

Hospital Management System

Project Report



Sri Lanka Institute of Information Technology
IT2080 Information Technology Project

Group ITP_WD_B05_G06

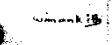
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May 2023

Declaration

This project report is our original work and the content is not plagiarized from any other resource. References for all the content taken from external resources are correctly cited. To the best of our knowledge, this report does not contain any material published or written by third parties, except as acknowledged in the text.

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Clickable link to the Git repo :- https://github.com/SLIITITP/y2_s2_wd_it_01-itp_wd_b05_g06.git

Abstract

The Hospital Management System (HMS) is a complete software system that streamlines and automates many administrative and operational operations inside healthcare companies. This system is critical in increasing hospital operations' efficiency and effectiveness, improving patient care, and optimizing resource allocation.

Patient registration, appointment scheduling, electronic health records (EHR), billing and invoicing, inventory management, pharmacy management, laboratory management, and reporting are all covered by the Hospital Management System. The system allows seamless communication and collaboration across multiple departments and stakeholders inside the hospital by digitizing and centralizing these operations, resulting in increased coordination and decreased mistakes.

The improved patient experience is one of the key benefits of installing a Hospital Management System. Patients may readily access healthcare services and information with features such as online appointment booking and customized patient portals, minimizing waiting times and increasing convenience. Additionally, the system allows for the effective maintenance of patient records, assuring accurate diagnosis, treatment, and follow-up care.

By maximizing resource usage, the Hospital Management System also helps healthcare practitioners and administrators. By automating shift scheduling, job distribution, and performance tracking, it provides effective administration of hospital employees, including physicians, nurses, and support people. Furthermore, the system gives real-time insights and analytics on a variety of operational metrics, allowing for data-driven decision-making and process optimization.

Finally, the Hospital Management System is an essential tool for healthcare companies looking to optimize their operations, improve patient care, and maximize resource use. It provides a wide variety of functions that help to expedite administrative processes and facilitate effective communication among various parties. It has been demonstrated that implementing such systems has a considerable positive influence on patient outcomes, operational efficiency, and overall healthcare delivery.

Acknowledgement

This Project was done as our original work and this project is for our second year second semester ITP Module. As ITP_WD_B05_G06 Student we hereby express our heartiest gratitude to all who helped us through this project. Special thanks to our Lectures and Mr. Madupa who works in Athurugiriya MediHelp Healthcare center who helped us to understand what we are require doing when we Develop HMS. Special thanks go to all the lecturers and instructors attached to Information Technology Project (ITP) module, especially Mr. Samantha Rajapaksa, Shashika. They all helped us to Understand what we are require doing in this project and encourage us to develop this project to the competition level. Finally, all the group members gave their maximum support and time. This is out Final Work to be done Throughout this semester and we hope to develop it furthermore.

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List of abbreviations

MH -: Medi Help
UI -: User Interface
AI -: Artificial Intelligence
IOT -: Internet of Things
ITP -: Information Technology Project
HMS -: Hospital Management System

Background

Through the provision of necessary medical services to those in need, the healthcare sector contributes significantly to society. However, running hospitals and other healthcare institutions may be a difficult and complicated endeavor. Traditional paper-based methods for managing resources, arranging appointments, storing records, and registering patients are frequently ineffective and prone to mistakes. The creation of an Online Hospital Management System (MEDI HELP), a complete software solution aimed at simplifying operations, boosting patient care, and improving overall management efficiency, has evolved as a response to these problems. The MEDI HELP represents a substantial transition away from manual operations and toward a digital platform that unifies multiple stakeholders, departments, and capabilities into a unified system. By utilizing technology, MEDI HELP seeks to enhance communication, optimize hospital management procedures, and empower improved decision-making for healthcare companies. This introduction gives a thorough history of the MEDI HELP while stressing its salient characteristics, advantages, and potential to revolutionize the healthcare sector.

A complete software program called MEDIHELP Hospital administration System is intended to simplify and improve many parts of hospital operations, including patient administration, office work, billing, inventory management, and more. It acts as a single platform that unifies many hospital departments and operations to provide effective coordination, accurate data collection, and enhanced patient care.

Key Features of the MEDI HELP,

Patient Registration and Management: The MEDI HELP provides a simple online registration procedure where patients may enter their personal information, medical history, and insurance data.

Appointment Scheduling: With the MEDI HELP, patients can easily book appointments with doctors online, eliminating the need for manual scheduling and reducing waiting times. The system optimizes the allocation of available time slots, ensuring efficient utilization of doctors' schedules. This feature improves patient satisfaction by providing a seamless and convenient appointment booking process.

Payment Management: In a hospital setting, the Payment Management System is a software program created to automate and improve the many financial processes associated with patient payments, insurance claims, billing, and revenue management. To maintain a smooth information flow and increase accuracy in payment-related processes, it offers a complete platform that connects with other hospital systems, such as electronic health records (EHR) and patient management systems.

Doctor Management: A doctor management system is a piece of software created to make it easier to handle appointments, patient loads, doctor availability, and other administrative responsibilities. To guarantee a smooth information flow and enhance overall physician management, it offers a consolidated platform that connects with various hospital systems, including electronic health records, appointment scheduling, and billing systems.

Ticketing, issue tracking, issue resolution, and reporting are just a few of the support management tasks that the support management system in a medical setting is intended to automate and streamline. To enable a smooth information flow and effective processing of support requests, it offers a single platform that connects with various hospital systems, including electronic health records, patient management systems, and facilities management systems.

Employee Management: Any company, especially hospitals and healthcare facilities like MEDIHELP Hospital, needs effective staff management to run smoothly and be successful. Traditional manual techniques can be time-consuming, prone to mistakes, and ineffective when it comes to handling staff information, attendance monitoring, scheduling, and performance review. The creation of an Employee Management System (EMS) especially designed for MEDIHELP Hospital has arisen as a critical response to these issues. It will increase communication, optimize employee-related operations, and boost overall management effectiveness.

Employee Management: The MEDIHELP Hospital's Transport Management System is a software program created to centralize and automate a number of transportation-related tasks, including as staff transportation, medical equipment delivery, and patient transfers. To provide a smooth information flow and effective administration of transportation duties, it offers a centralized platform that connects with other hospital systems, such as patient management systems, inventory management systems, and scheduling systems.

Problem and Motivation (Sahan)

Problem

- Improve communication and collaboration between hospitals to enable the smooth transfer of patients from one hospital to another. This will help ensure patients can be transported efficiently when needed.
- Implement an automated Inventory Management system to keep track of medicine and supplies. This will help hospitals stay informed about any shortages or low stock levels, allowing them to take timely action.
- Establish an online support system to assist users with any system-related or general inquiries. This will provide a convenient and accessible way for users to seek help or guidance.
- Enhance the efficiency and reliability of the appointment scheduling process for patients and receptionists. This will ensure that appointments are made in a prompt and organized manner, promoting a healthy and streamlined experience for everyone involved.
- Introduce an automated payment system to facilitate secure and efficient payment processing. This will simplify the payment process, reducing manual errors and ensuring a smooth transaction experience.

Motivation

- Help patients move smoothly: By improving communication between hospitals, we can make it easier to transfer patients from one hospital to another. This means patients can get the care they need without any delays.
- Keep track of medicine and supplies: Hospitals can use a special system to automatically keep track of their medicines and supplies. This helps them know when they're running low on something or if they need to order more. It saves time and makes sure they always have what they need.
- Get help online: We can create an online support system where people can go to get help or ask questions. It's a simple and easy way for users to find the information they need or get assistance with any problems.
- Make appointments easier: We want to make the process of scheduling appointments better for patients and receptionists. This means appointments can be made quickly and organized in a way that works well for everyone. It makes things smoother and more convenient for everyone involved.
- Pay easily and securely: We can introduce a system that lets people pay for their healthcare easily and securely. It simplifies the payment process, reduces mistakes, and ensures that transactions go smoothly.
- Save money: These improvements can actually save money in the long run. For example, better communication can reduce the need for expensive emergency transportation. Using an automated system for inventory management can prevent waste and unnecessary purchases. The money saved can be used to improve patient care and support other important healthcare initiatives.

Aim and Objectives (Sahan)

Aim

- Inability to interconnect and communicate with other hospitals. This makes it difficult to transfer patients between hospitals, which can be a problem in emergency situations.
- Manual inventory management. This can lead to stockouts of medications, which can impact patient care.
- Lack of an online support system. This makes it difficult for patients and staff to get help with system issues or other problems.
- Inefficient appointment scheduling process. This can lead to long wait times for patients and can be frustrating for both patients and staff.
- Manual payment processing. This can be time-consuming and error-prone, and it can also be a security risk.

Objectives

- Understand how users interact with the system and what they need to do.
- Utilize online resources and follow the 60-30-10 rule for attractive design.
- Recognize the emotional needs of each user.
- Improve the management system for employees and patients.
- Adhere to lab report policies and standards.
- Implement technical solutions to handle server overload issues.
- Identify all requirements for a system that satisfies all users.
- Identify and address user problems when using the system.

Solution overview (Sahan)

1. Implement a Transport Management feature within the system to improve both internal and external transportation. This feature will help streamline transportation processes, ensuring efficient movement of patients and resources.
2. Introduce an Inventory Management function to effectively track inventory and facilitate seamless management of medicine and supplies within the system. This will help maintain accurate records and ensure timely restocking.
3. Develop an Online Support System that enables users to seek automated assistance by submitting tickets through the system. This feature will provide efficient and reliable support to system users, improving communication and problem resolution.
4. Create a Patient Management function within the system to automate the process of managing patient information. This feature will enhance the security and efficiency of patient appointments, ensuring a seamless and healthy experience for patients.
5. Automate Payment Management and enhance its security by incorporating additional features. This will simplify the payment process within the system, reducing manual errors and providing a secure payment experience for all parties involved.

Individual Contribution

It Number	Name	Contribution
IT21321436	Gunatileke M. B. D. S	All Patient Management
IT21201882	Senarathne S	All Support Management
IT21339806	Madhubash D.G.R.N.P	All Doctor Management
IT21322662	Perera M.A.V.D	All Employee Management
IT21336218	Fernando W.S.S	All Payment Management
IT21334238	Sembakutti.S.C	All Inventory Management
IT21328084	Kattadige S. B. P	All Transport Management

Methodology

Requirements analysis

Functional Requirements

1. Patient Management

- Admin,
 - Admin can add Patient to the system.
 - Admin can add new Admin to the system.
 - Admin can view Patient, Admin, Appointment Details
 - Admin can Update, Delete Patient Details
 - Admin can Update, Delete Admin Details
 - Admin can Update, Delete Appointment Details
 - Admin Can Generate Admin, Patient, Appointment Reports
- Patient,
 - Patients can Schedule and Appointment by viewing the Doctor Details
 - Patients Can Register to the system.
 - Patients Can Search Features from their Patient Page.

2. Support Management

- Ticket management
- Communication
- Reporting and analytics
- Integration with other systems

3. Doctor Management

- Admin,
 - Admin can log in the system.
 - Admin can add new doctor to doctor.
 - Doctor can update and delete the doctor profile.
 - Admin can view Doctor record.
- Doctor,
 - Doctor can log in to the system.
 - Doctor can view patient details.
 - Doctor can add prescription.
 - Doctor can update and delete the doctor's details.
 - Doctor can add description of patient treatment.
 - Doctor can confirm and cancel appointment.

4. Employee Management

Employee –

- Employee Can Mark Attendance
- Manage employee details using database.
- 2. Adding new employee details when they join.
- 3. Make changes on data made by admin.
- 4. Deleting employee details once they needed to be removed.
- 5. Generate report from the employee table.

Website –

- 1. Display all employee details according to their working categories.
- 2. Adding employee details by employee Management (Admin login).
- 3. Updating and deleting employee details once they needed to be updated and removed by employee Management (Admin login).

Admin –

- 1. Can view employee details which were displayed to admin view list and card view.
- 2. When an employee detail is not in unusable for use that employee details should be deleted from employee list.

5. Payment Management

- The system must enable patients to pay the hospital for services received. You can accomplish this in several ways, including with cash, debit cards, and credit cards.
- All patient payments must be tracked by the system, which must also produce reports on payment activities. This data can be used to track the financial well-being of patients and spot areas where the hospital's payment collecting procedure needs to be strengthened.
- The system must protect patient financial information and be secure. Patients need to be protected from identity theft and other financial crimes thus this is crucial.
- Manage user access for their different user levels

6. Inventory Management

System –

1. Manage inventory records using database.
2. Adding new inventories of medicine stocks on arrival.
3. Make changes on medical records made by admin.
4. Deleting inventories of medicine stocks when they needed to be removed.
5. Generate report from the inventory list.

Website –

1. Display all inventory items.
2. Adding inventory item in the list when added by Admin.
3. Updating and deleting inventory items when they needed to be updated or removed by admin.

Admin -

1. Can view medicine records in the View Inventory page.
2. Add newly arrived medicine to the inventory.
3. Update medical records accordingly.
4. When a medical record is not in unusable or out of stock, that record should be deleted from inventory list.
5. View Inventory Report by clicking Generate Report button

7. Transport Management

Patient Request Management: The system should allow hospital staff to receive, process, and manage transport requests from patients or their caregivers.

Transport Assignment: The system should assign appropriate vehicles and drivers based on factors such as patient condition, urgency, and destination.

Scheduling and Dispatching: The system should enable efficient scheduling and dispatching of transport services to ensure timely pickups and drop-offs.

Route Optimization: The system should provide optimal routes for transport vehicles to minimize travel time and ensure efficient use of resources.

Tracking and Monitoring: The system should allow real-time tracking and monitoring of vehicles, enabling staff to have visibility into the location and status of each transport request.

Emergency Response: The system should have the capability to handle emergency transport requests by prioritizing them and providing the fastest possible response.

Integration with Patient Records: The system should integrate with the hospital's electronic health record (EHR) system, allowing seamless access to patient information and medical history for transport purposes.

Reporting and Analytics: The system should generate reports and analytics on transport operations, including metrics such as response times, transport utilization, and resource allocation.

Non-Functional Requirements

- Availability: The system should be consistently accessible to users without frequent downtime or disruptions. It should be reliable and accessible whenever users need to use it.
- Reliability: The system should perform its intended functions accurately and consistently. It should minimize errors, crashes, and failures to provide reliable user experience.
- Security: The system should have strong security measures in place to protect sensitive data and prevent unauthorized access. It should include features like user authentication, data encryption, and secure communication protocols.
- Scalability: The system should be able to handle increased user load and growing demands without significant performance issues. It should scale effectively to support a larger user base or increased data volume.
- Usability: The system should be user-friendly and easy to use. It should have a clear interface, logical workflows, and provide helpful feedback and guidance to users.
- Performance: The system should demonstrate good performance with fast response times and minimal delays. It should handle many users or transactions without slowing down.
- Maintainability: The system should be designed for easy maintenance and updates. It should have well-organized code, clear documentation, and practices that allow for future enhancements or bug fixes.
- Compatibility: The system should be compatible with different platforms, devices, and operating systems. It should work well on various web browsers and mobile platforms, ensuring a seamless user experience.
- Compliance: The system should adhere to relevant industry standards, regulations, and legal requirements. It should incorporate necessary privacy measures and data protection guidelines to ensure compliance.
- Data Integrity: The system should maintain the accuracy and integrity of data throughout its lifecycle. It should have safeguards in place to prevent data corruption, loss, or unauthorized modifications.
- Interoperability: The system should seamlessly integrate with other existing systems or third-party applications. It should support standard data exchange protocols and facilitate smooth communication and data sharing.
- Disaster Recovery: The system should have a robust plan in place to recover from unexpected events or system failures. It should include backup mechanisms, data redundancy, and procedures for restoring the system to normal operation.

Requirements modeling

<<Diagrams>>

Onion Diagram

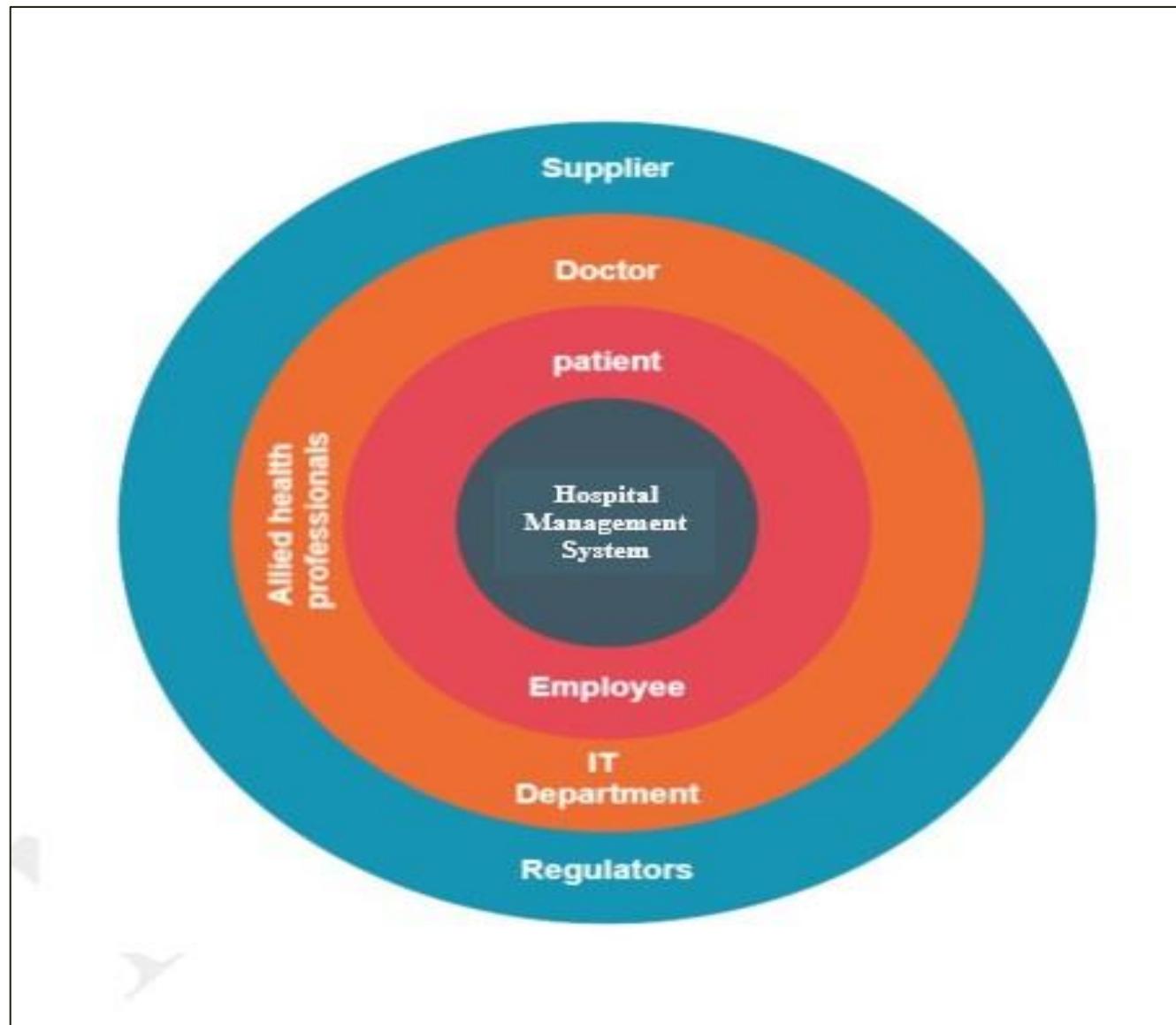


Figure 2. 1. Onion Diagram for Whole HMS

Activity Diagrams

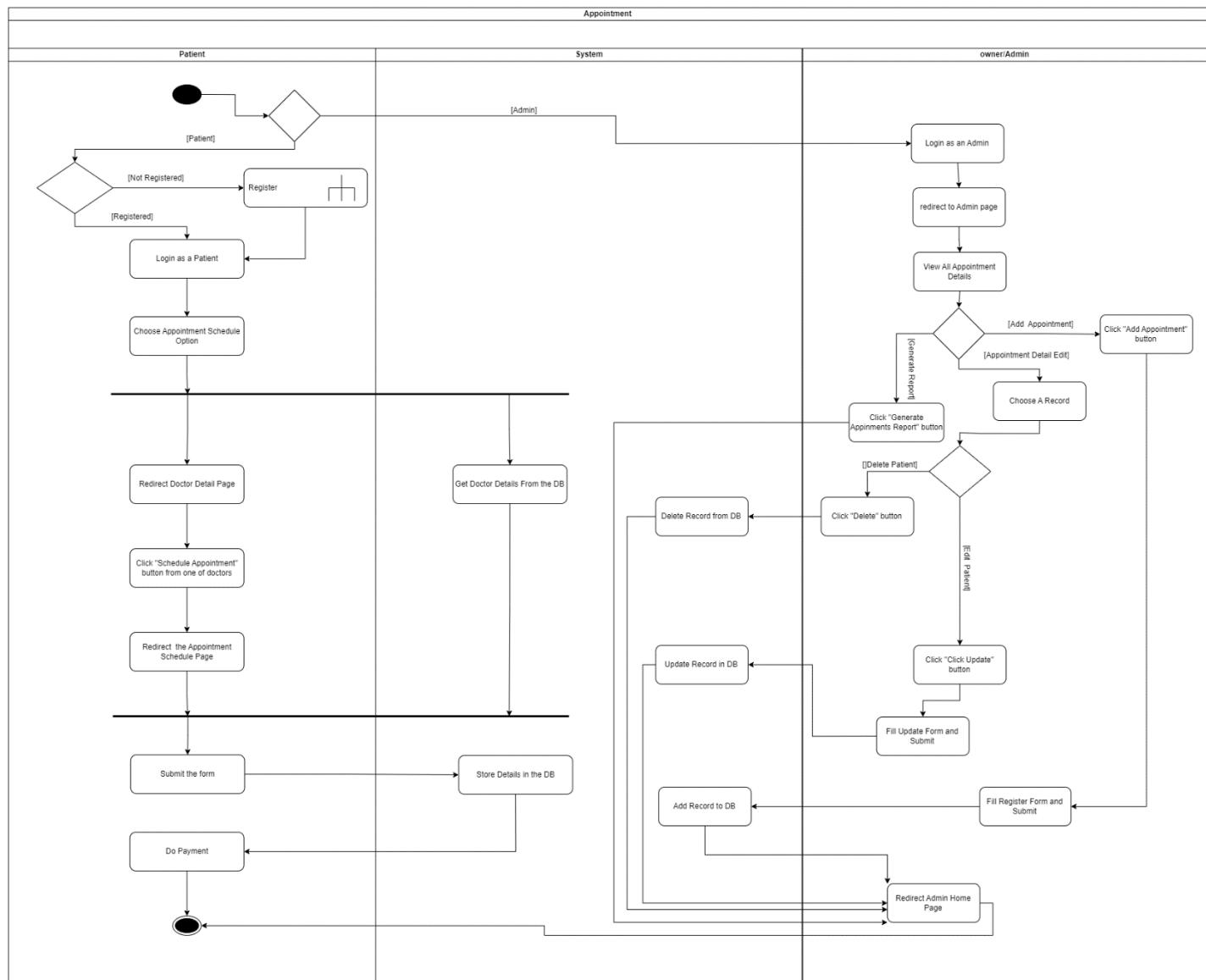


Figure 2. 2. 1. 1. Activity Diagram for Patient Management Appointments Scheduling Function

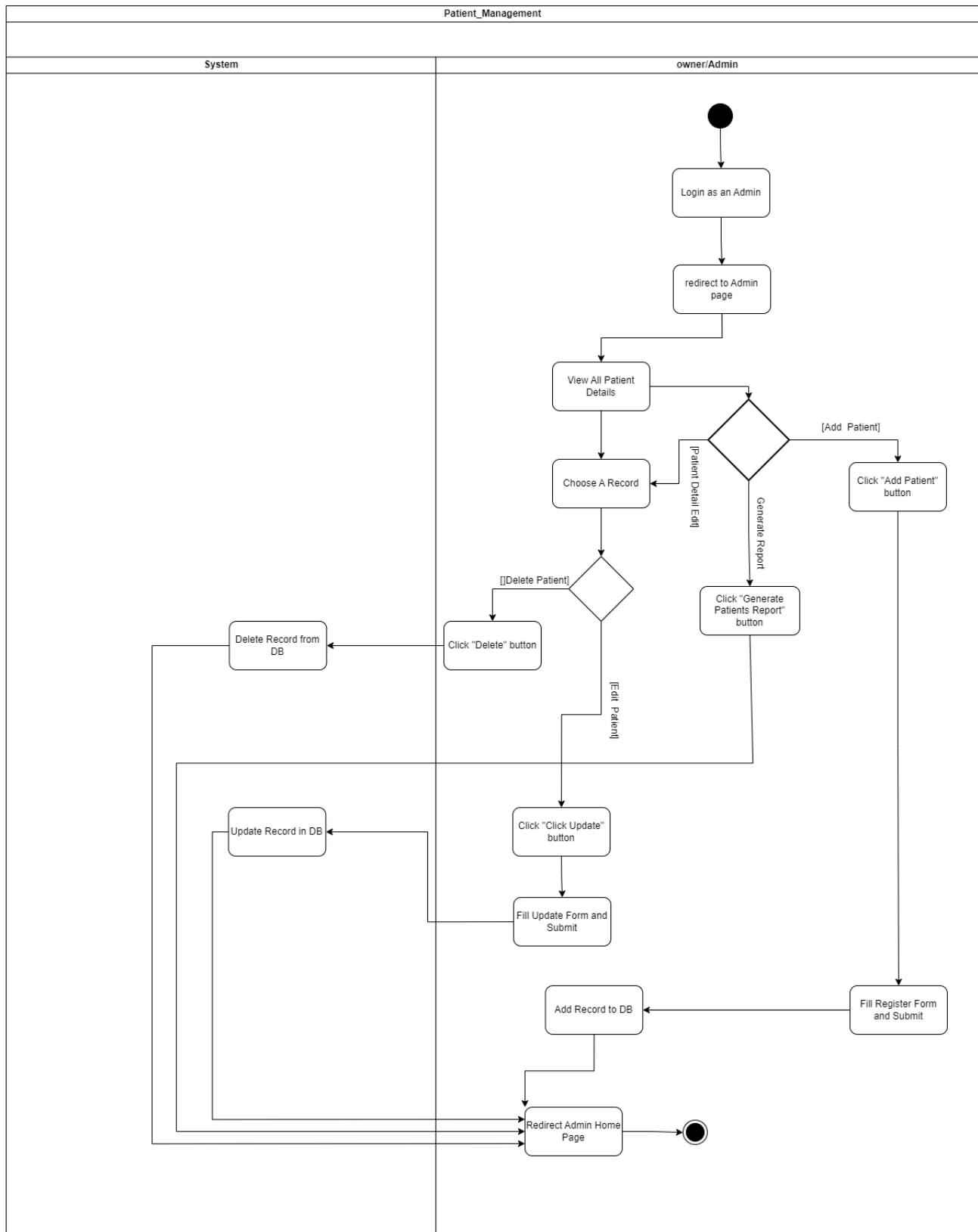


Figure 2. 2. 1. 2. Activity Diagram for Patient Management Admin Function

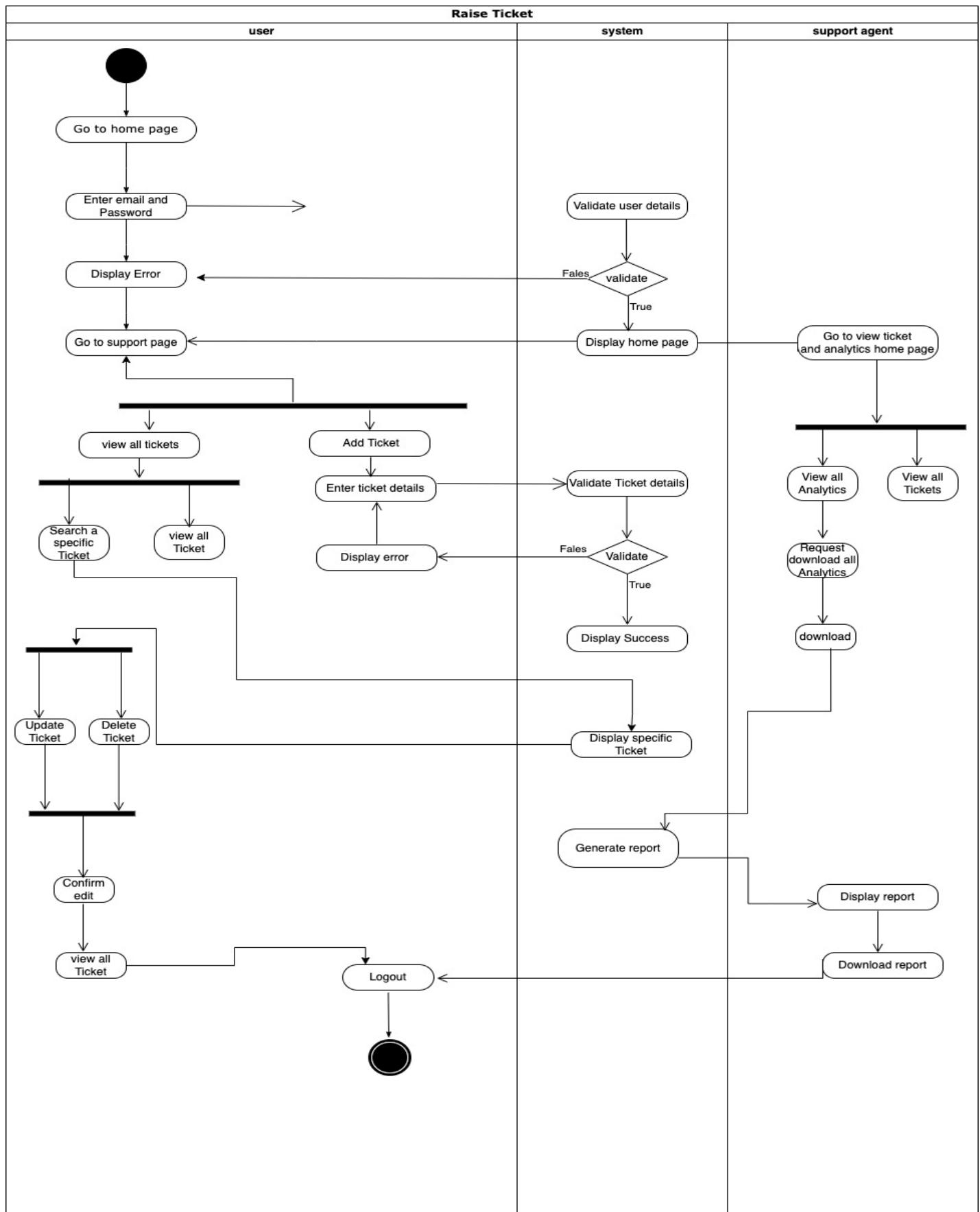


Figure 2. 2. 2. 1. Activity Diagram for Raise ticket in Support Management

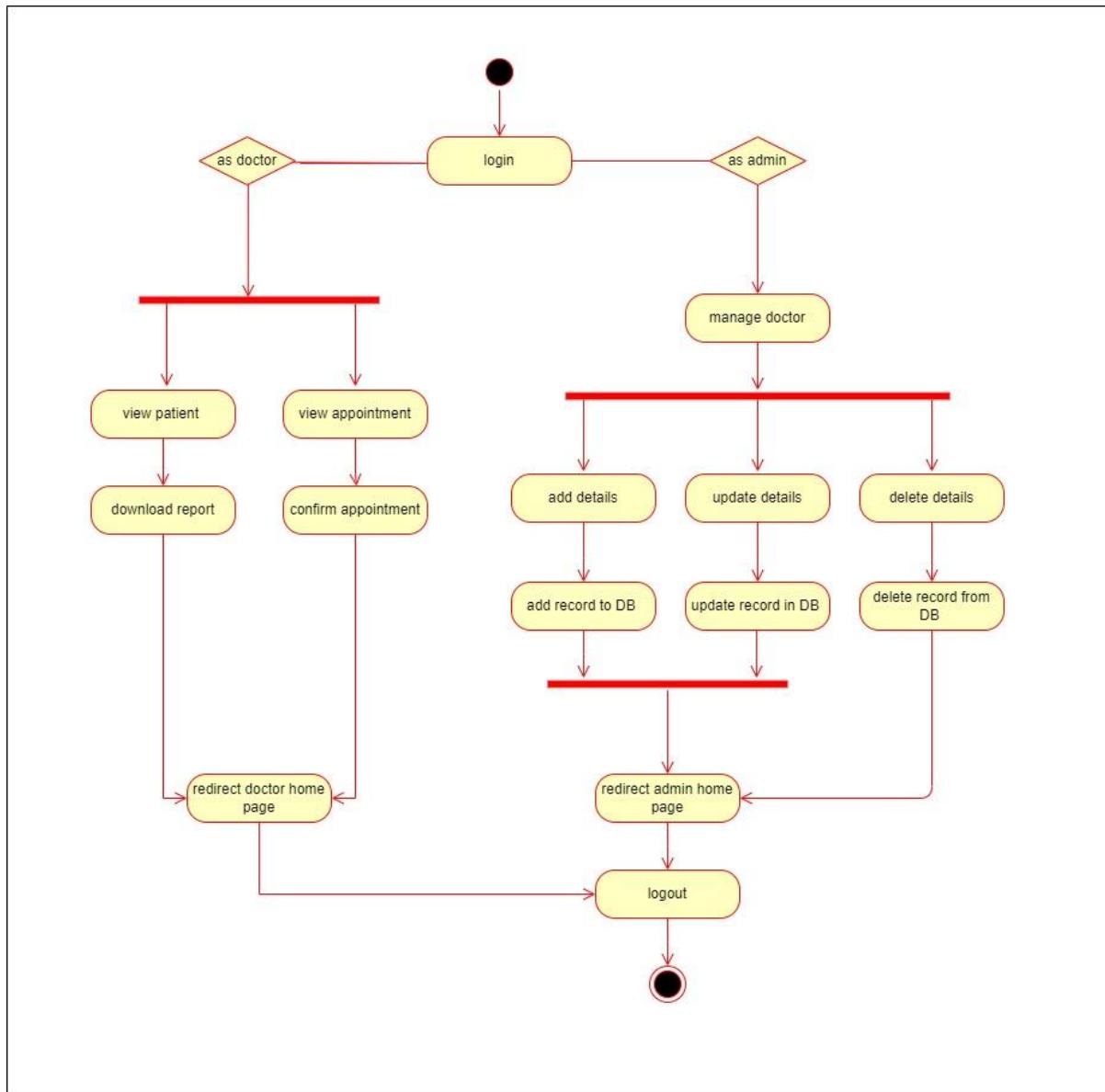


Figure 2. 2. 3. 1. Activity Diagram for Doctor Management Admin Function

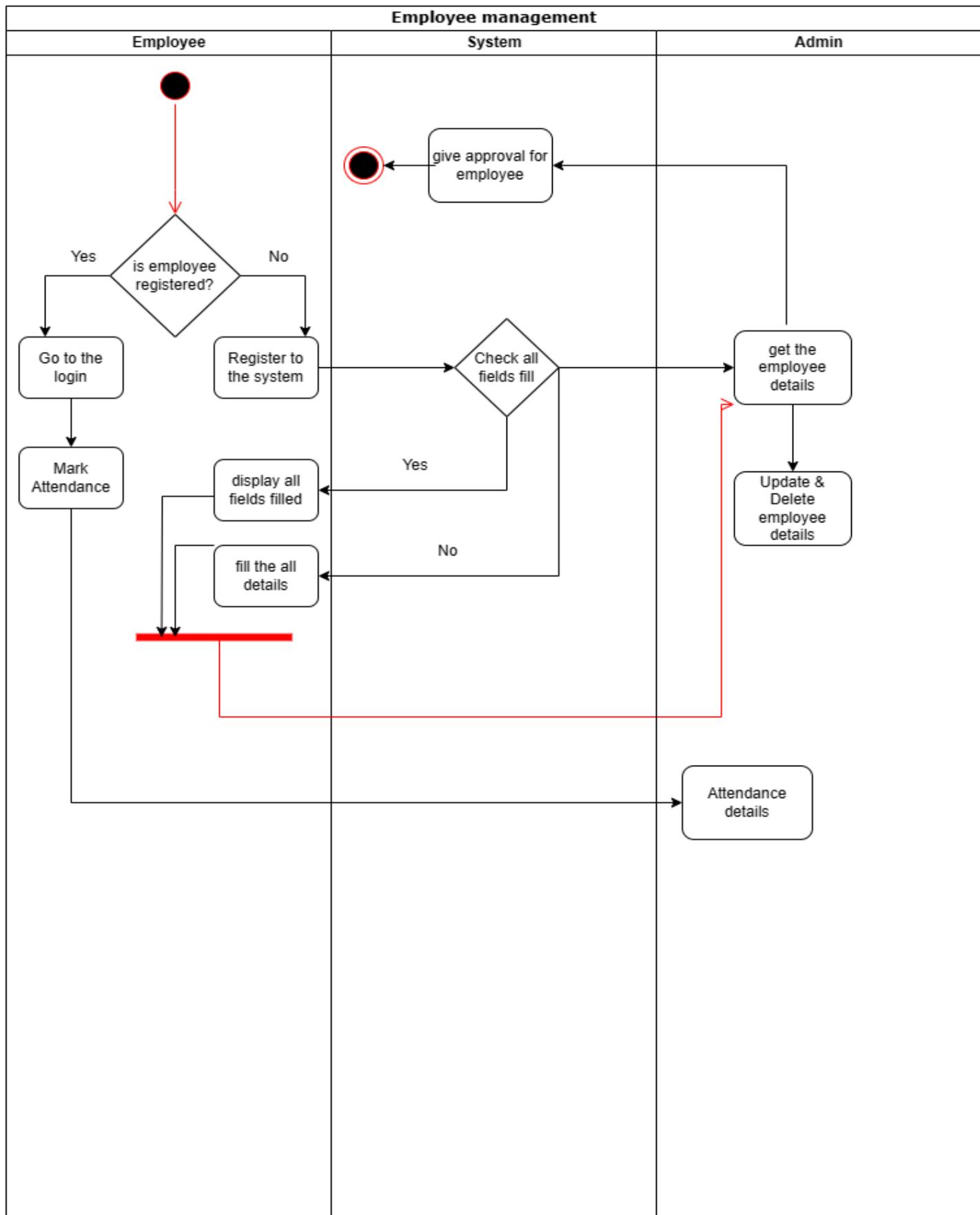


Figure 2. 2. 4. 1. Activity Diagram for Employee Management

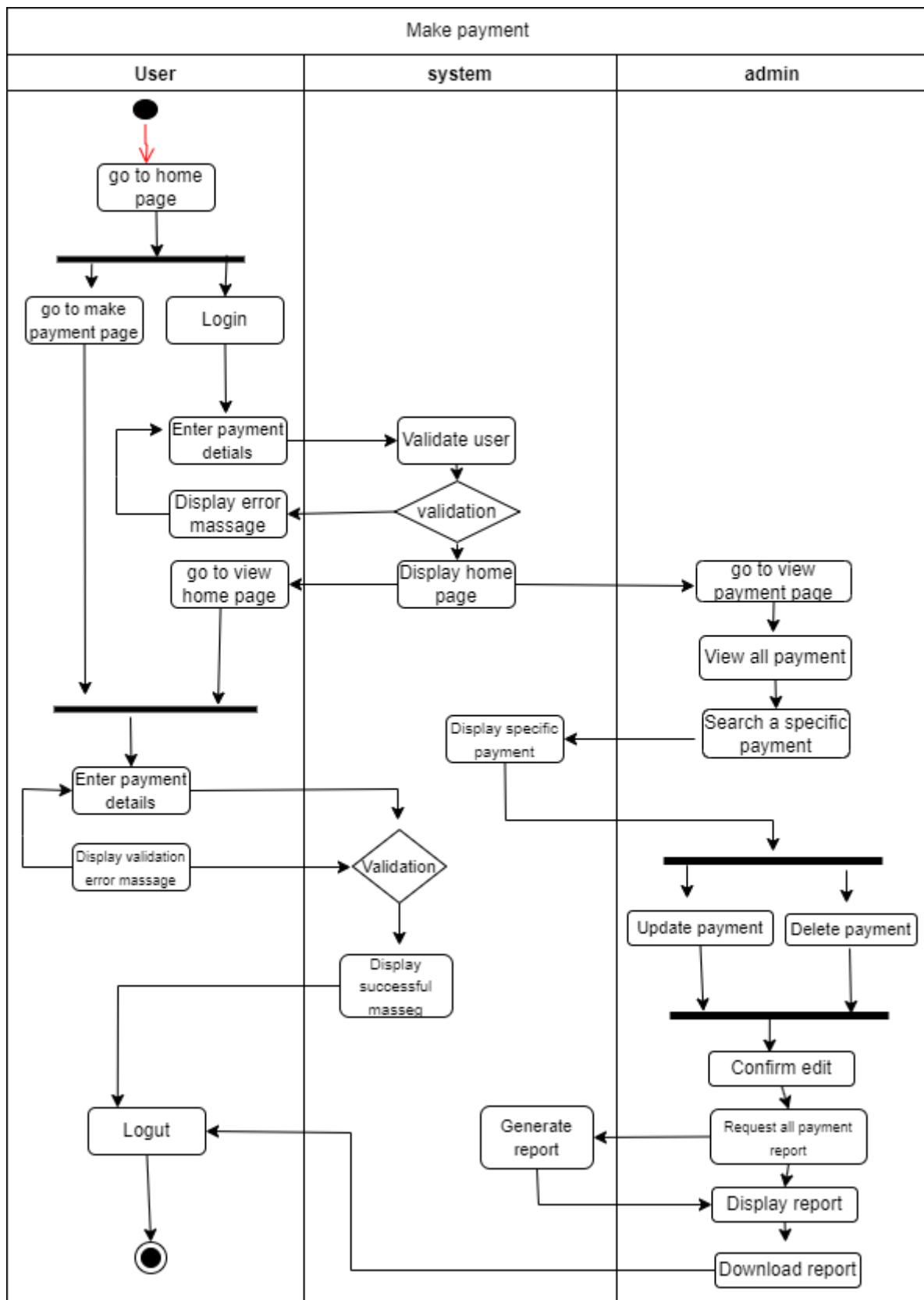


Figure 2. 2. 5. 1. Activity Diagram for Payment Management Make Payment Function

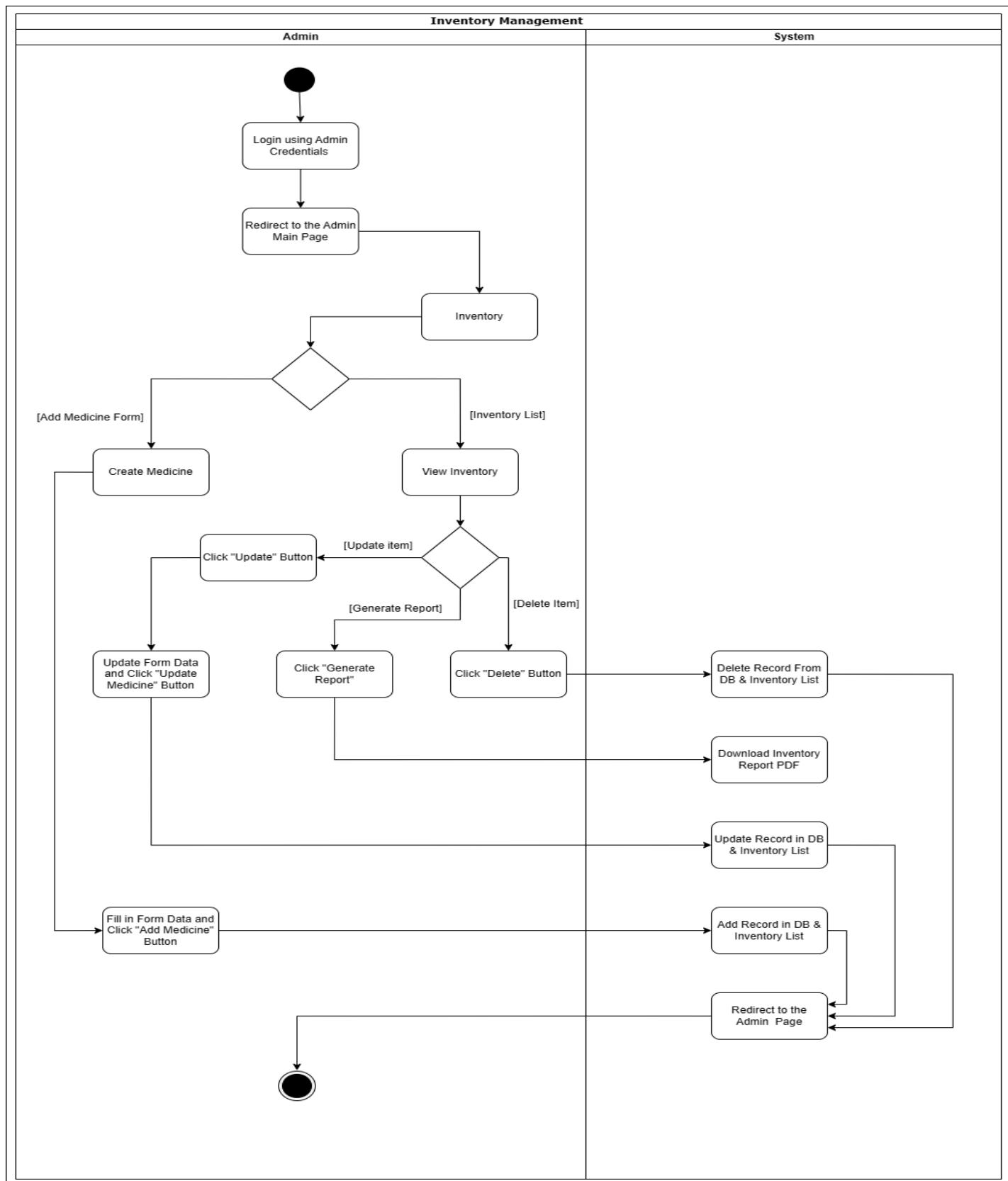


Figure 2. 2. 6. 1. Activity Diagram for Inventory Management

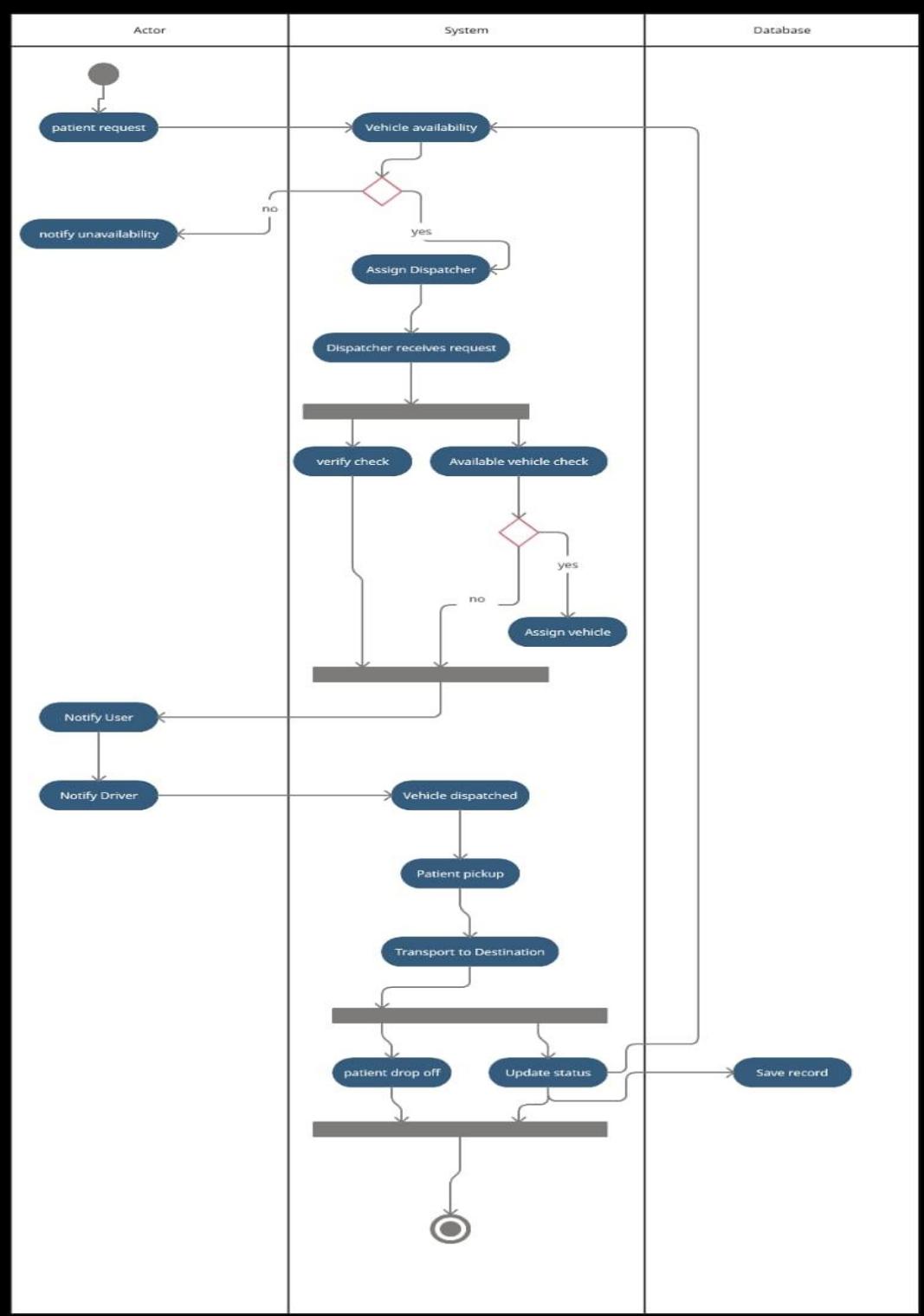


Figure 2.2.7.1. Activity Diagram for Transport Management Function

Use Case Diagram(Me)

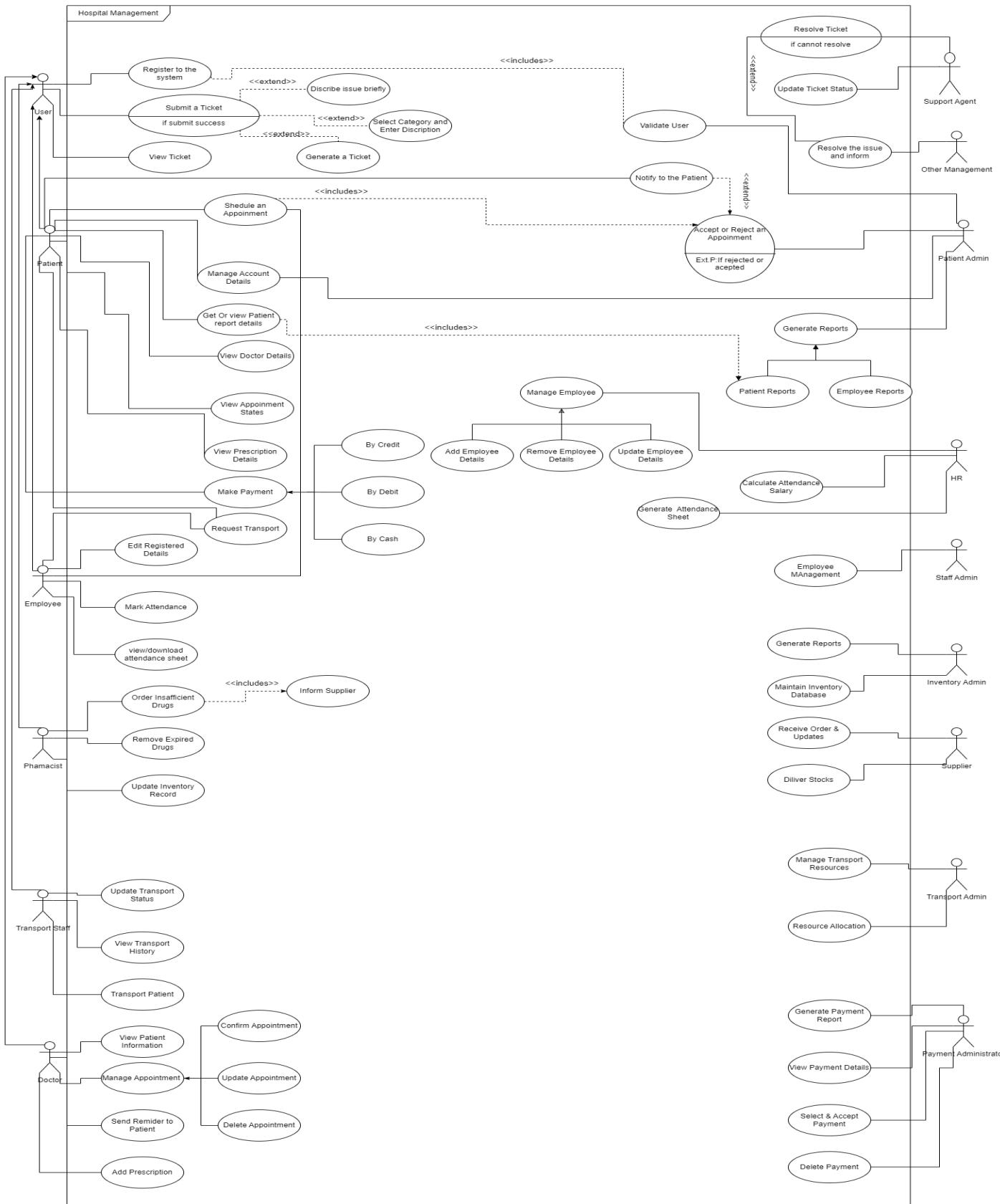


Figure 2. 3. 1. Use Case Diagram for whole system

Design and Development

High Level Diagram

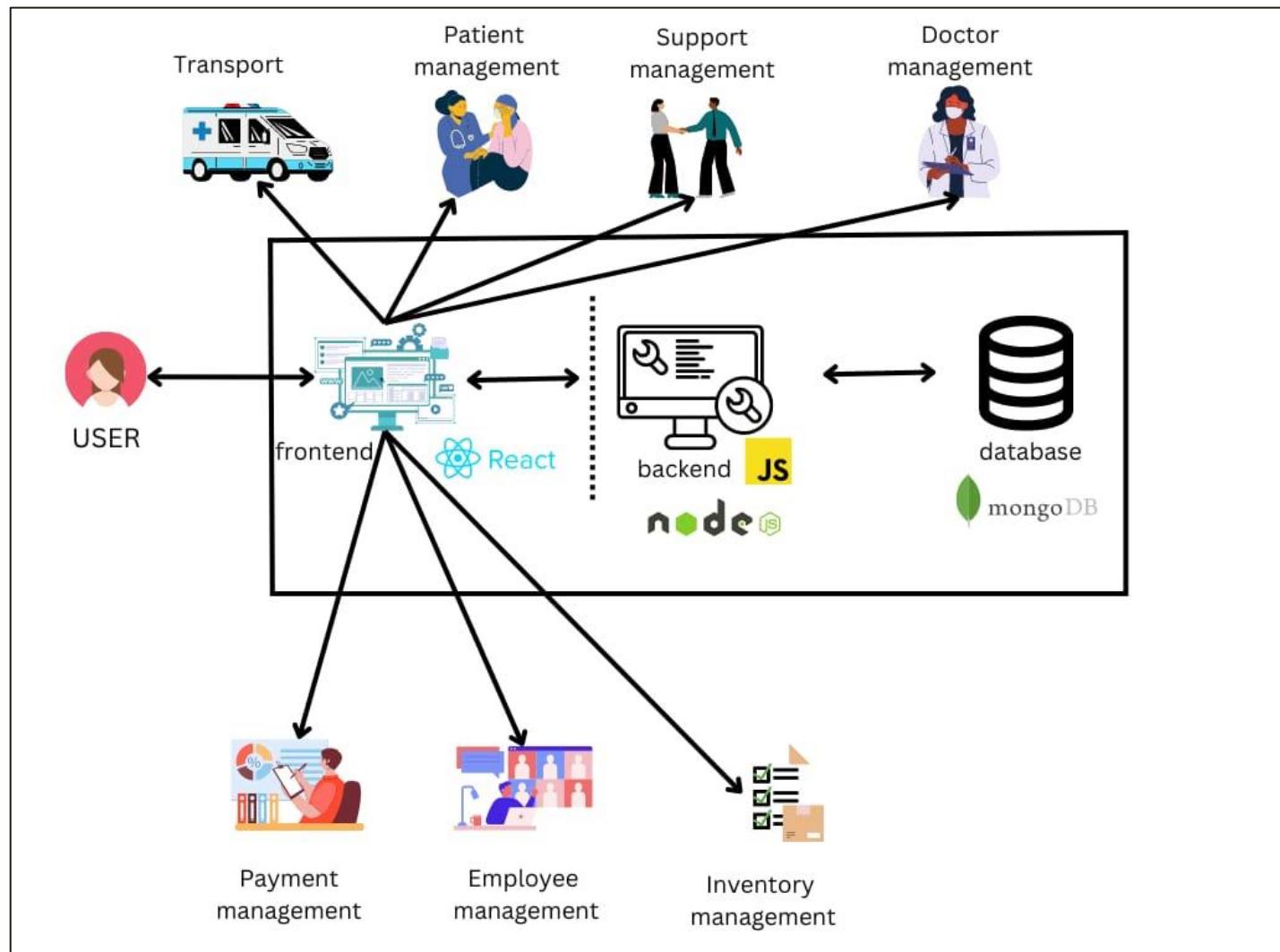


Figure 3. 1. 1. High Level Diagram For Whole System

ER Diagram

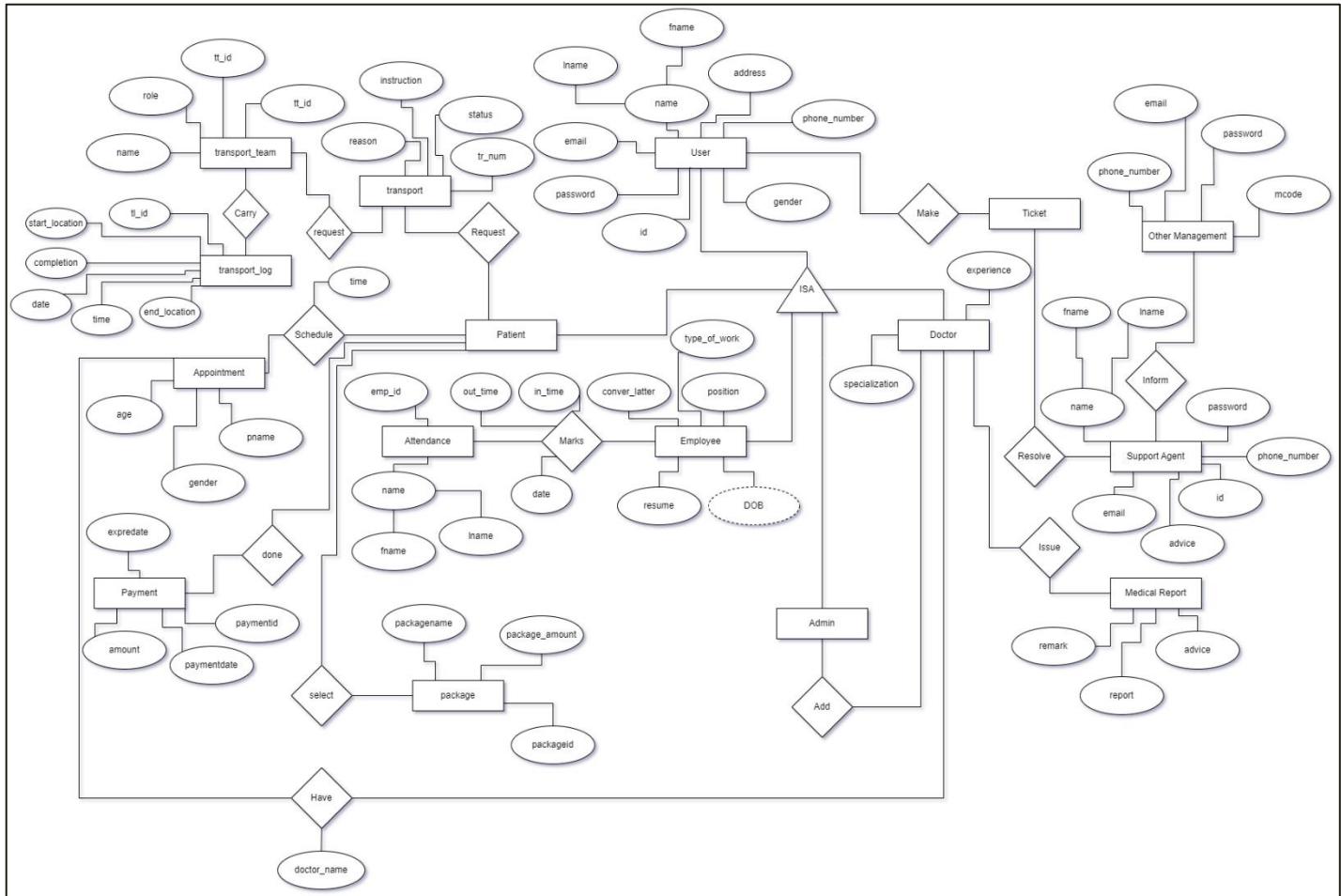


Figure 3. 2. 1. ER Diagram for whole system

UI's

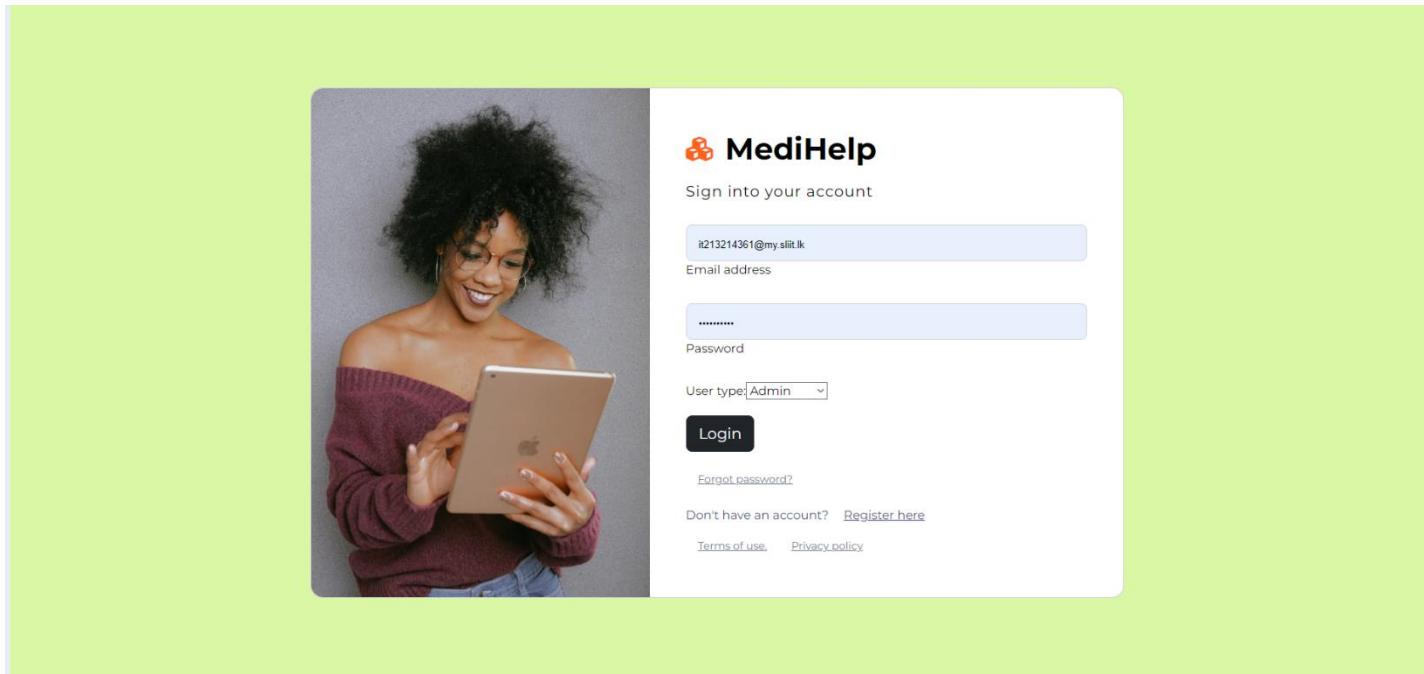


Figure 3. 3. 1. 1. Login UI

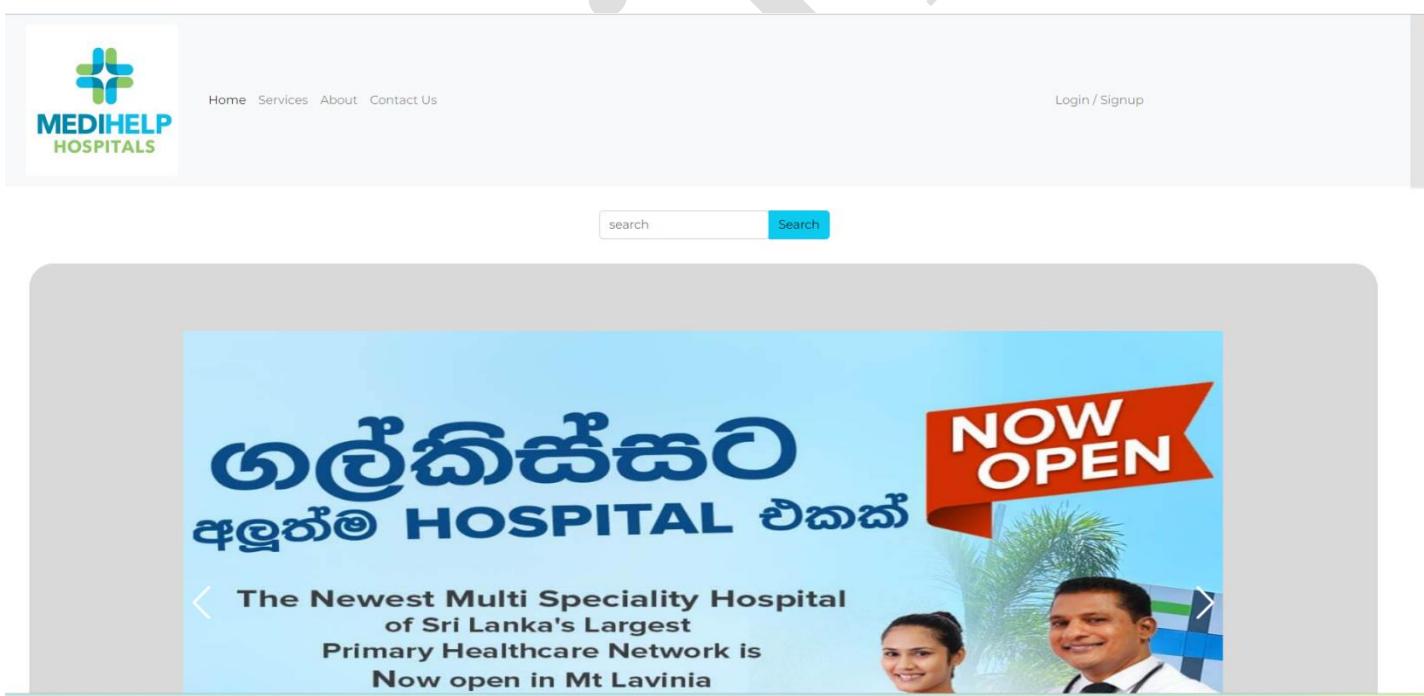


Figure 3. 3. 1. 2. 1st Patient Home UI



About_us

Medihelp Hospitals is renowned as one of the leading healthcare providers in Sri Lanka today. In a journey extending over three and a half decades so far, we have expanded our medical-facility network considerably to now include inpatient and outpatient care facilities, laboratories and sample collection centers, pharmacies, and medical imaging units. Medihelp's distinct healthcare offering is modelled on our patient-focused approach, affordability, accessibility, as well as the comprehensive facilities and high-quality medical expertise on offer. Our presence in several key locations across the island allows us to consistently deliver on our promise of providing quality affordable healthcare for all Sri Lankans.

Figure 3. 3. 1. 3. 2nd Patient Home UI

A screenshot of the Medihelp Hospitals Patient Home UI. The top navigation bar has "Our Services" highlighted. Below the navigation, there are three service cards. Each card has an icon, a title, and a brief description. The "Manage Profile" card features a blue profile icon, the "View Doctor Details" card features a doctor icon with a stethoscope and a plus sign, and the "View or Request Report" card features a clipboard with a checkmark and a pen icon. The cards are arranged in a grid format with a light gray background.

Figure 3. 3. 1. 4. 3rd Patient Home UI

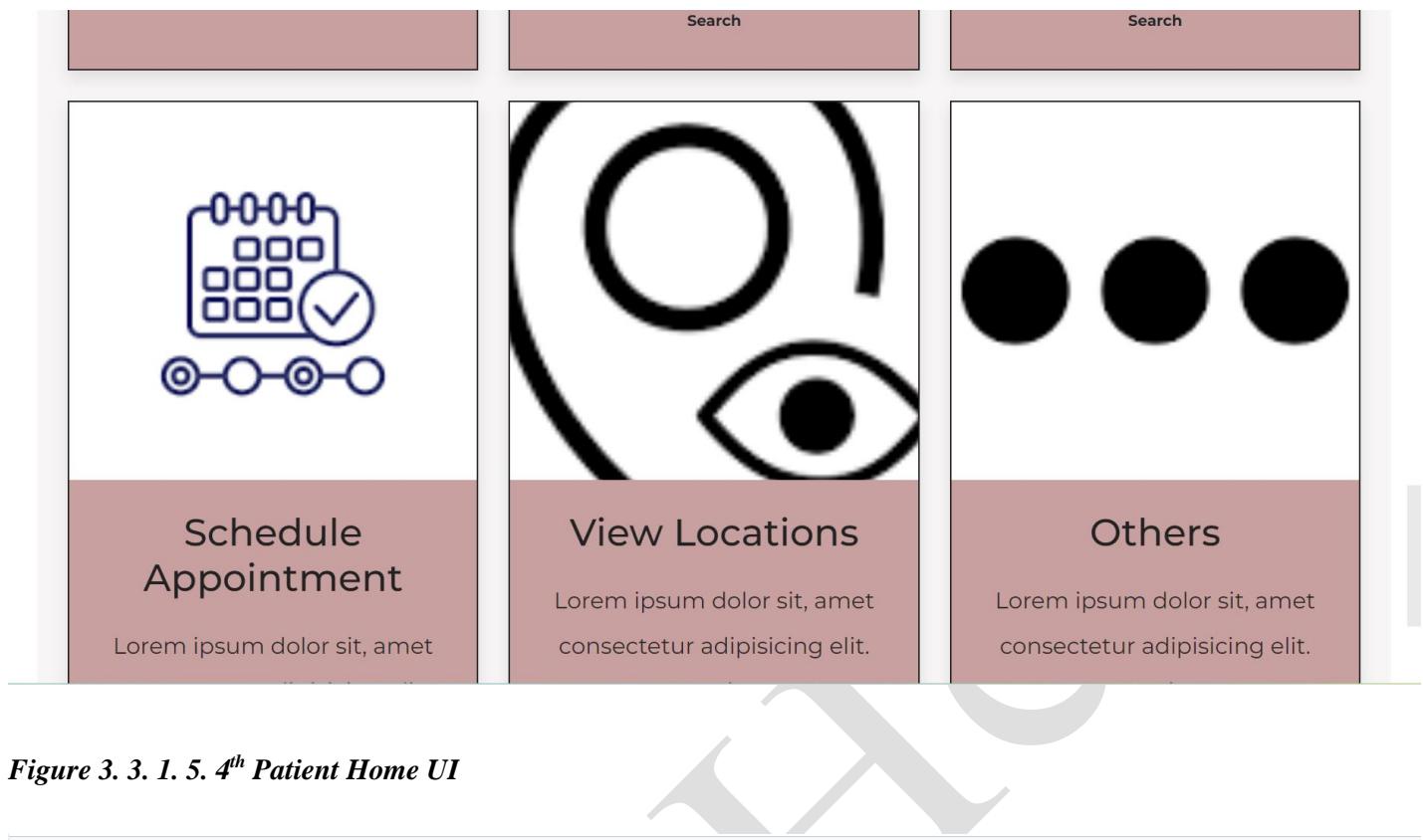
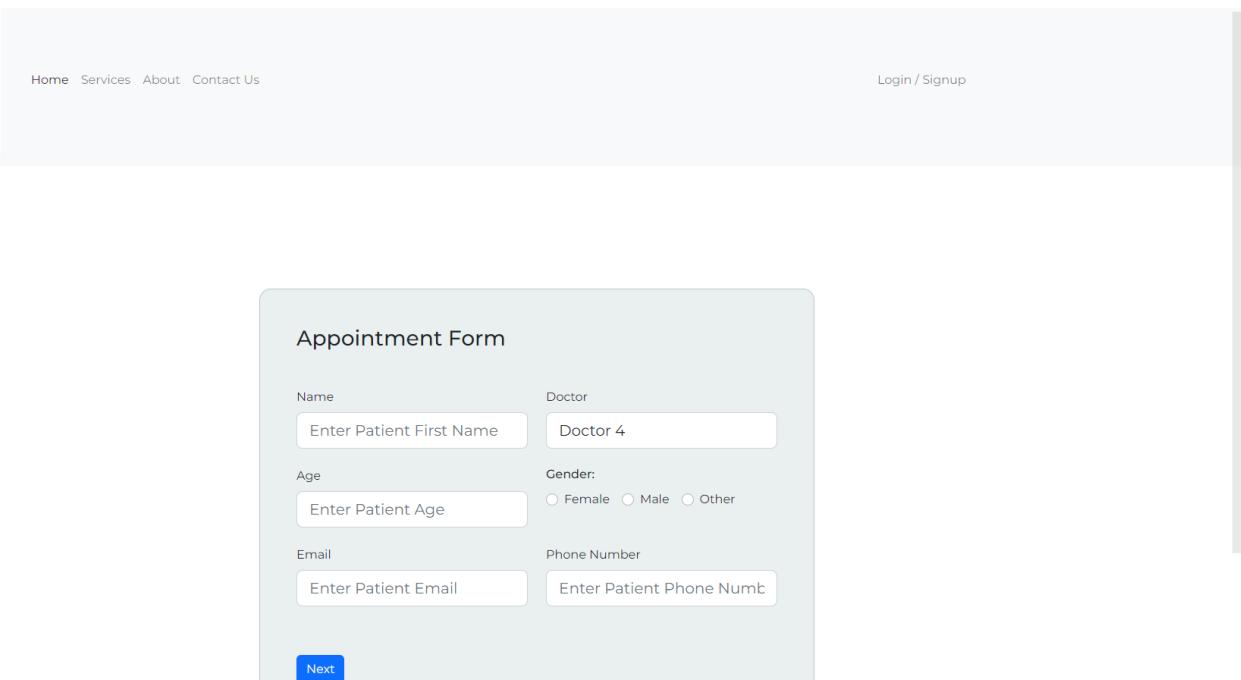


Figure 3.3.1.5.4th Patient Home UI

ID	Full Name	Specialization	Age	Gender	Phone Number	Email	Schedule Appointment Now
1	Doctor 1	Psychiatrist	22	Male	705883826	doctortest.1@gmail.com	<input checked="" type="button"/> SCHEDULE APPOINTMENT
2	Doctor 3	physiologist	22	Male	7058956335	Test.2@gmail.com	<input checked="" type="button"/> SCHEDULE APPOINTMENT
3	Doctor Test	Orthopedics	28	Male	705895630	doctortest.Test@gmail.com	<input checked="" type="button"/> SCHEDULE APPOINTMENT
4	Doctor 4	Neurology	20	Female	705895639	Test.4@gmail.com	<input checked="" type="button"/> SCHEDULE APPOINTMENT

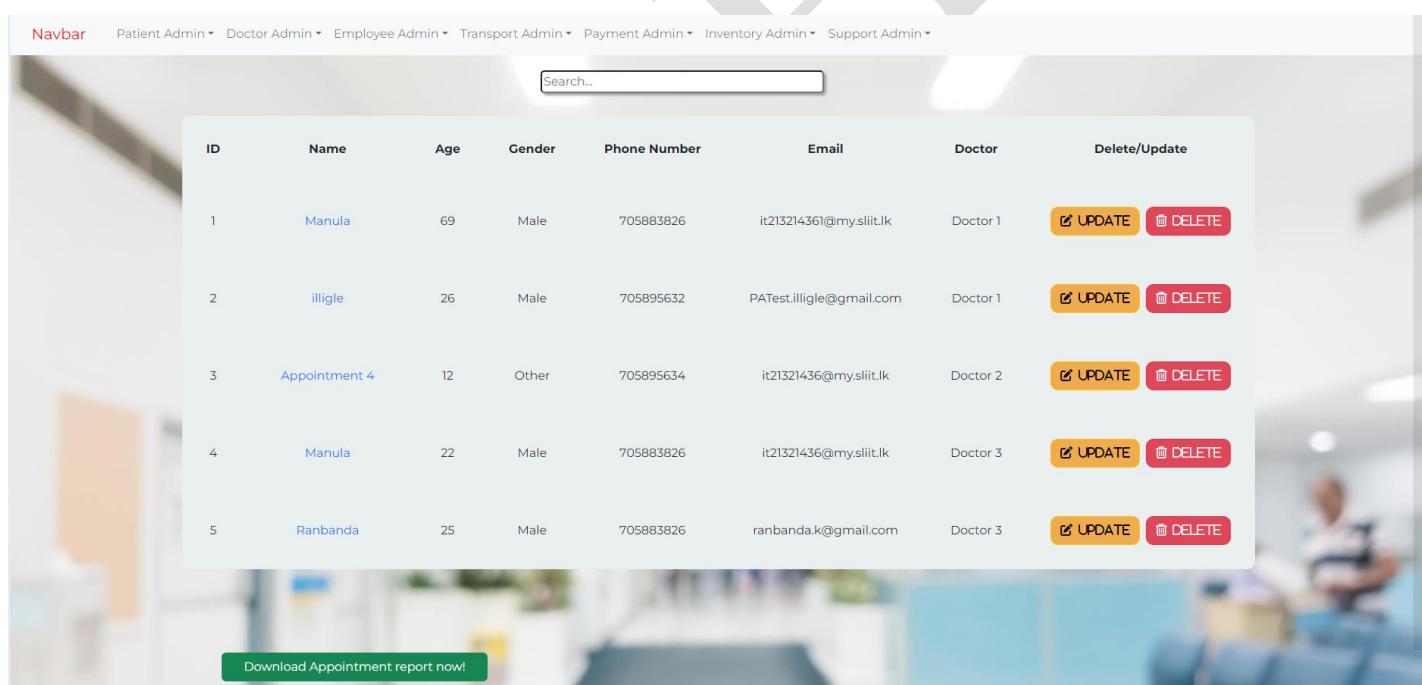
Figure 3.3.1.6. Doctor Details UI Before Patient Schedule Appointment

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The image shows a screenshot of a web-based appointment scheduling application. At the top left is the MediHelp Hospitals logo. The top navigation bar includes links for Home, Services, About, Contact Us, and Login / Signup. The main content area is titled "Appointment Form". It contains fields for Name (with a placeholder "Enter Patient First Name" and a "Doctor" dropdown set to "Doctor 4"), Age (with a placeholder "Enter Patient Age" and a "Gender" section showing radio buttons for Female, Male, and Other), Email (placeholder "Enter Patient Email") and Phone Number (placeholder "Enter Patient Phone Numt"). A "Next" button is located at the bottom of the form.

Figure 3. 3. 1. 7. Appointment Schedule Form



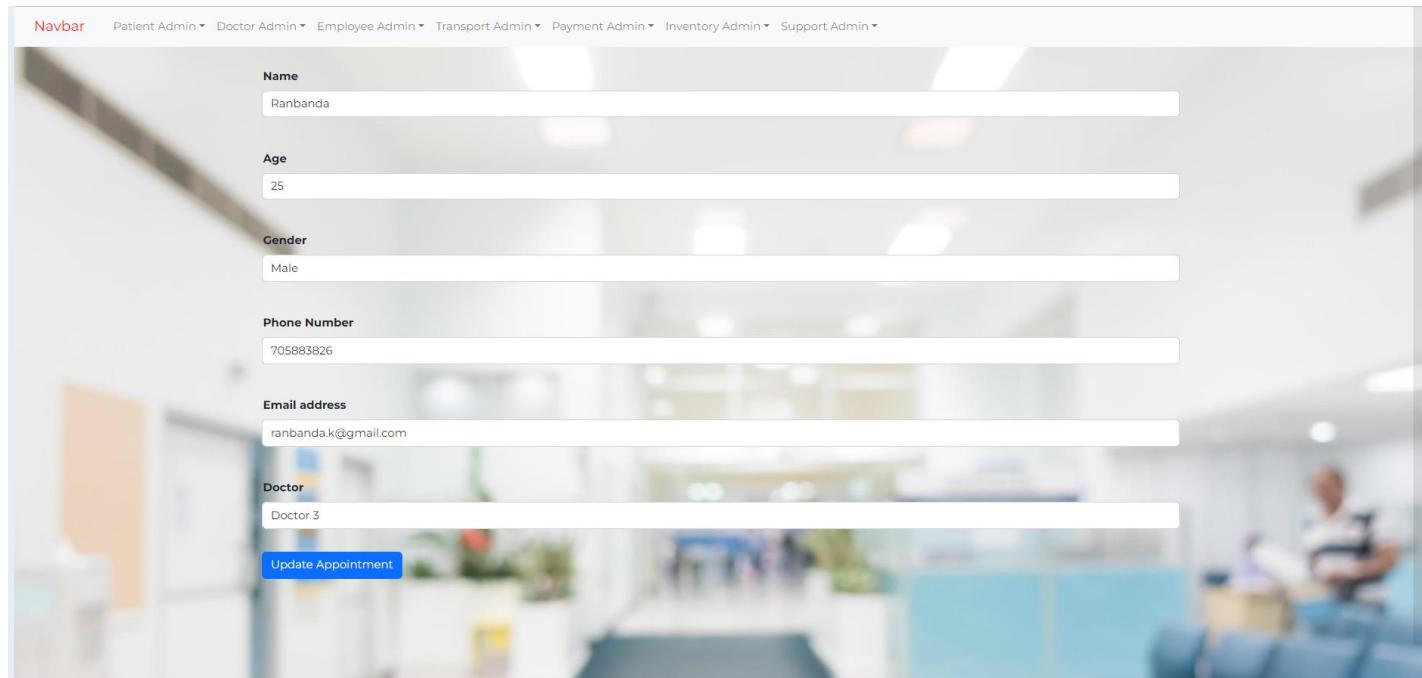
The image shows a screenshot of a web-based appointment scheduling application. At the top, there is a navigation bar with links for Patient Admin, Doctor Admin, Employee Admin, Transport Admin, Payment Admin, Inventory Admin, and Support Admin. Below the navigation bar is a search bar with the placeholder "Search...". The main content area displays a table of appointment details. The table has columns for ID, Name, Age, Gender, Phone Number, Email, Doctor, and Delete/Update. The data in the table is as follows:

ID	Name	Age	Gender	Phone Number	Email	Doctor	Delete/Update
1	Manula	69	Male	705883826	it21321436@mysliit.lk	Doctor 1	 
2	illigle	26	Male	705895632	PATest.illigle@gmail.com	Doctor 1	 
3	Appointment 4	12	Other	705895634	it21321436@mysliit.lk	Doctor 2	 
4	Manula	22	Male	705883826	it21321436@mysliit.lk	Doctor 3	 
5	Ranbanda	25	Male	705883826	ranbanda.k@gmail.com	Doctor 3	 

At the bottom of the table, there is a green button labeled "Download Appointment report now!".

Figure 3. 3. 1. 8. Appointment Schedule Details

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A screenshot of a web-based appointment scheduling application. The page has a light gray header with a 'Navbar' button and several dropdown menus for 'Patient Admin', 'Doctor Admin', 'Employee Admin', 'Transport Admin', 'Payment Admin', 'Inventory Admin', and 'Support Admin'. The main content area features a blurred background image of a hospital lobby. Overlaid on this are several input fields: 'Name' (Ranbanda), 'Age' (25), 'Gender' (Male), 'Phone Number' (705883826), 'Email address' (ranbanda.k@gmail.com), and 'Doctor' (Doctor 3). A blue 'Update Appointment' button is located at the bottom left of these fields.

Figure 3. 3. 1. 9. Appointment Schedule Update Form

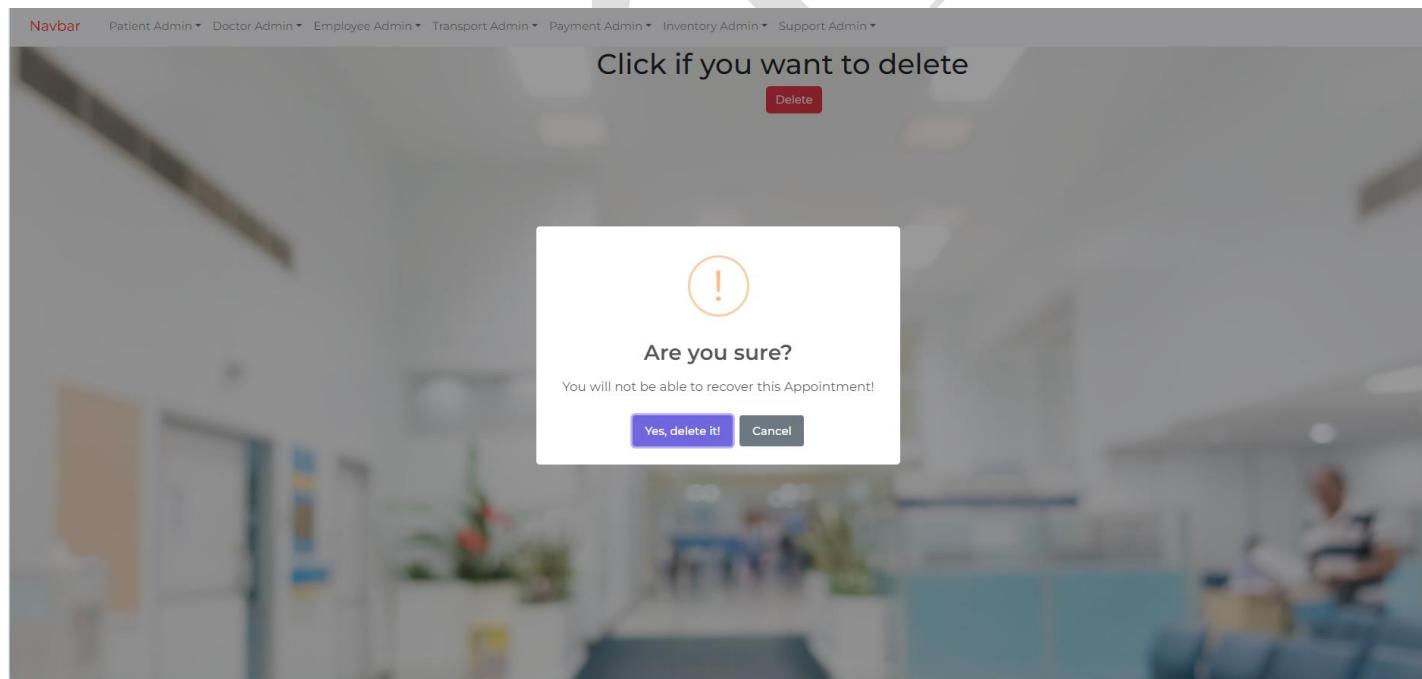
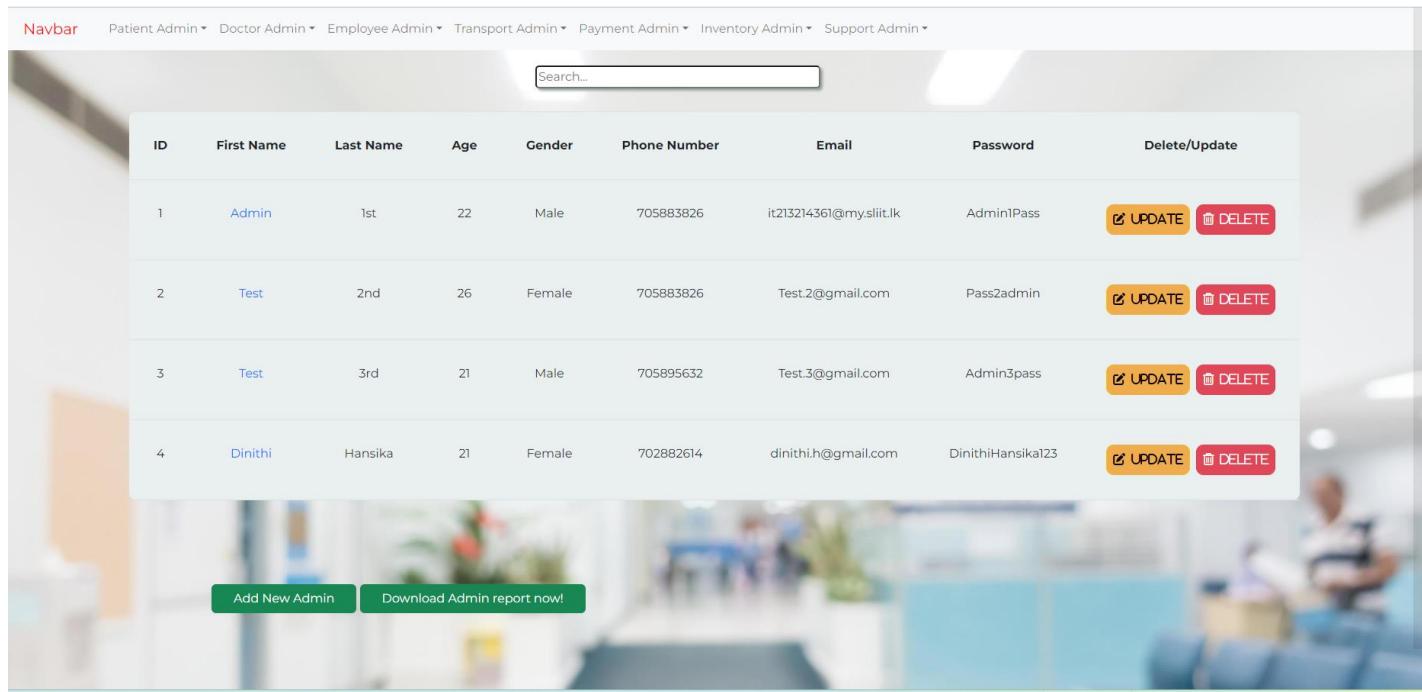


Figure 3. 3. 1. 10. Appointment Schedule Delete After Clicked Delete Button in Appointment Schedule Details Page

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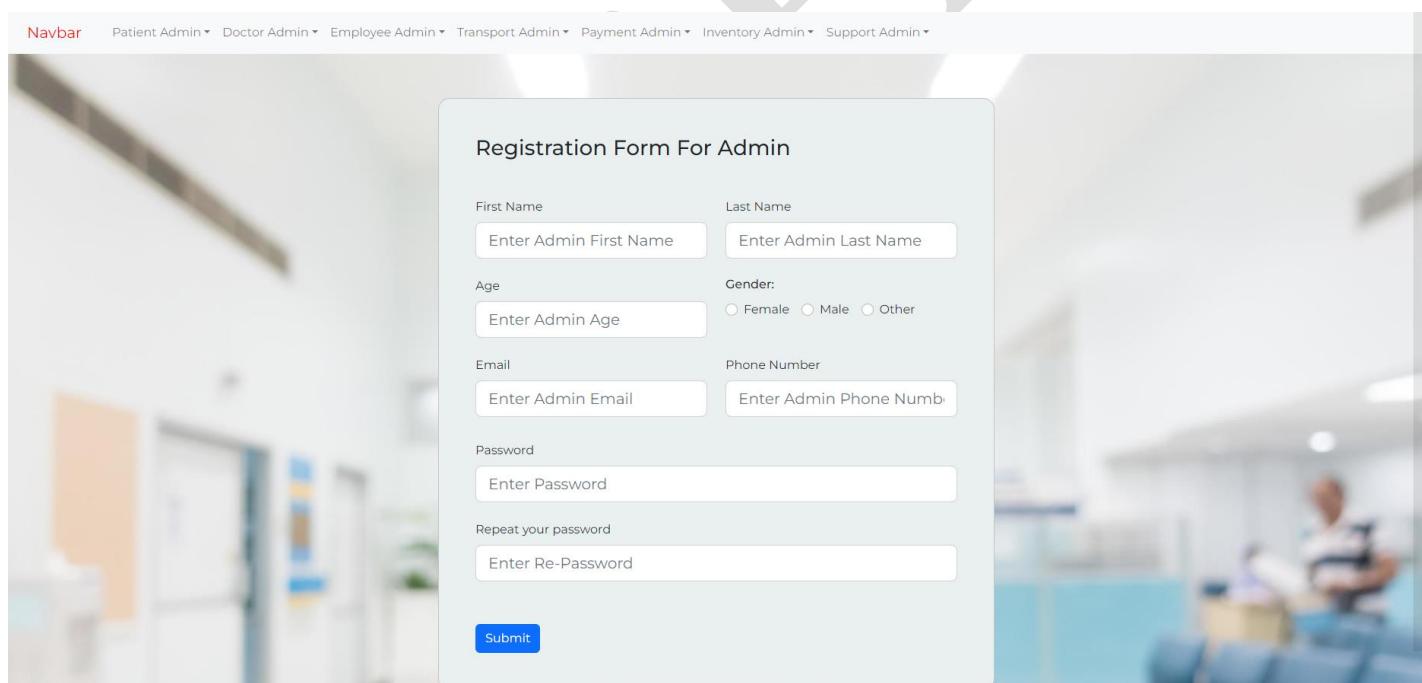


Admin Details

ID	First Name	Last Name	Age	Gender	Phone Number	Email	Password	Delete/Update
1	Admin	1st	22	Male	705883826	it213214361@my.sliit.lk	Admin1Pass	 
2	Test	2nd	26	Female	705883826	Test.2@gmail.com	Pass2admin	 
3	Test	3rd	21	Male	705895632	Test.3@gmail.com	Admin3pass	 
4	Dinithi	Hansika	21	Female	702882614	dinithi.h@gmail.com	DinithiHansika123	 

Add New Admin Download Admin report now!

Figure 3. 3. 1. 11. Admin Details



Registration Form For Admin

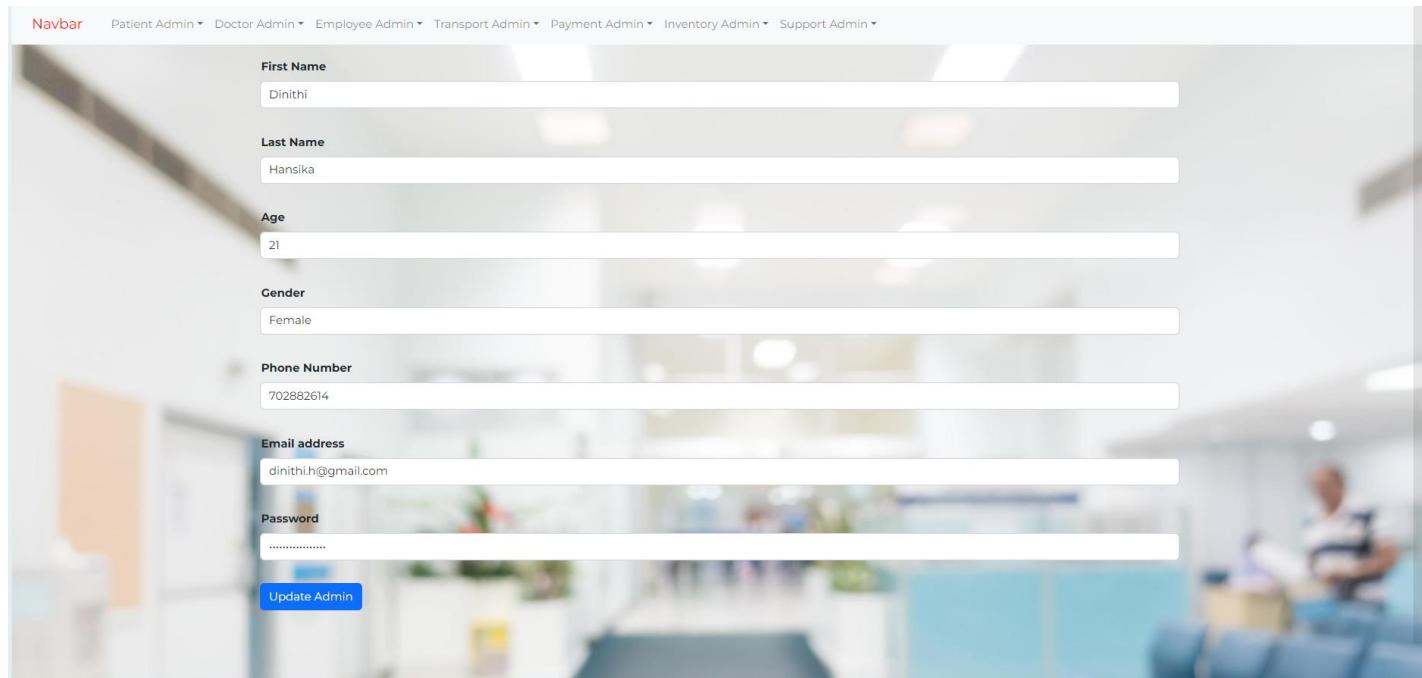
First Name Last Name

Age Gender: Female Male Other

Email Phone Number

Password Repeat your password

Figure 3. 3. 1. 12. Admin Registration Form



This screenshot shows the 'Admin Update Form' on a web page. The form consists of several input fields: 'First Name' (Dinithi), 'Last Name' (Hansika), 'Age' (21), 'Gender' (Female), 'Phone Number' (702882614), 'Email address' (dinithi.h@gmail.com), and 'Password' (a redacted password). Below the form is a blue 'Update Admin' button. The background of the page features a blurred image of a hospital or clinic interior.

Figure 3. 3. 1. 13. Admin Update Form

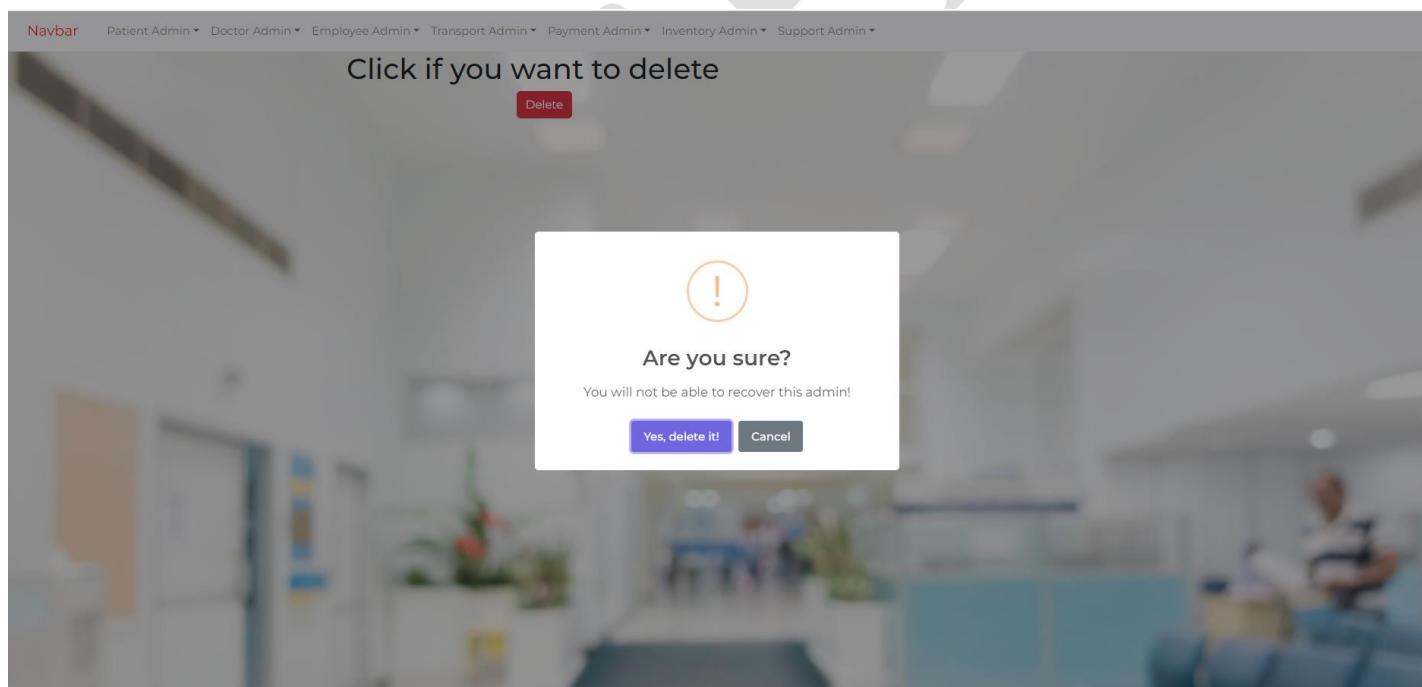
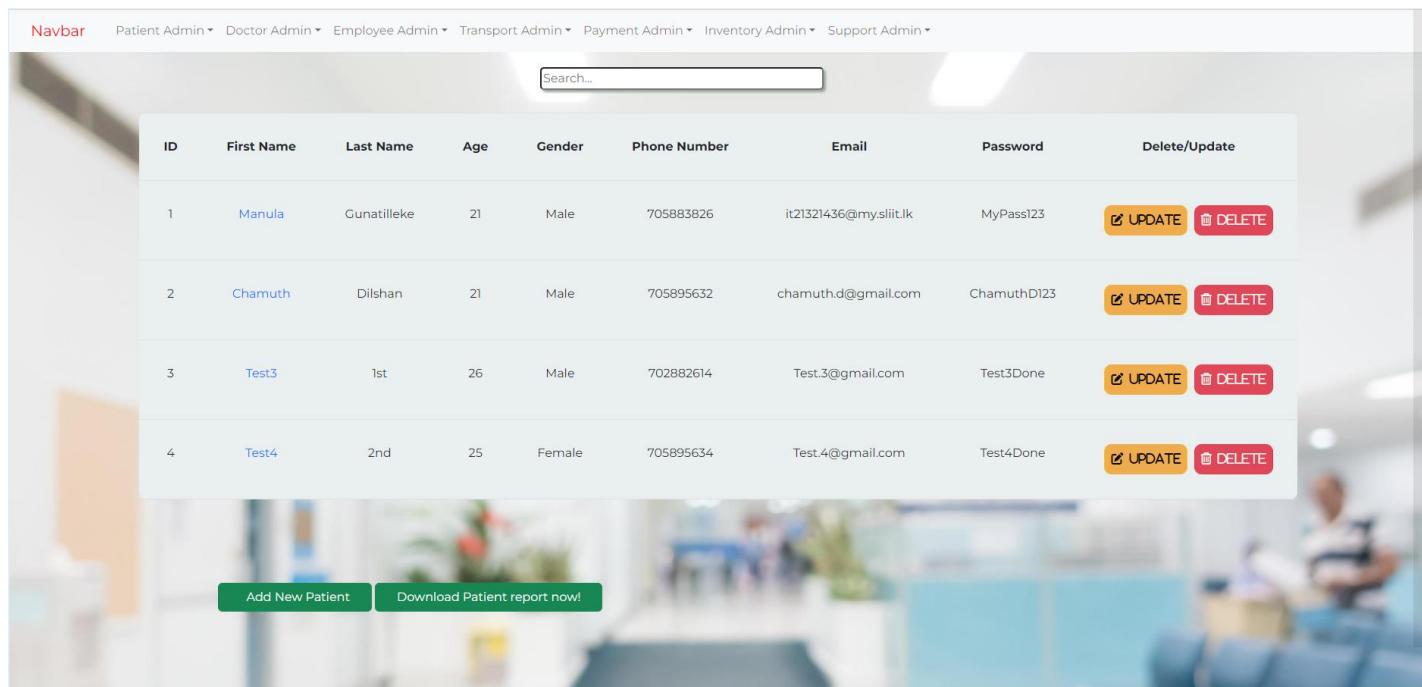


Figure 3. 3. 1. 14. Admin Delete After Clicked Delete Button in Admin Details Page

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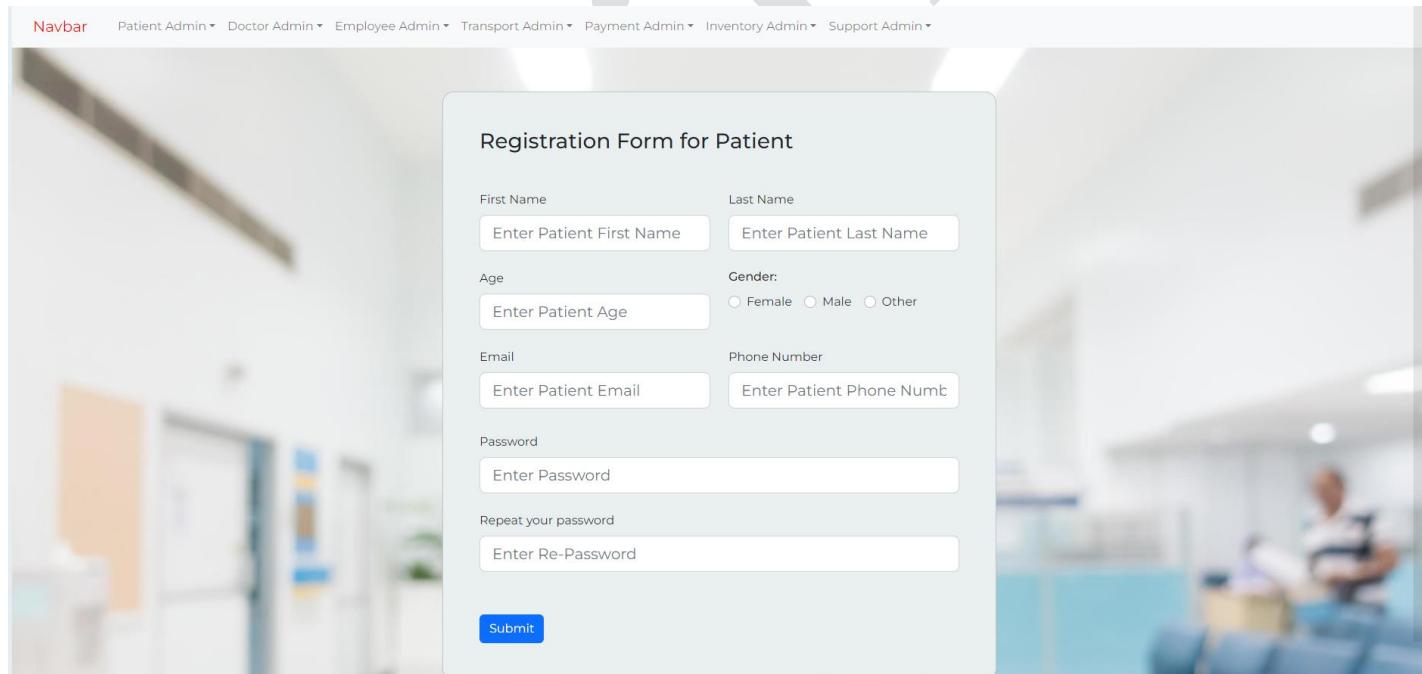
Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Search...

ID	First Name	Last Name	Age	Gender	Phone Number	Email	Password	Delete/Update
1	Manula	Gunatileke	21	Male	705883826	it21321436@my.sliit.lk	MyPass123	 UPDATE  DELETE
2	Chamuth	Dilshan	21	Male	705895632	chamuth.d@gmail.com	ChamuthD123	 UPDATE  DELETE
3	Test3	1st	26	Male	702882614	Test.3@gmail.com	Test3Done	 UPDATE  DELETE
4	Test4	2nd	25	Female	705895634	Test.4@gmail.com	Test4Done	 UPDATE  DELETE

Add New Patient Download Patient report now!

Figure 3.3.1.15. Patient Details



Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Registration Form for Patient

First Name Last Name

Age Gender: Female Male Other

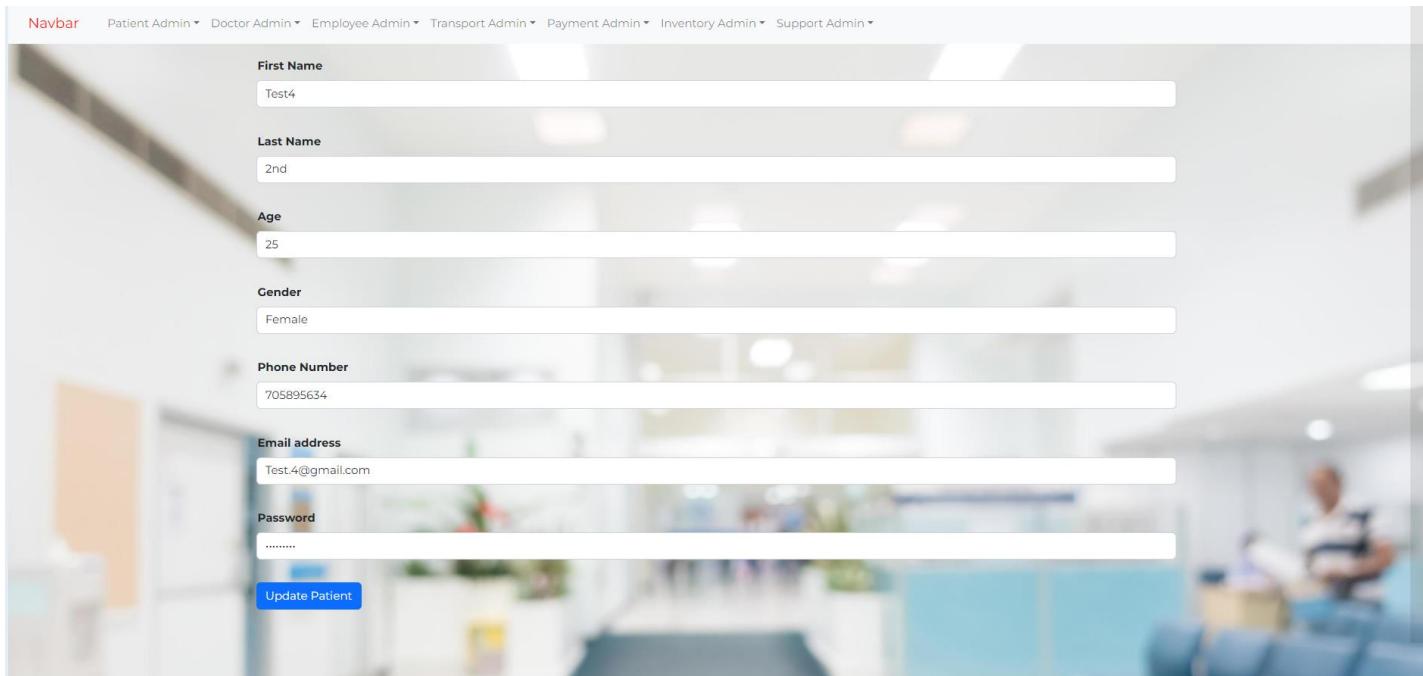
Email Phone Number

Password

Repeat your password

Figure 3.3.1.16. Patient Registration Form

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A screenshot of a patient update form. The form includes fields for First Name (Test4), Last Name (2nd), Age (25), Gender (Female), Phone Number (705895634), Email address (Test.4@gmail.com), and Password (.....). A blue 'Update Patient' button is at the bottom. The background shows a blurred hospital lobby.

Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

First Name
Test4

Last Name
2nd

Age
25

Gender
Female

Phone Number
705895634

Email address
Test.4@gmail.com

Password
.....

Update Patient

Figure 3. 3. 1. 17. Patient Update Form

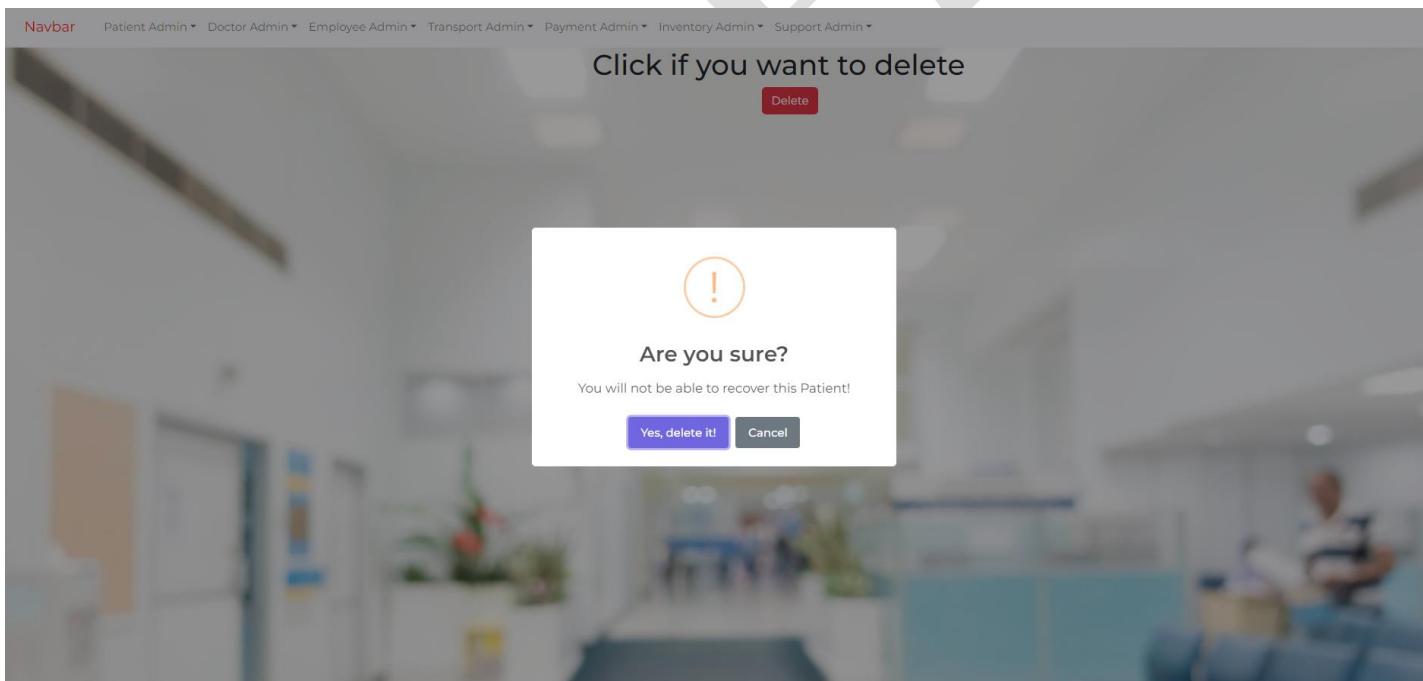


Figure 3. 3. 1. 18. Patient Delete After Clicked Delete Button in Patient Details Page

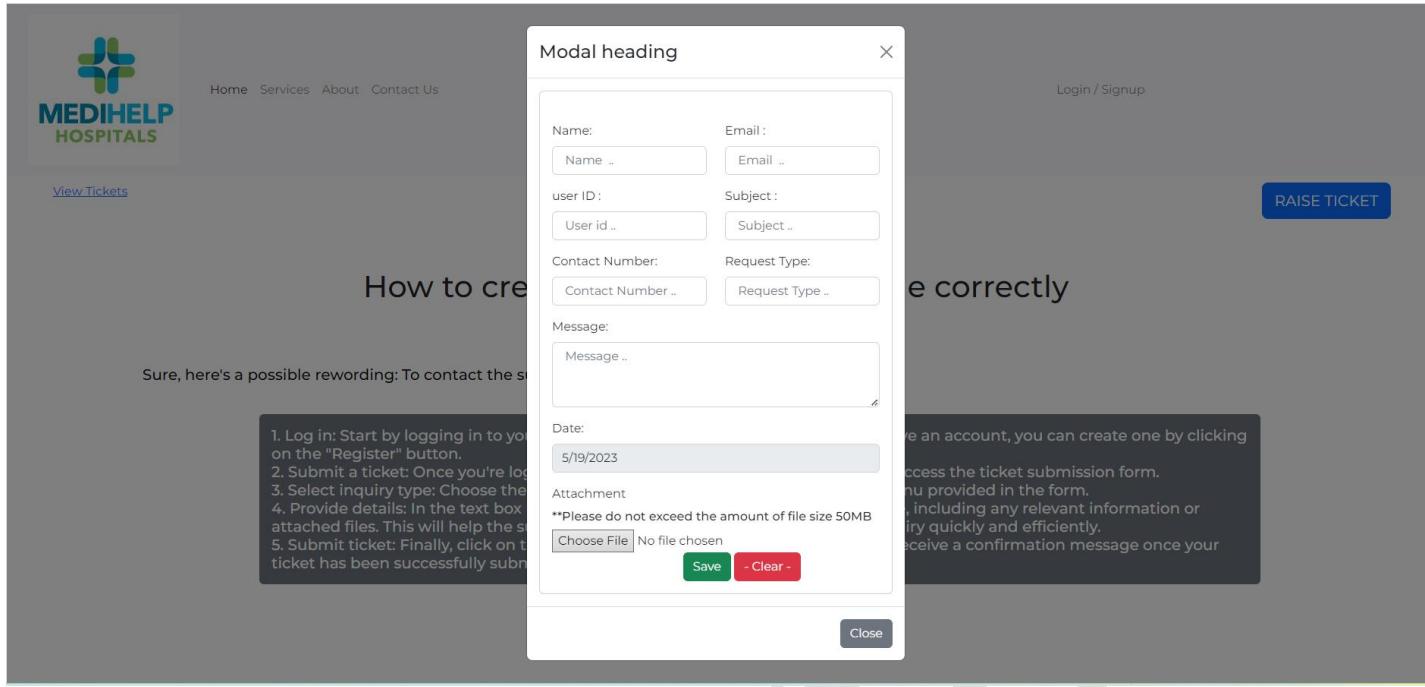


Figure 3. 3. 2. 1. Add Ticket Form

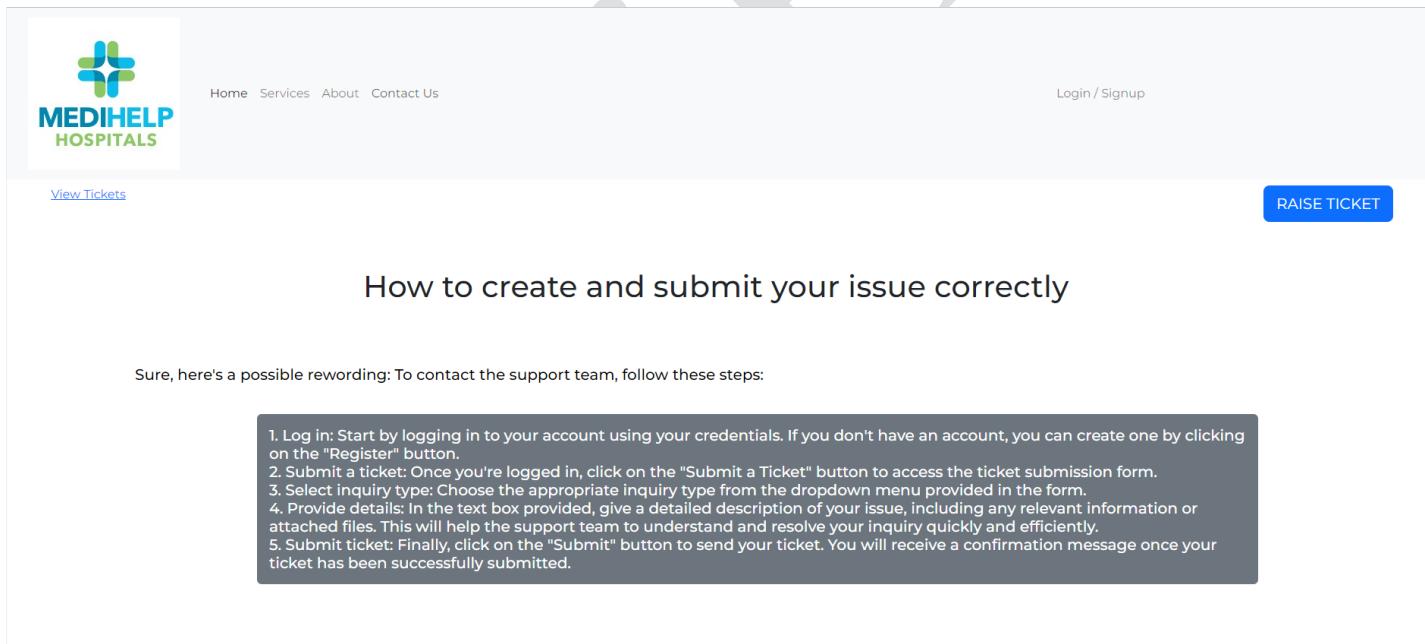
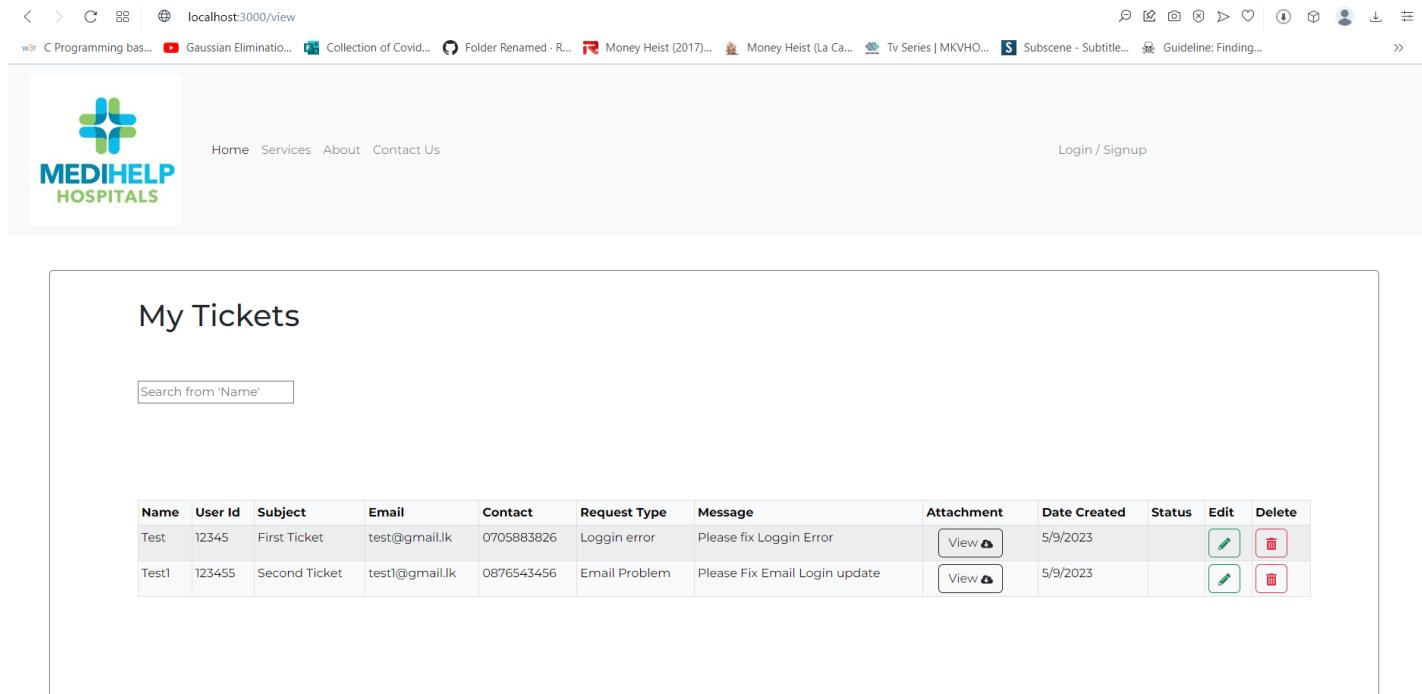


Figure 3. 3. 2. 2. Contact Us Page UI

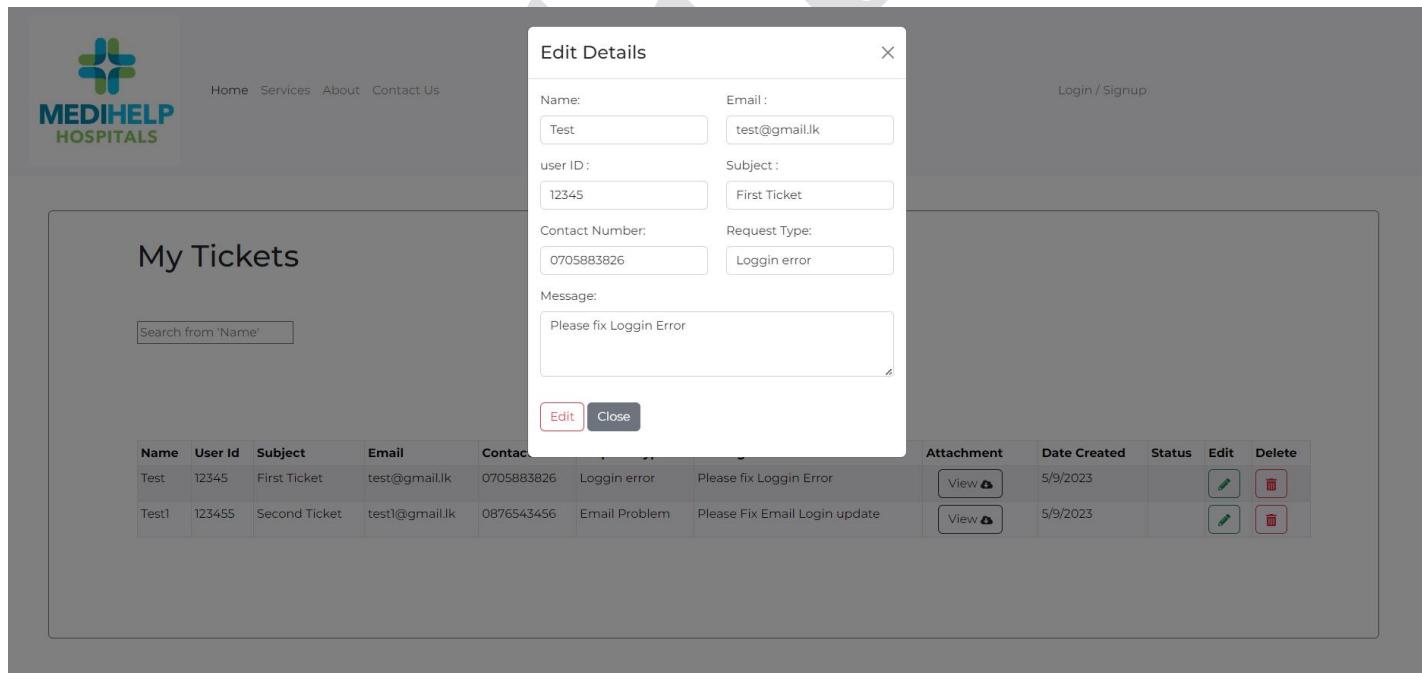
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The screenshot shows a web browser window with the URL `localhost:3000/view`. The page is titled "My Tickets" and features a search bar. Below the search bar is a table with two rows of ticket data. The columns are: Name, User Id, Subject, Email, Contact, Request Type, Message, Attachment, Date Created, Status, Edit, and Delete. The first ticket is for "Test" (User Id 12345) with the subject "First Ticket" and message "Please fix Loggin error". The second ticket is for "Test1" (User Id 123455) with the subject "Second Ticket" and message "Please Fix Email Login update".

Name	User Id	Subject	Email	Contact	Request Type	Message	Attachment	Date Created	Status	Edit	Delete
Test	12345	First Ticket	test@gmail.lk	0705883826	Loggin error	Please fix Loggin Error	View	5/9/2023		Edit	Delete
Test1	123455	Second Ticket	test1@gmail.lk	0876543456	Email Problem	Please Fix Email Login update	View	5/9/2023		Edit	Delete

Figure 3. 3. 2. 3. View Tickets UI



The screenshot shows a modal window titled "Edit Details" over a background of the "My Tickets" page. The modal contains fields for Name, Email, user ID, Subject, Contact Number, Request Type, and Message. The message field contains the text "Please fix Loggin Error". At the bottom of the modal are "Edit" and "Close" buttons. The background shows the same ticket list as the previous screenshot.

Name	User Id	Subject	Email	Contact	Request Type	Message	Attachment	Date Created	Status	Edit	Delete
Test	12345	First Ticket	test@gmail.lk	0705883826	Loggin error	Please fix Loggin Error	View	5/9/2023		Edit	Delete
Test1	123455	Second Ticket	test1@gmail.lk	0876543456	Email Problem	Please Fix Email Login update	View	5/9/2023		Edit	Delete

Figure 3. 3. 2. 4. Update Ticket Form

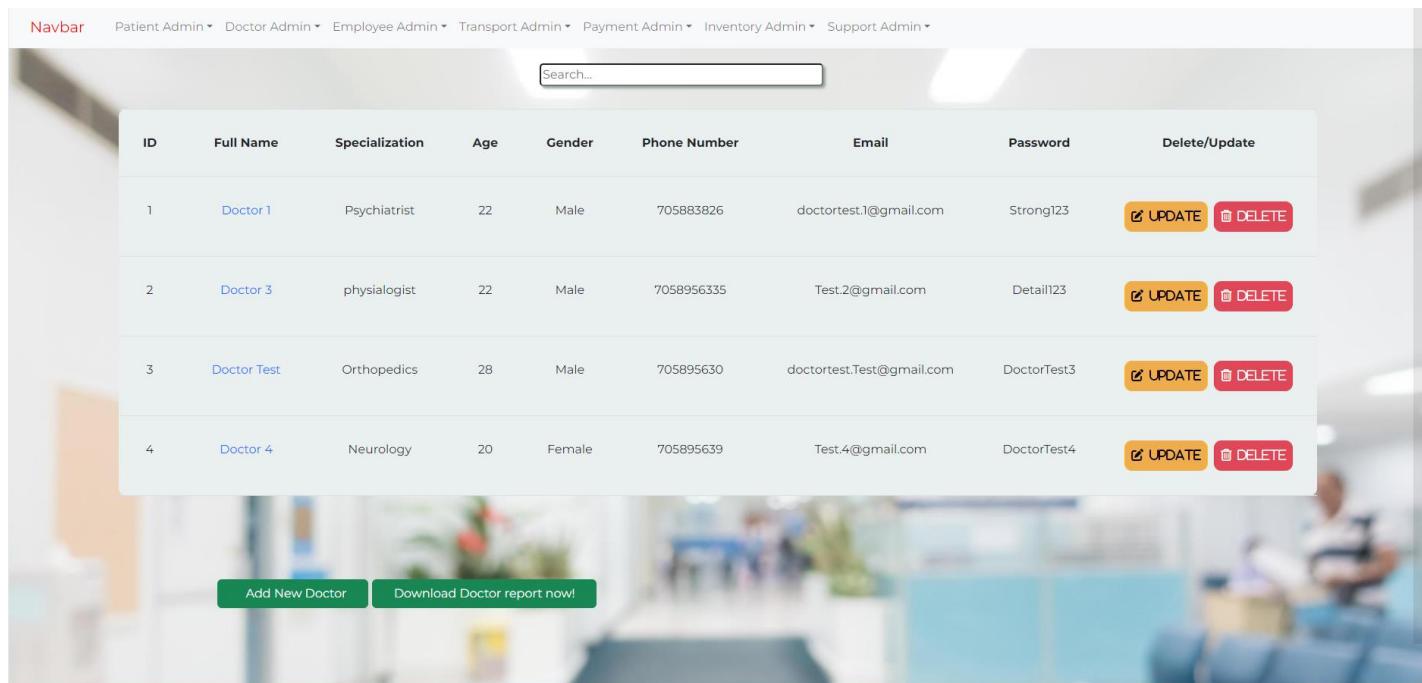
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The screenshot shows a web application interface. At the top, there is a navigation bar with links: 'C Programming bas...', 'Gaussian Eliminatio...', 'Collection of Covid...', 'Folder R...', 'Would you like the password manager to save the password for "localhost:3000"?', 'MKVHO...', 'Subscene - Subtitle...', 'Guideline: Finding...', 'Save', 'Never', and a close button 'X'. Below the navigation bar, the header features the 'MEDIHELP HOSPITALS' logo, a search bar, and links for 'Home', 'Services', 'About', 'Contact Us', and 'Login / Signup'. A modal dialog box is centered, displaying the message 'localhost:3000 says' and 'Deleted Successfully' with an 'OK' button. The main content area is titled 'My Tickets' and contains a search bar 'Search from 'Name''. Below the search bar is a table with the following data:

Name	User Id	Subject	Email	Contact	Request Type	Message	Attachment	Date Created	Status	Edit	Delete
Test	12345	First Ticket	test@gmail.lk	0705883826	Loggin error	Please fix Loggin Error	View	5/9/2023	Open		

Figure 3. 3. 2. 5. Delete Ticket

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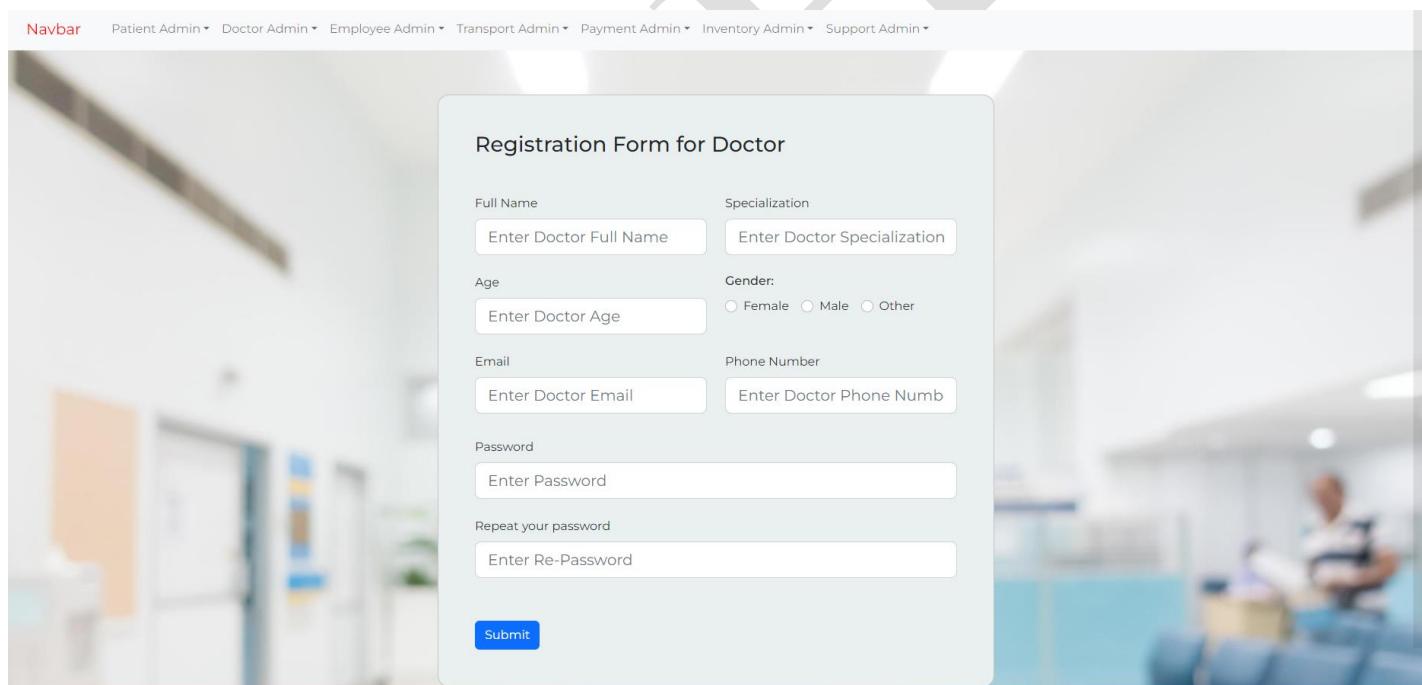
Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Search...

ID	Full Name	Specialization	Age	Gender	Phone Number	Email	Password	Delete/Update
1	Doctor 1	Psychiatrist	22	Male	705883826	doctortest.1@gmail.com	Strong123	 UPDATE  DELETE
2	Doctor 3	physiologist	22	Male	705895635	Test.2@gmail.com	Detail123	 UPDATE  DELETE
3	Doctor Test	Orthopedics	28	Male	705895630	doctortest.Test@gmail.com	DoctorTest3	 UPDATE  DELETE
4	Doctor 4	Neurology	20	Female	705895639	Test.4@gmail.com	DoctorTest4	 UPDATE  DELETE

Add New Doctor Download Doctor report now!

Figure 3. 3. 3. 1. Doctor Details



Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Registration Form for Doctor

Full Name Specialization

Age Gender: Female Male Other

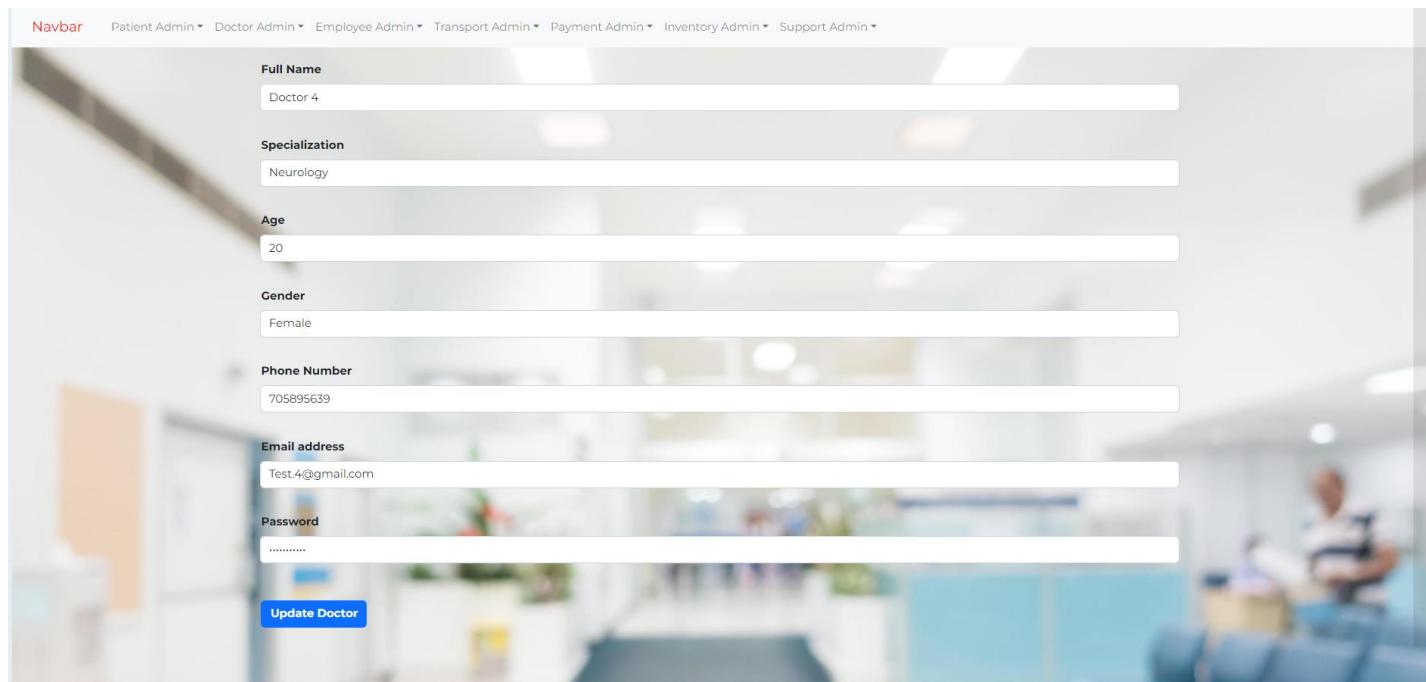
Email Phone Number

Password

Repeat your password

Figure 3. 3. 3. 2. Doctor Registration Form

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A screenshot of a web-based application for updating doctor information. The page has a header with a 'Navbar' and links for Patient Admin, Doctor Admin, Employee Admin, Transport Admin, Payment Admin, Inventory Admin, and Support Admin. The main content area contains fields for 'Full Name' (Doctor 4), 'Specialization' (Neurology), 'Age' (20), 'Gender' (Female), 'Phone Number' (705895639), 'Email address' (Test.4@gmail.com), and 'Password' (a series of dots). A blue 'Update Doctor' button is at the bottom. The background is a blurred image of a hospital lobby.

Figure 3. 3. 3. 3. Doctor Update Form

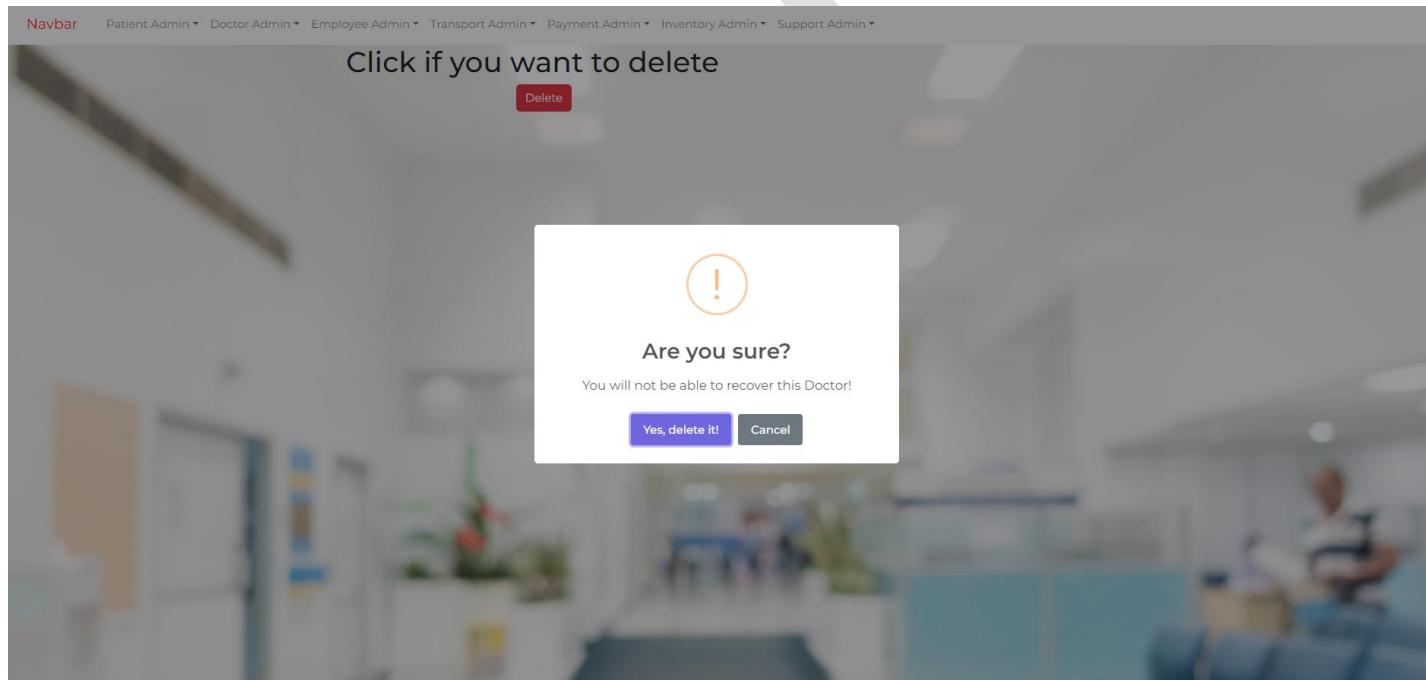


Figure 3. 3. 3. 4. Doctor Delete Form After Clicked Delete Button in Doctor Details Page

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Navbar PatientHome AdminHome Create Patient Create Admin All Appointments View Transport Add Transport Create Doctor [Download this video](#) DoctorHome Approval Employee list Employee Attendance PaymentHome AddPayment

Search Export to PDF

First Name	Last Name	DOB	Gender	Email	Phone Number	Address	City	Province	Postal	Position	Type of Work	CV	Additional Information
it2001	vimankith	Damitha	1999-06-02T00:00:00.000Z		1999-06-02T00:00:00.000Z	6-d/101/jayawadanagama	2022/03/29	colombo	2110	software engineer	both
it2001	vimankith	Damitha	1999-06-02T00:00:00.000Z	Wima@test.com	1999-06-02T00:00:00.000Z	6-d/101/jayawadanagama	2022/03/29	colombo	2110	software engineer	both
it2001	vimankith	Damitha	1999-06-02T00:00:00.000Z	Wima.tr@test.com	09876543211	6-d/101/jayawadanagama	2022/03/29	colombo	2110	software engineer	both
it2001	vimankith	Damitha	Male	Wima.tr@test.com	09876543211	6-d/101/jayawadanagama	2022/03/29	colombo	2110	software engineer	both
vimankithy	damitha	03/09/2001	male	damivima804@gmail.com	0764973240	6D/101 Jayawadanagama battaramulla	battaramulla	western	10121	software engineer	Permanent

Figure 3. 3. 4. 1. Employee Details

Navbar PatientHome AdminHome Create Patient Create Admin All Appointments View Transport Add Transport Create Doctor [Download this video](#) DoctorHome Approval Employee list Employee Attendance PaymentHome AddPayment

Search Export to PDF

Emp Code	Employee First Name	Employee Last Name	In Time	Out Time	Date
2001s	Shriyani	Textile	12:00	03:00	2023-05-09
2001ID	vimankith	perera	02:00	08:00	2023-05-09

Figure 3. 3. 4. 2. Employee Attendance

Navbar PatientHome AdminHome Create Patient Create Admin All Appointments View Transport Add Transport Create Doctor [Download this video](#) DoctorHome Approval Employee list Employee Attendance PaymentHome AddPayment

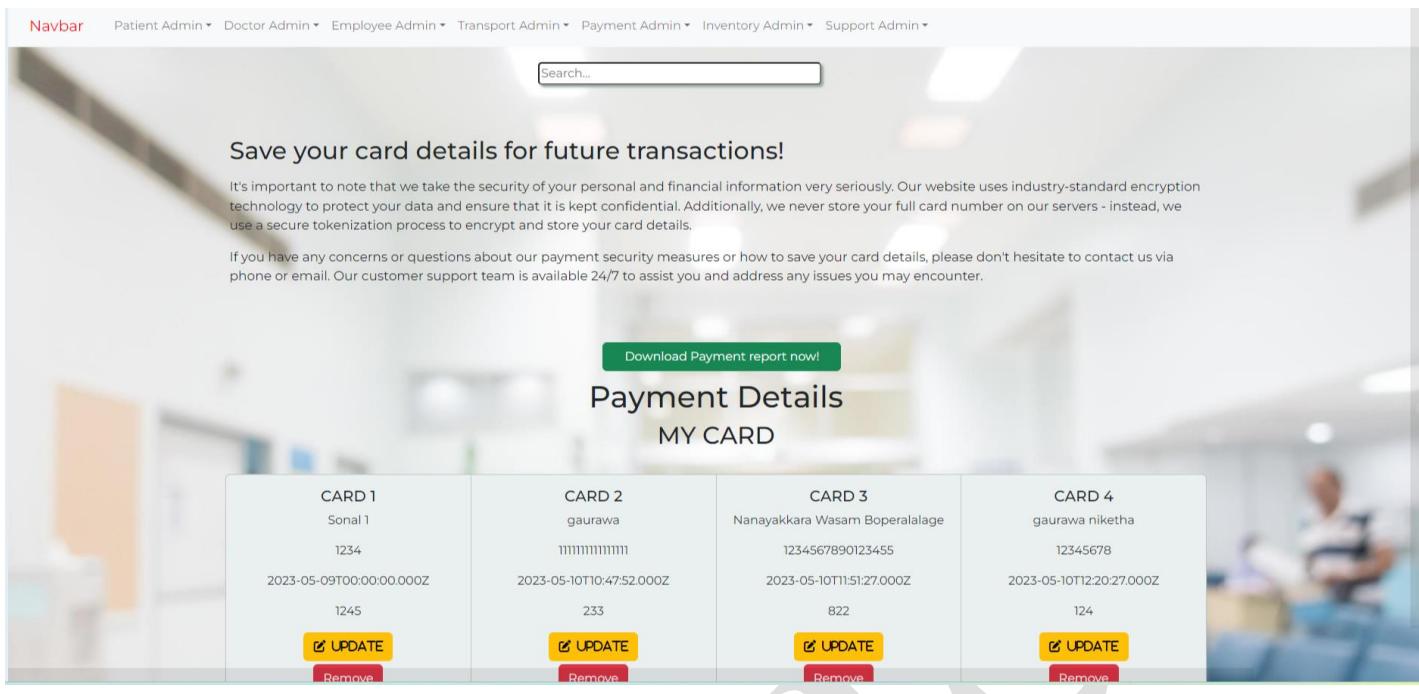
Employee Id enter first name

Employee Email enter first name

Message to be sent to the employee enter first name

Figure 3. 3. 4. 3. Employee Approval

Chapter 3 | Design and Development



Save your card details for future transactions!

It's important to note that we take the security of your personal and financial information very seriously. Our website uses industry-standard encryption technology to protect your data and ensure that it is kept confidential. Additionally, we never store your full card number on our servers - instead, we use a secure tokenization process to encrypt and store your card details.

If you have any concerns or questions about our payment security measures or how to save your card details, please don't hesitate to contact us via phone or email. Our customer support team is available 24/7 to assist you and address any issues you may encounter.

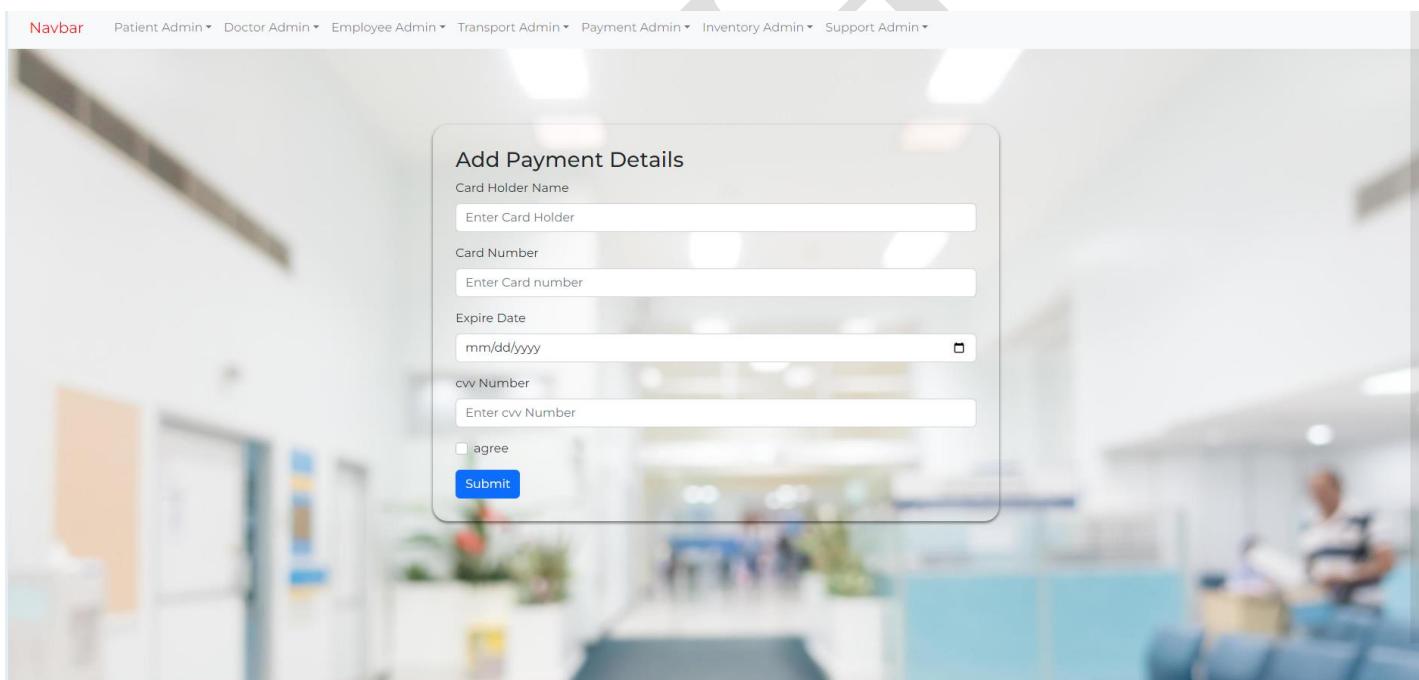
[Download Payment report now!](#)

Payment Details

MY CARD

CARD 1	CARD 2	CARD 3	CARD 4
Sonal1 1234 2023-05-09T00:00:00.000Z	gaurawa 111111111111 2023-05-10T10:47:52.000Z	Nanayakkara Wasam Boperalalage 1234567890123455 2023-05-10T11:51:27.000Z	gaurawa niketha 12345678 2023-05-10T12:20:27.000Z
1245 [✓] UPDATE Remove	233 [✓] UPDATE Remove	822 [✓] UPDATE Remove	124 [✓] UPDATE Remove

Figure 3. 3. 5. 1. Payment Details



Add Payment Details

Card Holder Name

Card Number

Expire Date

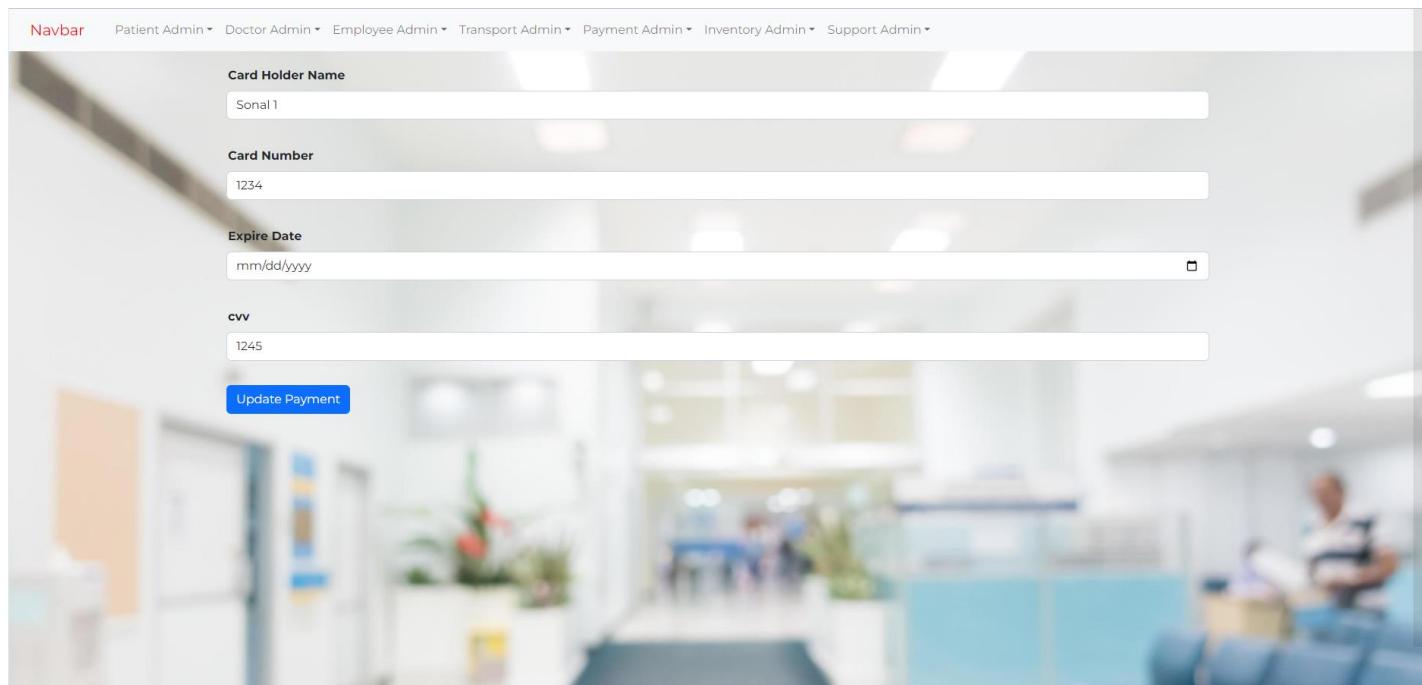
cvv Number

agree

[Submit](#)

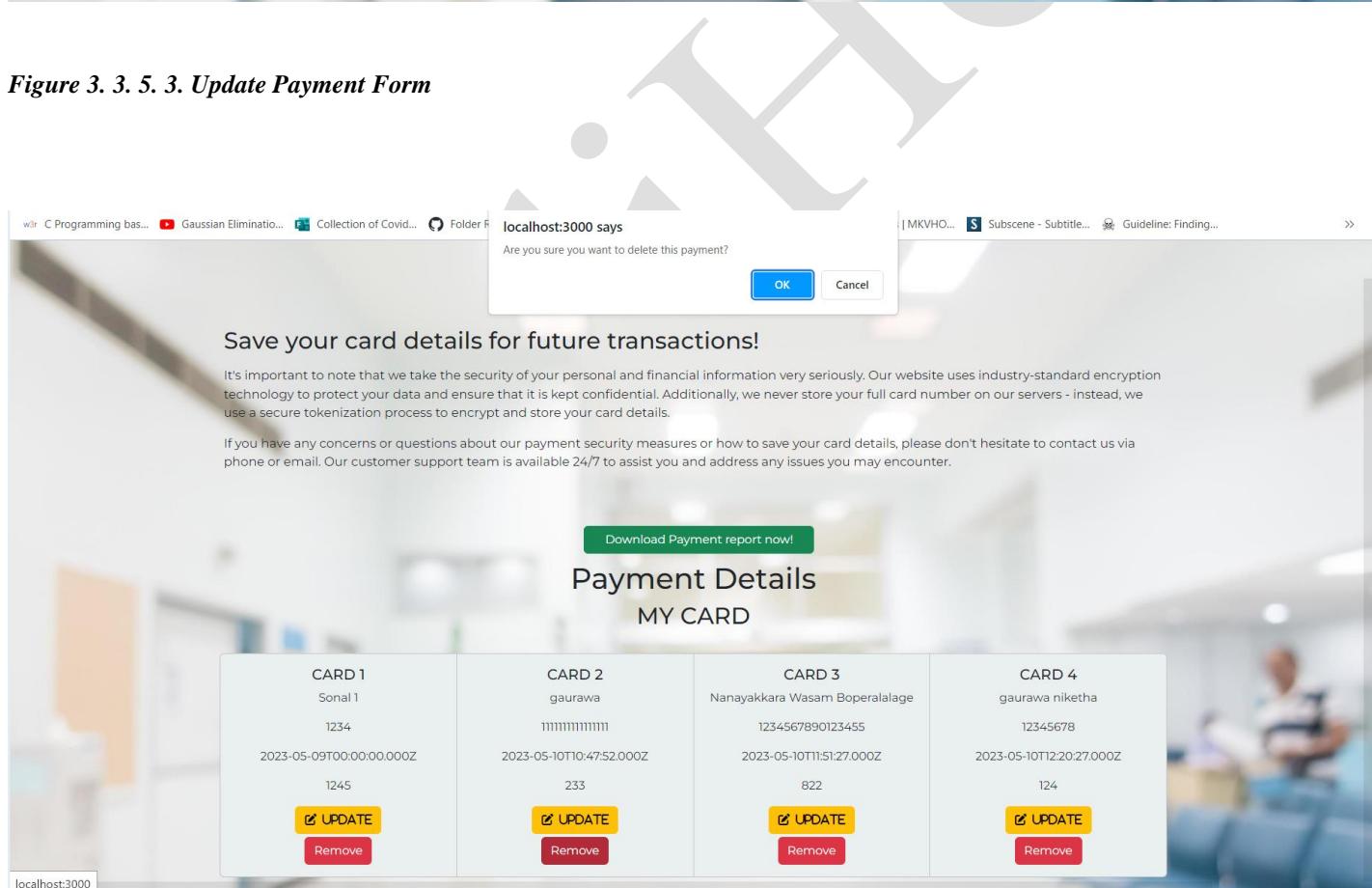
Figure 3. 3. 5. 2. Add Payment Form

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A screenshot of a web-based payment form. The form includes fields for 'Card Holder Name' (Sonal1), 'Card Number' (1234), 'Expire Date' (mm/dd/yyyy), and 'cvv' (1245). A blue 'Update Payment' button is at the bottom. The background shows a blurred view of a hospital lobby.

Figure 3. 3. 5. 3. Update Payment Form



A screenshot of a web browser showing a confirmation dialog box. The dialog box asks, "localhost:3000 says Are you sure you want to delete this payment?". It has "OK" and "Cancel" buttons. The background shows a blurred view of a hospital lobby.

Save your card details for future transactions!

It's important to note that we take the security of your personal and financial information very seriously. Our website uses industry-standard encryption technology to protect your data and ensure that it is kept confidential. Additionally, we never store your full card number on our servers - instead, we use a secure tokenization process to encrypt and store your card details.

If you have any concerns or questions about our payment security measures or how to save your card details, please don't hesitate to contact us via phone or email. Our customer support team is available 24/7 to assist you and address any issues you may encounter.

Download Payment report now!

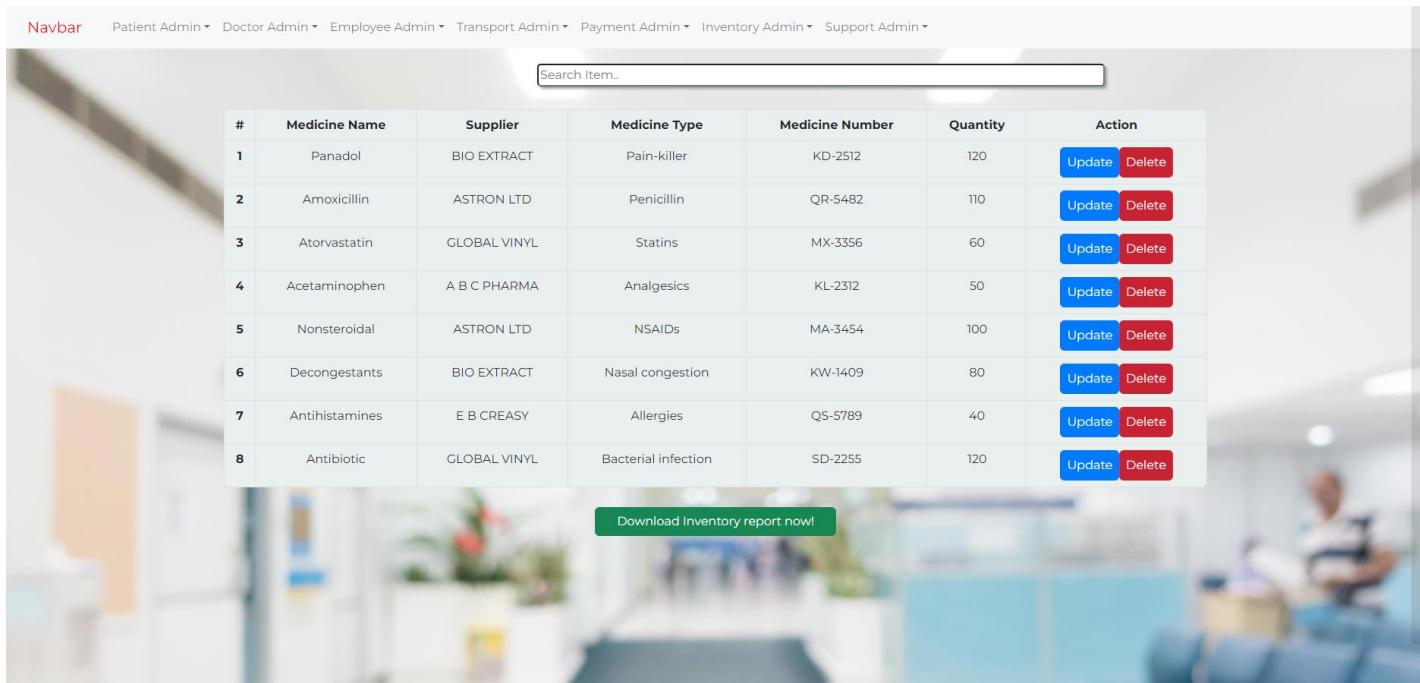
Payment Details

MY CARD

CARD 1	CARD 2	CARD 3	CARD 4
Sonal1 1234 2023-05-09T00:00:00.000Z 1245 [?] UPDATE Remove	gaurawa 111111111111 2023-05-10T10:47:52.000Z 233 [?] UPDATE Remove	Nanayakkara Wasam Boperalalage 1234567890123455 2023-05-10T11:51:27.000Z 822 [?] UPDATE Remove	gaurawa niketha 12345678 2023-05-10T12:20:27.000Z 124 [?] UPDATE Remove

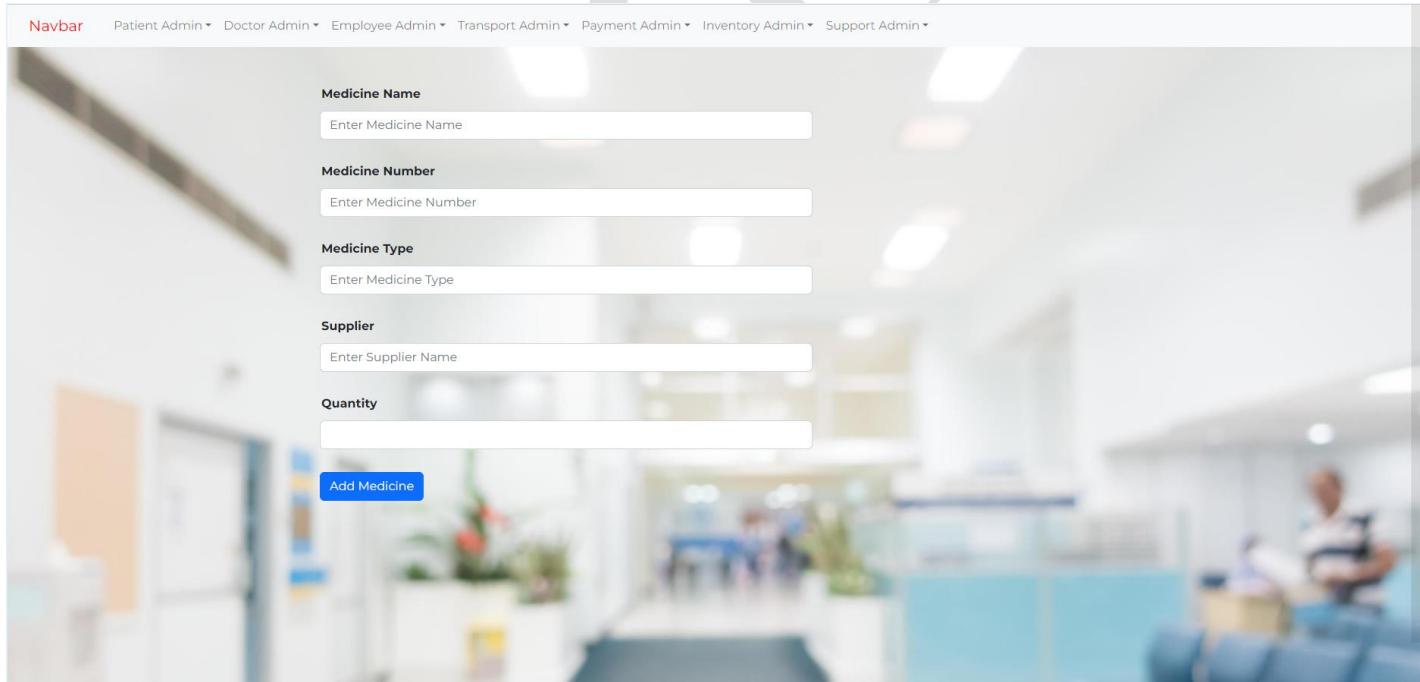
Figure 3. 3. 5. 4. Delete Payment Record

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#	Medicine Name	Supplier	Medicine Type	Medicine Number	Quantity	Action
1	Panadol	BIO EXTRACT	Pain-killer	KD-2512	120	Update Delete
2	Amoxicillin	ASTRON LTD	Penicillin	QR-5482	110	Update Delete
3	Atorvastatin	GLOBAL VINYL	Statins	MX-3356	60	Update Delete
4	Acetaminophen	A B C PHARMA	Analgesics	KL-2312	50	Update Delete
5	Nonsteroidal	ASTRON LTD	NSAIDs	MA-3454	100	Update Delete
6	Decongestants	BIO EXTRACT	Nasal congestion	KW-1409	80	Update Delete
7	Antihistamines	E B CREASY	Allergies	QS-5789	40	Update Delete
8	Antibiotic	GLOBAL VINYL	Bacterial infection	SD-2255	120	Update Delete

Figure 3. 3. 6. 1. Inventory Details



Medicine Name

Medicine Number

Medicine Type

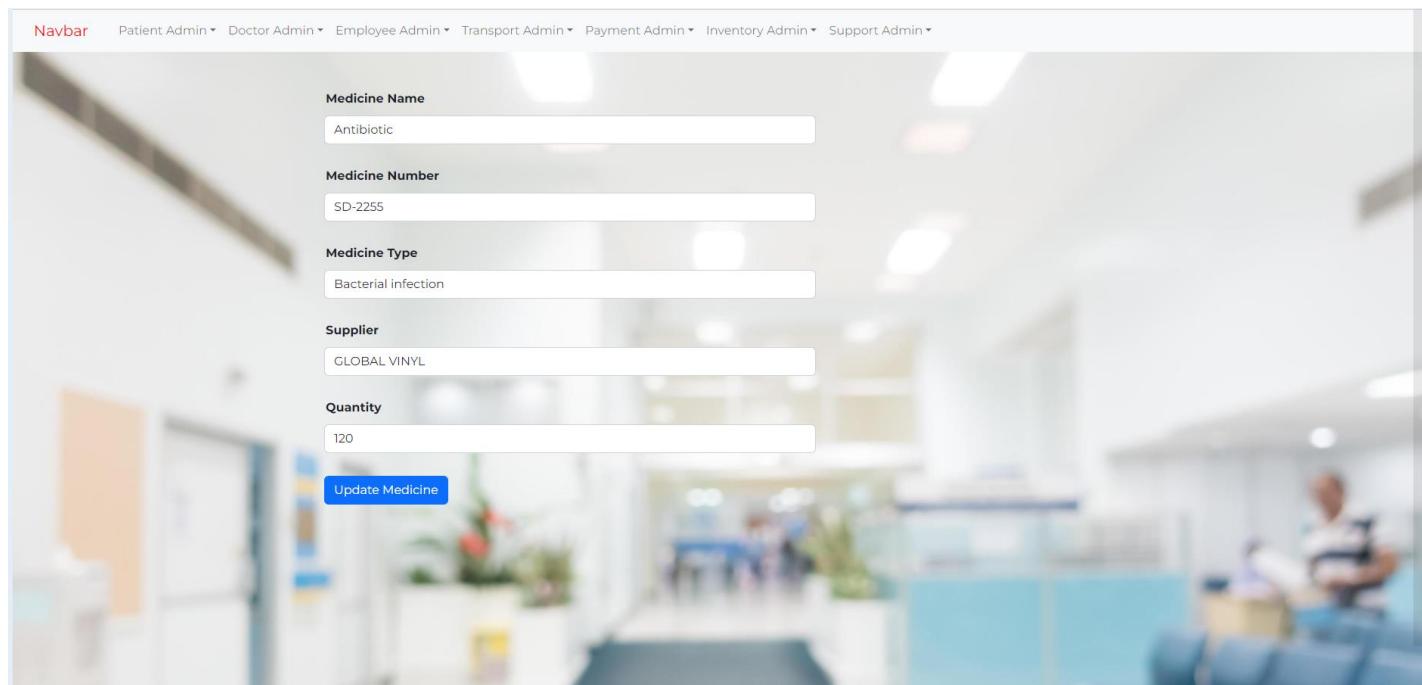
Supplier

Quantity

[Add Medicine](#)

Figure 3. 3. 6. 2. Add Inventory Form

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Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Medicine Name: Antibiotic

Medicine Number: SD-2255

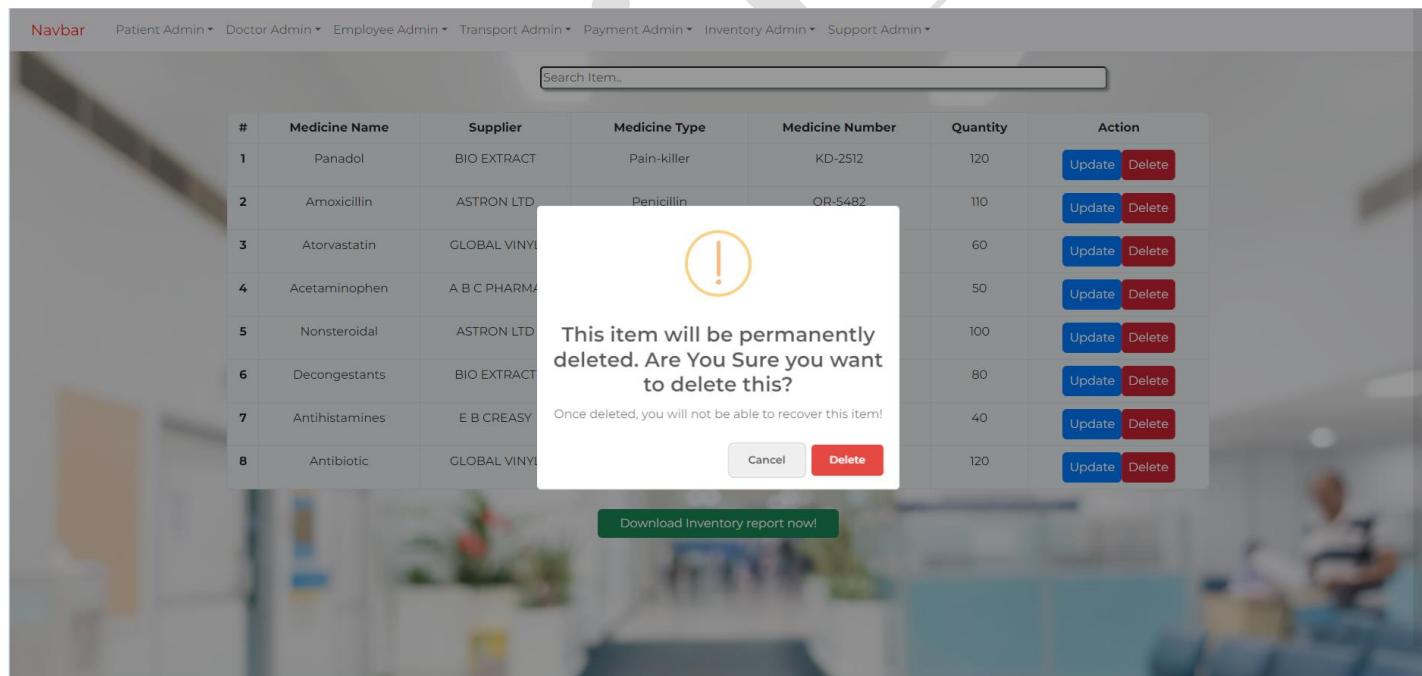
Medicine Type: Bacterial infection

Supplier: GLOBAL VINYL

Quantity: 120

Update Medicine

Figure 3. 3. 6. 3. Update Inventory Form



Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Search Item...

#	Medicine Name	Supplier	Medicine Type	Medicine Number	Quantity	Action
1	Panadol	BIO EXTRACT	Pain-killer	KD-2512	120	Update Delete
2	Amoxicillin	ASTRON LTD	Penicillin	OR-5482	110	Update Delete
3	Atorvastatin	GLOBAL VINYL			60	Update Delete
4	Acetaminophen	A B C PHARMA			50	Update Delete
5	Nonsteroidal	ASTRON LTD			100	Update Delete
6	Decongestants	BIO EXTRACT			80	Update Delete
7	Antihistamines	E B CREAMY			40	Update Delete
8	Antibiotic	GLOBAL VINYL			120	Update Delete

! This item will be permanently deleted. Are You Sure you want to delete this?

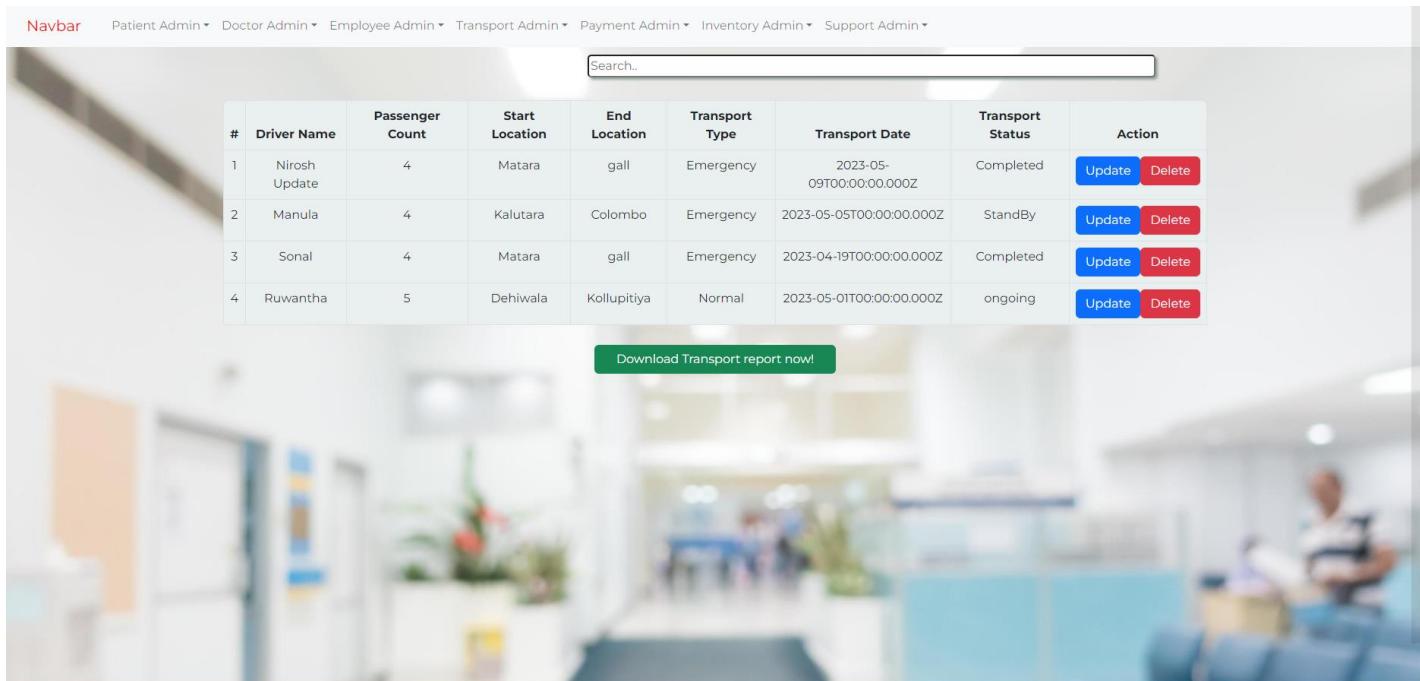
Once deleted, you will not be able to recover this item!

Cancel **Delete**

Download Inventory report now!

Figure 3. 3. 6. 4. Delete Inventory Item

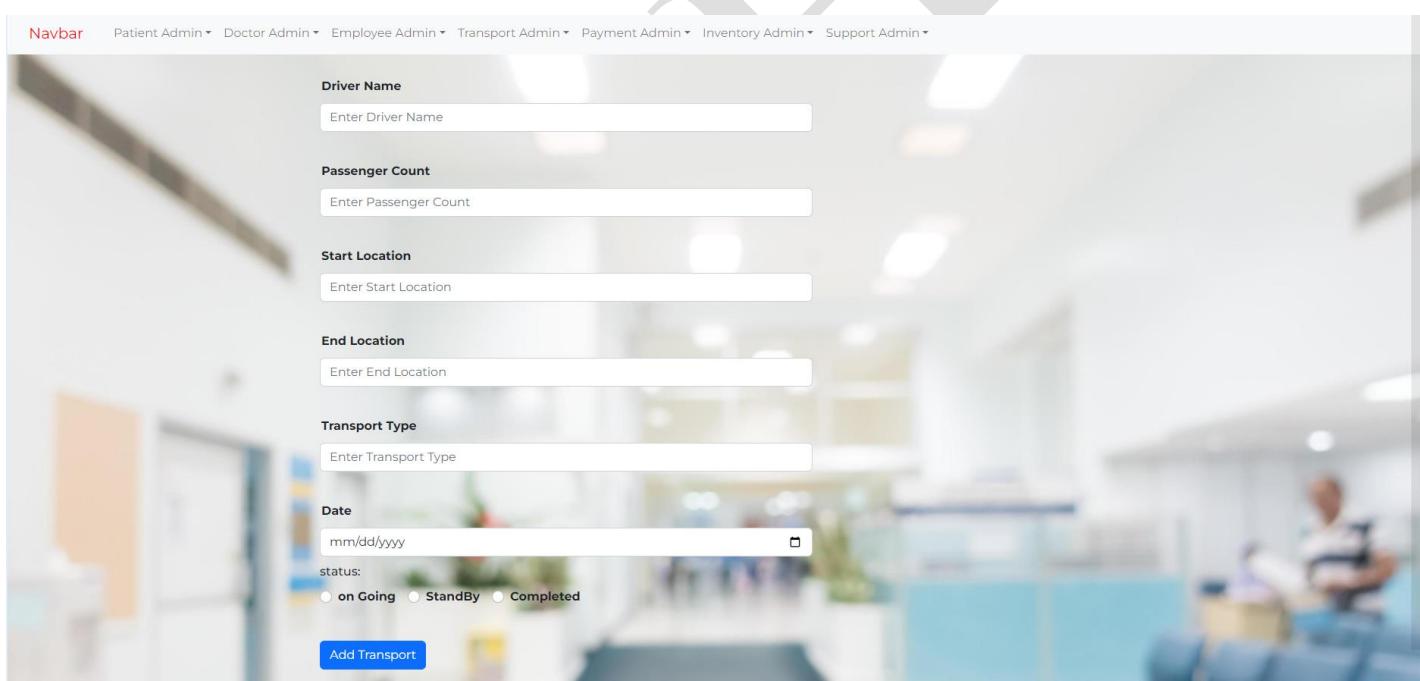
Chapter 3 | Design and Development



#	Driver Name	Passenger Count	Start Location	End Location	Transport Type	Transport Date	Transport Status	Action
1	Nirosh Update	4	Matara	gall	Emergency	2023-05-09T00:00:00.000Z	Completed	<button>Update</button> <button>Delete</button>
2	Manula	4	Kalutara	Colombo	Emergency	2023-05-05T00:00:00.000Z	StandBy	<button>Update</button> <button>Delete</button>
3	Sonal	4	Matara	gall	Emergency	2023-04-19T00:00:00.000Z	Completed	<button>Update</button> <button>Delete</button>
4	Ruwantha	5	Dehiwala	Kollupitiya	Normal	2023-05-01T00:00:00.000Z	ongoing	<button>Update</button> <button>Delete</button>

[Download Transport report now!](#)

Figure 3.3.7.1. Transport Details



Driver Name

Passenger Count

Start Location

End Location

Transport Type

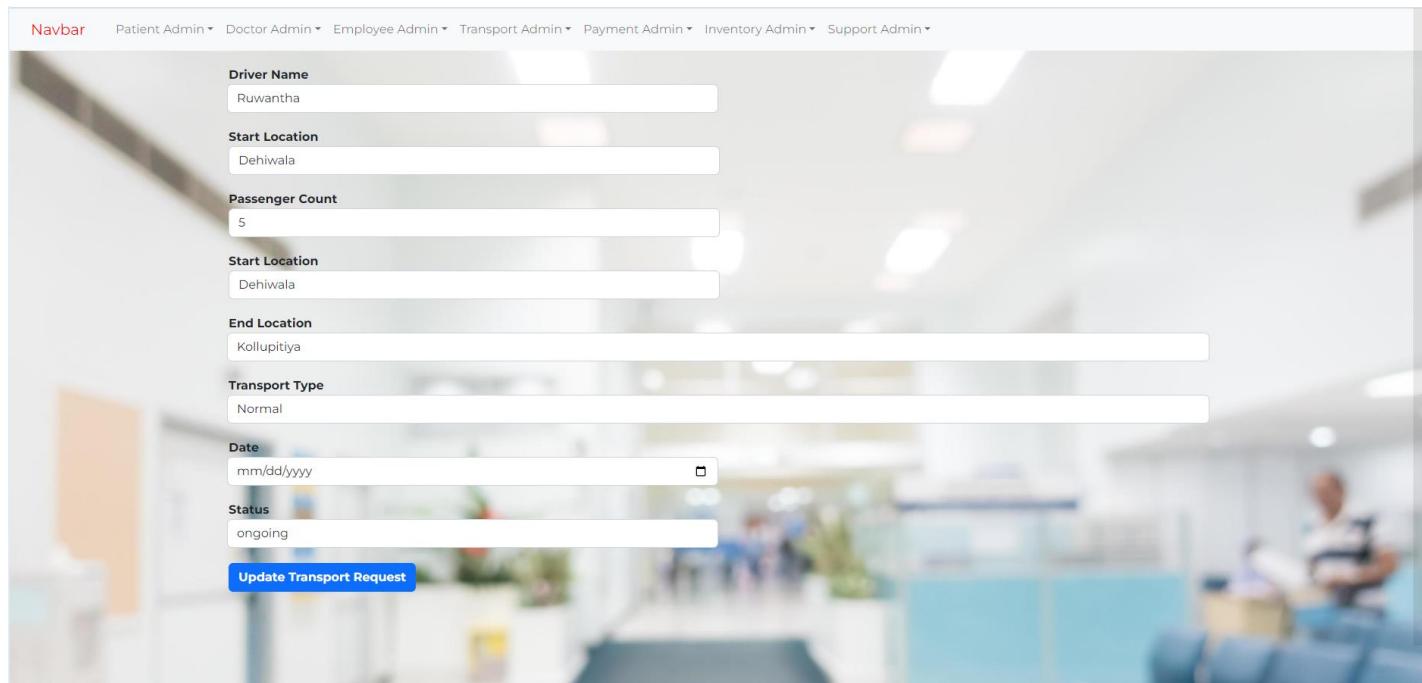
Date

status:
 on Going StandBy Completed

Add Transport

Figure 3.3.7.2. Add Transport Form

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Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Driver Name
Ruwantha

Start Location
Dehiwala

Passenger Count
5

Start Location
Dehiwala

End Location
Kollupitiya

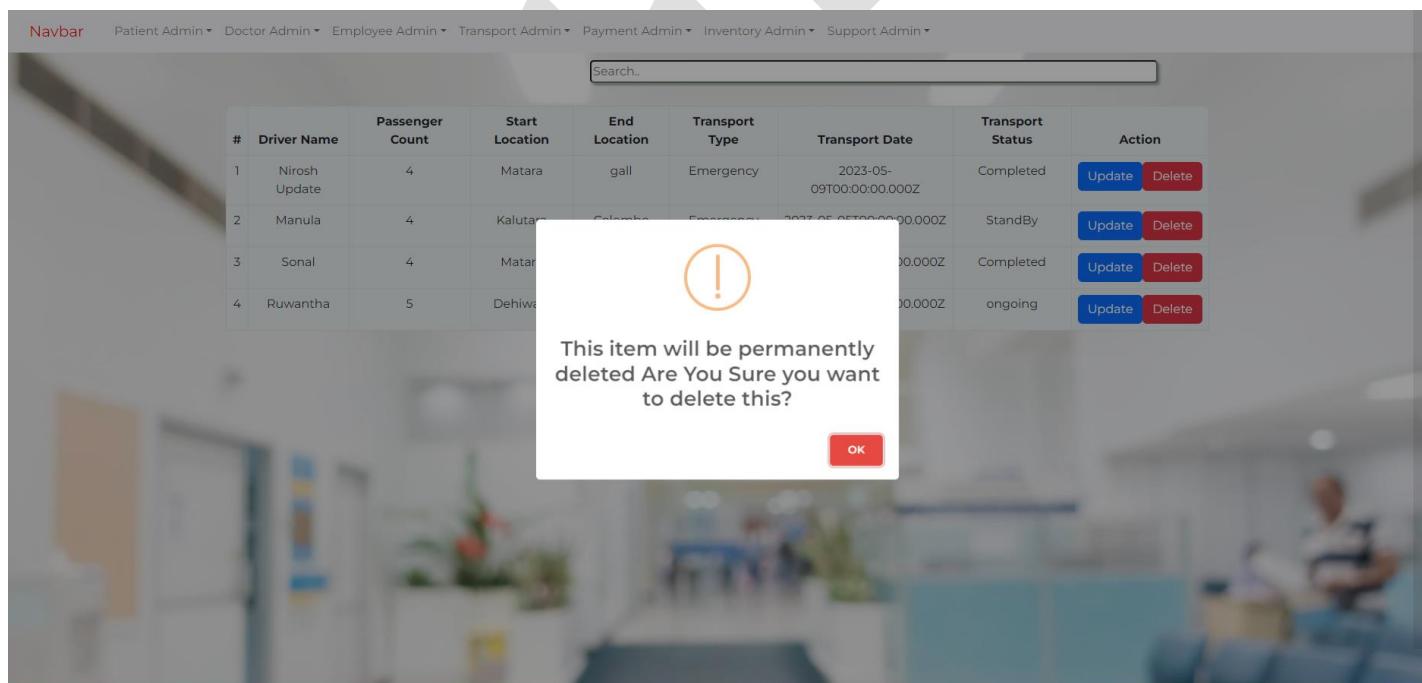
Transport Type
Normal

Date
mm/dd/yyyy

Status
ongoing

Update Transport Request

Figure 3. 3. 7. 3. Update Transport Form



Navbar Patient Admin ▾ Doctor Admin ▾ Employee Admin ▾ Transport Admin ▾ Payment Admin ▾ Inventory Admin ▾ Support Admin ▾

Search..

#	Driver Name	Passenger Count	Start Location	End Location	Transport Type	Transport Date	Transport Status	Action
1	Nirosh Update	4	Matara	gall	Emergency	2023-05-09T00:00:00.000Z	Completed	Update Delete
2	Manula	4	Kalutara	Matara	Normal	2023-05-09T00:00:00.000Z	StandBy	Update Delete
3	Sonal	4	Matara	gall	Normal	2023-05-09T00:00:00.000Z	Completed	Update Delete
4	Ruwantha	5	Dehiwala	gall	Normal	2023-05-09T00:00:00.000Z	ongoing	Update Delete

!

This item will be permanently deleted Are You Sure you want to delete this?

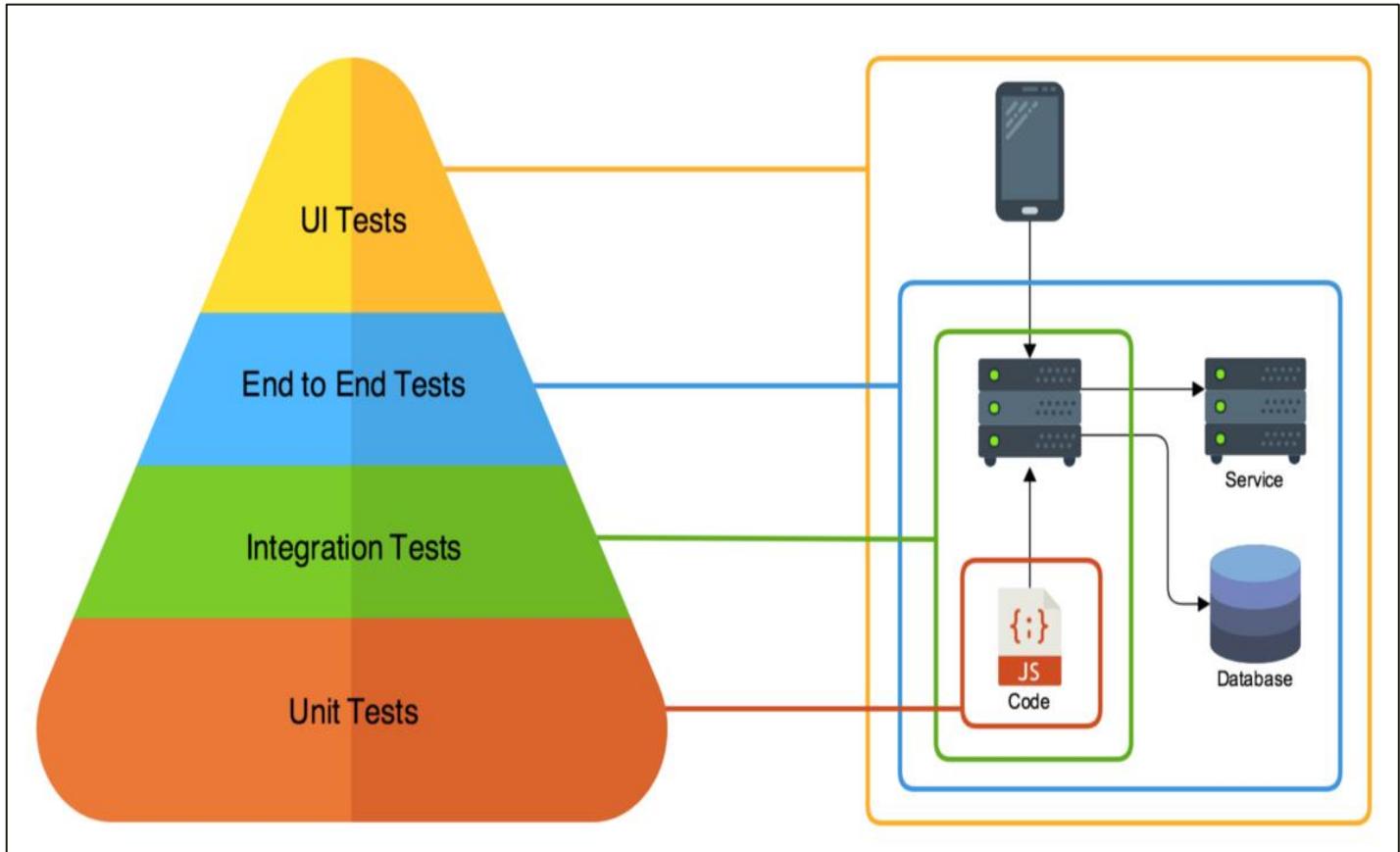
OK

Figure 3. 3. 7. 4. Delete Transport Record

Implementation

- During the implementation phase, the team brought the plans to life by coding the modules using Bootstrap and Visual Studio Code. They chose Mongo DB as the database system to store real-time data.
- In the implementation, the team wrote the necessary queries to access the database and saved them in a shared folder. They reused certain methods multiple times to retrieve specific information from the database.
- The implemented modules for hospital management include Pharmacy Management, Patient Appointment System, Employee Management System, Inventory Management, Patient Services Management, Doctor Management System, Helpdesk and Support Management System, Payment Management System, and Transport Management System. These modules were further divided into smaller sections for better organization.
- To ensure the accuracy of the data, the team implemented data validations during the coding process. This

Testing



The Hospital Management System will undergo testing using two methods to ensure a reliable and user-friendly system. The main objective of this phase is to create a system that performs well and meets user expectations. The primary goal of testing is to identify errors in a systematic and efficient manner.

Testing is the process of executing a program with the aim of finding errors. A good test is one that has a high chance of detecting an error if it exists. However, tests may not be able to uncover all potential errors.

1. Testing Plan:

First, an inspection is performed, followed by white box testing conducted by the programmer.

2. Testing Strategy:

For white box testing, all statements are checked for logical correctness.

3. Levels of Testing:

Different levels of testing are conducted to uncover errors at various stages. The basic levels of testing are:

- Unit Testing:

Each software unit is individually tested to validate its proper functioning.

- Integration Testing:

Integration testing involves combining and testing individual units to ensure they function correctly when integrated. This type of testing focuses on identifying defects in interfaces and interactions between components.

- System Testing:

System testing validates the complete and fully integrated software product. It aims to evaluate the end-to-end system specifications. This testing encompasses a series of tests that exercise the entire computer-based system.

- Acceptance Testing:

Acceptance testing is typically performed near the end of the project. It determines whether the project will be accepted by the system users. The users of the system are responsible for conducting this test, which qualifies the project for acceptance.

The system testing phase is crucial as it quickly identifies errors and examines the system's behavior under specific test

Testing Functions

Test case ID: MH_01

Test Designed by: Gunatilleke M. B. D. S

Test Title: Appointment Schedule

Test Priority (High/Medium/Low): High

Description: Test if the relevant Doctor data is fetched and after schedule Appointment whether that all data goes to the database with verified records

Precondition: Doctor Details Must be Fetched to the Form from DB & User Must Login as a Patient

Test Steps:

1. Login to the System as a Patient
2. Search Appointment Schedule Card view in the page Our Services Section
3. In that Card Click “Search” button
4. After that search a random doctor and click “Schedule Appointment” button from the redirected doctor details page
5. Fill with the relevant data in Appointment Schedule Form that have and auto filled Doctor Section
6. Click The “Next” button to redirect Payment Page

Table 4. 1. 1. Function test for Appointment Scheduling

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_01	Name: Ranbanda Doctor: Auto Fill Age: 26 Gender: Male Email: ranbanda.k@gmail.com Phone Number: 0705883826	Redirect to the Payment Page	Redirect to the Payment Page	Pass	Doctor field was auto filled
MH_01	Name: Doctor: Auto Fill Age: 26 Gender: Male Email: ranbanda.k@gmail.com Phone Number: 0705883826	Error Message Shows “Email must have a @ sign”	Error Message Shows “Email must have a @ sign”	Pass	Doctor field was auto filled

Test case ID: MH02**Test Designed by:** Gunatileke M. B. D. S**Test Title:** Patient Registration**Test Priority (High/Medium/Low):** High**Description:** Test Patient Registration Completed Successfully with validations**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Create Patient” item
3. Fill the Registration Form with using reasonable data
4. Click “Submit” button
5. Check Whether that inserted data goes to the database with using Admin panel “Create Patient” Dashboard

Table 4. 1. 2. Function test for Patient Registration

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_02	First Name: Chamuth Last Name: Dilshan Age: 22 Gender: Male Email: chamuth.d@gmail.com Phone Number: 0705895632 Password: ChamuthDilshan123 Re-Password: ChamuthDilshan123	Display “Patient Created “Notification”	Display “Patient Created “Notification”	Pass
MH_02	First Name: Chamuth Last Name: Dilshan Age: 22 Gender: Male Email: chamuth.d@gmail.com Phone Number: 0705895632 Password: ChamuthDilshan1 Re-Password: ChamuthDilshan123	Error Message Shows “Password Do not Match”	Error Message Shows “Password Do not Match”	Pass

Test case ID: MH03**Test Designed by:** Gunatileke M. B. D. S**Test Title:** Admin Registration**Test Priority (High/Medium/Low):** High**Description:** Test Admin Registration Completed Successfully with validations**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Create Admin” item
3. Fill the Registration Form with using reasonable data
4. Click “Submit” button
5. Check Whether that inserted data goes to the database with using Admin panel “Create Admin” Dashboard

Table 4. 1. 3. Function test for Admin Registration

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_03	First Name: Dinithi Last Name: Hansika Age: 21 Gender: Female Email: dinithi.h@gmail.com Phone Number: 0702882614 Password: DinithiHansika123 Re-Password: DinithiHansika123	Redirect to the Payment Page	Redirect to the Payment Page	Pass
MH_03	First Name: Dinithi Last Name: Hansika Age: 21 Gender: Female Email: dinithi.h@gmail.com Phone Number: 070288 Password: ChamuthDilshan1 Re-Password: ChamuthDilshan123	Error Message Shows “Please Enter a Valid Phone Number”	Error Message Shows “Please Enter a Valid Phone Number”	Pass

Test case ID: MH04**Test Designed by:** Gunatilleke M. B. D. S**Test Title:** Login Check**Test Priority (High/Medium/Low):** High**Description:** Test Login Function Working Correctly**Precondition:** Admin or Patient or Reception or Doctor Login Credentials**Test Steps:**

1. Fill the Login Form
2. Choose User Type before Login
3. Click “Login” button

Table 4. 1. 4. Function test for Login

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_04	Email address: it21321436@my.sliit.lk Password: MyPass123 User type: Patient	Redirect To the Patient Page	Redirect To the Patient Page	Pass

Test case ID: MH05**Test Designed by:** Gunatileke M. B. D. S**Test Title:** Patient Details Update**Test Priority (High/Medium/Low):** Medium**Description:** Test Patient Detail(s) Updated Successfully with validations**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Patient Home” item
3. Choose One Record and Click “Update” Button
4. Fill the Update Form with using reasonable data
5. Click “Update Patient” button
6. Check Whether that Updated data goes to the database with using Admin panel “Patient Home” Dashboard

Table 4. 1. 5. Function test for Patient Details Update

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_05	First Name: Chamuth Last Name: Dilshan Age: 21 Gender: Male Email: chamuth.d@gmail.com Phone Number: 0705895632 Password: ChamuthDilshan123 Re-Password: ChamuthDilshan123	Redirect to the “Patient Home” Page	Redirect to the “Patient Home” Page	Pass
MH_05	First Name: Chamuth Last Name: Age: 23 Gender: Male Email: chamuth.d@gmail.com Phone Number: 0705895632 Password: ChamuthDilshan1 Re-Password: ChamuthDilshan123	Error Message Shows in the Last Name field “Please Fill out this field”	Error Message Shows in the Last Name field “Please Fill out this field”	Pass

Test case ID: MH06**Test Designed by:** Gunatilleke M. B. D. S**Test Title:** Patient Details Delete**Test Priority (High/Medium/Low):** Medium**Description:** Test Patient Details Deleted Successfully**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Patient Home” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button In the redirected page
5. Accept the Notification when pop up after clicked “Delete” Button
6. Check Whether that Deleted data deleted from the database with using Admin panel “Patient Home” Dashboard

Table 4. 1. 6. Function test for Patient Details Delete

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_06	First Name: Test1	Notify “The Patient has been deleted.”	Notify “The Patient has been deleted.”	Pass

Test case ID: MH07**Test Designed by:** Gunatilleke M. B. D. S**Test Title:** Admin Details Update**Test Priority (High/Medium/Low):** Medium**Description:** Test Admin Detail(s) Updated Successfully with validations**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Admin Home” item
3. Choose One Record and Click “Update” Button
4. Fill the Update Form with using reasonable data
5. Click “Update Admin” button
6. Check Whether that Updated data goes to the database with using Admin panel “Admin Home” Dashboard

Table 4. 1. 7. Function test for Admin Details Update

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_07	First Name: Dinithi Last Name: Hansika Age: 23 Gender: Female Email: dinithi.h@gmail.com Phone Number: 0702882614 Password: DinithiHansika123 Re-Password: DinithiHansika123	Redirect to the “Admin Home” Page	Redirect to the “Admin Home” Page	Pass
MH_07	First Name: Dinithi Last Name: Age: 23 Gender: Female Email: dinithi.h@gmail.com Phone Number: 0702882614 Password: DinithiHansika123 Re-Password: DinithiHansika123	Error Message Shows in the Last Name field “Please Fill out this field”	Error Message Shows in the Last Name field “Please Fill out this field”	Pass

Test case ID: MH08**Test Designed by:** Gunatileke M. B. D. S**Test Title:** Admin Details Delete**Test Priority (High/Medium/Low):** Medium**Description:** Test Admin Details Deleted Successfully**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Admin Home” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button In the redirected page
5. Accept the Notification when pop up after clicked “Delete” Button
6. Check Whether that Deleted data deleted from the database with using Admin panel “Admin Home” Dashboard

Table 4. 1. 8. Function test for Admin Details Delete

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_08	First Name: Admin2	Notify “The Admin has been deleted.”	Notify “The Admin has been deleted.”	Pass

Test case ID: MH09**Test Designed by:** Gunatilleke M. B. D. S**Test Title:** Appointment Details Update**Test Priority (High/Medium/Low):** Medium**Description:** Test Appointment Detail(s) Updated Successfully with validations**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “All Appointment” item
3. Choose One Record and Click “Update” Button
4. Fill the Update Form with using reasonable data
5. Click “Update Appointment” button
6. Check Whether that Updated data goes to the database with using Admin panel “All Appointment” Dashboard

Table 4. 1. 9. Function test for Appointment Details Update

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_09	Name: Ranbanda Doctor: Doctor 3 Age: 25 Gender: Male Email: ranbanda.k@gmail.com Phone Number: 0705883826	Redirect to the All Appointment Page	Redirect to the All Appointment Page	Pass	Do not change Doctor field
MH_09	Name: Ranbanda Doctor: Doctor 3 Age: 25 Gender: Male Email: ranbanda.k@gmail.com Phone Number: 0705883826	Error Message Shows “Email must have a @ sign”	Error Message Shows “Email must have a @ sign”	Pass	Do not change Doctor field

Test case ID: MH10**Test Designed by:** Gunatilleke M. B. D. S**Test Title:** Appointment Details Delete**Test Priority (High/Medium/Low):** Medium**Description:** Test Appointment Details Deleted Successfully**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “All Appointment” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button In the redirected page
5. Accept the Notification when pop up after clicked “Delete” Button
6. Check Whether that Deleted data deleted from the database with using Admin panel “All Appointment” Dashboard

Table 4. 1. 10. Function test for Appointment Details Delete

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_10	Name: Appointment 2	Notify “The Appointment has been deleted.”	Notify “The Appointment has been deleted.”	Pass

Test case ID: MH11**Test Designed by:** Senarathne S**Test Title:** Raise a ticket**Test Priority (High/Medium/Low):** High**Description:** Patients can raise a ticket with a specialist by filling out the form and clicking add button. After that successful Ticket is added to the system**Precondition:** Patient Login Credentials**Table 4. 2. 1. Function test for Raise a Ticket**

Test ID	Test Inputs	Expected Output	Actual Output	Result (Pass/Fail)
MH11	<ul style="list-style-type: none"> • Patient Name • User ID • Contact Number • Subject • Request Type • Message • Attachment 	Add Ticket details to the system. After that alert display “Ticket added”	Add Ticket details to the system. After that alert display “Ticket added”	Pass

Test case ID: MH12

Test Designed by: Senarathne S

Test Title: Delete a ticket

Test Priority (High/Medium/Low): High

Description: User selects the ticket that should be deleted then delete the relevant Ticket. It will delete from the database.

Precondition: Patient Login Credentials

Table 4. 2. 2. Function test for Delete a Ticket

Test ID	Test Inputs	Expected Output	Actual Output	Result (Pass/Fail)
MH12	Click the “Delete” button on a particular ticket	Show the message “deleted” and then redirect to the view all Ticket page	Show the message “deleted” and then redirect to the view all Ticket page	Pass

Test case ID: MH21

Test Designed by: Madhubash D.G.R.N.P

Test Title: Doctor Registration

Test Priority (High/Medium/Low): High

Description: Test Doctor Registration Completed Successfully with validations

Preconditions: Admin Login Credentials

Test Steps:

1. Login As an Admin
2. In the Admin Page Navbar Choose “Create Doctor” item
3. Fill the Registration Form with using reasonable data
4. Click “Submit” button
5. Use the “Create Doctor” Dashboard in the admin panel to verify whether the data you just input made it to the database.

Table 4. 3. 1. Function test for Doctor Registration

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_13	Name: Sachintha Specialization: Internal Medicine Age: 30 Gender: Male Phone Number: 0773214566 Email: sachintha1@gmail.com Password: Sachintha000 Re-Password: Sachintha000	Display “Doctor” Created “Notification”	Display “Doctor” Created “Notification”	Pass
MH_13	Name: Sachintha Specialization: Internal Medicine Age: 30 Gender: Male Phone Number: 0773214566 Email: sachintha1@gmail.com Password: Sachintha00 Re-Password: Sachintha000	Error Message Shows “Password Do not Match”	Error Message Shows “Password Do not Match”	Pass

Test case ID: MH_14**Test Designed by:** Madhubash D.G.R.N.P**Test Title:** Doctor Details Update**Test Priority (High/Medium/Low):** Medium**Description:** Test Doctor Details Updated Successfully with validations**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Doctor Home” item
3. Choose One Record and Click “Update” Button
4. Fill the Update Form with using reasonable data
5. Click “Update Doctor” button
6. Using the "Doctor Home" Dashboard in the admin panel, verify whether the updated data was sent to the database.

Table 4. 3. 2. Function test for Doctor Details Update

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_14	Name: Sachintha Specialization: Internal Medicine Age: 30 Gender: Male Phone Number: 0773214566 Email: sachintha1@gmail.com Password: Sachintha000 Re-Password: Sachintha000	Redirect to the “Doctor Home” Page	Redirect to the “Doctor Home” Page	Pass
MH_14	Name: Sachintha Specialization: Age: 30 Gender: Male Phone Number: 0773214566 Email: sachintha1@gmail.com Password: Sachintha000 Re-Password: Sachintha000	Error Message Shows in the Specialization field “Please Fill out this field”	Error Message Shows in the Specialization field “Please Fill out this field”	Pass

Test case ID: MH_15**Test Designed by:** Madhubash D.G.R.N.P**Test Title:** Doctor Details Delete**Test Priority (High/Medium/Low):** Medium**Description:** Test Doctor Details Deleted Successfully**Precondition:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Doctor Home” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button In the redirected page
5. Accept the Notification when pop up after clicked “Delete” button
6. Use the “Doctor Home” Dashboard in the admin panel to verify whether erased data has been completely removed from the database.

Table 4. 3. 3. Function test for Doctor Details Delete

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_15	Name: Sachintha	Notify “The Doctor has been deleted.”	Notify “The Doctor has been deleted.”	Pass

Test case ID: MH_16

Test Designed by: Madhubash D.G.R.N.P

Test Title: Accepts Appointment

Test Priority (High/Medium/Low): High

Description: Accepted or Cancel the Appointment

Precondition: Doctor Login Credentials

Test Steps:

1. Login As an Doctor
2. Choose “Appointment list” item
3. Choose One Appointment and Click “Accept” or “Cancel” Button
4. Accept the Pop-Up Notification after Clicking Button

Table 4. 3. 4. Function test for Accept Appointment

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_16	Name: Appointment No	Notify “The Appointment has been Accepted.”	Notify “The Appointment has been Accepted.”	Pass

Test case ID: MH_17

Test Designed by: M.A.V.D. Perera IT21322662.

Test Title: Add employee details by employee.

Test Priority (High/Medium/Low): High

Description: Test if the relevant Employee data is input to the system and after whether that all data goes to the database with verified records

Precondition: Employee Must be Login as a Registered Employee

Test Steps:

1. login as an Employee
2. Fill attendance details,
3. Click the Submit button.
4. Alert Message you are registered.

Table 4. 4. 1. Function test for employee registered or not.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_17	<ul style="list-style-type: none"> • FirstName: vimankith • LastName:damitha • DOB: 09/03/2001 • Gender:male • Email:damivima804@gmail.com • Phone Number:0764973240 • Address:6-D/101 jayawdanagama battramulla • City:battaramulla • Province:western • Postal:10121 • Position:software engineer • Type of work:permanent • CV:file • Additional information:file 	Add employee details to the system. After that alert display “Successfully registered”	Add employee details to the system. After that alert display “Successfully registered”	pass	Employee log into the system and mark the attendance.
MH_17	<ul style="list-style-type: none"> • FirstName: vimankith • LastName:damitha • DOB: 09/03/2001 • Gender:male • Email:damivima804@gmail.com • Phone Number:0764973240 • Address:6-D/101 jayawdanagama battramulla • City:battaramulla • Province:western • Postal:10121 • Position:software engineer • Type of work:permanent • CV:file • Additional information:file 	Add employee details to the system. After that alert display “Successfully registered”	Add employee details to the system. After that alert display “Please enter all fields “	fail	Employee log into the system and mark the attendance.

Test case ID: MH_18

Test Designed by: M.A.V.D. Perera IT21322662.

Test Title: Delete employee details by admin side.

Test Priority (High/Medium/Low): High

Description: Test if the relevant admin can delete employee's input data and after whether that data delete from the database

Precondition: Admin Must be Login as an Admin credential.

Test Steps: -

1. Login as an Admin
2. In the Admin Page Navbar Choose “HR” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button in the redirected page.
5. Accept the Notification when pop up after clicked “Employee Delete” Button
6. Check Whether that Delete data deleted from the database with using Admin panel “HR” Dashboard.

Table 4. 4. 2. Function test for Admin deleting employee data.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_18	Click the “delete” button on a payment data.	Show the message “Employee details deleted”	Show the message “Employee details deleted”	pass

Test case ID: MH_19

Test Designed by: M.A.V.D. Perera IT21322662.

Test Title: Update employee by admin side.

Test Priority (High/Medium/Low): High

Description: Test if the relevant admin can update employee's input data and after whether that data delete from the database

Precondition: Admin Must be Login as an Admin credential

Test Steps:

1. Login As an Admin
2. In the Admin Page Navbar Choose “employee's admin” item
3. Choose One Record and Click “Update” Button
4. Click Again “Update” button in the redirected page.
5. Accept the Notification when pop up after clicked “employee Update” Button
6. Check Whether that Update data updated from the database with using Admin panel “employee's admin” Dashboard.

Table 4.4.3

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_19	<ul style="list-style-type: none"> • FirstName: vimankith • LastName:damitha • DOB: 09/03/2001 • Gender: male • Email:damivima804@gmail.com • Phone Number:0764973240 • Address:6-D/101 jayawdanagama battramulla • City:battaramulla • Province:western • Postal:10121 • Position:software engineer • Type of work:permanent • CV:file • Additional information:file 	Add employee details to the system. After that alert display “employee details Updated”	Redirect to the “employee admin” Page	pass	

Test case ID: MH_20

Test Designed by: Fernando W.S.S it21336218.

Test Title: Add payments by patient.

Test Priority (High/Medium/Low): High

Description: Test if the relevant Patient data is input to the system and after whether that all data goes to the database with verified records

Precondition: Patient Must be Login as a Registered Patient

Test Steps:

1. login as a patient
2. Fill in Payment details,
3. Click Submit button
4. Alert Message Patient Added

Table 4. 5. 1. Function test for patient Add payments.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_20	<ul style="list-style-type: none"> Card Holder: Sonal Fernando Card Number:3245 4567 9089 4580 CVV: 457 Expiration Date :23/09/2025. 	Add Payment details to the system. After that alert display “Payment Added”	Add Payment details to the system. After that alert display “Payment Added”	pass	<p>Patients log into the system and review the orders.</p> <p>Patient Fill out the form and click Submit button. After that successful Payment were added to the system.</p>
MH_20	<ul style="list-style-type: none"> Card Holder: Sahan Fernando Card Number:3245 4567 9089 4588 CVV: 457 Expiration Date :23/10/0000 	Add Payment details to the system. After that alert display “Payment Added”	Add Payment details to the system. After that alert display “Please enter valid date “	fail	<p>Patients log into the system and review the orders.</p> <p>Patient Fill out the form and click Submit button. After that successful Payment were added to the system.</p>

Test case ID: MH_21

Test Designed by: Fernando W.S.S it21336218.

Test Title: Add payments by admin side.

Test Priority (High/Medium/Low): Medium

Description: Test if the relevant admin can input to the system by patient ‘s request and after whether that all data goes to the database with verified records

Precondition: Must have Admin credentials.

Test Steps:

1. login as a Admin
2. Fill in Payment details,
3. Click Submit button
4. Alert Message Patient Added by admin.

Table 4. 5. 2. Function test for Admin Add payments.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_21	<ul style="list-style-type: none"> Card Holder: Sam Fernando Card Number:3245 456709089 4580 CVV: 455 Expiration Date :3/09/2025. 	Add Payment details to the system. After that alert display “Payment Added”	Add Payment details to the system. After that alert display “Payment Added”	pass	<p>Patients log into the system and review the orders.</p> <p>Patient Fill out the form and click Submit button. After that successful Payment were added to the system.</p>
MH_21	<ul style="list-style-type: none"> Card Holder: Shan Fernando Card Number:3245 4563 9089 4580 CVV: 87 Expiration Date :2/10/2025. 	Add Payment details to the system. After that alert display “Payment Added”	Please enter valid CVV no	fail	<p>Patients log into the system and review the orders.</p> <p>Patient Fill out the form and click Submit button. After that successful Payment were added to the system.</p>

Test case ID: MH_22**Test Designed by:** Fernando W.S.S**Test Title:** Update payments by admin side.**Test Priority (High/Medium/Low):** High**Description:** Test if the relevant admin can update patient's input data and after whether that data delete from the database**Precondition:** Must have Admin credential**Test Steps:**

7. Login As an Admin
8. In the Admin Page Navbar Choose “Payment’s admin” item
9. Choose One Record and Click “Update” Button
10. Click Again “Update” button in the redirected page.
11. Accept the Notification when pop up after clicked “Payment Update” Button
12. Check Whether that Update data updated from the database with using Admin panel “Payment’s admin” Dashboard.

Table 4. 5. 3. Function test for Patient Details Update by Admin.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Comments
MH_22	<ul style="list-style-type: none"> • Card Holder: Sam Fernando • Card Number:3241 4567 0908 4586 • CVV: 400 • Expiration Date :3/09/2025 	Add Payment details to the system. After that alert display “Payment Updated”	Redirect to the “Payment’s admin” Page	pass	<p>patient logs into the account and views the Manage Payment dashboard.</p> <p>patient clicks the update button and do the necessary changes.</p>
MH_22	<ul style="list-style-type: none"> • Card Holder: Shan Fernando • Card Number:3245 4563 9089 45 • CVV: 457 • Expiration Date :2/10/2025. 	Add Payment details to the system. After that alert display “Payment Updated”	Error Massage Shows in the Card Number field “Please Fill out this field”	fail	<p>patient logs into the account and views the Manage Payment dashboard.</p> <p>patient re clicks the update button and do the necessary changes.</p>

Test case ID: MH_23

Test Designed by: Fernando W.S.S

Test Title: Delete payments by admin side.

Test Priority (High/Medium/Low): High

Description: Test if the relevant admin can delete patient's input data and after whether that data delete from the database

Precondition: Admin Must be Login as a Admin credential.

Test Steps: -

1. Login As an Admin
2. In the Admin Page Navbar Choose “Payment’s admin” item
3. Choose One Record and Click “Delete” Button
4. Click Again “Delete” button in the redirected page.
5. Accept the Notification when pop up after clicked “Payment Delete” Button
6. Check Whether that Delete data deleted from the database with using Admin panel “Payment’s admin” Dashboard.

Table 4. 5. 4. Function test for Admin deleting payment data.

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_23	Click the “delete” button on a payment data.	Show the message “Payment deleted”	Show the message “Payment deleted”	pass
MH_23	Click the “delete” button on a payment data.	Show the message “Payment deleted”	Show the message “Payment deleted”	pass

Test case ID: MH-24**Test Designed by:** Sembakutti S.C**Test Title:** Add Medicine to the Inventory**Test Priority (High/Medium/Low):** High**Description:** Add Medicine Completed Successfully with validations**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Create Inventory” item
3. Fill the Registration Form with using accurate data
4. Click “Add Medicine” button
5. Check Whether that inserted data goes to the database with using Admin panel “View Inventory” Dashboard

Table 4. 6. 1. Function test for Add Medicine

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_24	Medicine Name: Panadol Supplier: GLOBAL VINYL2 Medicine Type: Bacteria Infection2 Medicine Number: SD22552 Quantity: 50	Display “Successfully Added” Sweet Alert	Display “Successfully Added” Sweet Alert	Pass
MH_24	Medicine Name: Amoxicillin Supplier: GLOBAL VINYL2 Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 100	Display “Successfully Added” Sweet Alert	Display “Successfully Added” Sweet Alert	Pass

Test case ID: MH-25**Test Designed by:** Sembakutti S.C**Test Title:** Update Medicine in the Inventory**Test Priority (High/Medium/Low):** High**Description:** Update Medicine Function Completed Successfully with validations**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “View Inventory” item
3. Click “Update Medicine” button.
4. Update data accordingly
5. Check Whether that updated data goes to the database with using Admin panel “View Inventory” Dashboard

Table 4. 6. 2. Function test for Update Medicine

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_25	Medicine Name: Panadol Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22552 Quantity: 100	Display “Successfully Updated” Sweet Alert	Display “Successfully Updated” Sweet Alert	Pass
MH_25	Medicine Name: Amoxicillin Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 150	Display “Successfully Updated” Sweet Alert	Display “Successfully Updated” Sweet Alert	Pass

Test case ID: MH-26**Test Designed by:** Sembakutti S.C**Test Title:** Delete Medicine to the Inventory**Test Priority (High/Medium/Low):** High**Description:** Delete Medicine Completed Successfully with validations**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “View Inventory” item
3. Click “Delete” button.
4. Check Whether that deleted data goes to the database with using Admin panel “View Inventory” Dashboard

Table 4. 6. 3. Function test for Delete Medicine

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_26	Click Delete Button	Display “Deleted Successfully” Sweet Alert	Display “Deleted Successfully” Sweet Alert	Pass

Test case ID: MH-27**Test Designed by:** Sembakutti S.C**Test Title:** Add Medicine form validation check.**Test Priority (High/Medium/Low):** High**Description:** Add Medicine form validation Completed Successfully**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “Create Inventory” item
3. Click “Add Medicine” button.
4. Update data accordingly
5. Check Whether that updated data goes to the database with using Admin panel “View Inventory” Dashboard

Table 4. 6. 4. Function test for Add Form Validations

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_27	Medicine Name: Panadol Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22552 Quantity: 100	Display “Successfully Updated” Sweet Alert	Display “Successfully Updated” Sweet Alert	Pass
MH_27	Medicine Name: Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 150	Error Message Shows “Field Cannot Be Empty”	Error Message Shows “Field Cannot Be Empty”	Pass
MH_27	Medicine Name: Panadol Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 10.54	Error Message Shows “Cannot Enter Decimal Values”	Error Message Shows “Cannot Enter Decimal Values”	Pass

Test case ID: MH-28**Test Designed by:** Sembakutti S.C**Test Title:** Update Medicine form validation check**Test Priority (High/Medium/Low):** High**Description:** Update Medicine form validation Completed Successfully**Preconditions:** Admin Login Credentials**Test Steps:**

1. Login As an Admin
2. In the Admin Page Navbar Choose “View Inventory” item
3. Click “Update” button
4. Update data accordingly
5. Check Whether that updated data goes to the database with using Admin panel “View Inventory” Dashboard

Table 4. 6. 5. Function test for Update Form Validations

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)
MH_28	Medicine Name: Amoxicillin Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22552 Quantity: 150	Display "Successfully Updated" Sweet Alert	Display "Successfully Updated" Sweet Alert	Pass
MH_28	Medicine Name: Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 150	Error Message Shows "Field Cannot Be Empty"	Error Message Shows "Field Cannot Be Empty"	Pass
MH_28	Medicine Name: Panadol Supplier: BIO EXTRACT Medicine Type: Bacteria Infection2 Medicine Number: SD22563 Quantity: 10.54	Error Message Shows "Cannot Enter Decimal Values"	Error Message Shows "Cannot Enter Decimal Values"	Pass

Test case ID: MH-29**Test case Designed by:** Kattadige S.B.P**Test Case:** Create Transportation Request**Test priority:** High**Description:** Verify that a new transportation request can be created successfully.**Test Steps:**

1. Log in to the Hospital management system.
2. Navigate to the "Create Request" page.
3. Fill in the required details such as patient information, pickup location, destination, and any specific requirements.
4. Click on the "Submit" button.

Expected Result: The system should create a new transportation request and display a success message. The request should be stored in the database for further processing.**Table 4. 7. 1. Verify that a new transportation request can be created successfully**

Test ID	Test Input	Actual Output	Result (pass/ fail)
TR_29	Driver Name: saman Passenger Count:4 Start location: Malabe End Location: Colombo Transport Type: ambulance Transport Date:2023-05-09 Transport Status: ongoing	create a new transportation request and display a success message	pass

Test case ID: MH-30

Test case Designed by: Kattadige S.B.P

Test Case: Read Transportation Request

Test priority: High

Description: Ensure that existing transportation requests can be viewed accurately.

Test Steps:

1. Log in to the Hospital management system.
2. Navigate to the "View Requests" page.
3. Select a specific transportation request from the list.
4. Verify that the displayed details match the information associated with the selected request.

Expected Result: The system should present the requested transportation details correctly, including Driver's name, Start location, End location, and any special requirements.

Table 4. 7. 2. Ensure that existing transportation requests can be viewed accurately

Test ID	Test Input	Actual Output	Result (pass/ fail)
TR_30		present the requested transportation details correctly	pass

Test case ID: MH-31

Test case Designed by: Kattadige S.B.P

Test Case: Update Transportation Request

Test priority: High

Description: Validate that an existing transportation request can be updated successfully.

Test Steps:

1. Log in to the Hospital management system.
2. Navigate to the "View Transport Requests" page.
3. Select a specific transportation request from the list.
4. Click on the "Edit" button to modify the request details.
5. Update relevant fields such as Start location, destination, or specific requirements.
6. Click on the "Save" button to confirm the changes.

Expected Result: The system should save the updated information for the transportation request and display a success message. The modified details should be reflected in the database.

Table 4. 7. 3. Validate that an existing transportation request can be updated successfully.

Test ID	Test Input	Actual Output	Result (pass/ fail)
TR_31	Transport Status: Completed	save the updated information for the transportation request and display a success message	pass

Test case ID: MH-32

Test case Designed by: Kattadige S.B.P

Test Case: Delete Transportation Request

Test priority: Medium

Description: Ensure that a transportation request can be deleted from the system.

Test Steps:

1. Log in to the Hospital management system.
2. Navigate to the "View Transport Requests" page.
3. Select a specific transportation request from the list.
4. Click on the "Delete" button to remove the request.
5. Confirm the deletion when prompted.

Expected Result: The system should remove the selected transportation request from the database and display a success message indicating that the request has been deleted.

Table 4. 7. 4. Ensure that a transportation request can be deleted from the system.

Test ID	Test Input	Actual Output	Result (pass/ fail)
TR_32	Driver name: Saman	remove the selected transportation request from the database and display a success message	pass

Evaluation

Objectives

Our main focus to develop batter HMS system for MediHelp Health care center. We Develop this project for giving Batter solution for Considering some of HMS Systems and mainly focusing on MediHelp system. In there we Identified some common problems and the important requirement. Also using technical techniques which require managing server overload problems is another objective in this project. However, In this project we hope to achieve and develop best, user friendly and Timely HMS system with New features.

Future Goals

- Since still this is a prototype of our System, we are focusing to Develop a professional web Application with standard Graphics and far more upgrades which give an batter solution for MediHelp Health care center.
- We Hope to develop this Web application with some new features that are not there in the existing HMS systems.
- In this Project we learned some valuable things and we made some connection for getting requirements. So, we hope to develop Realtime and more secure web Application with help of them.
- We hope to develop this Project with AI features in future.
- Connection with IOT concepts, develop with connection to physical devisers such as Scanners, machines and equipment is anther future aspect of ours.

Benefits Of the System

- It has Support Service for provide batter solutions to patients and other staff member In the Hospital
- Batter User Experience given by providing some practical solutions.
- Added new futures are useful for all HMS systems such as Appointment Scheduling, Inventory Management, Support System, Transport Management, etc.
- Data Redundancy minimized and maximized the process speed using some asynchronous functions.
- Using some methods helps to maximize the rendering speed of the web pages.
- Because of using No SQL, it has batter data rendering speed.
- Operational cost is low for this Project.

Conclusion

This Project is for the ITP Module in second year second semester, and we are developing this for MediHelp Healthcare Center. This HMS system has Some innovation ideas such as Appointment scheduling using doctor details, support management, Transport Management for HMS system. In there we done CRUD operations with some reasonable needs. And we also develop this system with some user-friendly Interfaces.

This Project is a good experience for our career and gives us the motivation and knowledge about industry work. We do so many mistakes and learn from them. As a beginner This project was helping to understand different Problems that now a days HMS has and how can we provide answers for them.

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