



# **A WEB APPLICATION FOR BANGLADESH PIE MEDICARE**

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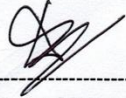
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This project report has been submitted in fulfilment of the requirements for the degree of  
Bachelor of Science in Software Engineering

## APPROVAL

This Project titled on “A WEB APPLICATION FOR BANGLADESH PIE MEDICARE”, submitted by **MD. Abul Fatah (ID: 221-35-935)** 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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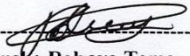
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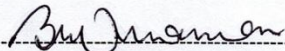
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I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science.

  
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## STUDENT'S DECLARATION

I hereby declare that the work in this project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Daffodil International University or any other institution.

*A. Fatah*

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# **A WEB APPLICATION FOR BANGLADESH PIE MEDICARE**

**MD. Abul Fatah**

Project submitted in fulfillment of the requirements  
for the award of the degree of  
Bachelor of Science

Department of Software Engineering

DAFFODIL INTERNATIONAL UNIVERSITY

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## **ACKNOWLEDGEMENT**

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# ABSTRACT

Usually people in our country have to suffer a lot with medical services. The biggest problem we have when we go to the hospital for treatment of any disease, we have to go to different hospitals for information, we have to find out which poisonous doctor is sitting for which disease, we fall into different kinds of problems, and we have specialists for that disease. It is very difficult to find. And to see a specialist for that disease, we have to make an appointment the day before or some time before seeing the doctor, and pay. Which, of course, made the video an overnight sensation. And another thing here is that when one of us gets sick, it becomes difficult to collect the number of the ambulance. We can collect numbers from anywhere through the website. We will be able to make an appointment through the website, and will be able to make payment. . And collect ambulance numbers from their local hospital from anywhere in Bangladesh. And I have created a database to keep information, where I will collect all the data. And I can also buy medicine from this website. Through this website we can easily get treatment for the disease, and can easily contact the doctor. It will reduce our suffering, and it will not waste our time. Many times the patient's life is at risk due to lack of ICU. We have arranged ICU support to solve this problem. If any person needs ICU support, he can come to our website and book ICU. If a person makes an ICU booking, they will immediately get an emergency ambulance support. Which will reduce the risk to the patient's life. We often see patients dying due to lack of blood. I have arranged blood donation for this. Through which anyone can donate blood, anyone can take blood. We often see that a dedicated privet nurse is not available. Due to lack of which many patients have to suffer. That's why we have privet nurse booking system in the website. Through which anyone can book privet nurse. We often see many patients die due to lack of organs. For this reason, I have organized organ donation on the website. Anyone can donate an organ, anyone can take an organ. Another main point of the website is that you can communicate through chatting.

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# CHAPTER 1 INTRODUCTION

## 1.1 Background

A nation with a population of more than 160 million people is Bangladesh. Only around 50% of the population has access to basic healthcare services in the nation, which has a comparatively low level of healthcare access. This is brought on by a multitude of things, such as poverty, a lack of infrastructure, and a lack of qualified medical personnel. Bangladesh is a densely populated country where access to timely medical information and emergency healthcare services remains a major challenge. Patients often experience significant difficulties in locating the right doctors, identifying specialized hospitals, booking appointments, obtaining ambulance services, arranging ICU support, or finding emergency blood donors. These issues become more critical in remote areas where healthcare information is not easily available or accessible. With the growing expansion of internet connectivity and mobile device usage in Bangladesh, there is a crucial opportunity to utilize web-based technology to organize, centralize, and modernize healthcare information. A digital platform can significantly reduce patient suffering by providing accurate, structured, and easily accessible medical services. The proposed project—A Web Application for Bangladesh Pie Medicare—aims to provide a centralized digital healthcare assistance system that integrates doctor appointments, ambulance support, medicine purchase, ICU booking, nurse support, blood donation, organ donation, and live communication features. By providing such combined services in one platform, this system can meaningfully reduce confusion, save time, and provide life-saving access to medical support.

### **1.1.1 Context**

The healthcare sector of Bangladesh faces multiple obstacles, such as overcrowded hospitals, lack of transparency about available services, and inefficient communication systems. Many patients struggle to find the right specialist or book appointments on time. Moreover, emergency services—ambulances, ICU availability, blood donors—often require manual searching, which wastes valuable time.

A web-based application with integrated healthcare features becomes extremely relevant in:

- Centralizing nationwide healthcare information
- Reducing patient waiting and searching time
- Improving accessibility for rural and urban populations
- Offering appointment and emergency services digitally
- Minimizing miscommunication between patients and healthcare providers

### **1.1.2 Problem Identifications**

The main problems the project aims to solve include:

1. Difficulty in finding specialized doctors  
Patients do not know which doctor specializes in which disease or where they are available.
2. Complicated appointment procedures  
Appointments often require physical visits, phone calls, and long waiting times.
3. medicine purchase

4. Lack of emergency service access
  - Ambulance service numbers are difficult to collect
  - ICU availability is unknown until physically checked
  - Blood donors cannot be found instantly
  - Organ donation information is not centralized
5. Information gaps and inefficiency

Patients must visit different platforms or hospitals to get basic information.

6. Time sensitivity during emergencies

Delay in finding blood, ambulances, or ICU support can cost lives.

### **1.1.3 Purpose**

Build a complete digital medical support platform that will:

- 2 Provide accurate doctor and hospital information
- 3 Allow patients to book appointments online
- 4 Enable users to purchase medicines from home
- 5 Offer emergency services (ambulance, ICU, blood donors)
- 6 Create communication channels between doctors and patients
- 7 Support organ donation and private nurse booking

### **1.1.4 Scope**

The scope of the project includes:

- Doctor directory and specialization-based search
- Online doctor appointment booking
- Secure payment gateway for appointments

- Medicine product listing and online purchasing
- Ambulance services and contact listing
- ICU booking and emergency ambulance dispatch
- Blood donation system for donors and recipients
- Organ donation management
- Private nurse booking services
- Real-time chat between doctor and patient
- User, doctor, and admin dashboards
- Centralized database for all healthcare information

## **1.2 Project Planning and Initiation**

The project was planned using a systematic software development approach. Planning included requirement analysis, identifying stakeholders, selecting technologies, and designing a scalable system. Feasibility Study (Step-by-Step)

1. **Operational Feasibility**  
The system is simple, user-friendly, and accessible to all users with internet access.
2. **Technical Feasibility**  
It uses widely available tools such as React, Node.js, MongoDB, and Firebase.
3. **Economic Feasibility**  
Costs are low since the system uses open-source technologies and cloud-based services.
4. **Schedule Feasibility**  
The project can be completed within a typical academic semester.
5. **Legal Feasibility**  
The application does not violate any privacy or regulatory issues with proper user consent.

## 1.3 User Profile and Tentative Elicitation Process

### 1.3.1 Target User

The system is designed for:

- General patients
- Specialized doctors
- Hospital administrators
- Emergency service providers
- Family members or caretakers
- Blood and organ donors
- Ambulance service providers

### 1.3.2 User Profile

Table 0: User Profile for PATIENT / GENERAL USER

User Class	Note on Characteristics
Type of user	General public / Patients seeking medical services
Age range	16–65 years
Frequency of use	Occasional to frequent (based on need)
Mandatory	No (voluntary use)
Computer experience	Basic smartphone or internet usage
Education	Secondary to higher education

goal	Book appointments, find doctors, request ambulance/blood, buy medicine
Language skills	Bangla (primary), English (basic)
Number of users	Large (general population)
Training	None (self-explanatory UI)
Others system use	Mobile banking, health apps
Way of working	Independently navigates system, uses mobile app/web

Table 1: User Profile for Doctor

<b>User Class</b>	<b>Note on Characteristics</b>
Type of user	Medical professionals (specialists, consultants)
Age range	30–65 years
Frequency of use	Daily or weekly (appointment management)
Mandatory	No, optional but beneficial
Computer experience	Moderate to strong
Education	MBBS / FCPS / Specialist degrees
goal	Manage appointments, chat with patients, update availability
Language skills	Bangla + English (professional level)
Number of users	Limited (only registered doctors)
Training	Minimal (short guided instructions)
Others system use	Hospital MIS, digital prescription tools

Way of working	Uses system during free time; updates schedules regularly
----------------	---

Table 2: Admin User Profile

User Class	Note on Characteristics
Target Persona	System administrator / Hospital admin
User Demographic (age)	22–55 years
How often it used	Daily
Mandatory	Yes
IT Literacy Level	Strong (technical operations)
Minimum Qualifications	Bachelor's degree (IT/Business preferred)
goal	Manage users, doctors, hospitals, complaints, analytics
Language skills	Bangla + English
Number of users	Very few (restricted access)
Training	Short operational training
Others system use	HRM, billing, hospital systems
Way of working	Works from office; manages backend operations

### 1.3.3 Elicitation Process

Information was gathered using:

- Interviews with patients and hospital staff
- Observation of current appointment processes
- Online survey forms

- Benchmarking of existing healthcare apps

## 1.4 Project Block Diagram

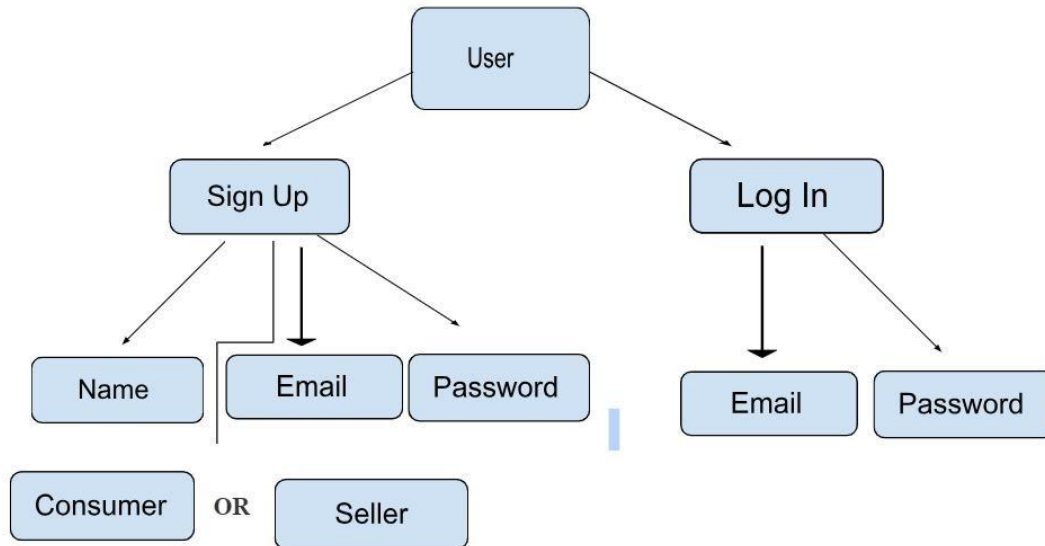


Figure 1: Project Block Diagram

## 1.5 Requirements of System

### 1.5.1 Hardware

- Smartphone or computer
- Minimum 2 GB RAM
- Active internet connection

### 1.5.2 Software Requirements

- Frontend: HTML, CSS, JavaScript, React.js

- Backend: Node.js, Express.js
- Database: MongoDB
- Authentication: Firebase
- Payment Gateway: SSLCommerz
- IDE: VS Code

### 1.5.3 Constraints and Dependencies

- Internet dependency
- Real-time data accuracy
- Third-party services (payment, messaging)
- Server uptime and hosting stability

### 1.6 Project Scheduling

Example schedule:

<b>Phase</b>	<b>Duration</b>
Requirement Analysis	2 weeks
System Design	2 weeks
Frontend	4 weeks
Backend	4 weeks
Testing	2 weeks
Deployment	1 weeks
Documentation	2 weeks

## **1.7 Summary**

This chapter provided an overview of the background, problem statement, purpose, scope, planning, and requirement details for the Bangladesh Pie Medicare Web Application. The information establishes the foundation for the system's design and implementation described in later chapters.

# CHAPTER 2 DESIGN AND IMPLEMENTATION

## 2.1 Introduction

A nation with a population of more than 160 million people is Bangladesh. Only around 50% of the population has access to basic healthcare services in the nation, which has a comparatively low level of healthcare access. This is brought on by a multitude of things, such as poverty, a lack of infrastructure, and a lack of qualified medical personnel.

## 2.2 Functional Requirements

<b>FR01</b>	Login
<b>Description</b>	Users log in using username & password (8+ chars, case-sensitive).
<b>Stakeholder</b>	User, Admin

<b>FR02</b>	Register
<b>Description</b>	Users register with name, phone, email & password.
<b>Stakeholder</b>	User, Admin

<b>FR03</b>	Product
<b>Description</b>	Displays background info on medical products
<b>Stakeholder</b>	User

<b>FR04</b>	All Categories
<b>Description</b>	Shows categorized health data and analysis
<b>Stakeholder</b>	User

<b>FR05</b>	About
<b>Description</b>	Shows purpose, benefits & challenges of the helpline
<b>Stakeholder</b>	User

<b>FR06</b>	Contact
<b>Description</b>	Shows office hours, feedback form, and social links
<b>Stakeholder</b>	User

<b>FR07</b>	Product Details
<b>Description</b>	Structured details, summary & literature review.
<b>Stakeholder</b>	User

<b>FR08</b>	Appointment
<b>Description</b>	Doctor list, specialization & booking system
<b>Stakeholder</b>	User

<b>FR09</b>	Edit Profile
<b>Description</b>	User can modify their profile in a secure interface
<b>Stakeholder</b>	User

<b>FR010</b>	Buy Products
<b>Description</b>	View purchasable items and request purchases.
<b>Stakeholder</b>	User

<b>FR011</b>	Payment
<b>Description</b>	Shows product price & accepted payment methods.
<b>Stakeholder</b>	User

<b>FR012</b>	Remove Cart
<b>Description</b>	User can remove products from cart
<b>Stakeholder</b>	User

<b>FR013</b>	Checkout
<b>Description</b>	Checkout page & form submission
<b>Stakeholder</b>	User

<b>FR014</b>	Logout
<b>Description</b>	Logs out and shows confirmation page
<b>Stakeholder</b>	User

<b>FR015</b>	See Appointment
<b>Description</b>	Doctor views appointment details
<b>Stakeholder</b>	User, Doctor

<b>FR016</b>	Add Product
<b>Description</b>	Admin/Seller uploads new product info
<b>Stakeholder</b>	Admin, Seller

<b>FR017</b>	Edit Product
<b>Description</b>	Admin/Seller edits product name, price, description.
<b>Stakeholder</b>	Admin, Seller

<b>FR018</b>	Delete Product
<b>Description</b>	Admin/Seller deletes product after confirmation.
<b>Stakeholder</b>	Admin, Seller

<b>FR019</b>	Add Admin
<b>Description</b>	Secure page to add new admin users
<b>Stakeholder</b>	Admin

<b>FR020</b>	User Order Management
<b>Description</b>	Approve, cancel, or view pending orders
<b>Stakeholder</b>	Admin, Seller

## 2.3 Non-Functional Requirements

### 2.3.1 Performance

- The system should load each webpage within 3 seconds.
- The server should handle 200 concurrent users.

### 2.3.2 Reliability

- The system will maintain 99% uptime.
- Data backup must occur daily.

### **2.3.3 Portability**

- The system shall run on mobile, tablets, and desktops.
- Browsers supported: Chrome, Firefox, Safari, Edge.

## **2.4 System Design UML**

### **2.4.1 Use-Case Diagram**

These models are essential when testing in graphical spelling is necessary to capitalize on the case entertainer's interaction with the framework. To construct a usage case graph, a designer needs to have a thorough understanding relationships among users.

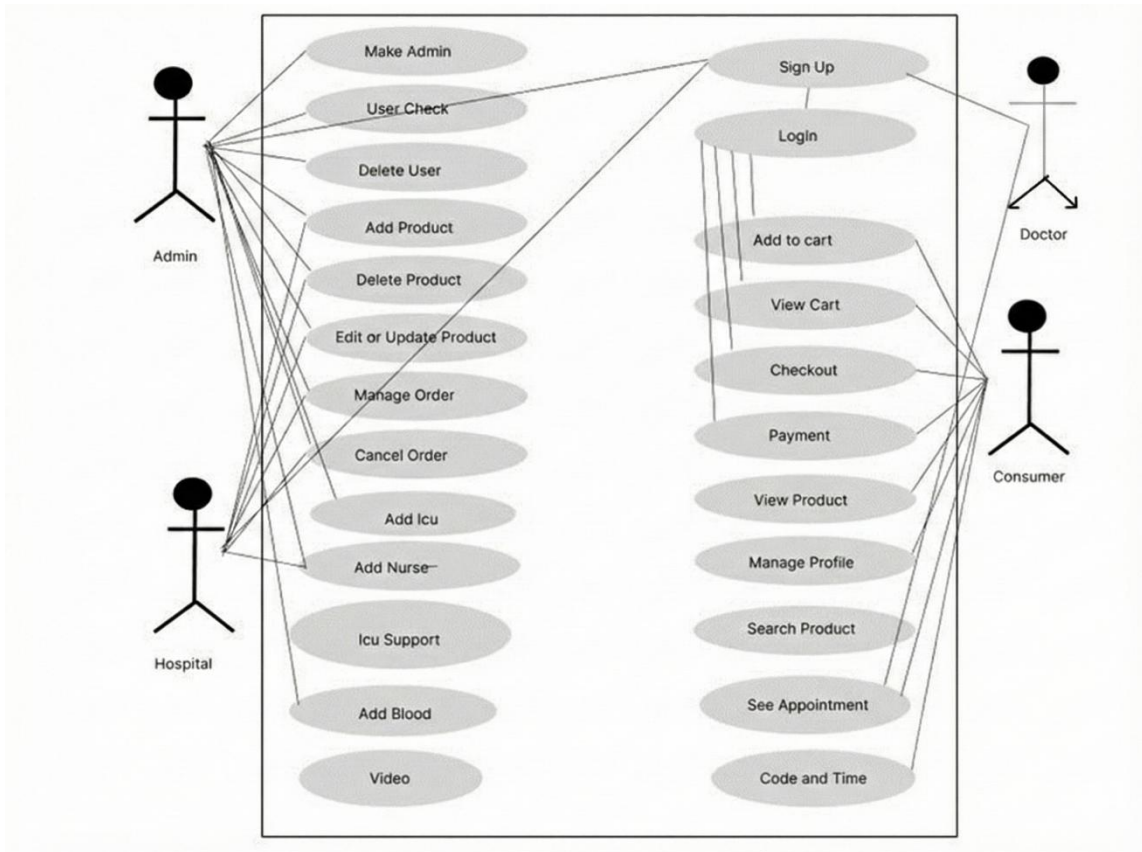


Figure 2: Use-case Diagram

## 2.4.2 Description of Case

### Case-Description-01: Login

Use-Case	Login
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin

Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-02: Register

Use Case	Register
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> </ol>

	4. System processes. 5. Operation completes.
Alternative Flows	1.1 System Error 1.1.a User retries 4.1 Missing Input 4.1.a System asks to fill required fields 5.1 Timeout Issue 5.1.a Show error message 6.1 Data Not Saved
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-03: Product Information

Use Case	Product Information
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	1. User performs step 1. 2. System responds. 3. User continues. 4. System processes. 5. Operation completes.

#### Case Description-04: All Categories

Use Case	All Categories
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-05: About Section

Use Case	About Section
----------	---------------

Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

Case Description-06: Contact page

Use Case	Contact page
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.

Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-07: Product Details

Use Case	Product Details
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.

Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-08: Appointment Booking

Use Case	Appointment Booking
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.

Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-09: Edit Profile

Use Case	Edit Profile
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> </ol>

	4. System processes. 5. Operation completes.
Alternative Flows	1.1 System Error 1.1.a User retries 4.1 Missing Input 4.1.a System asks to fill required fields 5.1 Timeout Issue 5.1.a Show error message 6.1 Data Not Saved
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-10: Buy Product

Use Case	Buy Product
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	1. User performs step 1. 2. System responds. 3. User continues. 4. System processes. 5. Operation completes.
Alternative Flows	1.1 System Error 1.1.a User retries

	4.1 Missing Input 4.1.a System asks to fill required fields 5.1 Timeout Issue 5.1.a Show error message 6.1 Data Not Saved
Quality Requirements	The user completes the process within 30 minutes.

### Case Description-11: Payment

Use Case	Payment
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	1. User performs step 1. 2. System responds. 3. User continues. 4. System processes. 5. Operation completes.
Alternative Flows	1.1 System Error 1.1.a User retries 4.1 Missing Input 4.1.a System asks to fill required fields 5.1 Timeout Issue

	5.1.a Show error message 6.1 Data Not Saved
Quality Requirements	The user completes the process within 30 minutes.

#### Case Description-012: Remove Chart

Use Case	Remove Chart
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>

Quality Requirements	The user completes the process within 30 minutes.
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### Case Description-13: Checkout

Use Case	Checkout
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

### Case Description-14: Logout

Use Case	Logout
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

Case Description-15: See Appointment

Use Case	See Appointment
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

## Case Description-16: Add Product

Use Case	Add Product
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

## Case Description-17: Edit Product

Use Case	Add Product
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

## Case Description-18: Delete Product

Use Case	Add Product
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

## Case Description-19: Add Admin

Use Case	Add Admin
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

## Case Description-20: User Order Management

Use Case	User Order Management
Goal	Describe the purpose of this use case.
Precondition	User/system must meet required conditions.
Success End Condition	System completes the operation successfully.
Failed End Condition	System shows error or fails to process.
Primary Actors	User / Doctor / Admin
Secondary Actors	System Components
Trigger	User initiates this action.
Description / Main Success Scenario	<ol style="list-style-type: none"> <li>1. User performs step 1.</li> <li>2. System responds.</li> <li>3. User continues.</li> <li>4. System processes.</li> <li>5. Operation completes.</li> </ol>
Alternative Flows	<ol style="list-style-type: none"> <li>1.1 System Error               <ol style="list-style-type: none"> <li>1.1.a User retries</li> </ol> </li> <li>4.1 Missing Input               <ol style="list-style-type: none"> <li>4.1.a System asks to fill required fields</li> </ol> </li> <li>5.1 Timeout Issue               <ol style="list-style-type: none"> <li>5.1.a Show error message</li> </ol> </li> <li>6.1 Data Not Saved</li> </ol>
Quality Requirements	The user completes the process within 30 minutes.

### 2.4.3 Activity Diagram

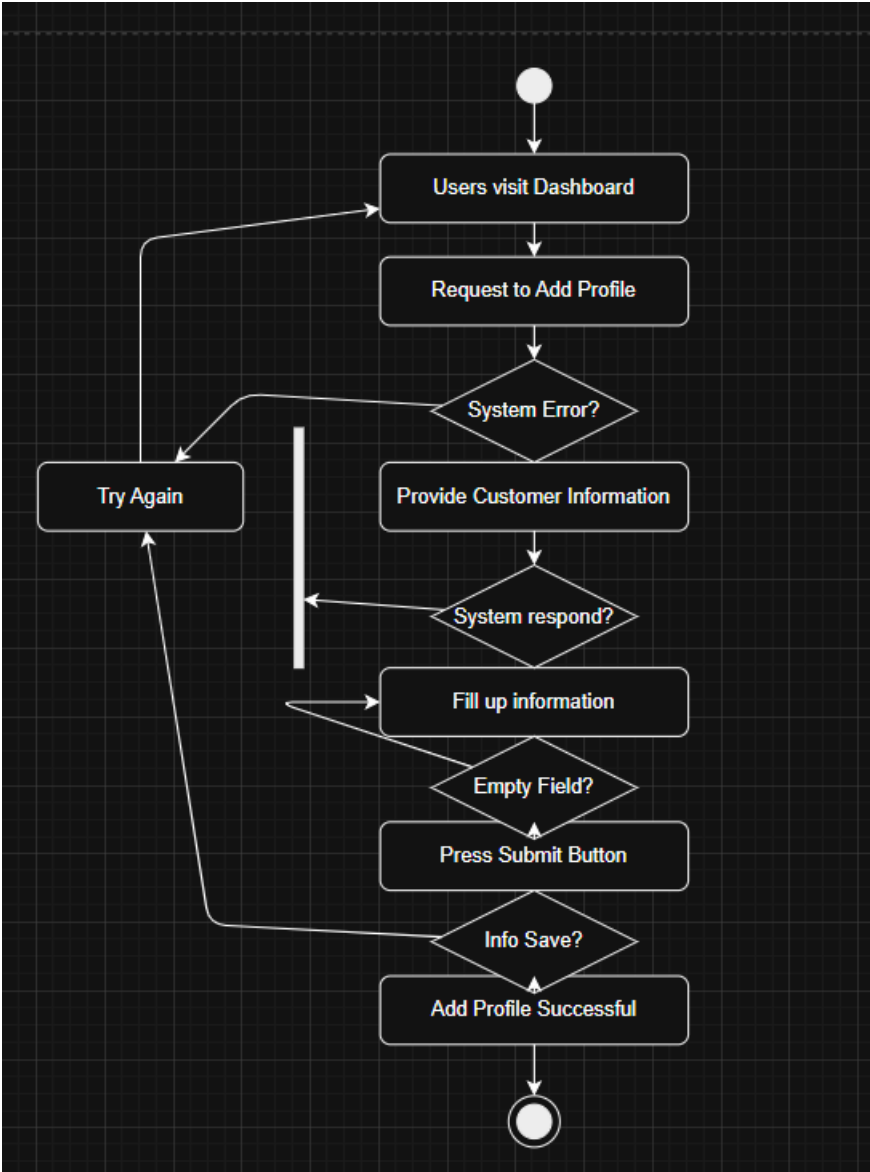


Figure 2.4.1: ADD Profile

1. User Registration (□□□□□ □□□□□□□□□□□□)

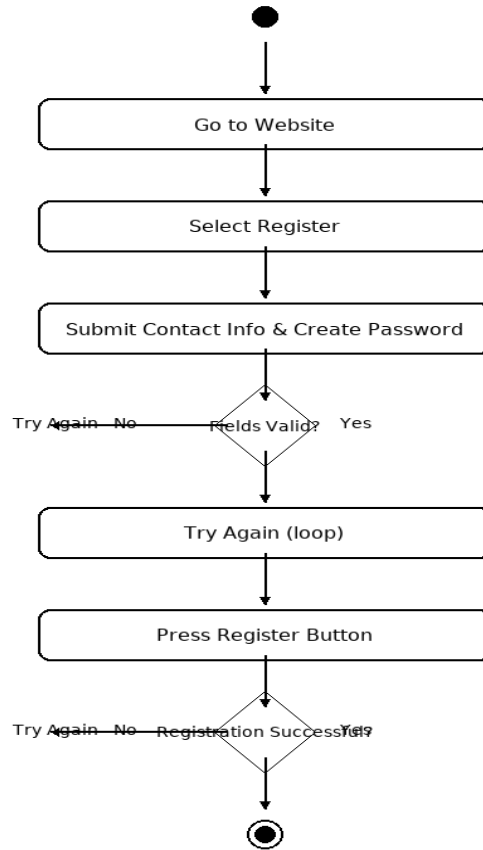


Figure 2.4.2: User register

2. User Login (□□□□□ □□□□)

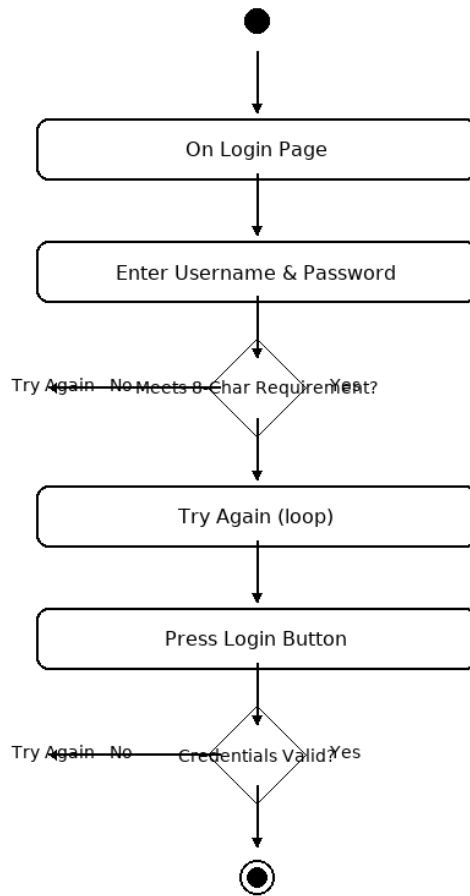


Figure 2.4.3: login

3. Making an Appointment (○○○○○○○○○○○○○○○○○○○○ ○○○○)

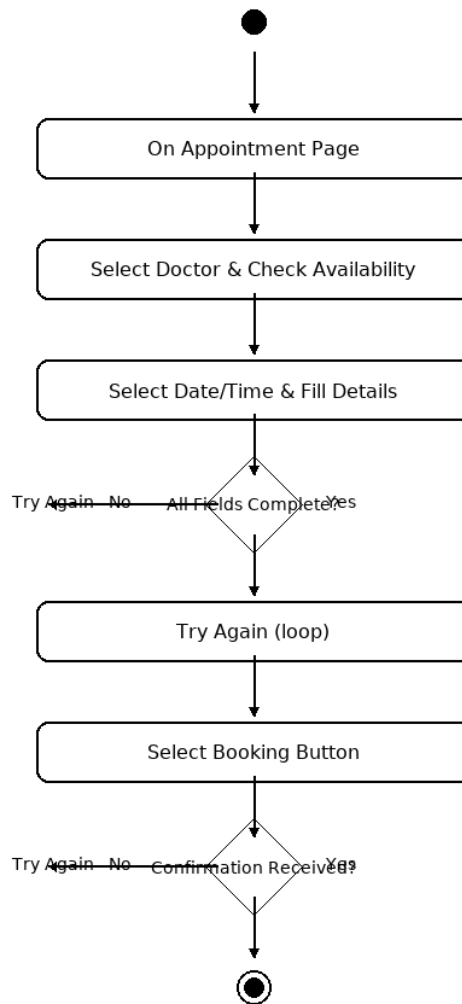


Figure 2.4.4: Appointment

4. Buying a Product (□□□□ □□□□)

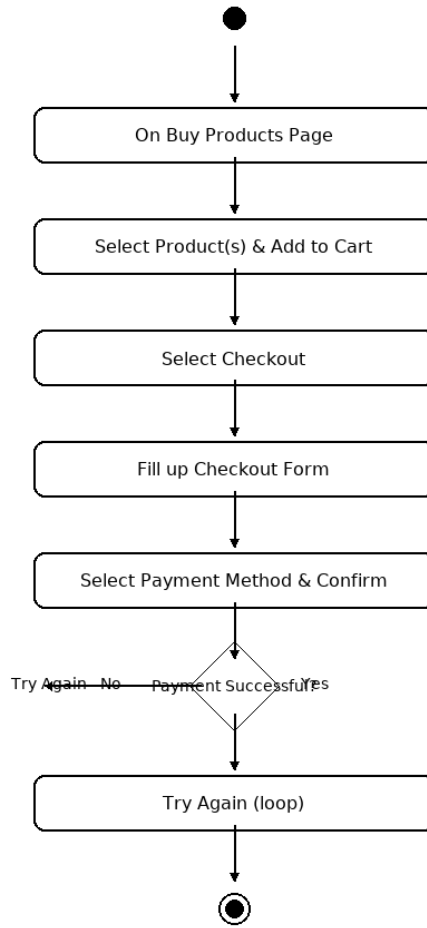


Figure 2.4.5: Buying products

### 2.4.4 Sequence Diagram

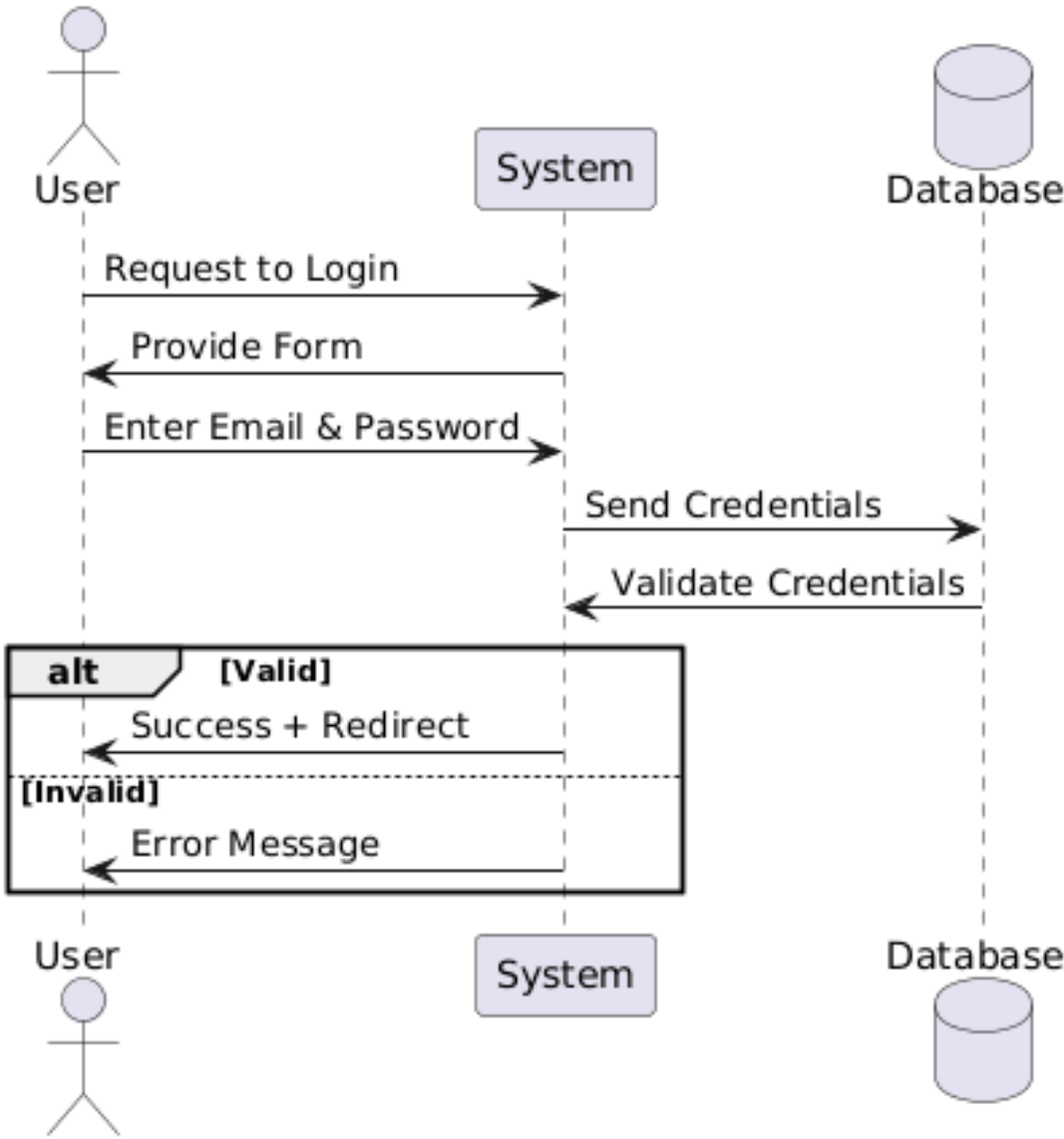


Figure 23: login

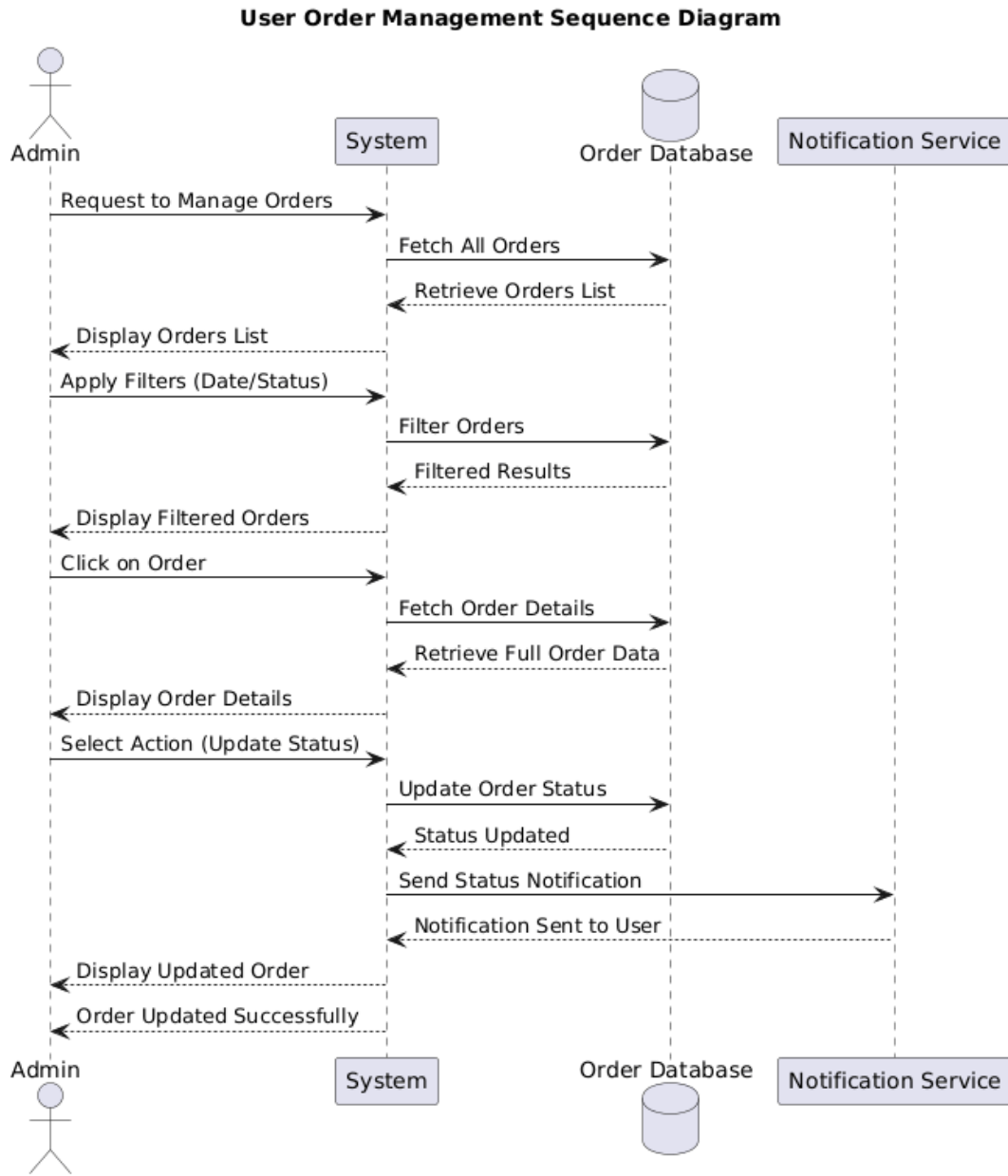


Figure 24: user order management

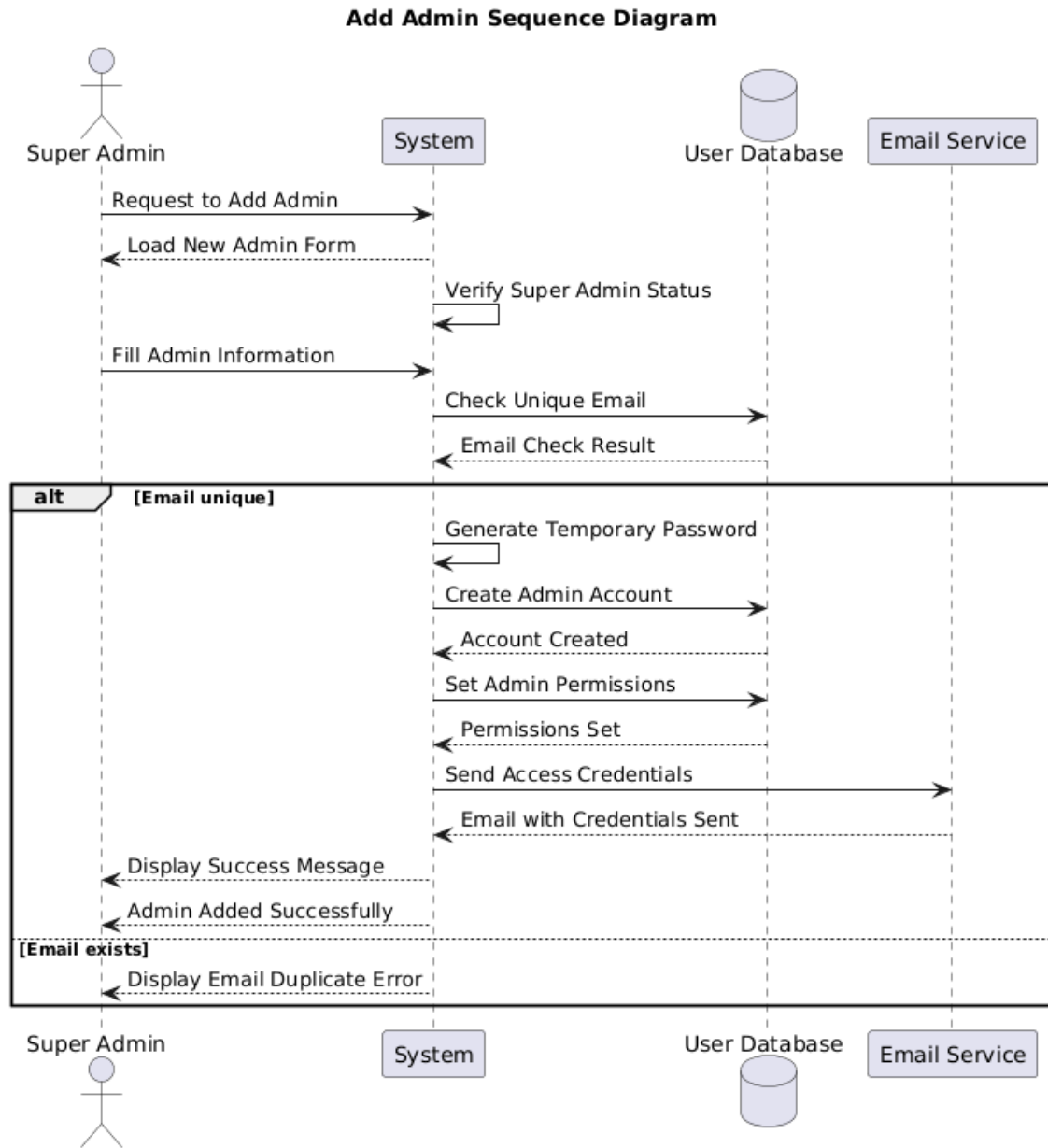


Figure 25: Add Admin

### Delete Product Sequence Diagram

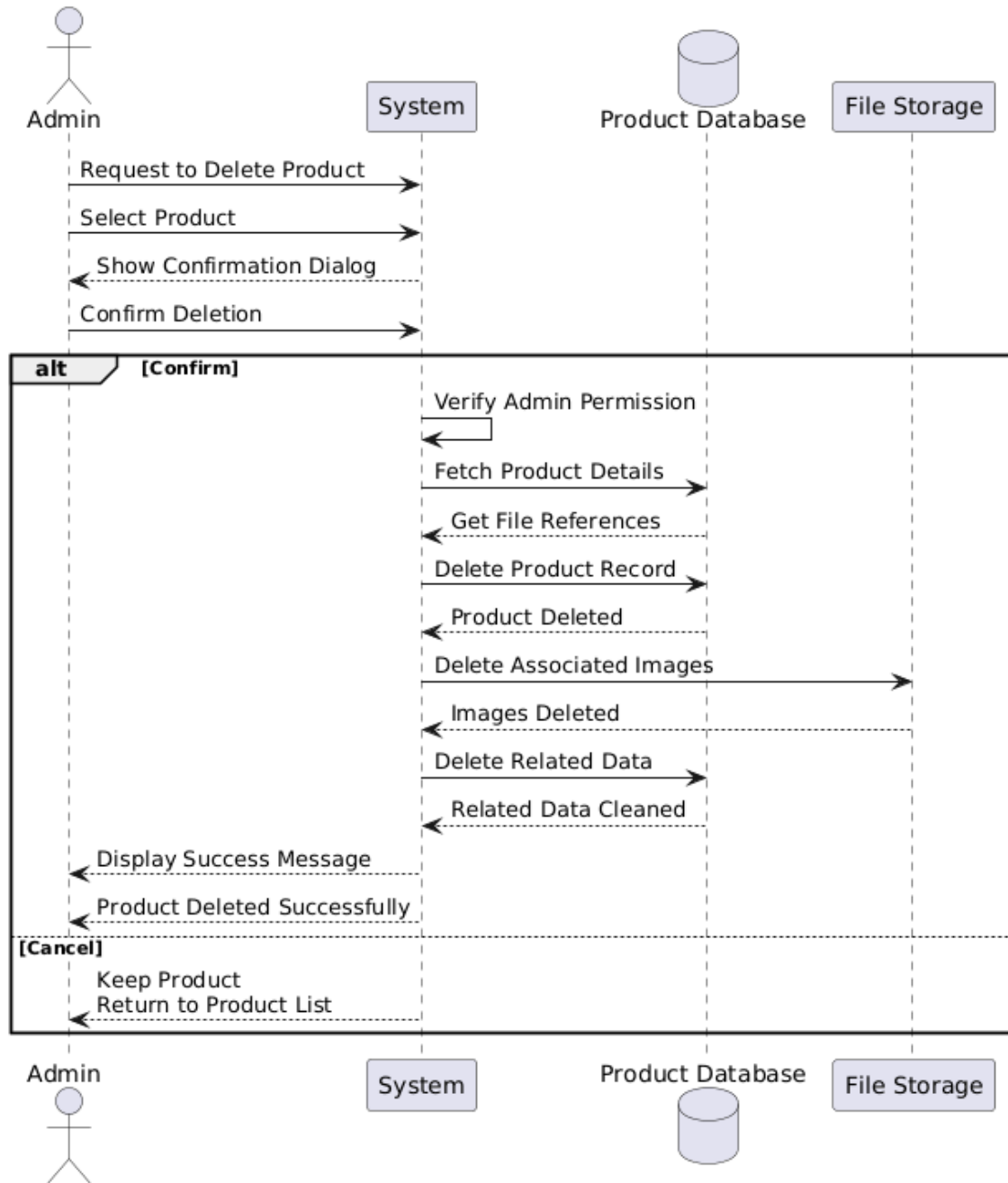


Figure 26: Delete product

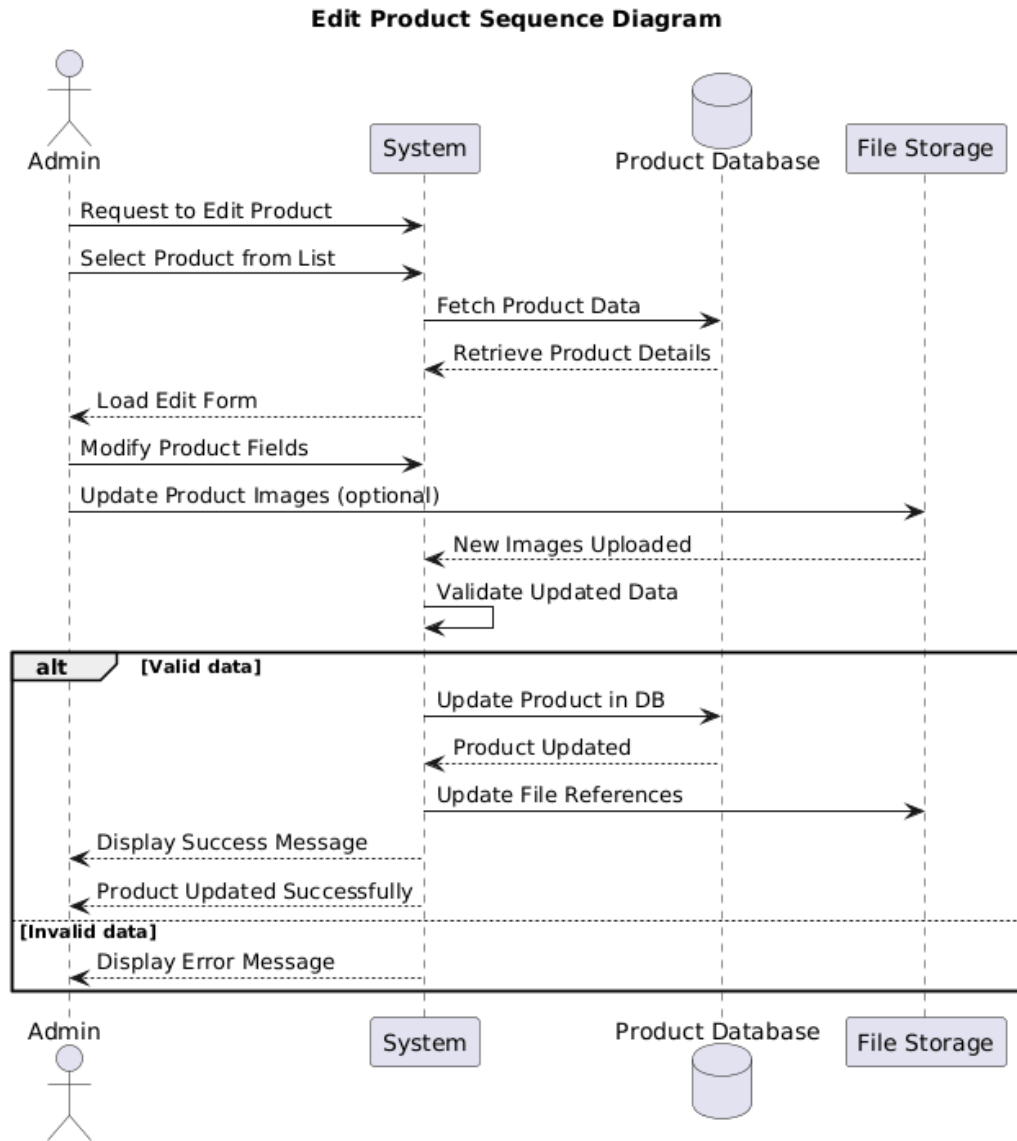


Figure 27: Edit product

See Appointment Sequence Diagram

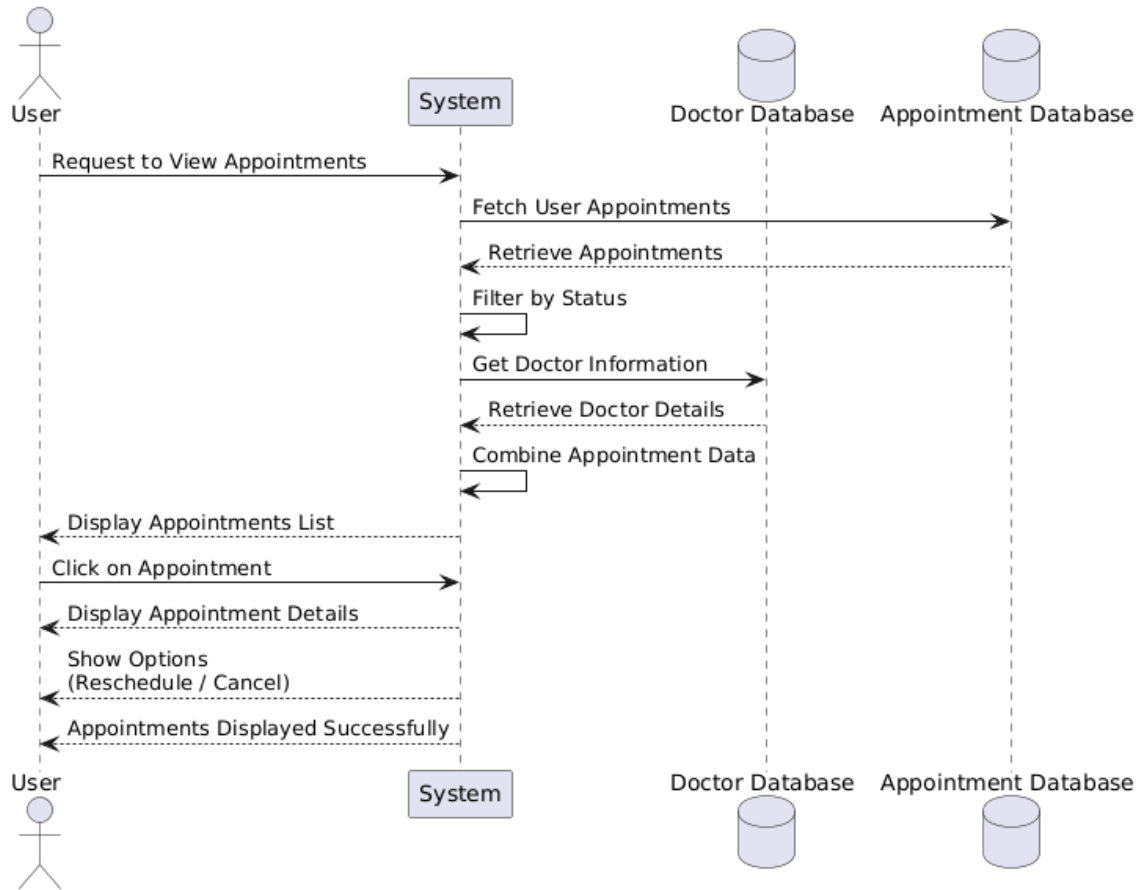


Figure 28: See Appointment

### Logout Sequence Diagram

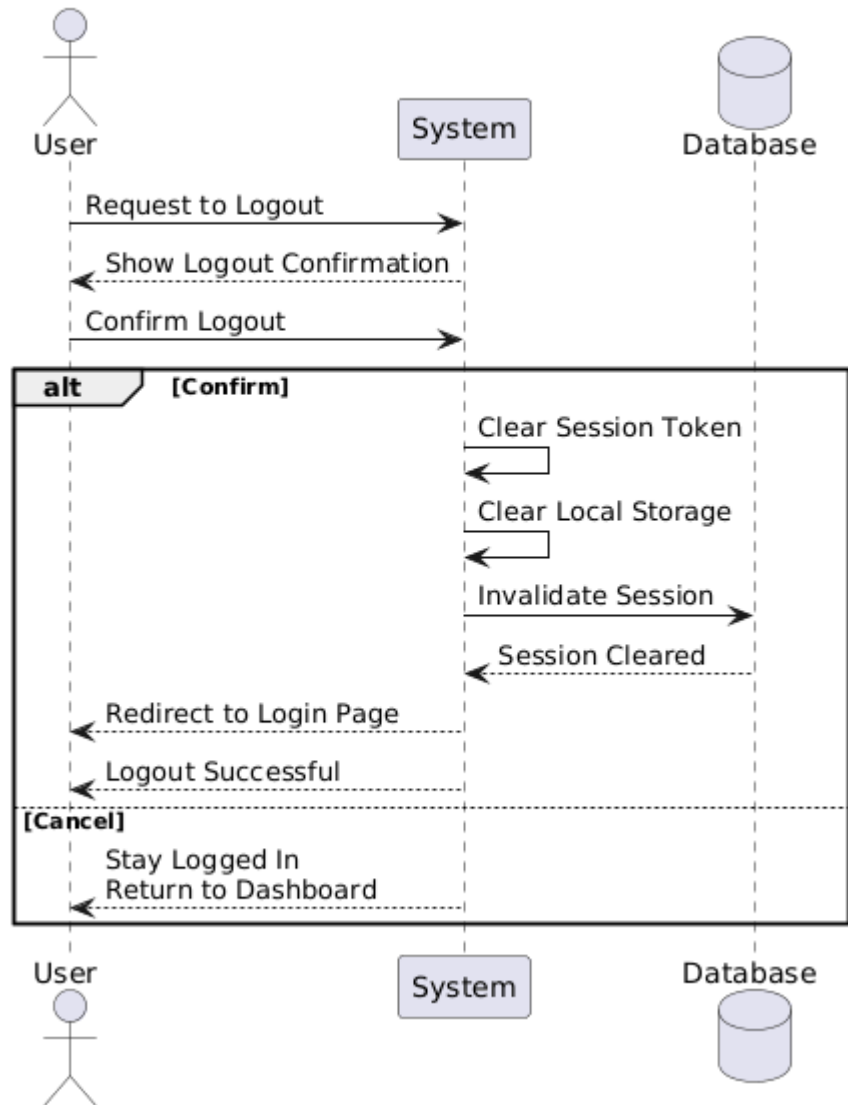


Figure 28: Logout

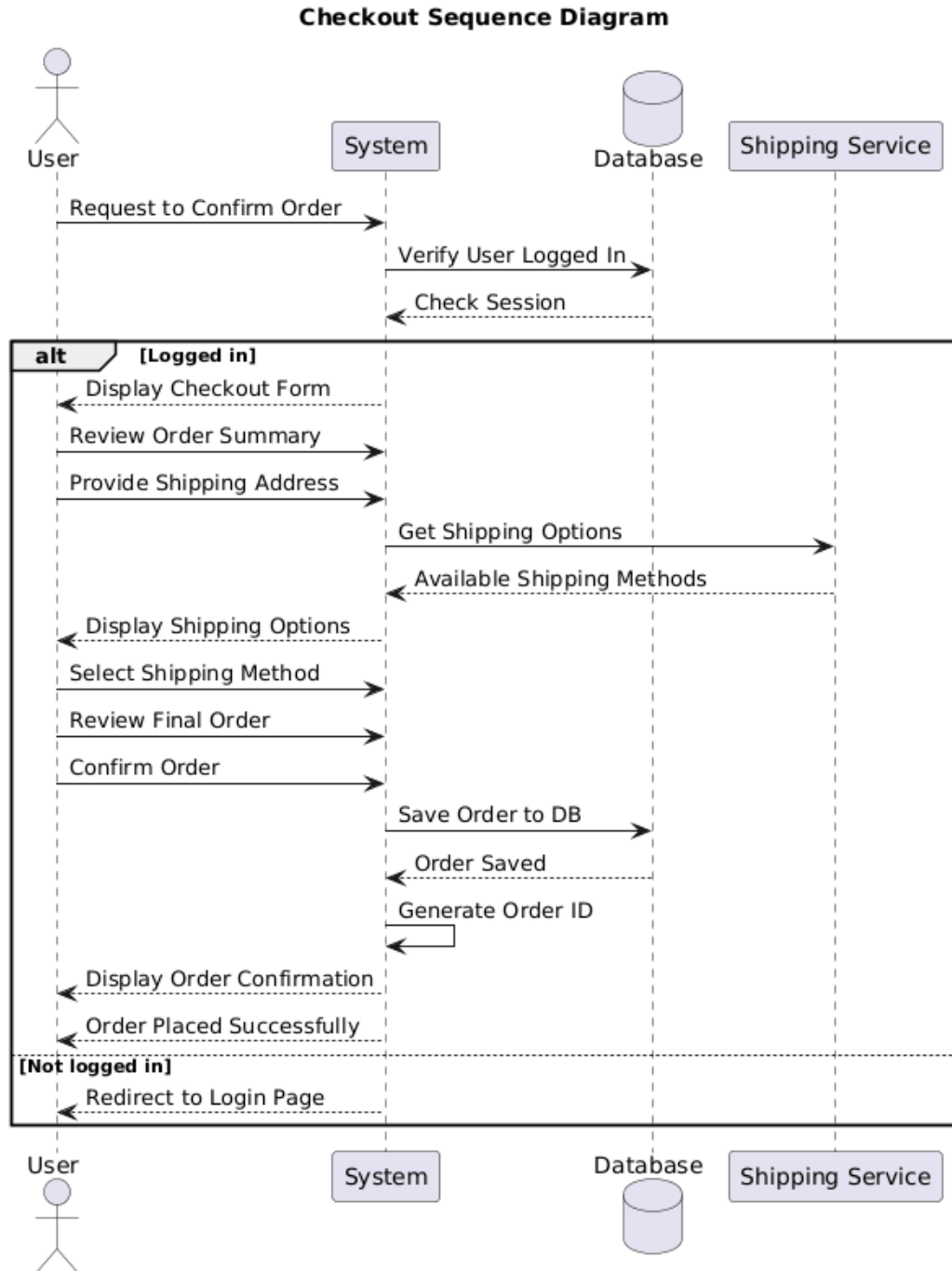


Figure 29: Checkout

### Remove Cart Item Sequence Diagram

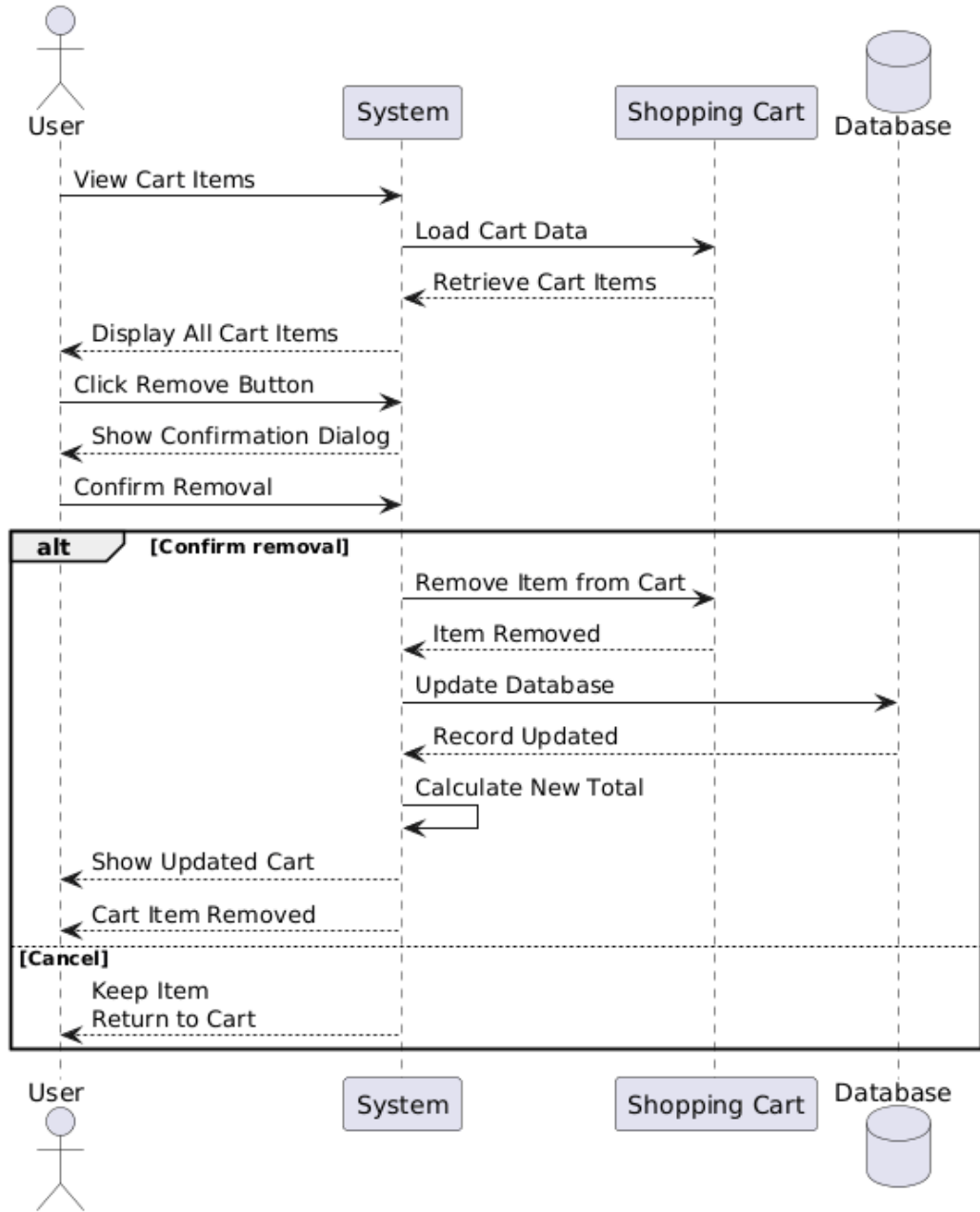


Figure 30: Remove cart

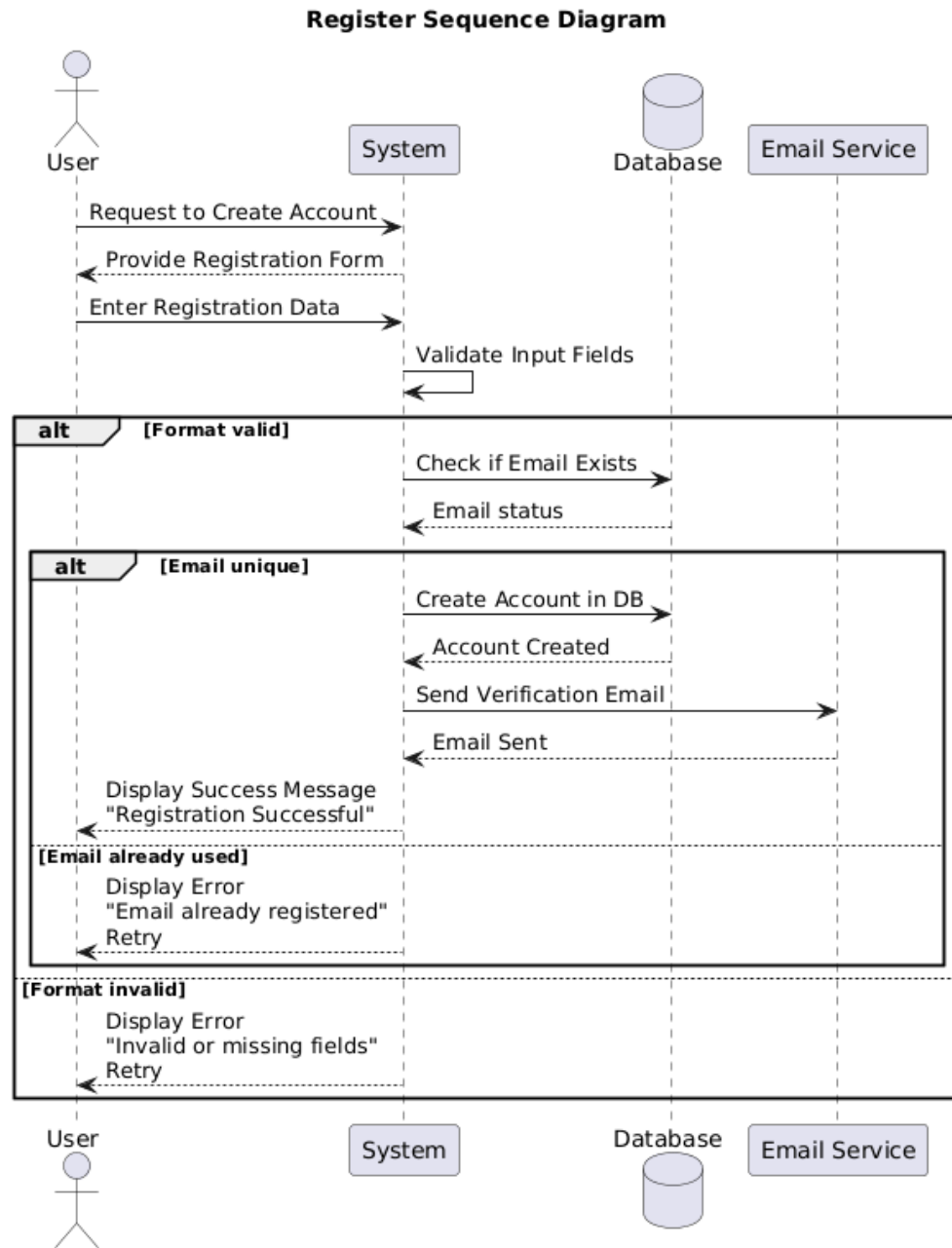


Figure 30: Register

## 2.4.5 Class Diagram

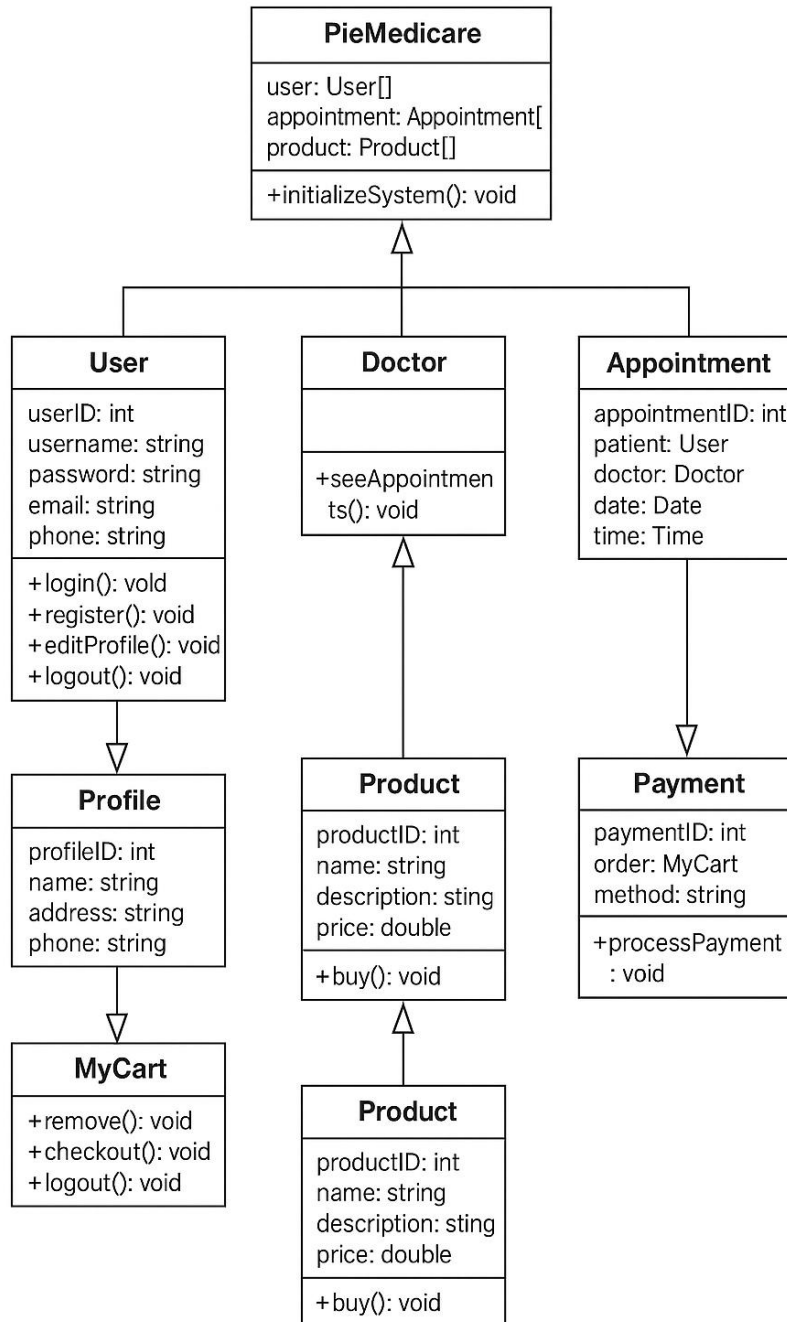


Figure 2.7: Class Diagram

2.4.6ER Diagram

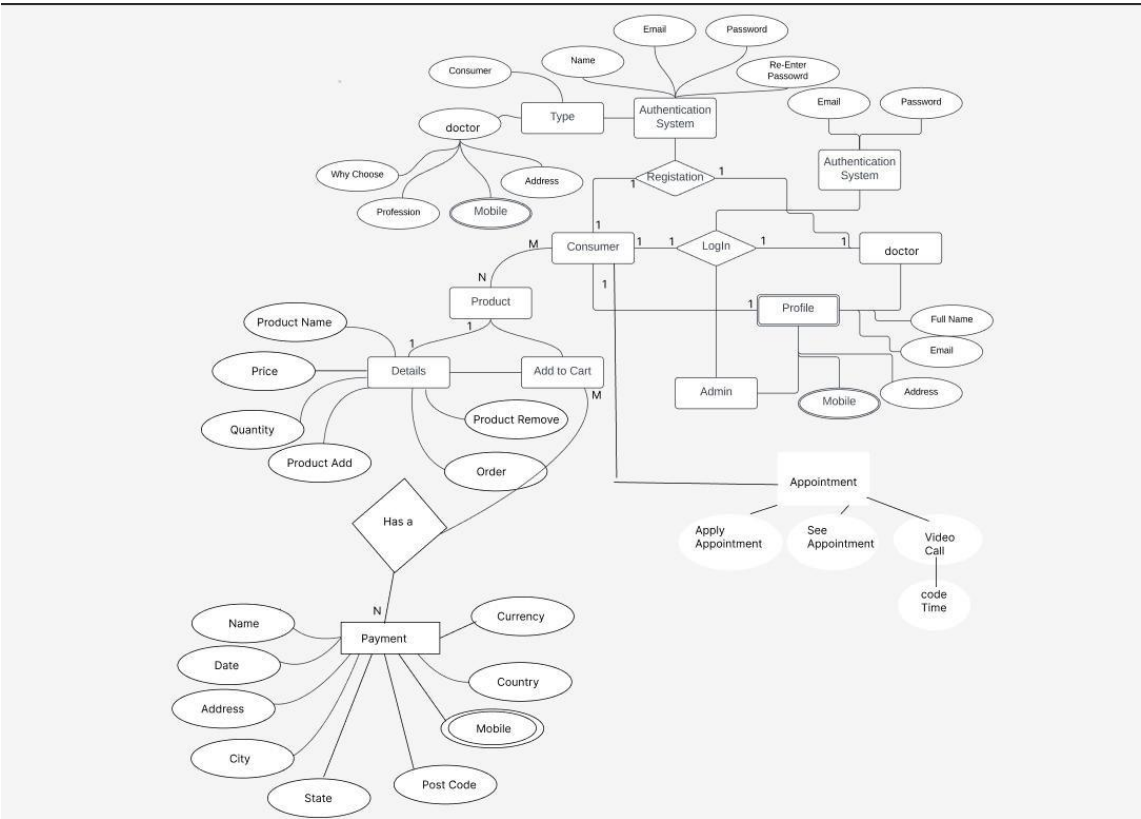


Figure 2.8: ER-Diagram

## 2.5 Methodology and Development Model:

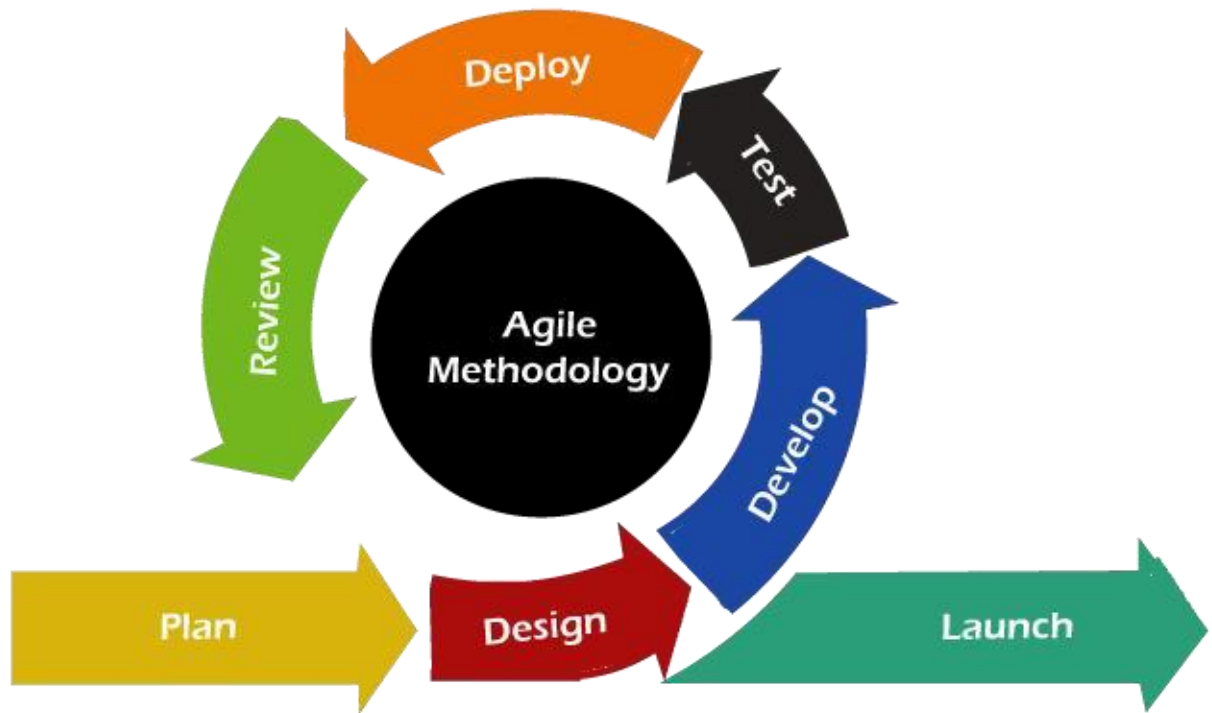


Figure 2.5 Software Development Life Cycle (Agile Model )

## 2.6 Requirement Collection and Analysis:

This stage is part of the requirements analysis process. It comprises identifying, capturing, analyzing, validating, and managing requirements for new projects or services while keeping in mind that various stakeholders could have varying needs. Every voyage begins with the gathering of supplies. Project control should also acquire necessities in addition to controlling them. Without the requisite parts, mission control is useless. If the conditions needed for the solution are not known with absolute certainty, a mission may unintentionally run the danger of failure. Conflicts may arise in that situation. It is the team's obligation to gather supplies because of this. That needs to be done as quickly as humanly possible. [1]

## **2.7 Summary**

This chapter presented the full system design including functional requirements, UML use cases, activity flows, sequence flows, class architecture, and ER modeling. These elements define how the system behaves and serves as the foundation for implementation and testing.

# CHAPTER 3 Software Testing

## 3.1 Introduction:

Software testing is an essential phase of the development life cycle to ensure system stability, performance, accuracy, and reliability. In this chapter, different testing strategies are applied to the Bangladesh Pie Medicare System to verify that all functionalities, including doctor appointment booking, ambulance request, blood donor matching, medicine purchase, ICU checking, and nurse booking, work properly and satisfy user requirements.

Testing also ensures the system meets functional requirements, handles errors gracefully, and performs accurately under various conditions.

## 3.2 Testing Features

Below are the major features of the system that are tested to ensure correctness:

### 3.2.1 Features to Be Tested

1. User-Registration
2. User-Login
3. Doctor Search
4. View Doctor Profiles
5. Appointment Booking
6. Online Payment System

7. Medicine Ordering
8. Add to Cart
9. Ambulance Request
10. ICU Availability Checking
11. Blood Request Submission
12. Blood Donor Matching
13. Organ Donation Registration
14. Nurse Booking
15. Real-Time Chat with Doctor
16. Profile Management
17. Notification System
18. Admin Adding Doctors
19. Admin Removing Doctors
20. Report Generation

## **3.3 Testing Strategies**

### **3.3.1 Test Approach**

The following testing approaches were applied:

- Unit Testing:  
Testing individual functions such as login validation, appointment scheduling, and donor matching.

- **Integration Testing:**  
Ensuring components such as the payment gateway, doctor data, and appointment modules interact properly.
- **Performance Testing:**  
Validating response times and load handling.
- **User Acceptance Testing (UAT):**  
Ensuring the system meets real-user expectations.

### 3.3.2 Pass/Fail Criteria

<b>Criteria</b>	<b>Description</b>
<b>Pass</b>	The feature performs as expected without any bugs or data issues
<b>Fail</b>	The feature does not match expected output or contains critical errors
<b>Conditional Pass</b>	Works partially but needs refinement or fixes

### 3.4 System Testing (Test Cases with Report)

<b>Test Case: 3.4</b>		<b>Test Case Name: Appointment Page Visibility</b>		
<b>System:</b> Web-Based Bangladesh Hospital Helpline		<b>Subsystem:</b> Public Access		
<b>Description:</b> Verifies that the Appointment page is accessible and mobile-friendly before a user logs in (as implied by placement).				
<b>Pre-condition:</b> User is accessing the website from a mobile browser.				
<b>Step</b>	<b>Data</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	Navigate to the "Appointment" page.	Page loads successfully.	Pass	Page should be simple to read, navigate, and obvious how to make an appointment .
2	Check page responsiveness on a small screen (mobile view).	The layout adjusts correctly, and content is not cut off.	Pass	The page must be <b>mobile-friendly</b> .
3	Click on a Doctor's Specialization link (if present).	Link navigates to the doctor/specialization details.	Pass	Ensures basic navigation works.
<b>Test Case: 3.5</b>		<b>Test Case Name: Edit Profile Security &amp; Functionality</b>		
<b>System:</b> Web-Based Bangladesh Hospital Helpline		<b>Subsystem:</b> MyProfile		
<b>Description:</b> Verifies that the Edit Profile page is secure and updates information correctly.				
<b>Pre-condition:</b> User is logged in and navigates to the "Edit Profile" page.				

Step	Data	Response	Pass/Fail	Comment
1	Attempt to change the user's Email Address to a new, valid address.	User saves the changes.	Pass	The system should display <b>"Profile Updated Successfully"</b> .
2	Check the Profile page to view the updated Email Address.	New Email Address is displayed correctly.	Pass	Verifies data persistence after update.
3	Attempt to view the sensitive data (e.g., password hash) using inspection tools (Simulated Security Check).	Password field should not display current password; secure safeguards are in place.	Pass	Checks that the page is <b>secure and protects user information</b> .

<b>Test Case: 3.6</b>	<b>Test Case Name: MyCart - Remove Product &amp; Checkout</b>
<b>System:</b> Web-Based Bangladesh Hospital Helpline	<b>Subsystem:</b> E-commerce/MyCart
<b>Description:</b> Verifies basic cart management and the start of the checkout process.	

Step	Data	Response	Pass/Fail	Comment
1	On the MyCart page, click "Remove Cart" for <b>Product A</b> .	Product A is removed; Cart total/count is updated.	Pass	Verifies <b>Remove Cart</b> functionality.
2	Click the "Checkout" link/button.	User is redirected to the checkout form page.	Pass	Verifies <b>Checkout</b> link/button functionality.

3	Fill up the user checkout form with valid shipping details.	Form submitted successfully.	Pass	Verifies that the user can successfully <b>fill up and submit the checkout form.</b>
---	---	------------------------------	------	--

<b>Test Case: 3.7</b>	<b>Test Case Name: Code and Time Generation for Video Session</b>
-----------------------	---

<b>System:</b> Web-Based Bangladesh Hospital Helpline	<b>Subsystem:</b> Doctor Tools
---	--------------------------------

<b>Description:</b> Verifies the functionality to generate the necessary code and time for a video session.	
---	--

<b>Pre-condition:</b> Doctor is logged in and views a specific appointment detail page.	
---	--

Step	Data	Response	Pass/Fail	Comment
1	Click the "Code and Time Generate" button/link.	System processes the request.	Pass	The system should initiate the code generation process.
2	Check the description/notification area.	A <b>unique code</b> and a <b>specific time</b> for the actual video are displayed/generated.	Pass	Verifies that the function generates the required <b>code and time.</b>
3	Check the patient's corresponding appointment view (Simulated).	The patient's view shows the newly generated code and time.	Pass	Ensures the generated data is visible to the intended user.

<b>Test Case: 3.8</b>		<b>Test Case Name: Add Product Functionality</b>		
<b>System:</b> Web-Based Bangladesh Hospital Helpline		<b>Subsystem:</b> Product Management		
<b>Description:</b> Verifies the Admin/Seller's ability to add a new product with all required information.				
<b>Pre-condition:</b> Admin is logged in and navigates to the "Add Product" page.				
<b>Step</b>	<b>Data</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
<b>1</b>	Input all Product Information (Name, Price, Description) and Upload Data (Image).	Admin clicks the "Add Product" button.	<b>Pass</b>	The system displays " <b>Product Added Successfully</b> " message.
<b>2</b>	Check the main "Products" list or database.	The newly added product is visible and correctly displays all uploaded information.	<b>Pass</b>	Verifies that the product information and data upload were successful.
<b>3</b>	Attempt to add a product leaving the "Product Price" field empty.	System displays an error: "Product Price is required."	<b>Fail</b>	Verifies input validation for required fields.

# CHAPTER 4 TOOLS AND TECHNOLOGY

## 4.1 Introduction:

The evolution of the modern, dynamic web application needs a complex combination of front-end and back-end technologies to provide a smooth functionality. In this project, I have used a full stack architecture that is a high performance and scalable architecture. The front-end will be concerned with the development of a very interactive and responsive user interface and provide a uniform experience on desktop and mobile platforms. The server-side environment enabled me to process and store real-time data and store it on a secure and robust server-side environment, supported by a NoSQL database, on the back-end. This combined system permits effective data search, and a very dynamic user interface.

## 4.2 Tools and Technology:

1. HTML
2. CSS
3. Bootstrap
4. Javascript
5. React
6. React Router
7. React Hook Form
8. React Paginate
9. Material-UI
10. MongoDB
11. ExpressJs
12. NodeJs
13. React Bootstrap
14. Firebase
15. IDE: MongoDB Atlas, VS Code

### **4.2.1 HTML:**

It is no secret that HTML is a mark up language that is employed in development of the Hyper Mark up Language which is quite dependent on the use of the mark up tags to gain access to information in the servers. The names of records are represented by names of HTML. Every HTML tag leads to an excellent report information.

### **4.2.2 CSS3:**

The critical semantics used in translating typefaces in HTML are conveyed by Falling Templates, otherwise known as CSS. With CSS, it is easy to change the look of an online archive.

### **4.2.3 Bootstrap:**

Bootstrap is a powerful, feature-rich front-end toolkit. A job can be easily designed using Bootstrap. In order to make our front-end work simple and responsive, Bootstrap is crucial.

### **4.2.4 Javascript:**

JavaScript is a text-based programming language that is applicable in both the client and server side to have interactive web pages. As much as web pages can be structured and designed, through HTML and CSS, JavaScript is the language that provides interactive features to internet websites that make people interested and entertained[6

### **4.2.5 React Js:**

React.js is a JavaScript library and framework. It is employed to build interactive user interfaces and use of internet applications faster and more effectively as compared to pure JavaScript usage. React.JS is a popular library currently.

#### **4.2.6 React Router:**

One of the popular libraries in React is called React Router and is used in routing. It allows altering browser URL, which lets users navigate between the views of various components of the React application, and maintains the UI at the same level as the URL. To have a better idea about the operation of the React Router, we should develop a simple React application. The application will be separated into three parts including the main page, the about section, and the contacts section. The React router will be used to tie these elements together[7].

#### **4.2.7 React Hook Form:**

Form validation in React is made simpler with the React Hook Form module. It is easy to use and only needs a small amount of code from developers, compared to other form libraries. Another great benefit of React Hook Form is its simple integration with UI frameworks because most libraries support the ref attribute. [8]

#### **4.2.8 React Paginate:**

Apps can display data across multiple pages thanks to the pagination capability of React JS. You can browse the pages to see the material rather than viewing it. React JS pagination is frequently used on the front end because it doesn't require any changes to the back-end.[9]

#### **4.2.9 Material-UI:**

The Material-UI framework's objectives include better software-development speed, and the speedy construction of user-interfaces.

#### **4.2.10 MongoDB:**

MongoDB is an open-source document-oriented database designed to handle a lot of data and provide you a lot of freedom when using it. Since MongoDB does not store or retrieve data as tables, it is classified as a No-SQL (Not Only SQL) database.[11]

#### **4.2.11 Express Js:**

Express is a node JS web application framework that provides a wide range of tools for building both online and mobile applications. It can be used to build web applications that are single pages, multi page, or hybrid.

#### **4.2.12 Node Js:**

Networking and server-side applications are made using the Node.js open source, crossplatform runtime environment. The Node.js runtime can be used to run JavaScript-based Node.js applications on Linux, OS X, and Windows.[10]

#### **4.2.13 React Bootstrap:**

This architecture's components might be created in a way that provides designers more control over how they appear and function. The React-Bootstrap system still relies heavily on the Bootstrap style sheet. Thus, ReactBootstrap is compatible with the majority of the most recent Bootstrap themes.

#### **4.2.14 Firebase:**

Developers can use Google Firebase, a Google-powered software platform, to construct iOS, Android, and Web applications. Firebase offers tools for building marketing and product trials, reporting and resolving app bugs, and collecting analytic.

# CHAPTER 5 DESIGN, DEVELOPMENT, TESTING AND IMPLEMENTATION

## 5.1 Structure :

The project report needs to be written clearly, concisely, and with organization. The report needs to be customized for the target audience, such as stakeholders or possible donors. Here are some more pointers for creating an effective project report: Make the report's outline before you begin. You can stay organized and on task by doing this.

### 5.1.1 Before Login

#### 1. Login:

A username and password combination will be used as the login method for the Web-Based Bangladesh Hospital Helpline project report. On their first visit to the website, users can create their own username and password. Both the username and the password must contain at least 8 characters and be case-sensitive.

#### 2. Register:

The user ought to go to the Web-Based Bangladesh Hospital Helpline's website. The "Register" link should be selected by the user.. The user needs to come up with a password. The "Register" button should be selected by the user.

#### 3. Product:

Background information on the medication products used in the online hotline Methods for describing the drug products Justification for adopting the medication product techniques.

#### 4. All Categories:

Data gathering and analysis are steps of a technique. Data from surveys, interviews, or experiments may be included in this. Questions like the prevalence of specific health issues, the efficacy of various treatment choices, or the degree to which patients are satisfied with the hotline can all be answered quantitatively.

#### **5. About:**

Bangladesh needs a web-based hospital helpline. The advantages of a hospital helpline accessible online. the difficulties in creating and operating an online healthcare helpline. the planning and execution of the online hospital helpline. the assessment of the hospital helpline's online presence. the suggestions for the online hospital helpline's future.

#### **6. Contact:**

Please list your office hours so that folks will know when to anticipate a response. Offer a feedback form so that users may quickly express their ideas and opinions. Links to your social media accounts should be included if you have a social media presence so that people may connect with you there.

#### **7. Product Details:**

The report is organized and well-written, and it is brief and to the point. The report is written with a specific audience in mind, such as stakeholders possible funder. An overview of the pertinent literature on web-based hospital helplines is included in the report's literature review. The methodology section of the study includes descriptions of the project methodology, data collection techniques, and data analysis techniques.

#### **8. Appointment:**

Physician's name, medical specialization doctors' accessibility booking appointments procedure Cancellation of appointments policy Contact details It should be simple to read and navigate the page, and it should be obvious how to make an appointment. Because many users will view the page from their smartphones or tablets, it should also be mobile-friendly.

## **After Users Login**

### **My Profile**

#### 1. Edit Profile:

It should be simple to use and navigate the Edit Profile page. The instructions should be simple to grasp, and the user interface should be clear and succinct. The page should be secure and have the necessary safeguards in place to protect user information.

### **Buy Products**

#### 1. Buy Products:

A list of the goods that can be purchased by calling the helpline. the costs of the goods. a breakdown of the goods. Detailed directions on how to buy the things. a form for customers to use to send inquiries or requests.

#### 2. Payment:

The report's price The allowed methods of payment directions for making a payment a connection to the report's terms and conditions

### **My Cart**

1. Remove Cart: User remove the product.

2. Checkout: User checkout form page fill-up.

3. Logout: User Logout button click and show the logout page.

## **After Doctor Login**

#### 1. See Appointment:

The appointment page should be simple to use, straightforward, and brief. The form should contain all relevant details, such as the name, email address, phone number, appointment day and time, and appointment reason.

#### 2. Video Session:

A concise synopsis of the video's content should be provided in the description, which should also contain a link to the actual video.

#### 3. Code and Time Generate:

A concise synopsis of the video's content should be provided in the description, which should also contain a code and time generate to the actual video.

### **After Admin Login**

#### 1. Add Product:

##### 1. Add Product:

Admin or Seller add product page and product Information Upload Data

##### 2. Edit Product:

Admin or Seller upload product and edit product name or product price or product Description.

##### 3. Delete Product:

Select "Products" from the menu. Decide which product page you want to remove.

Select "Delete" from the menu. Verify the removal.

#### 2.Add Admin:

Only authorized users should be able to access the secure admin page. Additionally, it must be simple to use and navigate.

#### 3.User Order

##### 1.Approved:

User Buy the product and admin or seller product approved.

##### 2.Cancle:

User Buy the product admin or seller product cancel.

##### 3.Pending:

User Buy the product and show the pending page.

## 5.2 Front-end design implementation

The front-end configuration of the utility's UI is prepared. In our project, front-end design is done using HTML, CSS, Bootstrap, and Reacts technologies. We employ particular areas on our website to make it user-friendly. Users were considered when adding the review feature to our website. The most significant programming change is the front quit plan setting.

### Home Page:

- 1.By entering or pressing our website's URL, users can access the homepage.
- 2.From the Nev Section Home, you may access necessary things.
- 3.However, visitors to our website can read their Order summary and Dashboard.
- 4.The user's name and avatar are shown after logging in. Here, a drop-down menu is accessible. His profile is accessible to him, and he has authority over it.

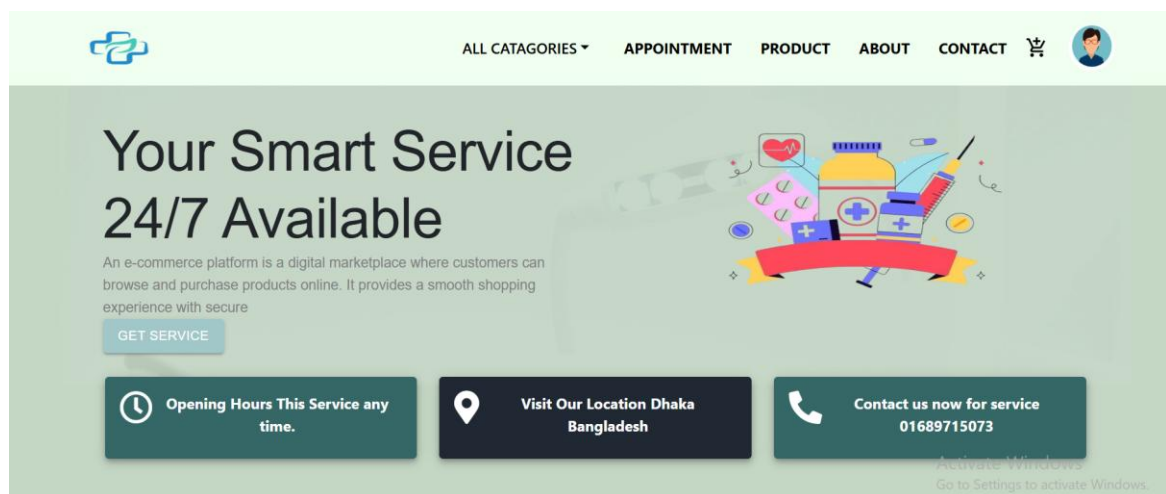


Figure 5.2.1.1 Home Page Banner Section

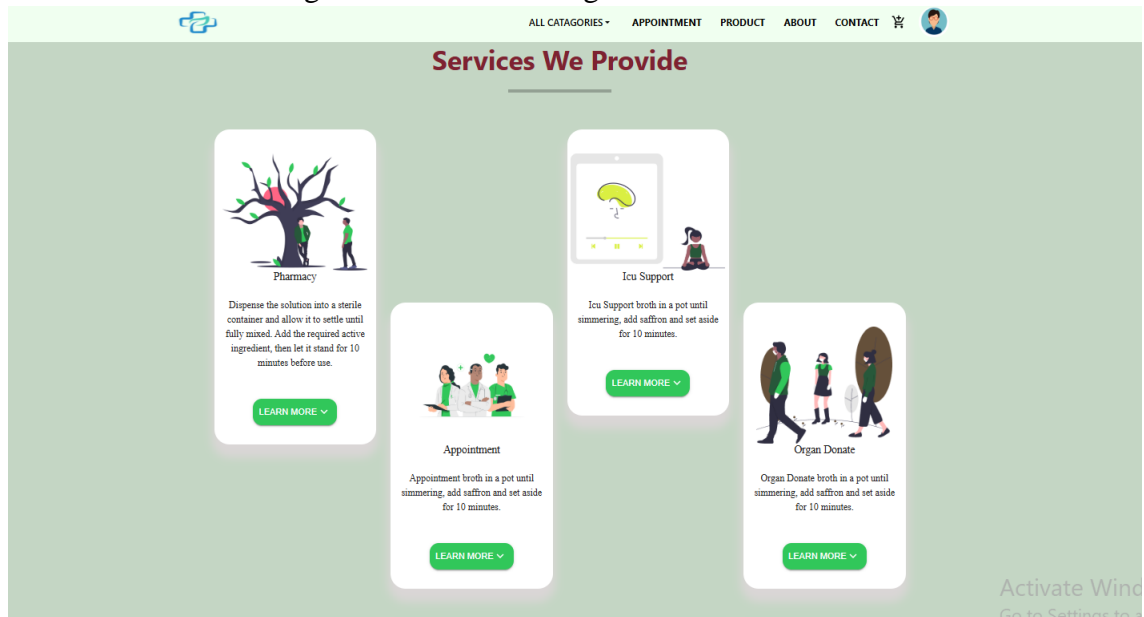


Figure 5.2.1.2 Service Section

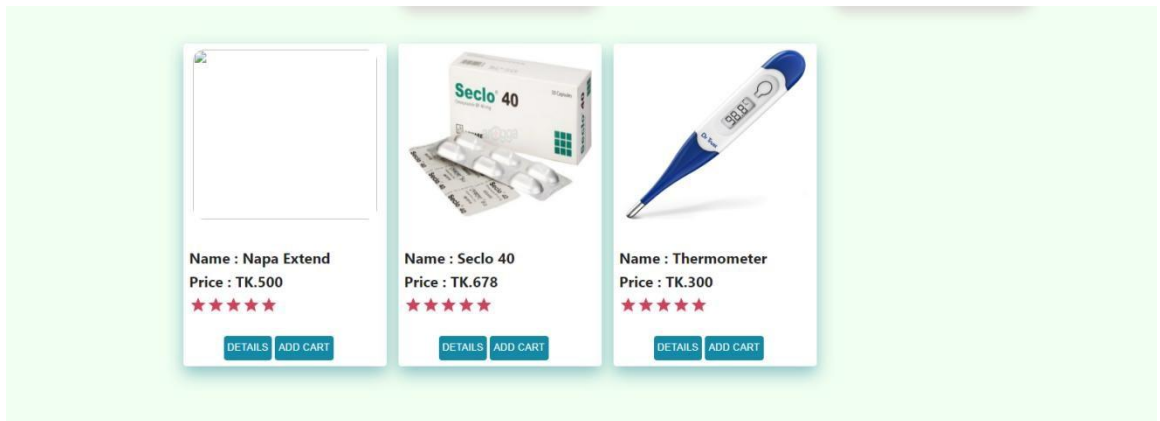


Figure 5.2.1.3 Medicine Products Section

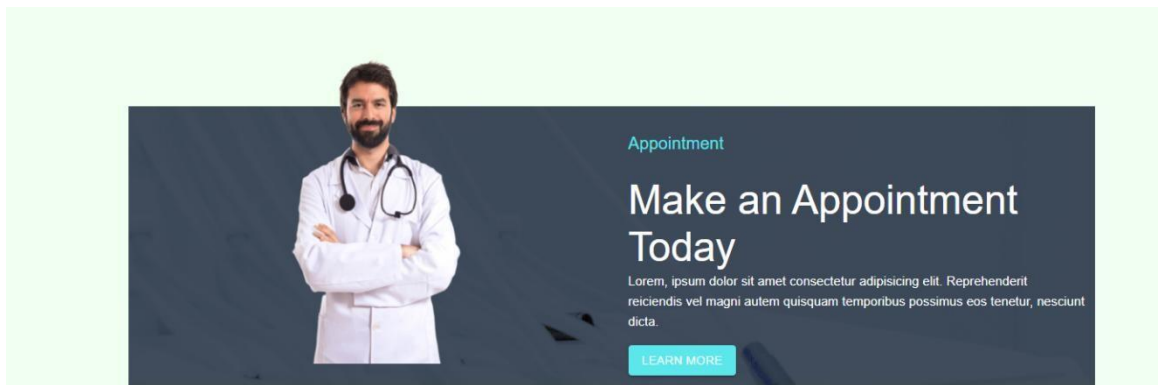


Figure 5.2.1.4 Home-Page Appointment Section

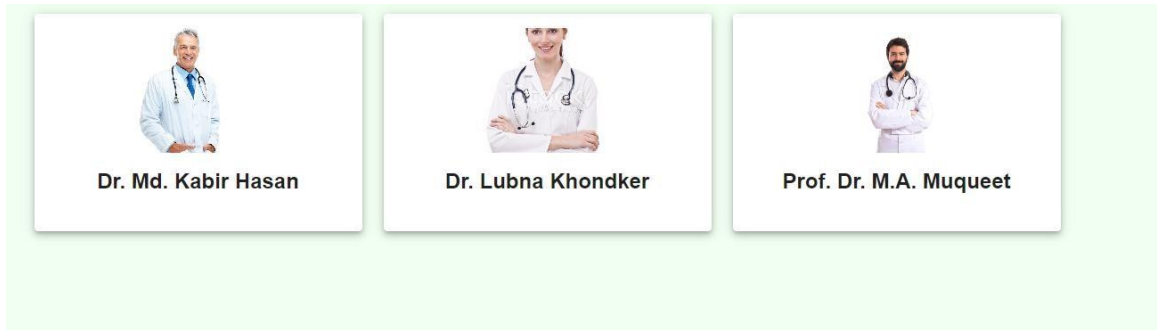


Figure 5.2.1.4 Home-Page Doctor Section



Figure 5.2.1.5 Home-Page Footer Section

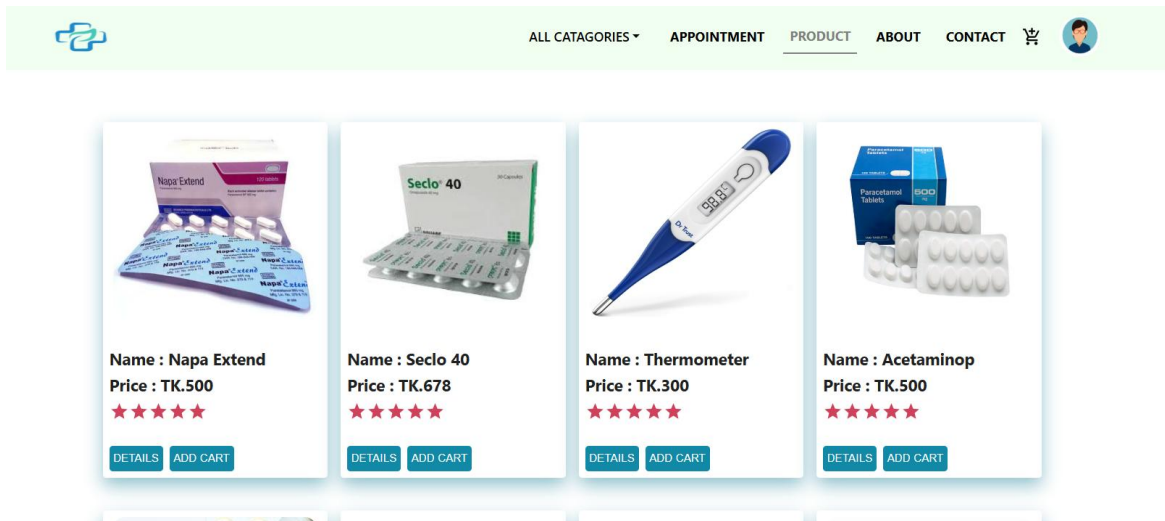





Figure 5.2.2.1 Categories:-Medicine Product Page

Search by branch Name, example: dhanmondi 🔍

- Dhaka
- Chattogram

 <p><b>Name :</b> Ambulance <b>Division :</b> Dhaka <b>Branch :</b> Mirpur ☆☆☆☆☆</p> <p style="background-color: #007bff; color: white; padding: 2px; text-align: center;">AMBULANCE</p>	 <p><b>Name :</b> Ambulance <b>Division :</b> Chattogram <b>Branch :</b> Rangamati ☆☆☆☆☆</p> <p style="background-color: #007bff; color: white; padding: 2px; text-align: center;">AMBULANCE</p>	 <p><b>Name :</b> Ambulance <b>Division :</b> Dhaka <b>Branch :</b> Dhanmondi ☆☆☆☆☆</p> <p style="background-color: #007bff; color: white; padding: 2px; text-align: center;">AMBULANCE</p>
---	--	--

Activate Windows  
Go to Settings to activate Windows

Figure 5.2.2.2 Categories:-Ambulance Product Page

### Blood Donate

<p><b>Name:</b> tamal <b>Email:</b> rocky@gmail.com <b>Phone:</b> 3883283902 <b>Address:</b> dhaka <b>BloodGroup:</b> a+</p>	<p><b>Name:</b> Sorif Hasan <b>Email:</b> rocky@gmail.com <b>Phone:</b> 01746445550 <b>Address:</b> dhaka <b>BloodGroup:</b> b+</p>	<p><b>Name:</b> Nasir Islam <b>Email:</b> rocky@gmail.com <b>Phone:</b> 01646445551 <b>Address:</b> Rangpur <b>BloodGroup:</b> b-</p>
--	---	---

Figure 5.2.2.4 Categories:-Blood Donate Support Page

### Nurse Collection

<p><b>Name:</b> Sarkar <b>Email:</b> rocky@gmail.com <b>Phone:</b> 93003003 <b>Address:</b> dhaka <b>HospitalName:</b> Rangpur Dental</p>	<p><b>Name:</b> Zaman Rahman <b>Email:</b> rocky@gmail.com <b>Phone:</b> 01746445506 <b>Address:</b> Dhaka <b>HospitalName:</b> Dhaka Dental Hospital</p>	<p><b>Name:</b> Jannat Begum <b>Email:</b> rocky@gmail.com <b>Phone:</b> 01646445559 <b>Address:</b> Dhaka <b>HospitalName:</b> Square Hospital</p>
---	---	---

Figure 5.2.2.5 Categories:-Nurse Support Page

## Organ Donate

<p><b>Name:</b> Jamal  <b>Email:</b> rocky@gmail.com  <b>Phone:</b> 93003003  <b>Address:</b> Mohammadpur  <b>Organ:</b> Liver</p>	<p><b>Name:</b> jamal  <b>Email:</b> ton@gmail.com  <b>Phone:</b> 017362829230  <b>Address:</b> Dhaka  <b>Organ:</b> Heart</p>	<p><b>Name:</b> Ragib Roy  <b>Email:</b> rocky@gmail.com  <b>Phone:</b> 01546445552  <b>Address:</b> Dhaka  <b>Organ:</b> Heart</p>
--	--	---

Figure 5.2.2.5 Categories:-Organ Donate Support Page

Figure 5.2.3.1 Doctor Appointment-Page

Figure 5.2.3.2 Doctor Appointment Apply Form

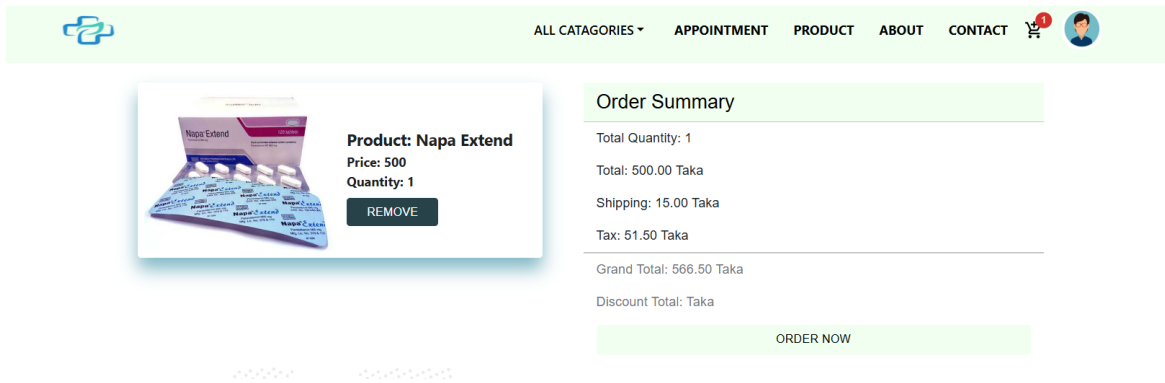
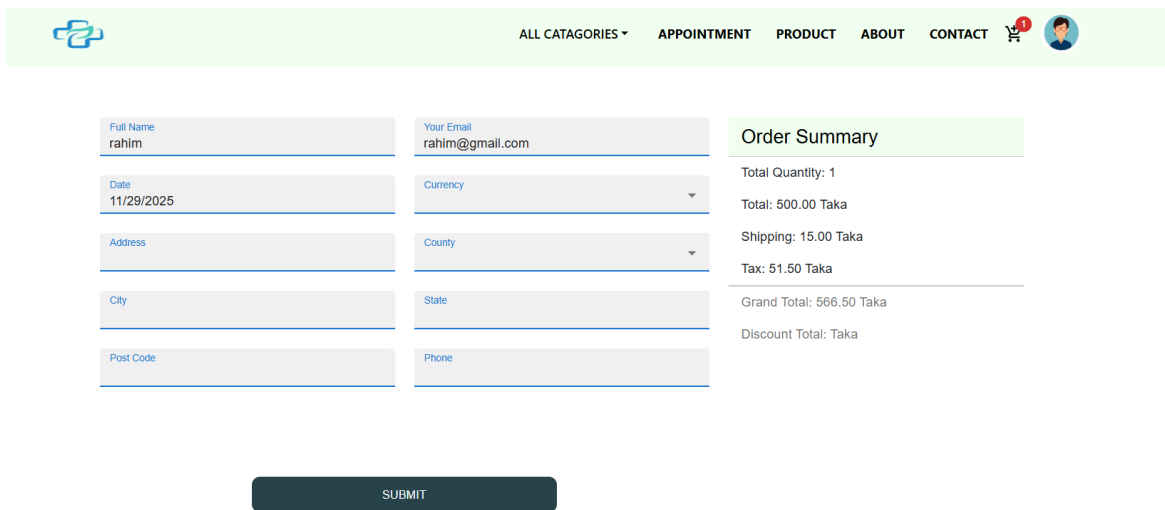


Figure 5.2.4.1 Cart Page



Activate Windows

Figure 5.2.4.2 Checkout Page

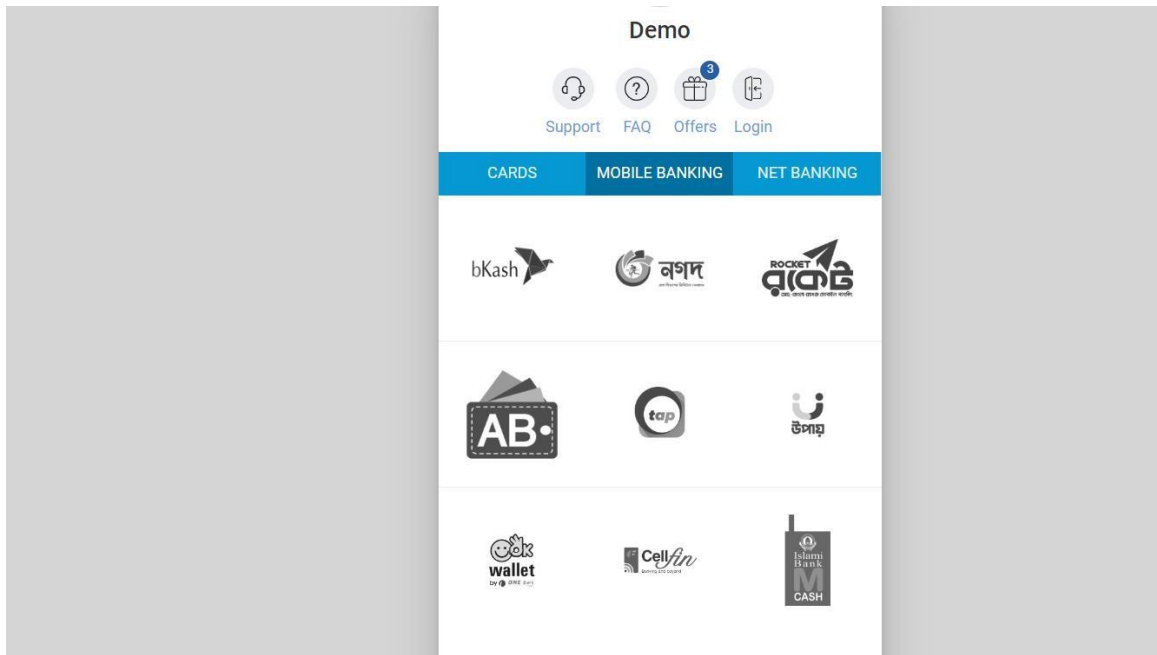


Figure 5.2.4.3 Payment Page

### OTP Page

Do not press browser back or forward button while you are in payment page

Payment Summary	
Please review the following detail for this transaction:	
Amount:	346.50
Currency:	BDT
Invoice number:	2307059373908Eb2pTI71sldXQ
Description:	Products

Enter Card Information	
<p>OTP:</p> <input style="width: 100%;" type="text"/> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span style="background-color: #4CAF50; color: white; padding: 5px 10px; border-radius: 5px;">Success</span> <span style="background-color: #f44336; color: white; padding: 5px 10px; border-radius: 5px;">Failed</span> </div>	<p>Your entered card information could not be corrupted or become known to the third party, as all transmitted data is encrypted by the SSL protocol.</p> <div style="background-color: #008080; color: white; padding: 5px; margin-top: 10px; text-align: center;"> <b>Note</b> </div> <ol style="list-style-type: none"> <li>1. For VISA and MC, look at the back side of your Card to find 3-digit CVV2/ CVC2. For AMEX, look at the upper right corner of the front side of your Card to find 4-digit CSC.</li> <li>2. The cardholder's name should be entered just as</li> </ol>

Figure 5.2.4.4 OTP Page



Figure 5.2.4.5 Success Page

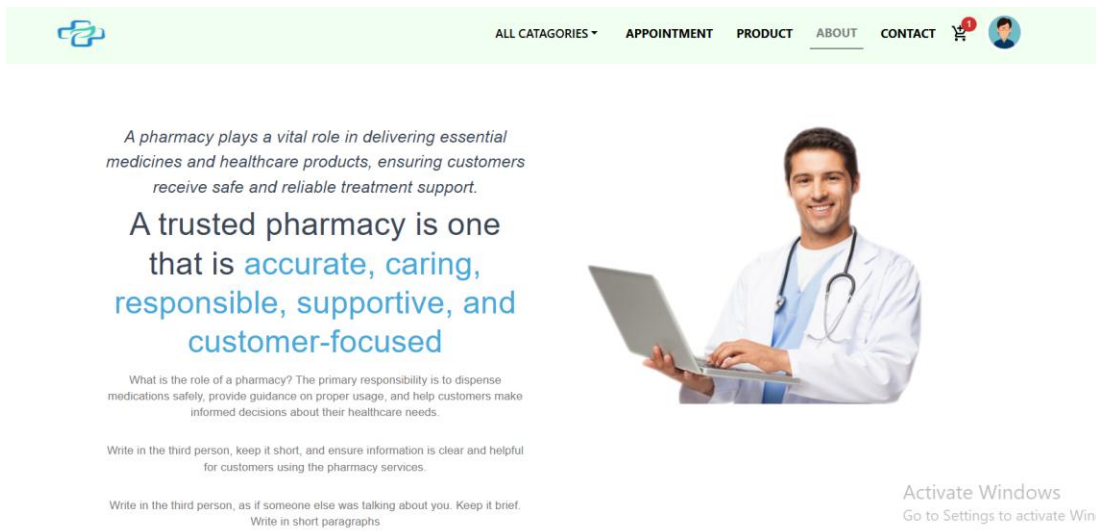


Figure 5.2.5.1 About Page

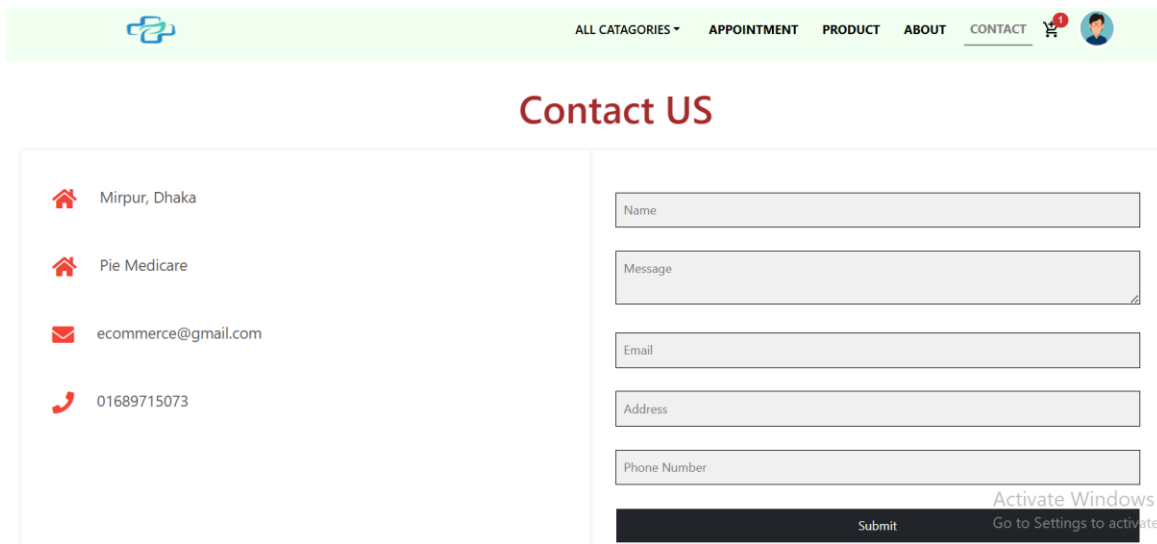


Figure 5.2.5.2 Contact Page

The screenshot shows a web application interface with a dark sidebar on the left containing a menu with items like Appointment, Home, Dashboard, UserAdmin, Admin Medicin, Ambulance, Ambulance Show, Add Product, Add Doctor, Serial Number, Medicin, and All Patient. The top navigation bar is blue and labeled 'Dashboard'. The main content area features a dark blue rounded rectangle titled 'Add Your Admin Products'. Inside this rectangle, there are six white input fields: 'Product Name', 'Product Price', 'img url', 'Description', 'Select categories', and 'Select Rating'. A blue 'SUBMIT' button is located at the bottom right of the form.

Figure 5.2.6.1 Add Medicine Page

The screenshot shows the same web application interface as Figure 5.2.6.1. The main content area features a dark blue rounded rectangle titled 'Add Your Ambulance'. Inside this rectangle, there are six white input fields: 'Id', 'Name', 'img url', 'Description', 'Select Division', and 'Select Branch'. A blue 'SUBMIT' button is located at the bottom right of the form.

Figure 5.2.6.2 Add Ambulance Page

The screenshot shows the 'Add Doctor Upload Page' within the JAMAI system. The interface includes a dark sidebar with navigation options such as Appointment, Home, Dashboard, UserAdmin, Admin Medicin, Ambulance, Ambulance Show, Add Icu, Add Product, Add Doctor, Add Blood, Manage Blood, Add Nurse, and Manage Nurse. The main content area has a light green background and contains a form with the following fields: Doctors Name, Time (example: 8.00 AM-9.00 AM), img url, Space (example: 8), price, Address (example: Hospital Name), Degree, Description (example: TeethOrthodontics), Division (example: Dhaka), and a Select Rating dropdown. A blue SUBMIT button is located at the bottom of the form.

Figure 5.2.6.4 Add Doctor Upload Page

The screenshot shows the 'Add Blood Upload Page' within the JAMAI system. The interface includes a dark sidebar with navigation options such as Appointment, Home, Dashboard, UserAdmin, Admin Medicin, Ambulance, Ambulance Show, Add Icu, Add Product, Add Doctor, Add Blood, Manage Blood, Add Nurse, and Manage Nurse. The main content area has a dark blue background and contains a form titled 'Add Your Blood' with the following fields: Enter Name, Blood Group, address, and phone. A blue SUBMIT button is located at the bottom of the form.

Figure 5.2.6.5 Add Blood Upload Page

**RAHIM**


**Dashboard Bangladesh Medicin Services**

- ☰ Appointment
- ☰ Home
- ☰ Deshboard
- ☰ Blood Donate
- ☰ See AddNurse
- ☰ Add Organ
- ☰ Organ Donate
- ☰ Product Order
- ☰ Add Nurse
- ☰ Add Blood
- ☰ All Patient

MY ORDER

My Name	: rahim
Country	: Bangladesh
City	: Dhaka
State	: dhaka
Post Code	: 33
Phone	: 880
Email	: rahim@gmail.com
Total Amount	: \$566.5 BDT
Tran_id	: b99a18f8-dc54-446b-b4d2-5e0af5f2078a
Date	: 11/29/2025

PENDING
DELETE



**Napa Extend**  
**Price : 500**  
**Quantity:1**

★★★★★

[DETAILS](#)

Activate Windows  
Go to Settings to activate Windows.

Figure 5.2.6.6 user Dashboard

# **CHAPTER 6 IMPACT AND SOCIETY, ENVIRONMENT AND SUSTAINABILITY**

## **6.1 Impact on-Society:**

Our website is really beneficial. We provide each of those options on a single page. As a result, it will influence and enhance our current society.

## **6.2 Impact on-Environment:**

The amount of unnecessary hospital visits may be decreased with the aid of the helpline. This can lower vehicular pollution and enhance air quality.

The helpline can also lessen the amount of waste that hospitals produce. This is due to the fact that patients no longer need to physically visit the hospital by asking questions about their health and available treatments online. The hotline can aid in increasing public awareness of environmental problems that affect healthcare. The helpline, for instance, can offer advice on how to lessen the impact of medical waste on the environment.

## **6.3 Ethical Considerations:**

We acknowledge that the most frequently raised ethical issues related to player anonymity, privacy, and secrecy. These concepts guided our efforts as we developed our website. We will offer our clients a high-caliber service. We'll make sure our visitors are satisfied with the answer we provide.

## **6.4 Sustainability Plan:**

Our special approach to sustainability. We put a lot of effort into the design of our website to make sure it serves its purpose while having the fewest possible adverse effects on our customers.

# CHAPTER 7 DISCUSSION AND CONCLUSION

## 7.1 Conclusion:

A promising project with the potential to raise Bangladesh's healthcare standards is the Web-Based Bangladesh Hospital Helpline. People who would not otherwise be able to afford or get medical advice and information can get access to it through the helpline. Additionally, it can aid in lowering the amount of unnecessary hospital visits, which can lower pollutants and enhance air quality. Numerous potential environmental effects of the project, both good and bad, exist. The benefits include fewer needless hospital visits, less waste produced by hospitals, and more public knowledge of environmental problems associated with healthcare. Use of the internet and electricity are two detrimental effects that can result.

## 7.2 Potential for future development

The admin carries out manual verification of the seller. Automated seller verification is something we wish to use. For the user, we wish to create a safe platform. If a vendor receives a complaint alleging they are not selling genuine goods, for the benefit of the user, they will eventually be blacklisted. We plan to transition to web 3.0 in the future. Although web3.0 is still in development and we don't yet know how it will look, there are several concepts that we can foresee. Theoretically, Web3.0 ought to be decentralized, trustworthy, permissions, and interoperable.

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