Project report for CSE471

Online Pharmacy System

Group no: 05

Group members:

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Date of Submission: 17.12.2022

1. Introduction

We are excited to introduce a new online pharmacy system designed to make it easier for patients and their families to access the medications they need. Our platform serves as a marketplace for medicines and drugs, offering features such as a web-based ordering system, prescription approval, and the availability of doctors. Customers can also order special authorized medicines through our system. With this platform we aim to alleviate the difficulties and stress that people often face when trying to obtain the right medications, especially during times of crisis like the COVID-19 pandemic. Our goal is to simplify the process of purchasing medicines and improve the overall healthcare experience for our users.

2. Motivation

Our online pharmacy system aims to improve the efficiency and effectiveness of pharmacists by providing a computer-based platform for processing and fulfilling prescriptions. This can help eliminate confusion and errors caused by difficult-to-read handwriting, and also facilitate better communication between patients and pharmacists.

In addition to improving efficiency, our platform is also designed to improve patient health outcomes by allowing users to consult with a doctor 24/7 and receive prescribed medications. Patients also have the option to have their prescriptions verified by a doctor in person, adding an extra layer of safety and assurance.

Finally, our system is designed to help prevent medicine fraud by only offering authentic, verified medications that have been approved by licensed doctors. This ensures that patients are receiving the genuine, high quality medications they need, rather than being at risk of being scammed by fraudulent pharmacists. Overall, our online pharmacy aims to make the process of obtaining necessary medications simpler, safer, and more convenient for all users.

3. System Request

- **Project Sponsor**

  Md. Karim Ahmed, General Manager, Jamuna Group LTD

- **Business Need**

  Adulteration of pharmaceutical drugs is a serious issue in Bangladesh, and our online pharmacy system is designed to help address this problem through monitoring and oversight. By requiring verified prescriptions for all purchases, we can help to reduce the misuse of medications as drugs. Additionally, our platform offers several other benefits that make it a more convenient and cost-effective option for obtaining medications. Because we do not require physical storage space like traditional brick-and-mortar pharmacies, we can offer medications at lower prices. This is especially beneficial for people living in remote areas who may have difficulty accessing the medications they need. Our platform also offers a wider selection of medications, including those that may not be readily available in certain locations. In the event of an emergency, our system also provides users with the option to connect with a doctor and receive timely delivery of their prescribed medications. This can be especially helpful for those who may not have easy access to medical care or transportation. Overall, our online pharmacy aims to improve the accessibility, affordability, and safety of obtaining necessary medications in Bangladesh.

- **Business Requirements**

  There will be three types of users in this system — Retailers, Customers and Doctors. Retailers will supply the medicines and list them in the marketplace. Customers will buy medicines, consult with a doctor and get their prescriptions verified. On the other hand, doctors will provide consultations and verify the prescription brought by the customers.

  - Doctors should be available all the time for providing consultancy services.

- Doctors must check the prescriptions of the customers before order is placed so that irrelevant and unauthorized orders can be removed.
- Customers should be able to order medicines at any given time.
- Customers should be able to request for special medicines in case the requested medicines are not available at the marketplace.
- Customers may get a discount on certain medicines.
- Customers should be able to request for an express delivery.
- Retailers should be able to get real time information on the medicine stock.
- Retailers should be able to get a report on sales over any period of time.
- System should have access over the whole marketplace and its users' information.
- System must be able to control all the activities and terminate any kind of suspicious account or order.
- System must be able to keep track of records in the marketplace.

● Business Value

- The system reduces the cost of stock management by 300,000 in a fiscal year.
- The system helps to gain 25% more revenue in a pandemic situation.
- The system reduces the delivery cost by 5-10% in rural areas.
- The system prioritized the satisfaction of its customers.
- The system is able to get referrals from doctors all around the country.

● Special Issue or Constraints

- Approval of Government regarding medicine authorization.
- Costing or investment issues.
- Technical issues of server due to large amount of traffic.

4. Requirement Analysis

4.1 Functional Requirements

4.1.1 Order Medicine:

- Customers should be able to search medicines.
- Customers should be able to add medicines to carts.
- Customers should be able to remove medicines from carts.
- Customers may get discounts on certain medicines.
- Customers may ask for an express delivery.

4.1.2 Payment Gateway:

- Customers should be able to make payment through multiple gateways.
- Customers should be able to view payment details.
- Customers should be able to know about VAT, SD, SC costs.
- Customers should be able to make payment through both mobile application and website.

4.1.3 Prescription Verification:

- Customers should be able to upload prescriptions.
- Doctors should be able to verify prescriptions.
- System should be able to terminate unauthorized orders.
- Customers may be able to know the reason behind rejection on their prescription.

4.1.4 Doctor's Consultancy:

- Customers should be able to know about the availability of the doctors.
- Customers should be able to know the necessary information about doctors.

4.1.5 Stock Details:

- Retailers should be able to know about real time information on the medicine stock.
- Retailers should be able to get a report on the sales over any period of time.
- Retailers may get the information on special orders.

- Retailers may get notification on expired medicine while available on stock.

4.2 Non-functional Requirements

4.2.1 Operational:

- The system should be able to run on any device i.e computers, smartphones.
- The system should be able to cooperate with any operating system i.e windows, macos.
- The system should be able to connect with printers.
- The should be able to support any kind of web browser i.e. Chrome, Firefox, Safari etc.
- The system will be designed by Java for efficiency.

4.2.2 Performance:

- System should be able to handle multiple orders at the same time.
- System should ensure a smooth user experience.
- System should be able to reduce overall loading time.

4.2.3 Security:

- Admin should be able to access all kinds of information through the system.
- Admin should be able to control and manage all the activities in the system.
- Admin should be able to terminate any kind of suspicious order or account.
- An user should not be able to access another user's information.
- All softwares and plugins should be kept up to date.
- The system should be able to allow an user to create not more than one account.
- Admin should be able to get reports if medicine stock is over or date is expired.

4.2.4 Cultural and Political:

- The information of the users is protected by the 'Digital Security Act' implied by the government of Bangladesh.

- All medicines sold in the system are supplied by licensed retailers and the system itself follows the regulations of the Ministry of Health.
- System should support both English and Bangla so that people can use the system according to their preferences.

5. Project Scenario

There are four main types of actors in an online pharmacy system: Customers, Doctors, Retailers, and the System itself. Patients, doctors and retailers can register and create an account with the system by providing their email address and a strong password. System verifies these accounts and allows users to log in with their email and password. Upon successful login, customers can view and order medications, search for specific products by category, and add items to their cart. They can also request for a special medicine if not available in the marketplace. Before confirming their purchase, patients must upload a prescription and can recheck the availability of the medications in their cart and choose between different payment options, such as online payment or cash on delivery. Also, doctors need to verify the prescriptions. Retailers, on the other hand, can list medications and add them to the website by category. They can also update and edit product information and their own profiles, view their order list. After payment is approved by the patient, retailers can proceed with the shipping. The system is responsible for keeping track of medication availability. Doctors can reply directly to patient inquiries. The system will send retailers a notification whenever a new order is placed. The online pharmacy system also has a consultancy feature available for customers to chat with doctors along with finding which doctors are available at that time. The system verifies payment procedures before every purchase and sends confirmation emails for each purchase. It also alerts users if there are any fraud or spam issues.

6. Design Diagrams

Use Case Diagram:

A use case diagram is a visual representation of the interactions between actors and a system. It is used to capture the high-level functionality of a system and to describe the interactions between actors and the system.

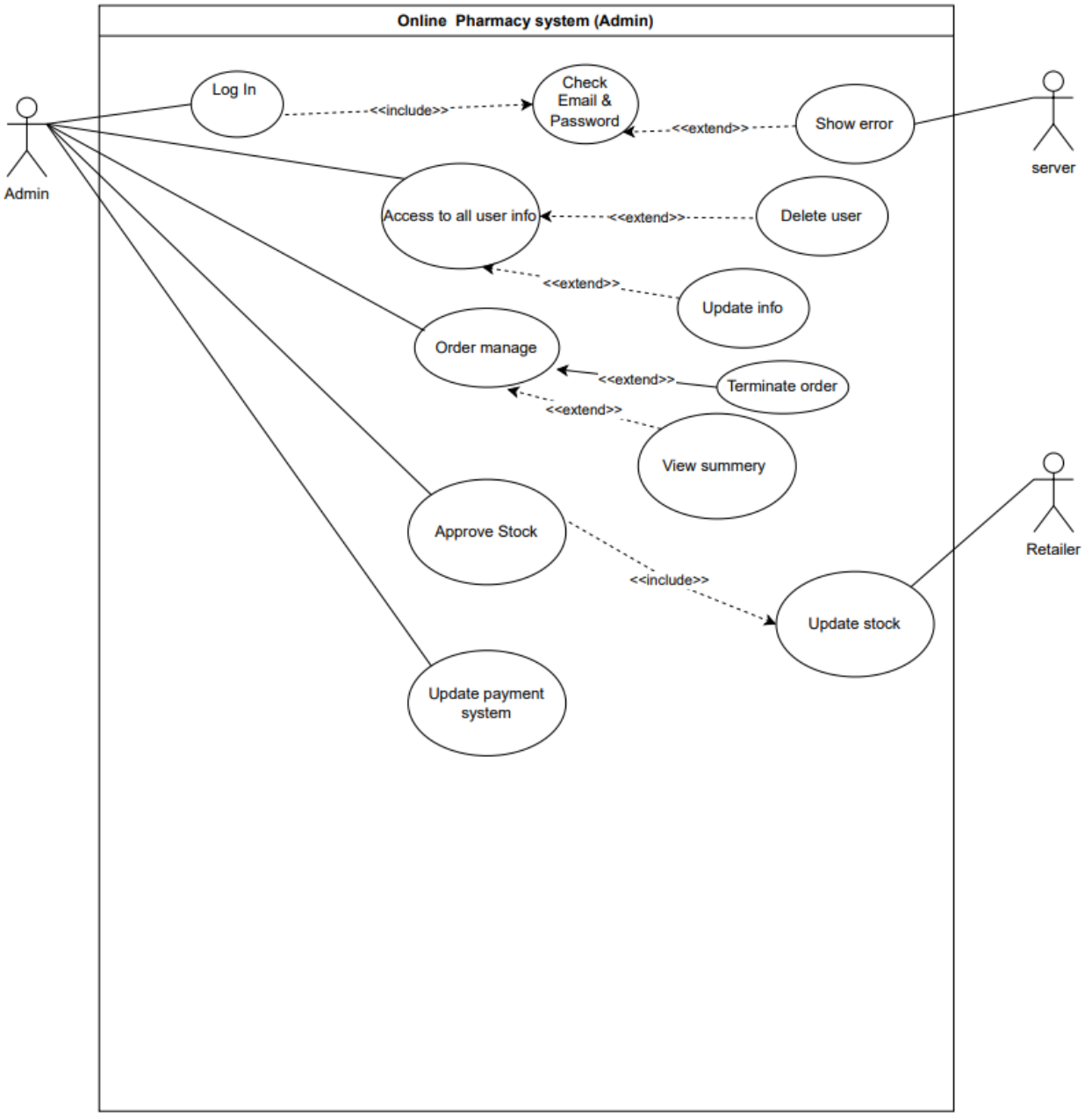


Fig: Use Case Diagram (Part-1)

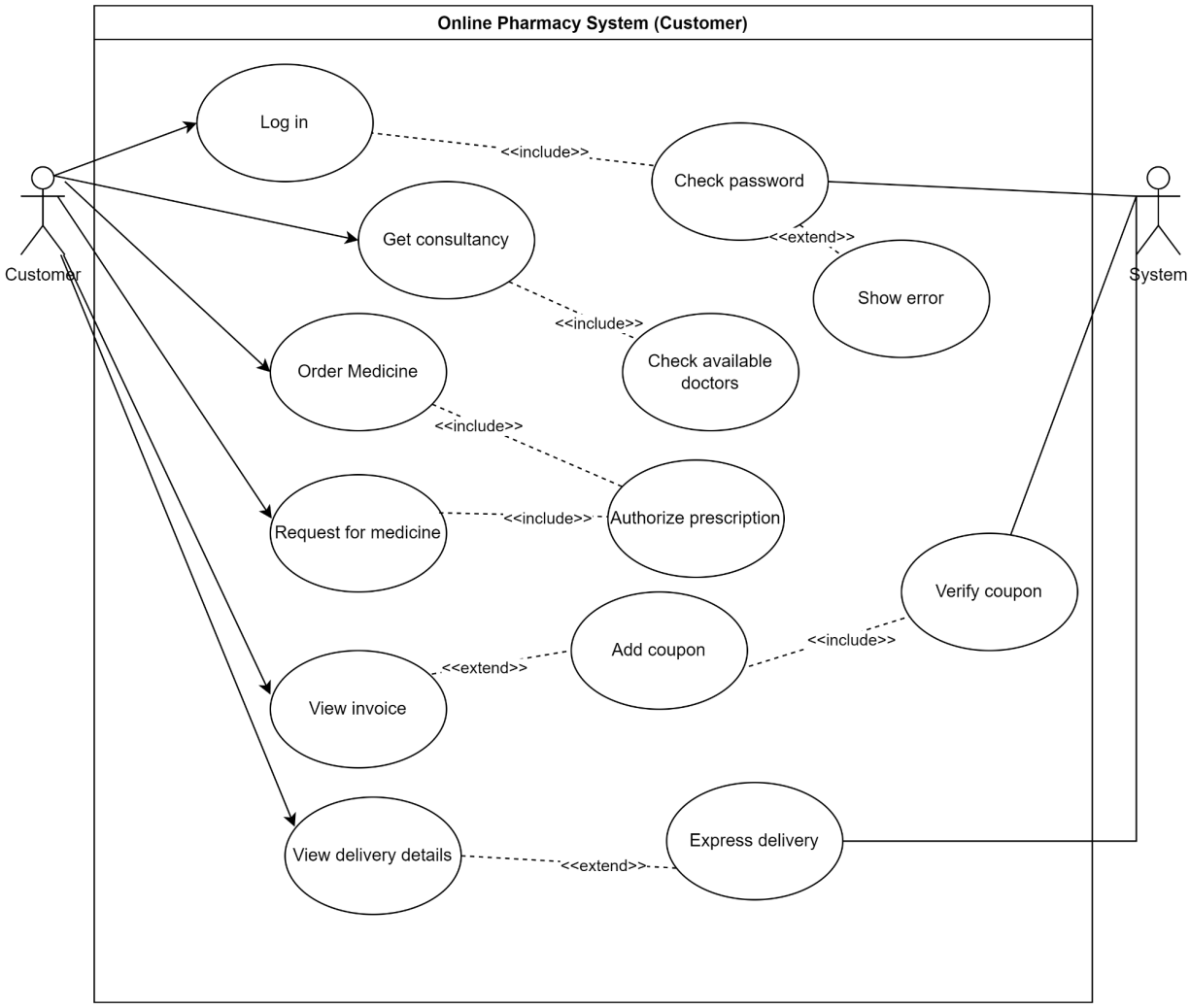


Fig: Use Case Diagram (Part -2)

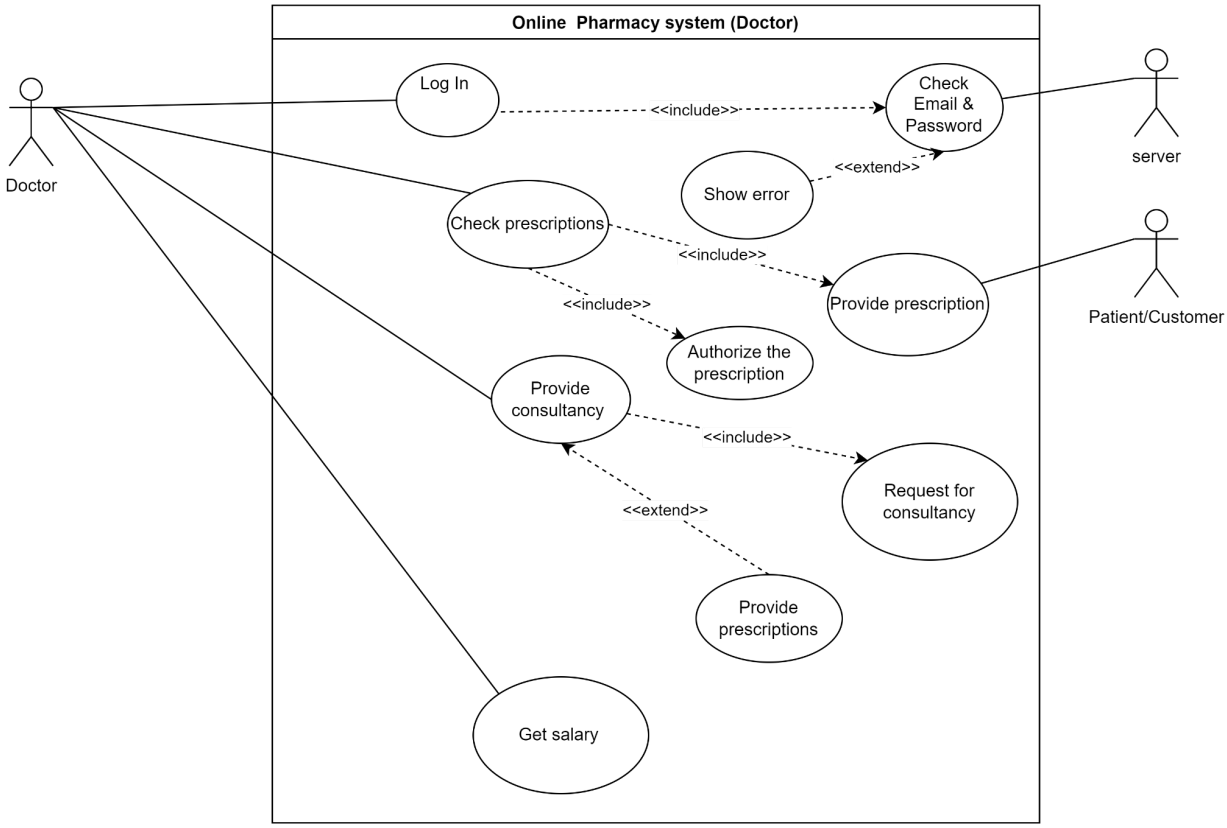


Fig: Use Case Diagram (Part - 3)

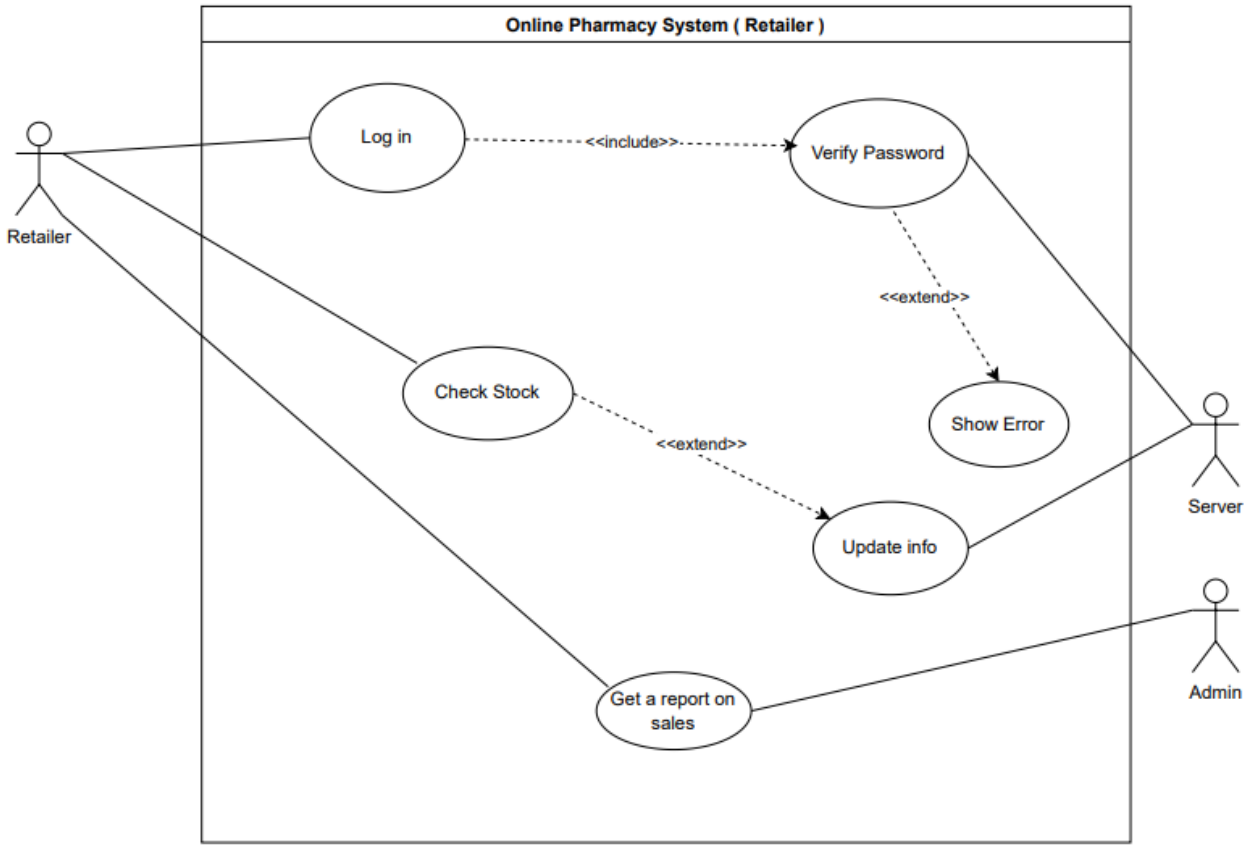


Fig: Use Case Diagram (Part - 4)

Activity Diagram:

An activity diagram is a type of diagram in the Unified Modeling Language (UML) that represents the flow of activities within a system. It is used to model the flow of control from one activity to another within a system, and can be used to model the flow of control in a business process, software development process, or other types of process.

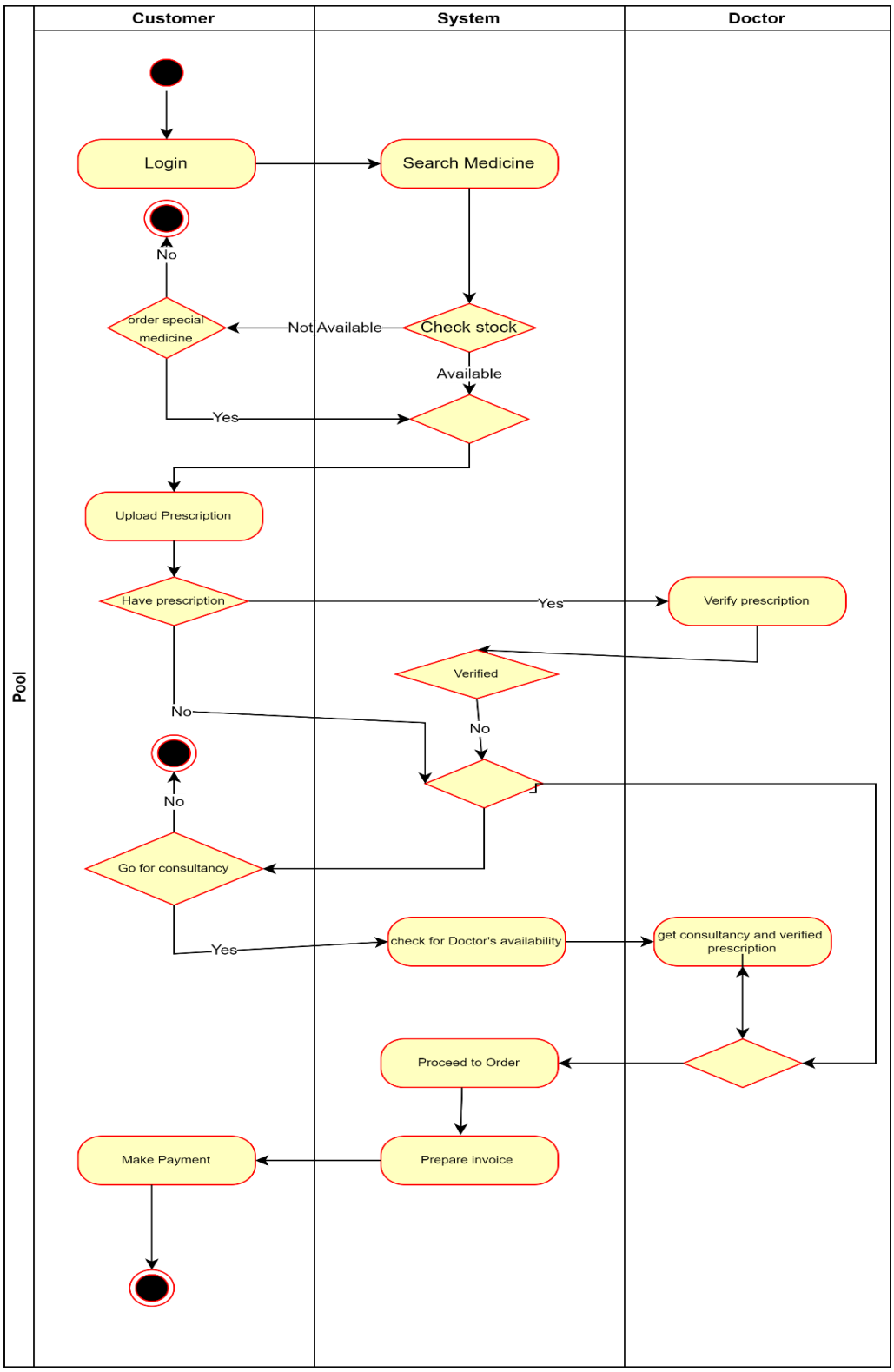


Fig: Activity diagram

Sequence Diagram:

A sequence diagram is a type of diagram in the Unified Modeling Language (UML) that represents the interaction between objects or components in a system. It is used to model the flow of messages, events, and actions between objects or components in a system, and can be used to model the interactions between objects in a business process, software development process, or other types of process.

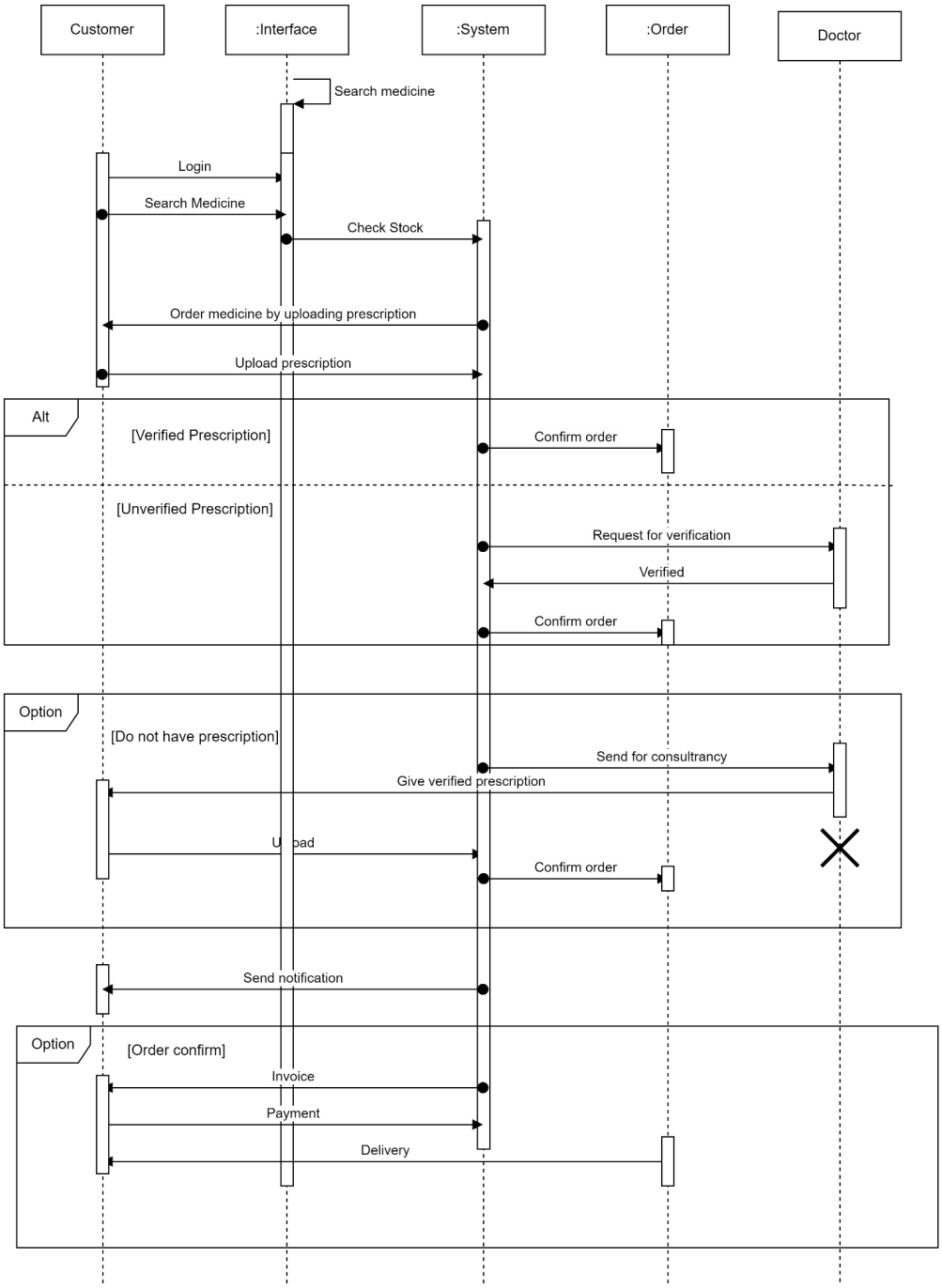
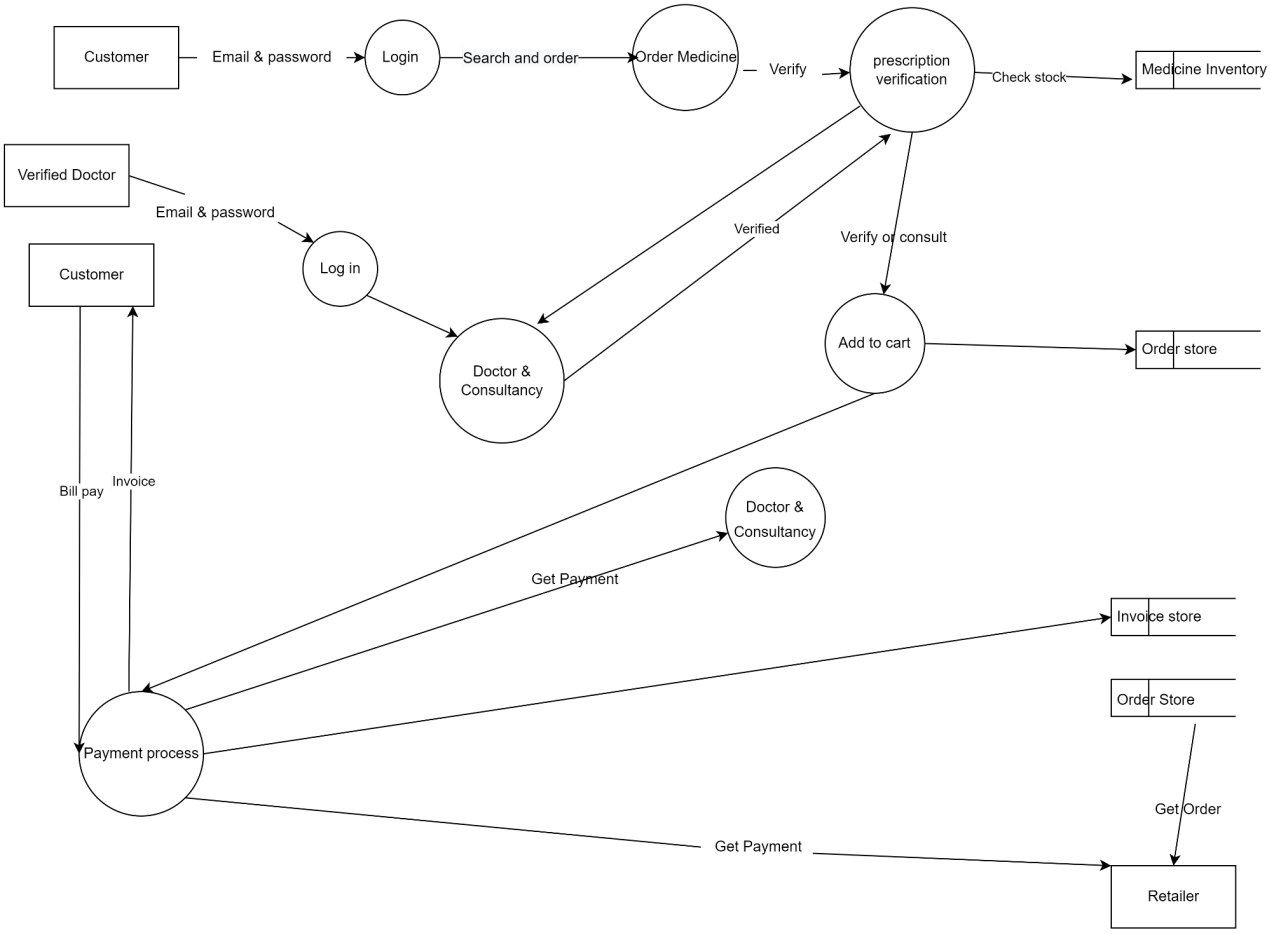


Fig: Sequence diagram

Data Flow Diagram:

A data flow diagram (DFD) is a graphical representation of the flow of data through a system. It is used to visualize the flow of data from an external source, through a process or set of processes, and to an external destination.



*Some element duplicated only to prevent crossing line

Fig: Data flow diagram (Level - 1)

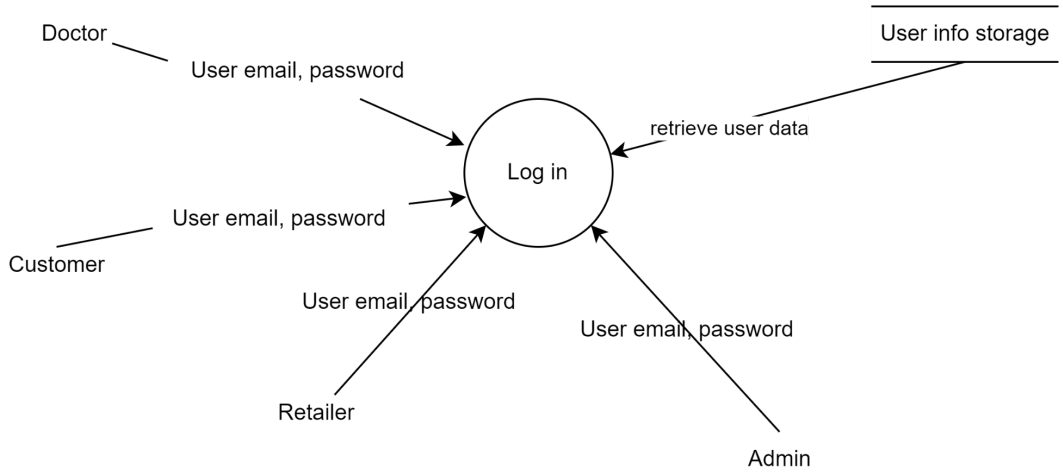


Fig: Data Flow Diagram (Level - 2)

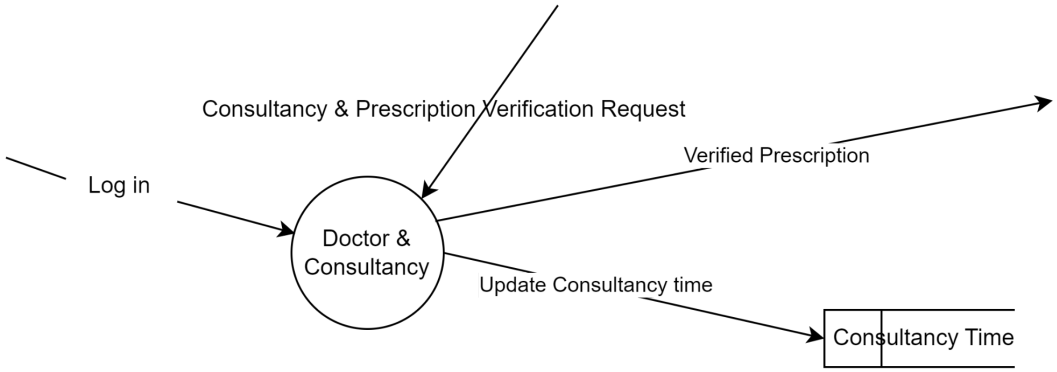


Fig: Data Flow Diagram (Level - 2)

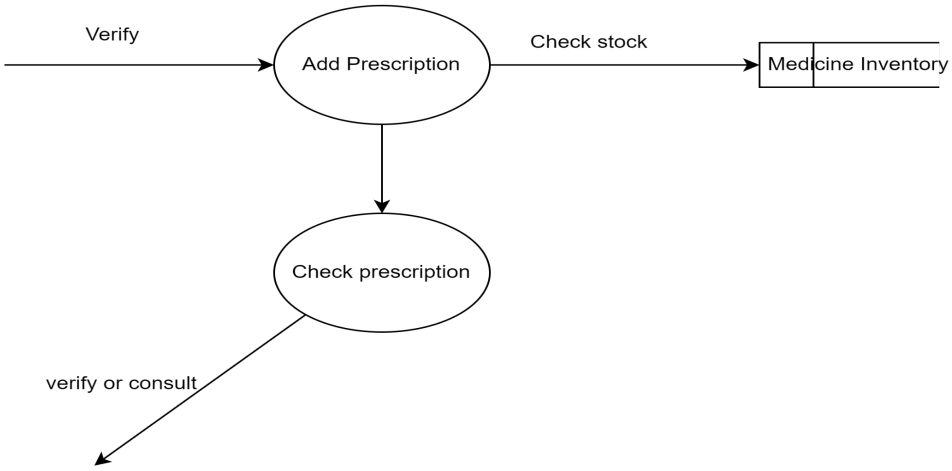


Fig: Data Flow Diagram (Level - 2)

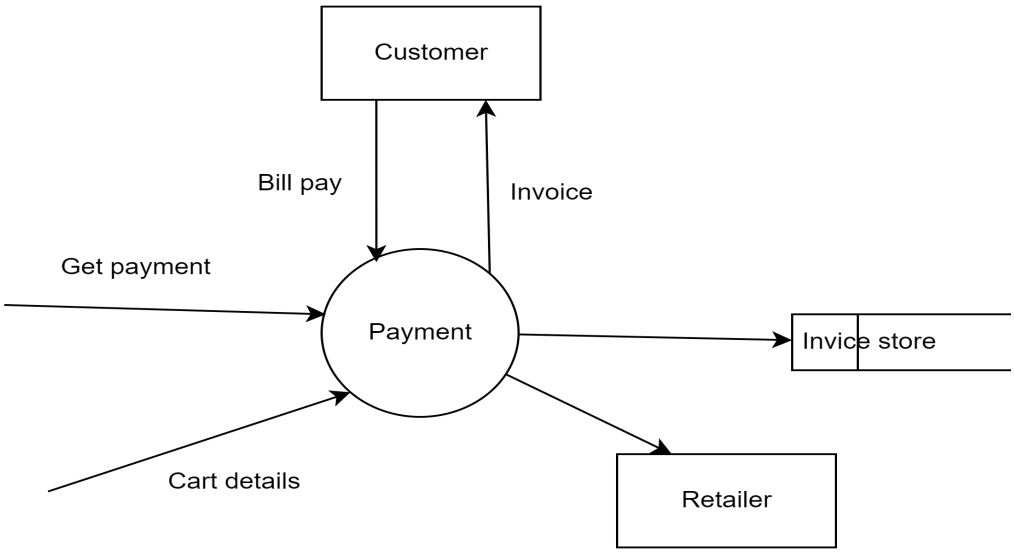


Fig: Data Flow Diagram (Level - 2)

Windows Navigation Diagram:

A Windows Navigation Diagram is a diagram that shows the structure and organization of the windows and menus in a software application or system. It typically includes the different windows and menus in the application, as well as the relationships between them and the actions that can be performed within each window or menu.

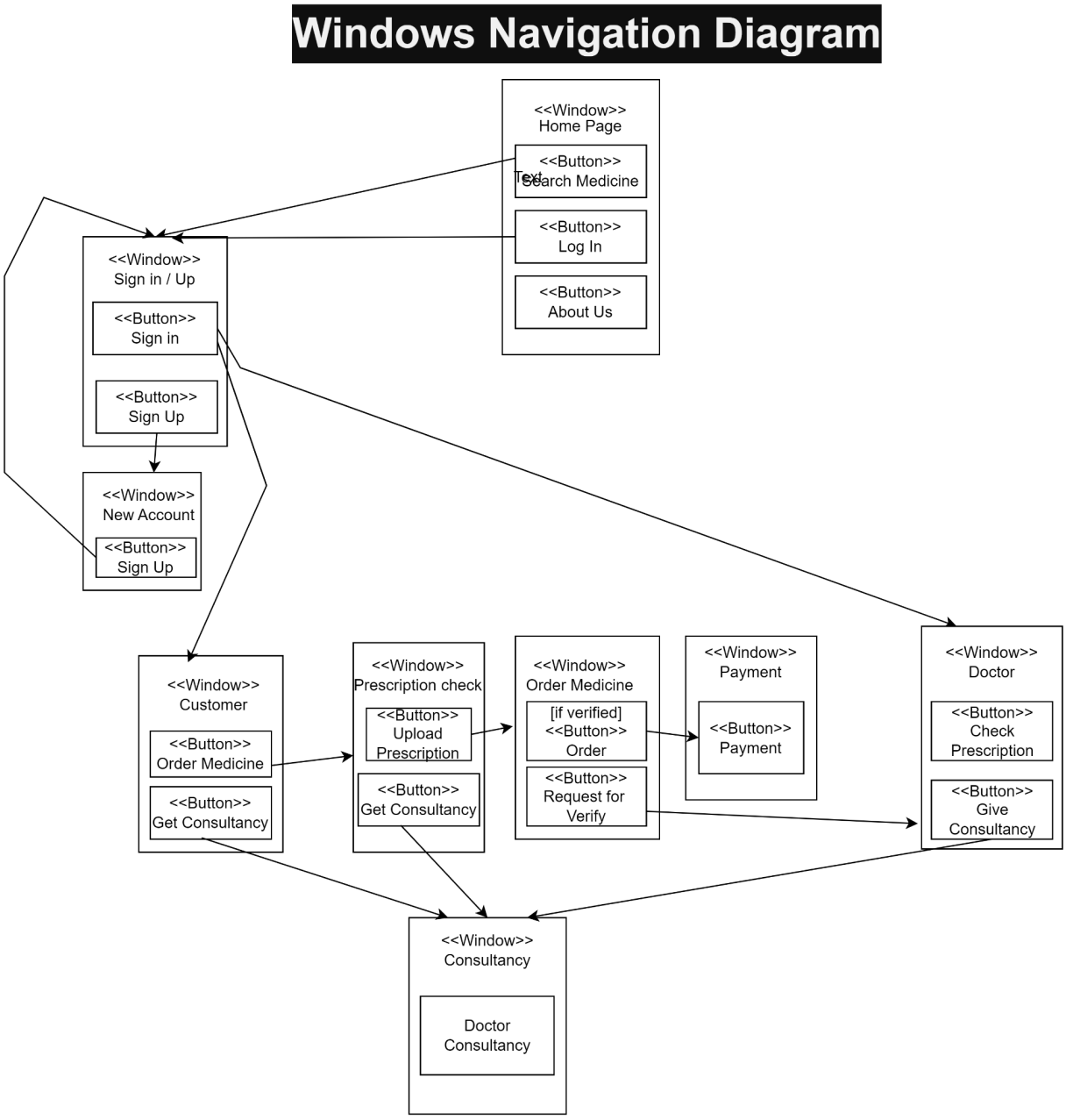


Fig: WIndows Navigation Diagram (Part - 1)

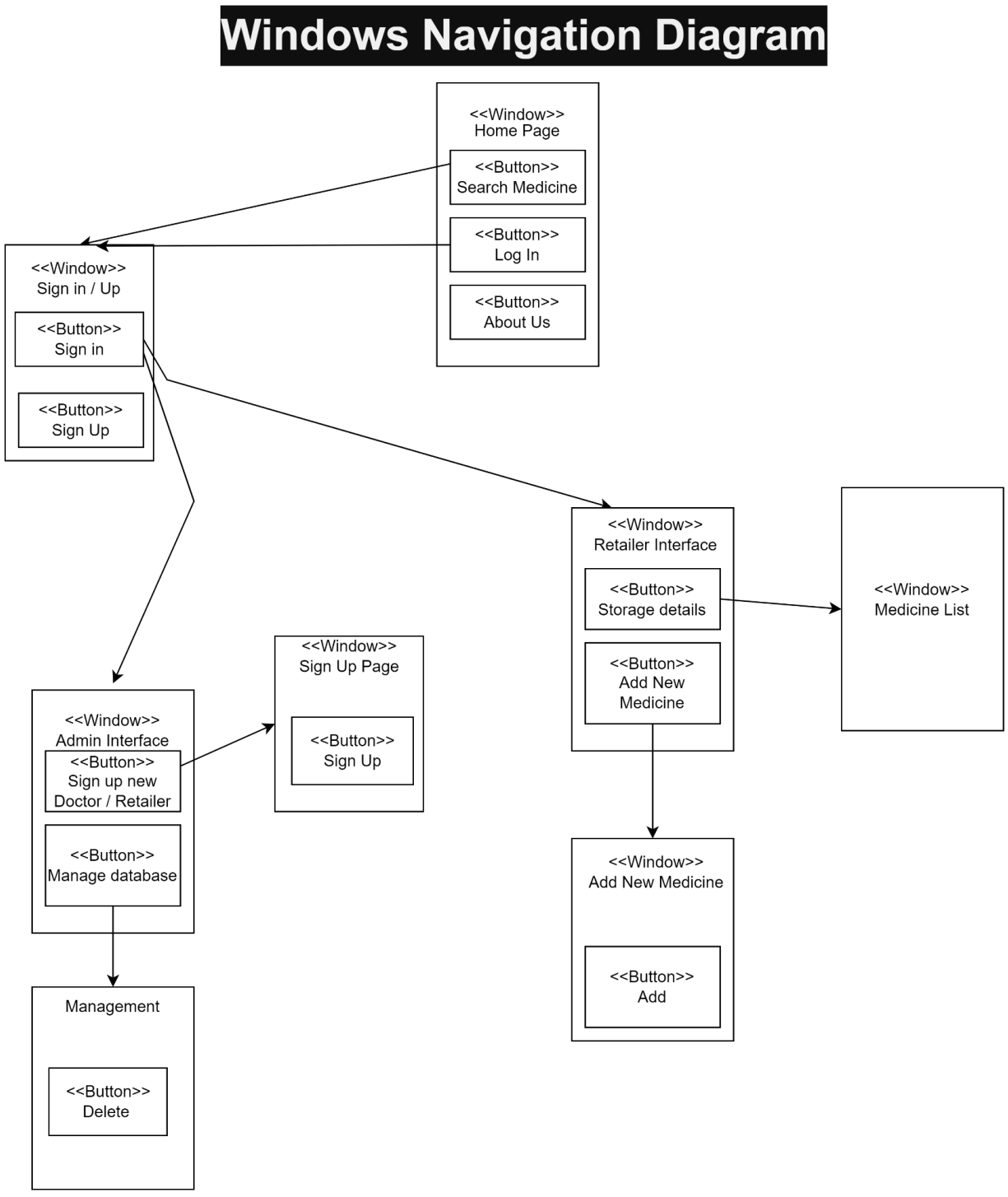


Fig: Windows Navigation Diagram (Part - 2)

7. Project Demo UI

Database:

	Table	Action	Rows	Type	Collation	Size	Overhead
☐	chat	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	customer	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	doctor	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	login	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	medicine	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	retailer	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB	-
	6 tables	Sum	19	InnoDB	utf8mb4_general_ci	96.0 KiB	0 B

message_id	message	subject	receiver_id
A1	Sir amar sorer karap pls halp koran	Boke onak beta	01
A2	Sir pet er haddi vainga gese :')	fracture	02

	Name	c_id	Age	Phone
☐ Edit Copy Delete	Rohim	1	30	017398764231
☐ Edit Copy Delete	Korim	2	35	01845639341
☐ Edit Copy Delete	Mamun	3	60	01910101093

Name	d_id	Expertise	Phone number
Dr. Rakibul Hasan	01	Hepatology and Gastroenterology	01722773389
Dr. Abul Hasan	02	Cardiology	01987654329
Dr. Sarwer Alam	03	Dermatology	01533887722

	user	pass
☐ Edit Copy Delete	admin	admin
☐ Edit Copy Delete	mayerdoa@outlook.com	123456
☐ Edit Copy Delete	rakib@gmail.com	123456
☐ Edit Copy Delete	rohim@yahoo.com	123456

	Medicine Name	Type	Company	Price	Expiry Date
Edit Copy Delete	Ambrox	Syrup	Square Pharmaceuticals	50	2025-01-01
Edit Copy Delete	Napa Extra	Tablet	Beximco Pharmaceuticals	20	2024-12-20
Edit Copy Delete	Optaloc 0.5%	Drop	Popular Pharmaceuticals	100	2024-12-31
Edit Copy Delete	Rosuva	Tablet	Square Pharmaceuticals	300	2024-12-21
Edit Copy Delete	Tenocab 50	Tablet	ACI LTD.	50	2024-12-25

Name	r_id
Mayer Doa Pharmacy	001
Allah er dan Pharmacy	002

+ Options

Medicine_name	Price	Quantity
Napa Extra	50	10
Ambrox	200	1

User Interface:

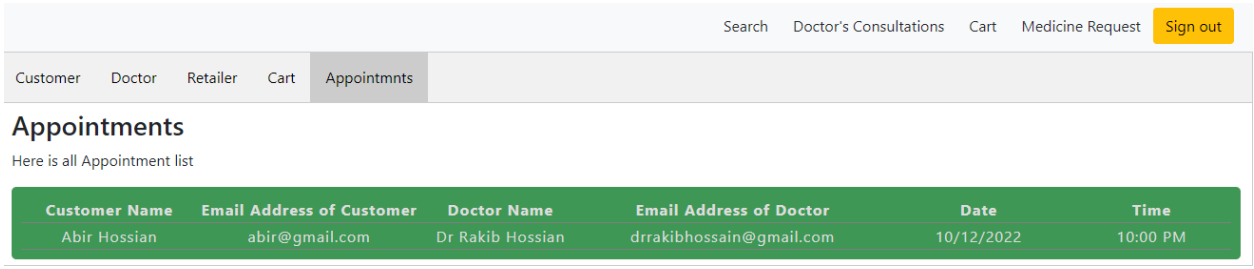


Fig: Admin Dashboard page

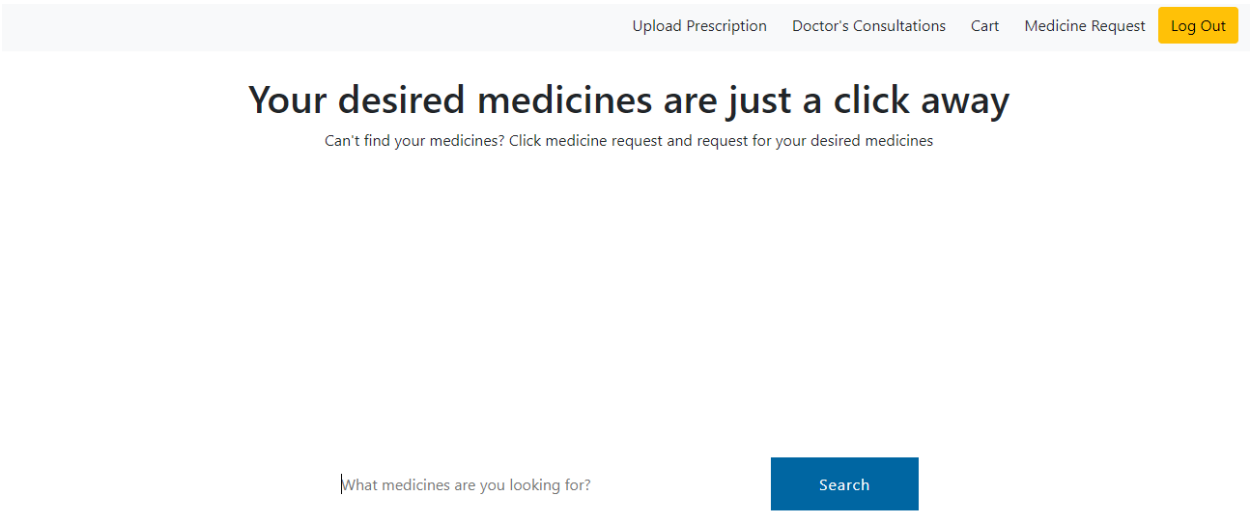


Fig: Search Medicine page

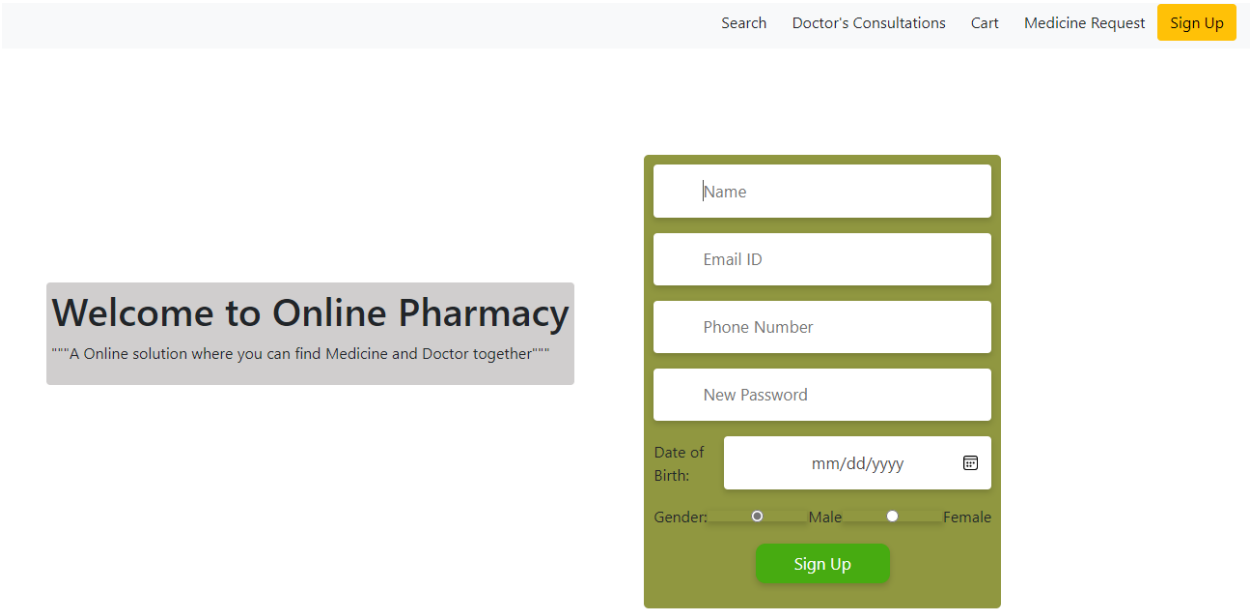


Fig: Signup page

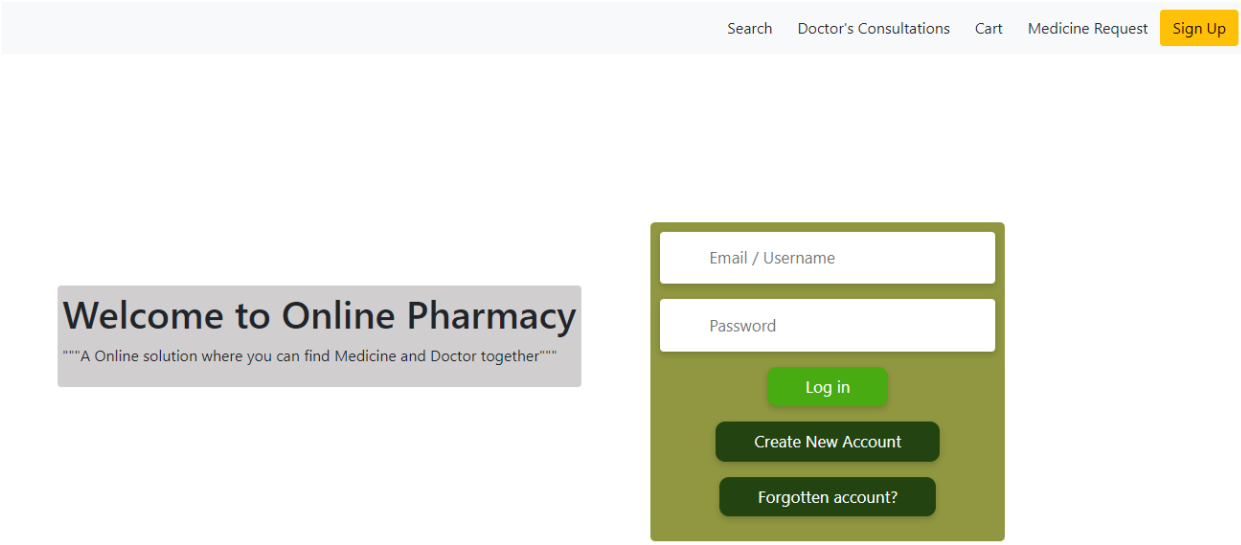


Fig: Login page

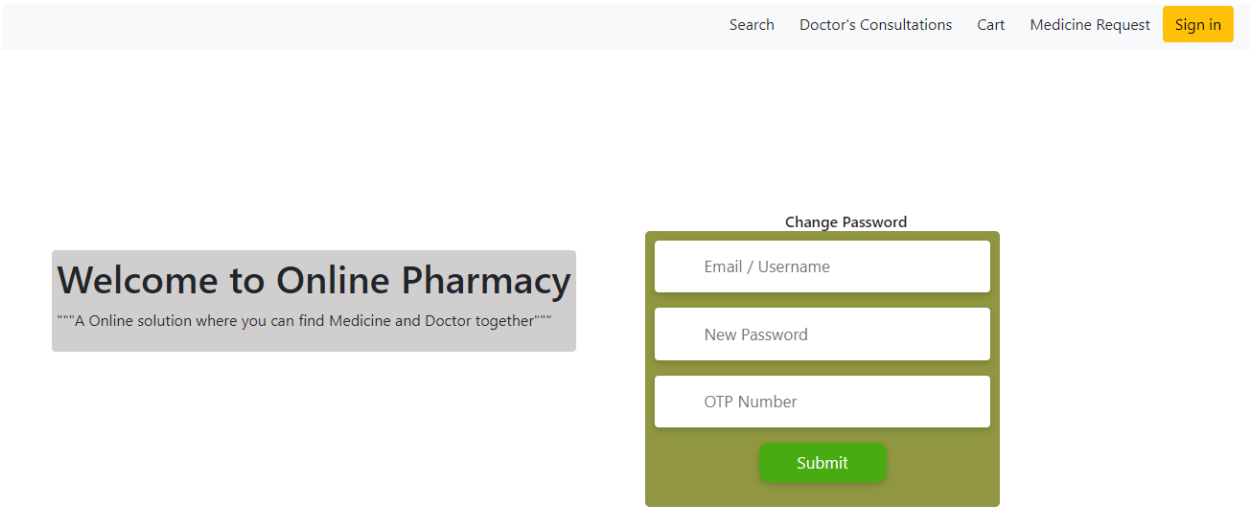


FIg: Forget Password page

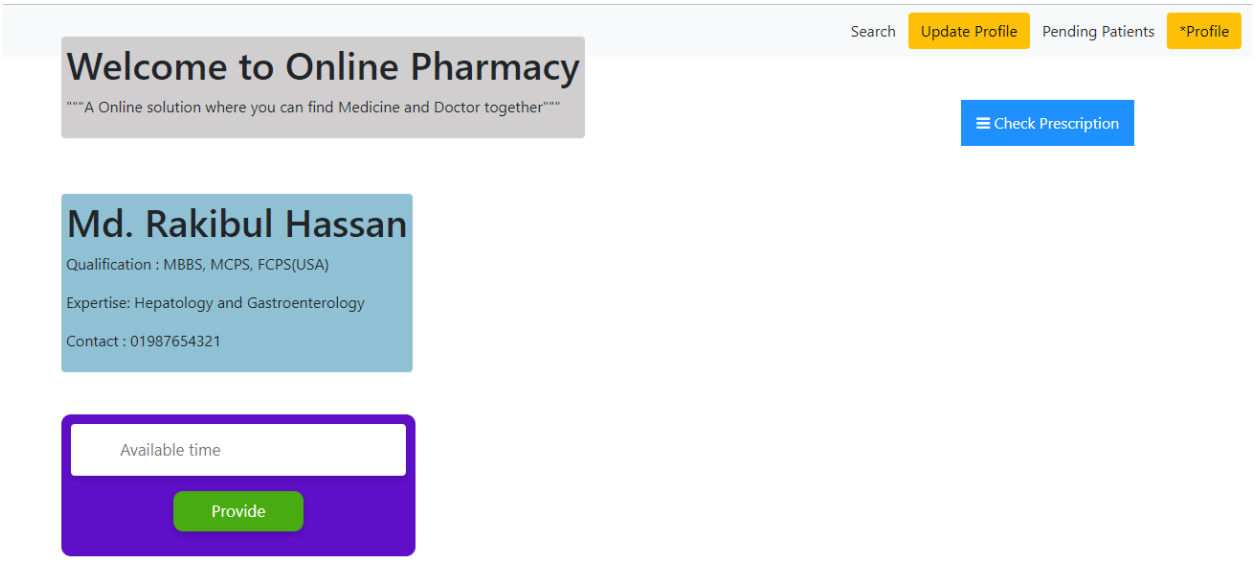


Fig: Doctor Dashboard page

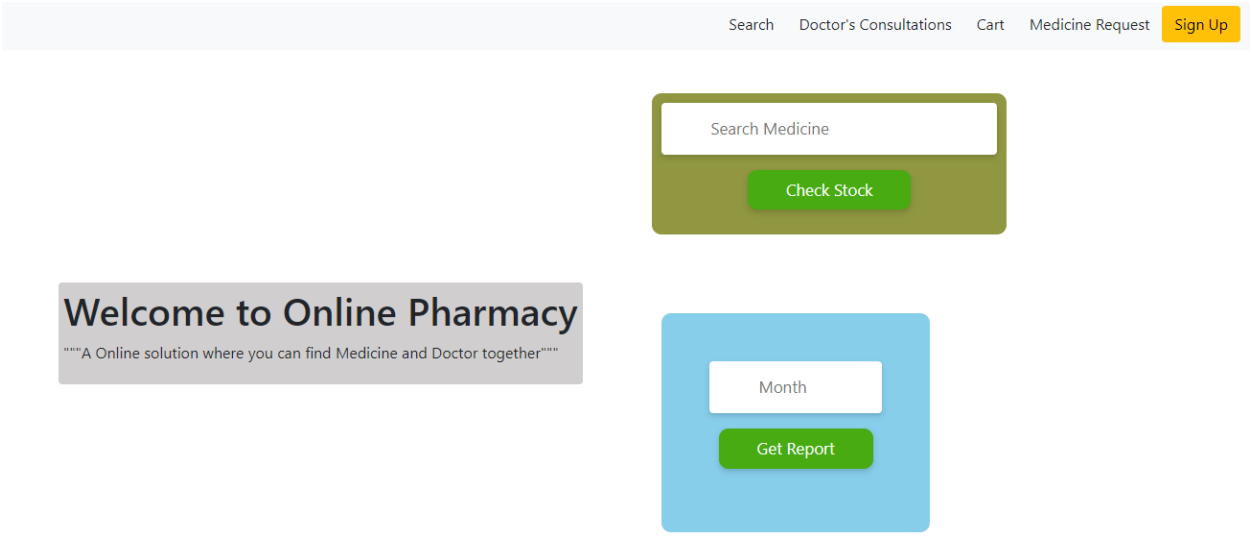


Fig: Retailer Dashboard Page

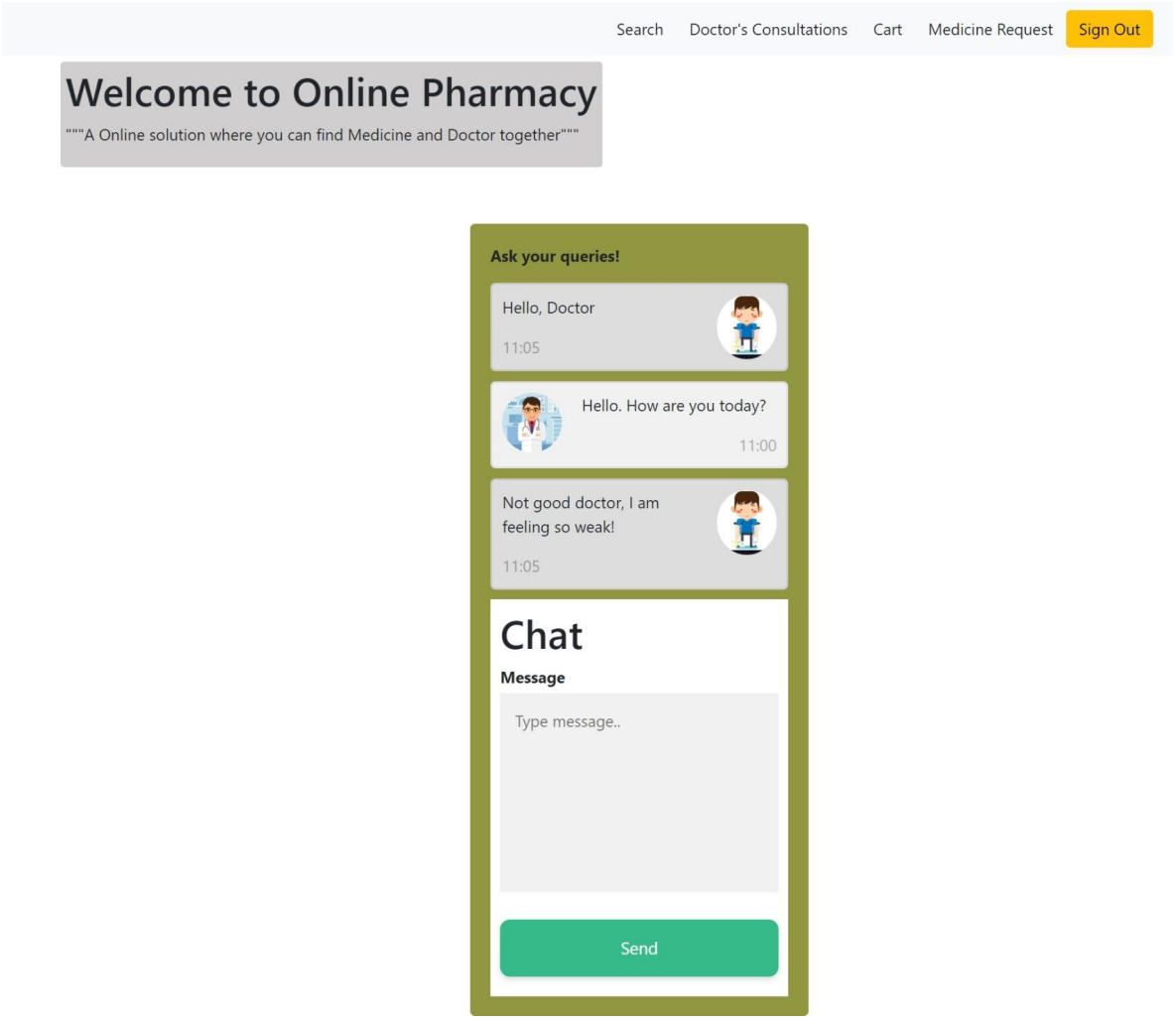


Fig: Chat Page

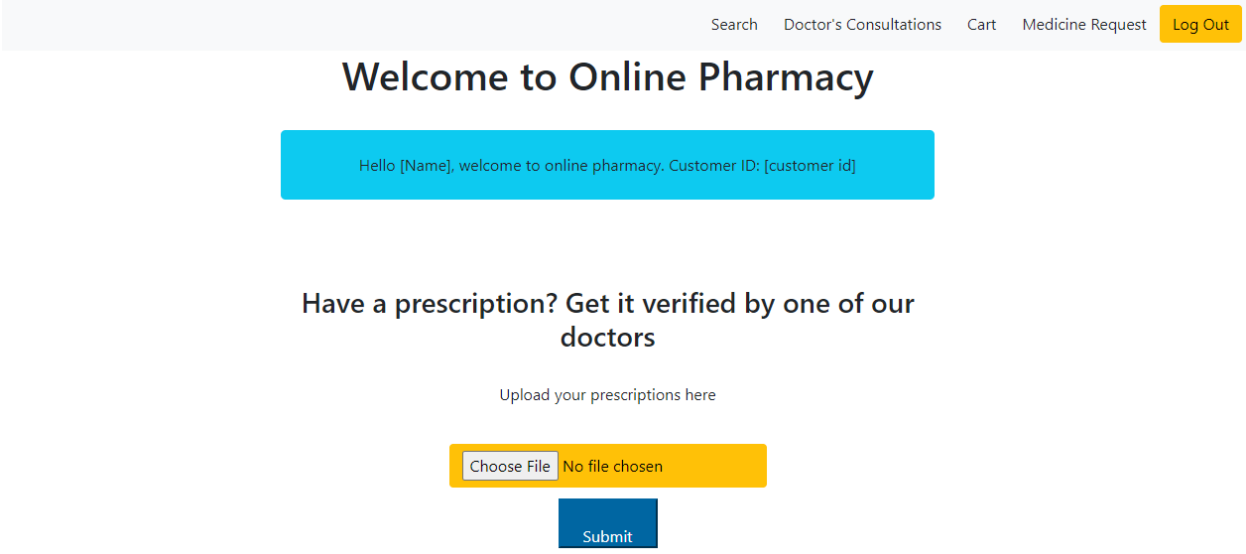


Fig: Prescription Upload

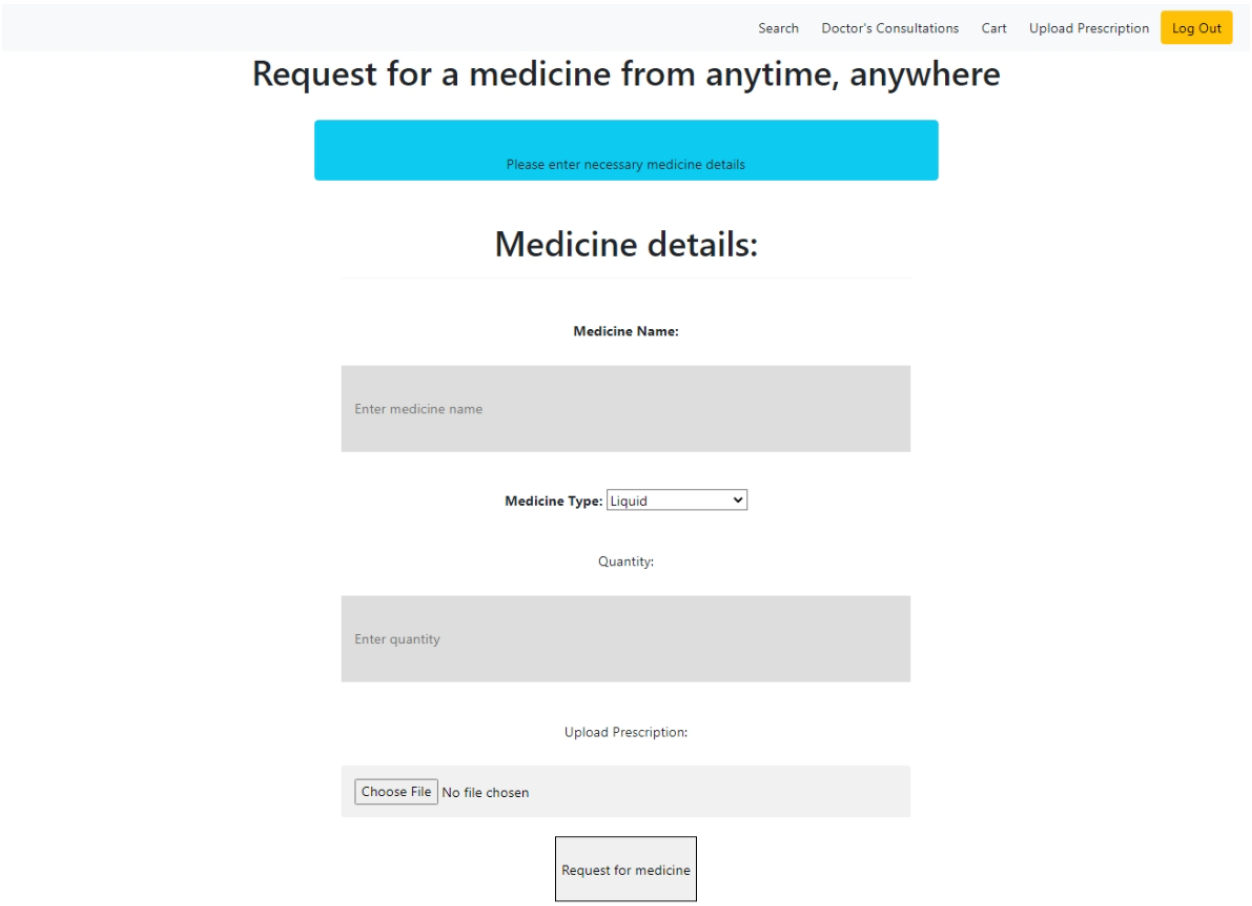


Fig: Medicine Request

Connecting Database:

```php
<?php
$dbhost="localhost";
$dbuser="root";
$dbpass="";
$dbname="pharmacy";

if (!$con= mysqli_connect($dbhost,$dbuser, $dbpass, $dbname))
{
    die("Failed to connect to the database!");

}
```

```php
<?php

0 references
function check_login($con)
{

    if(isset($_SESSION['user_id']))
    {

        $id = $_SESSION['user_id'];
        $query = "select * from users where user_id = '$id' limit 1";

        $result = mysqli_query($con,$query);
        if($result && mysqli_num_rows($result) > 0)
        {

            $user_data = mysqli_fetch_assoc($result);
            return $user_data;
        }
    }

    //redirect to login
    header("Location: login.php");
    die;

}
```

Code Snippet:

```
<div class="login">
    <P><b>Ask your queries!</b></P>
    <div class="container darker">
        <img src="/img/customer.png" alt="Avatar" class="right">
        <p>Hello, Doctor</p>
        <span class="time-left">11:05</span>
      </div>

    <div class="container">
        <img src="/img/doctor.webp" alt="Avatar">
        <p>Hello. How are you today?</p>
        <span class="time-right">11:00</span>
      </div>


      <div class="container darker">
        <img src="/img/customer.png" alt="Avatar" class="right">
        <p>Not good doctor, I am feeling so weak!</p>
        <span class="time-left">11:05</span>
      </div>
      <div class="chat-popup" id="myForm">
        <form action="/action_page.php" class="form-container">
          <h1>Chat</h1>

          <label for="msg"><b>Message</b></label>
          <textarea placeholder="Type message.." name="msg" required></textarea>

          <button type="submit" class="btn">Send</button>
        </form>
      </div>
```

```
<nav class= "text">
    <h1 >Welcome to Online Pharmacy</h1>
    <p>"""A Online solution where you can find Medicine and Doctor together"""</p>

</nav>
<nav class= "text_1">
    <h1 >Md. Rakibul Hassan</h1>
    <p>Qualification : MBBS, MCPS, FCPS(USA)</p>
    <p>Expertise: Hepatology and Gastroenterology</p>
    <p>Contact : 01987654321</p>


</nav>
<button class="btn_1"><i class="fa fa-bars"></i> Check Prescription</button>


<div class="Slot">
    <form action="">
        <div class="form-field">
            <input type="email" placeholder="Available time" required/>
        </div>

        <div class="form-field">
            <button class="btn" type="submit">Provide</button>
        </div>
```

8. Conclusion

An online pharmacy system has helped businesses improve their efficiency by streamlining the production and delivery of pharmaceutical products. It has also made it easier for salespeople to complete sales online, saving time and increasing revenue. Online pharmacies are important because they allow people to easily access the medications they need, which can be especially beneficial for individuals who live in rural or remote areas. In addition, an online pharmacy system can help to preserve traditional knowledge and skills related to the production and distribution of pharmaceutical products. By using indigenous materials and techniques, an online pharmacy can promote the heritage of a country and contribute to the preservation of cultural tradition