 3.8 E-shop Registration Process

6.2 Login

To log in, users must first register. Once registered, they can access the system by entering their email and password.

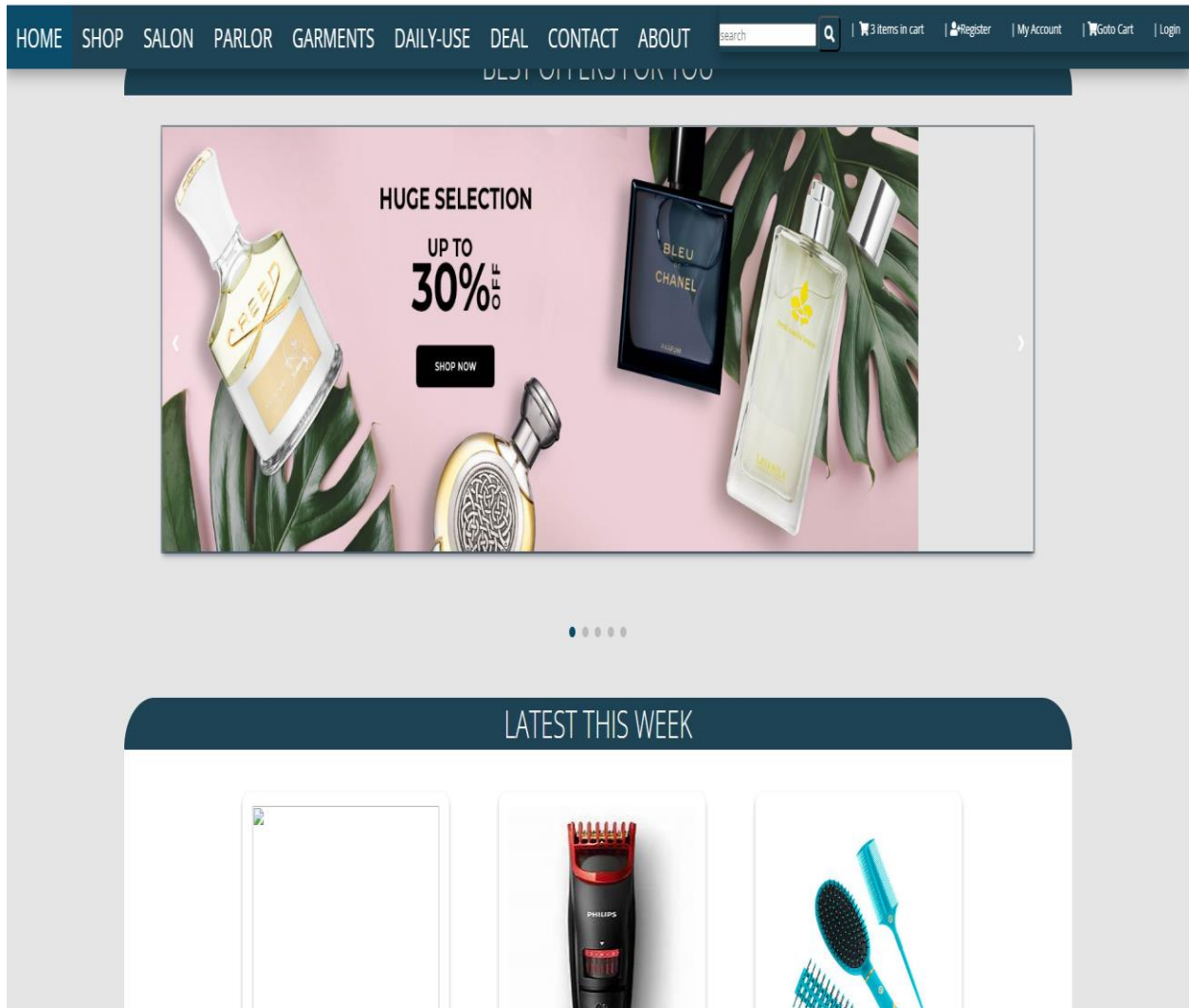
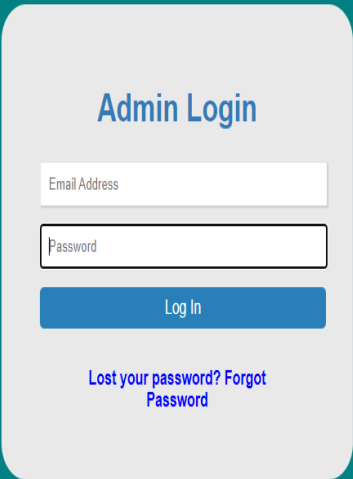


Figure 3.9 E-shop Login Process

6.3 Login (Admin)



The image shows a web form for Admin Login. The form is centered on a teal background. It has a light gray rounded rectangle containing the title "Admin Login" in blue. Below the title are two input fields: "Email Address" and "Password". A blue "Log In" button is positioned below the password field. At the bottom of the form, there is a link that says "Lost your password? Forgot Password" in blue text.

Figure 4.1 E-shop Admin Login Process

6.4 Admin Dashboard

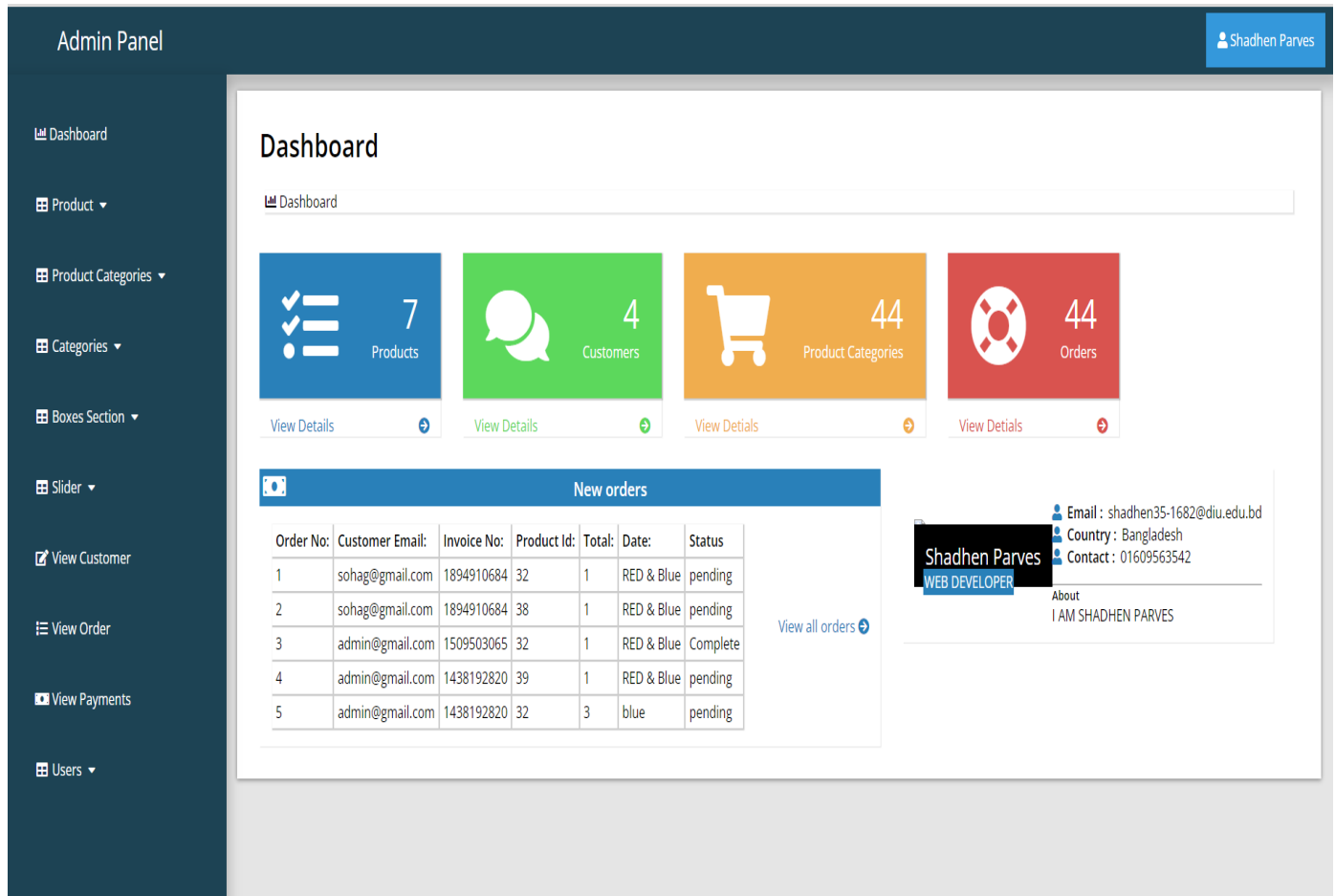


Figure 4.4 E-shop Admin Dashboard Process

6.5 Edit Profile

Edit Your Account

Name
sohag

Email
sohag@gmail.com

Country
bd

City
dhaka

Contact Number
017

Address
dhaka

Customer Image
[Choose File](#) No file chosen



[Update Now](#)

Figure 4.5 E-shop Edit Profile/Edit account process.

CHAPTER - 7

REFERENCES AND ACCOUNTS CLEARANCE

7.1 References

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