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## Document Status: Approved

### List of Abbreviations

DFD	Data Flow Diagram
E-R	Entity Relationship
RS	Requirement Specification

name.

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## 1. Introduction

### 1.1 Purpose

The purpose of the Medical Service Automation System project is to provide medical services online and maintain all the necessary documents in electronic format. Here we can have all the details of doctors, In-patients, clerks, billing department. It aims to provide the doctor appointment booking and live chat option between doctor and patient. It provides an option for both doctor and patient to view previous e-prescriptions.

### 1.2 Scope

The scope of the project includes comprehensive functionality for managing details of doctor, In-patient, and provide booking appointment facility, provide live chat option for doctor and patient, and calculating the billing expenses of the patient.

### 1.3 Definitions, Acronyms and Abbreviations

Not Applicable

### 1.4 References

Not Applicable

### 1.5 Coordinators

1. Harshavardhan Reddy

## 2. Software Requirements

### 2.1 Operational Requirements

Administrator Module:

1. The admin should be able to add new users to the system.
2. The admin should be able to modify the user details in the system.

Clerk Module:

1. The clerk should be able to add new In-patient details in the system.
2. The clerk should be able to modify new In-patient details in the system.

Doctor Module:

1. The doctor should be able to manage his details.
2. The doctor should be able to give appointments to the patients.
3. The doctor should be able to view previous e-prescriptions of the patient.
4. The doctor should be able to interact with the patient using live chat.

Patient Module:

1. The patient should be able to manage his details.
2. The patient should be able to book an appointment with a doctor.
3. The patient should be able to view his previous e-prescriptions.
4. The patient should be able to interact with the doctor using live chat.

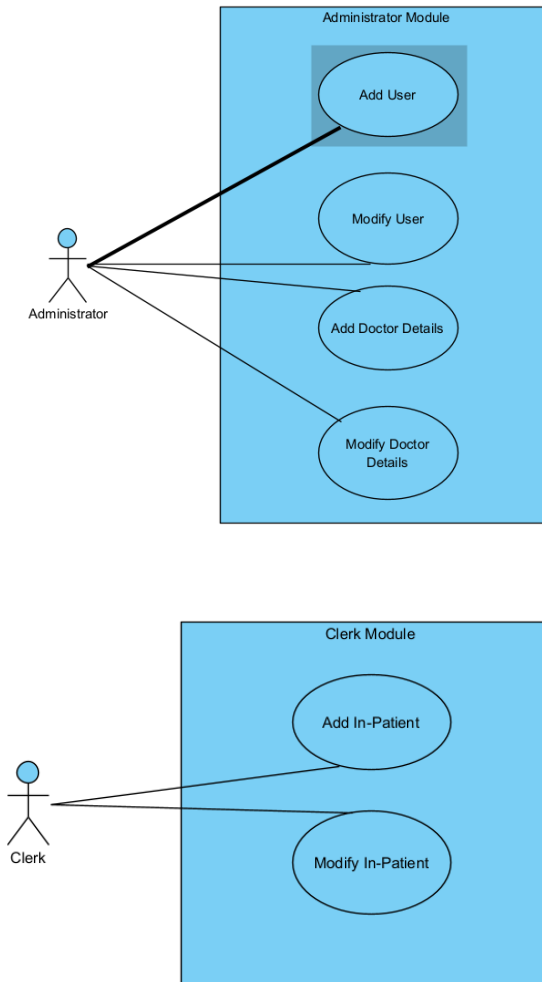
Billing Department Module:

1. The billing department should be able to calculate the expenses of the patient.
2. The billing department should be able to verify the eligibility of insurance and process the payment further.

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## 2.2 Functional Requirements

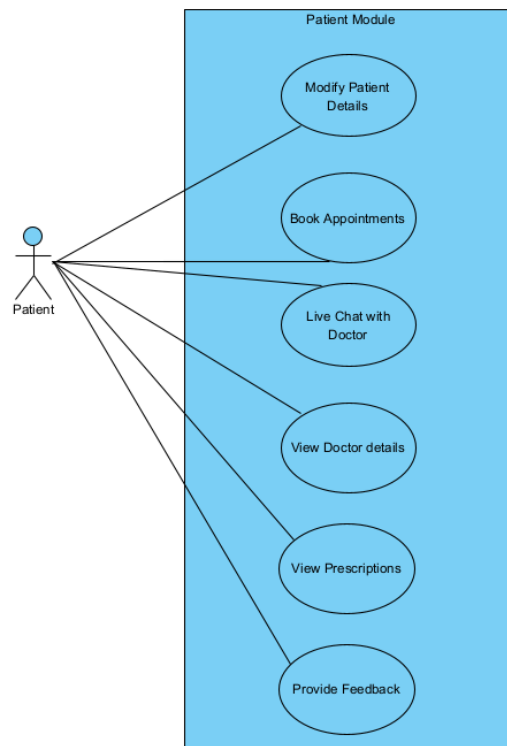
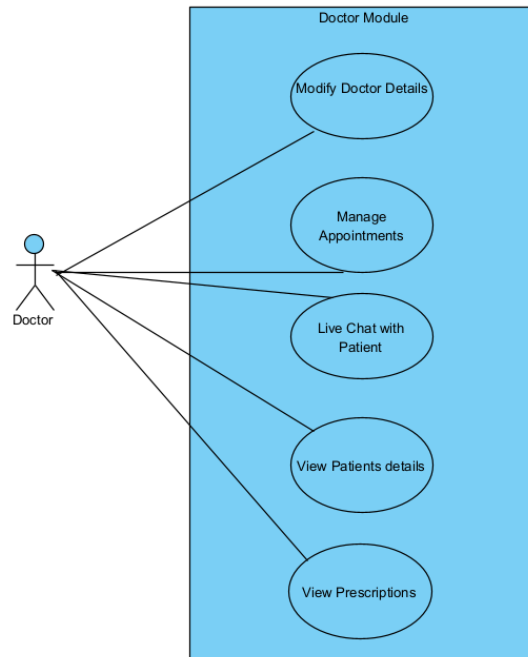
FIGURE 2.1 USE CASE DIAGRAM



## Requirements Specification: Medical Service Automation System

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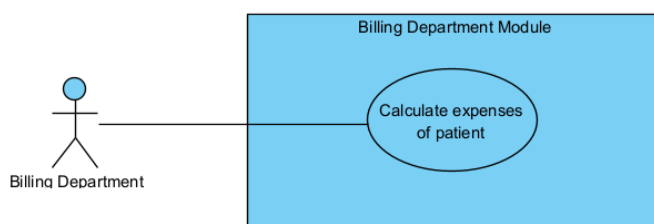
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## Requirements Specification: Medical Service Automation System

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name.

**Login**

Requirement Tag ID	RS-1-1	
Source/Trigger	Initial Login	
Description	Input	username and password
	Process	The system verifies the entered credentials against stored user credentials and grants access if valid.
	Output	Successful authentication and routing to respective modules.
Validation Method	Verify the correctness of user credentials, authenticate against stored data, and handle incorrect login attempts.	

**Manage Users**

Requirement Tag ID	RS-1-2	
Source/Trigger	Administrator	
Description	Input	User details will be filled up
	Process	The administrator will fill in the details of user and administrator can update the details whenever required
	Output	The required data is updated in the Database
Validation Method		

**Manage Doctor Details**

Requirement Tag ID	RS-1-3	
Source/Trigger	Administrator / Doctor	
Description	Input	The details of the doctor are filled in respective text fields
	Process	The administrator will fill in the details of doctor and later both administrator and doctor can update the details
	Output	The required data is updated in the Database
Validation Method		

**Manage In-patient Details**

Requirement Tag ID	RS-1-4
Source/Trigger	Clerk

## Requirements Specification: Medical Service Automation System

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name.

<i>Description</i>	<i>Input</i>	<i>The details of In-Patient are filled in respective text fields</i>
	<i>Process</i>	<i>The clerk will fill in the details of In-Patient and later clerk can update the details whenever required</i>
	<i>Output</i>	<i>The required data is updated in the Database</i>
<i>Validation Method</i>		

**Appointments**

Requirement Tag ID	RS-1-5	
Source/Trigger	Doctor and patient	
<i>Description</i>	<i>Input</i>	<i>Patient will book appointment at required date and time slots available</i>
	<i>Process</i>	<i>The doctor will manage the appointments and confirms them</i>
	<i>Output</i>	<i>The appointment will be confirmed</i>
<i>Validation Method</i>		

**Live Messaging**

Requirement Tag ID	RS-1-6	
Source/Trigger	Doctor and patient	
<i>Description</i>	<i>Input</i>	<i>The doctor and patient will interact with each other</i>
	<i>Process</i>	<i>The patient can reach out to the doctor with live chat option whenever required</i>
	<i>Output</i>	<i>The interactions happen between doctor and patient</i>
<i>Validation Method</i>		

**Feedback**

Requirement Tag ID	RS-1-7	
Source/Trigger	Patient	
<i>Description</i>	<i>Input</i>	<i>The patient will give his feedback of doctor</i>
	<i>Process</i>	<i>The feedback provided by the patient will be forwarded to the admin</i>
	<i>Output</i>	<i>The feedback will be taken of doctor service</i>
<i>Validation Method</i>		

**Billing**

Requirement Tag ID	RS-1-8	
Source/Trigger	Billing Department	
<i>Description</i>	<i>Input</i>	<i>The billing department fill in the expenses and details of the patient</i>

## Requirements Specification: Medical Service Automation System

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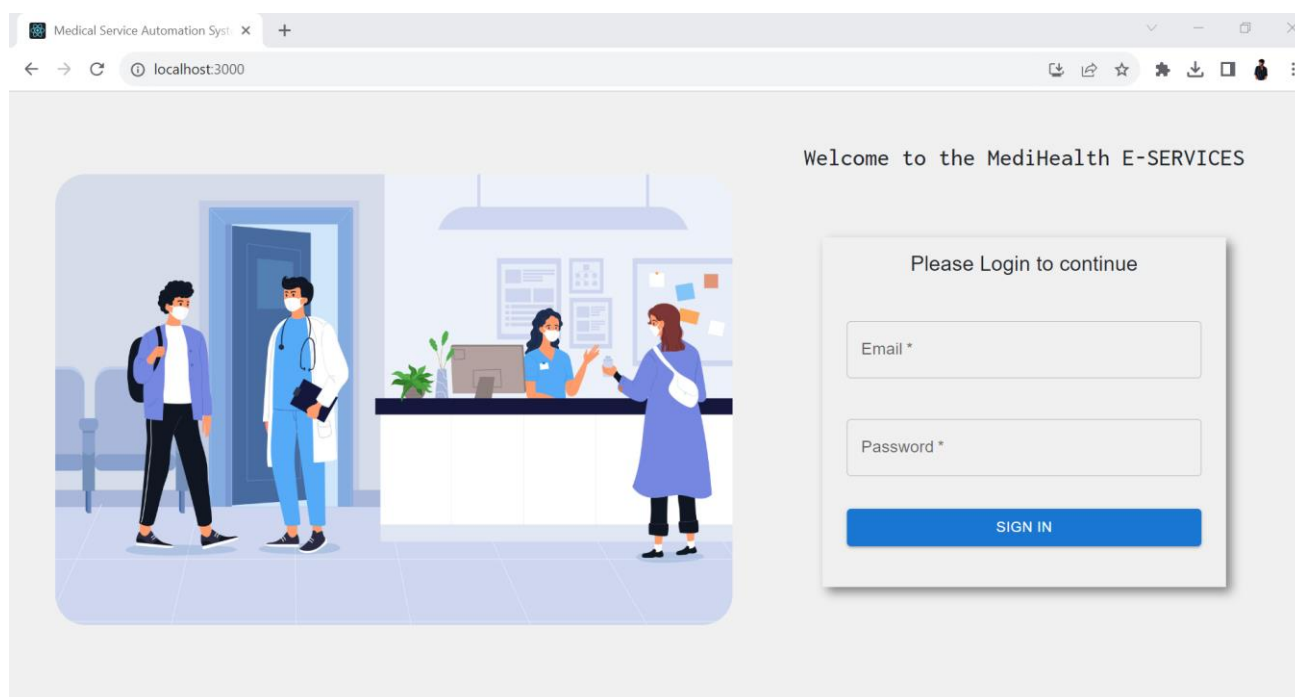
name.

	Process	The billing department calculates the expenses and verifies the eligibility of insurance
	Output	The bill will be processed further based on insurance eligibility
Validation Method		

## View Prescription

Requirement Tag ID	RS-1-9	
Source/Trigger	Doctor and Patient	
Description	Input	Previous e-prescriptions will be available to view
	Process	Both doctor and patient can view previous e-prescriptions whenever required
	Output	The documents will be accessible
Validation Method		

## 2.3 User Interface Requirements

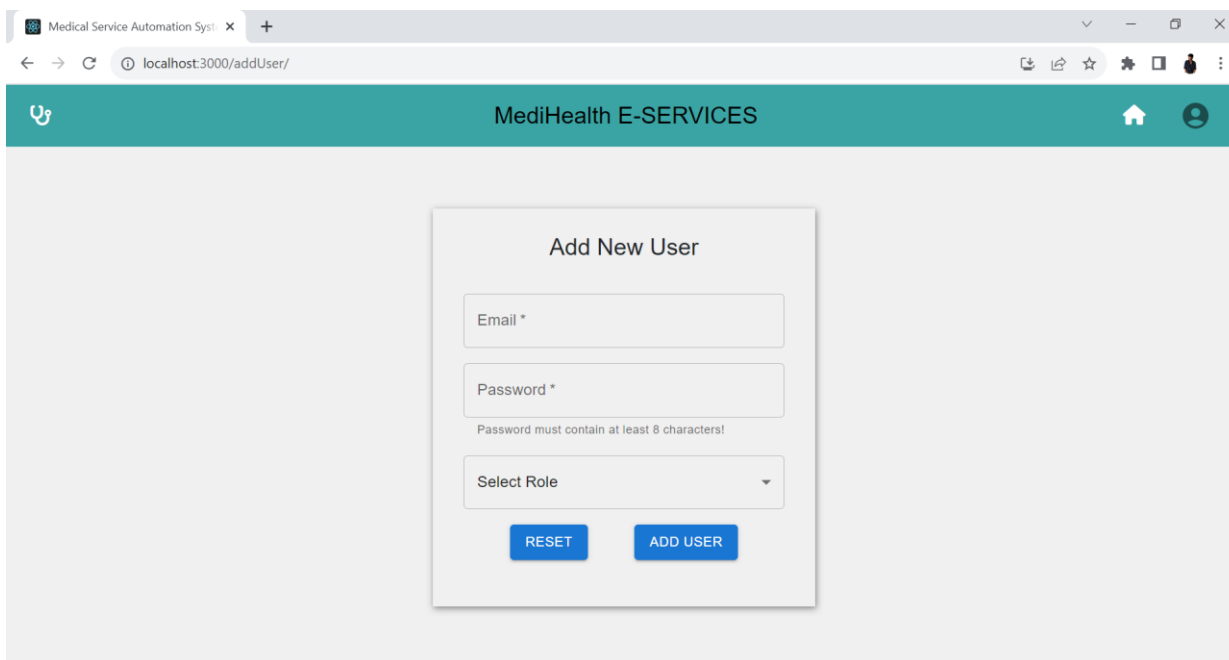
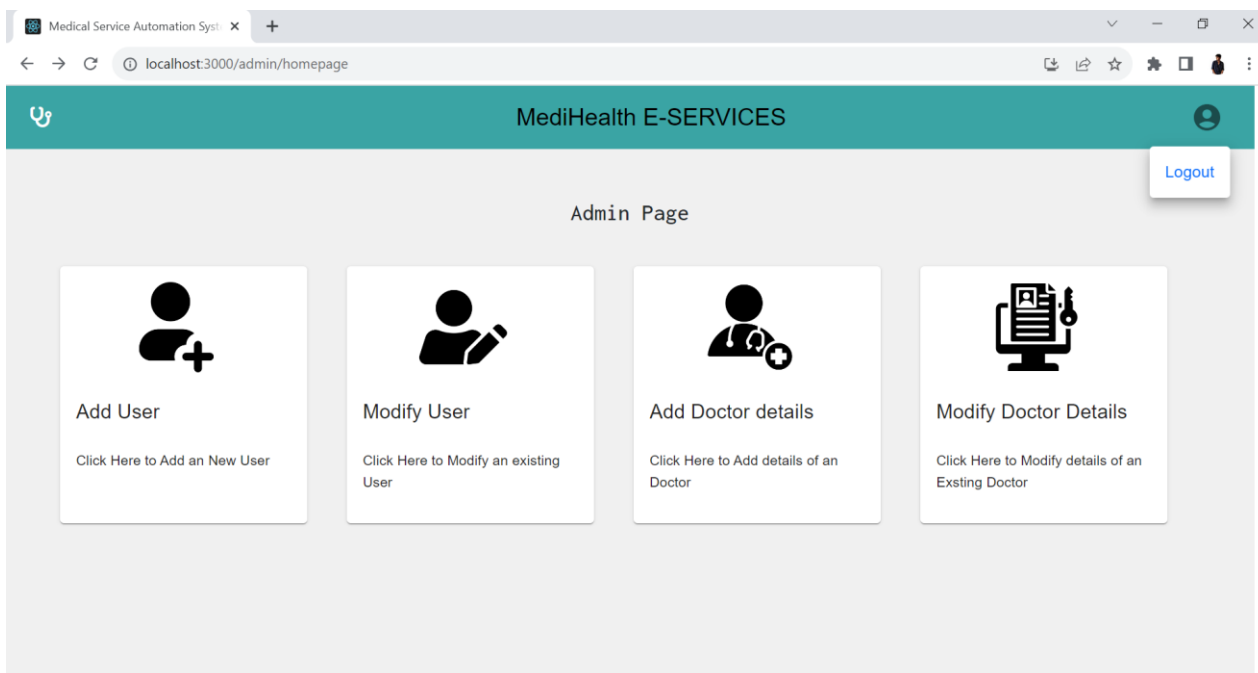




## Requirements Specification: Medical Service Automation System

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## Requirements Specification: Medical Service Automation System

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The screenshot shows a web browser window with the address bar displaying 'localhost:3000/modifyUser/'. The page title is 'MediHealth E-SERVICES'. The main content area features a 'Modify User' form with the following fields and buttons:

- Email \***: A text input field with a blue border.
- SEARCH**: A blue button next to the Email field.
- Password \***: A text input field.
- Select Role**: A dropdown menu.
- RESET**: A blue button.
- UPDATE**: A grey button.
- DELETE**: A grey button.

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/addDoctor/'. The page title is 'MediHealth E-SERVICES'. The main content area features an 'Add Details of a Doctor' form with the following fields and buttons:

- Email \***: A text input field.
- SEARCH**: A blue button next to the Email field.
- Personal Details :**
  - First Name \***: A text input field.
  - Last Name \***: A text input field.
  - Date of Birth**: A text input field with the placeholder 'mm/dd/yyyy'.
  - Mobile Number \***: A text input field.
  - Gender**: A dropdown menu.
- Professional Details :**
  - Qualification \***: A text input field.
  - Department \***: A text input field.
  - Experience \***: A text input field.
  - Years**: A text input field.
- RESET**: A blue button.
- ADD DOCTOR**: A grey button.

## Requirements Specification: Medical Service Automation System

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name.

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/modifyDoctor/'. The page title is 'MediHealth E-SERVICES'. The main content area is titled 'Manage Details of a Doctor' and contains the following form elements:

- Email \***: A text input field with a blue border and a blue 'SEARCH' button to its right.
- Personal Details :**
  - First Name \*** and **Last Name \***: Two text input fields.
  - Date of Birth**: A text input field with a placeholder 'mm/dd/yyyy'.
  - Mobile Number \***: A text input field.
  - Gender**: A dropdown menu.
- Professional Details :**
  - Qualification \***, **Department \***, and **Experience \***: Three text input fields.
  - Years**: A text input field.
- Buttons**: 'RESET' (blue), 'UPDATE' (grey), and 'DELETE' (grey) buttons at the bottom.

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/clerk/homepage'. The page title is 'MediHealth E-SERVICES'. The main content area is titled 'Clerk Page' and contains two cards:

- Add In-Patient details**:
  - Icon: A shield with a cross and a person silhouette.
  - Text: 'Click Here to Add a new In-Patient'.
- Modify In-Patient Details**:
  - Icon: A document with a pencil and a person silhouette.
  - Text: 'Click Here to modify an existing In-Patient'.

## Requirements Specification: Medical Service Automation System

Version: Error! Unknown document property

name.

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/addPatient/'. The page header is 'MediHealth E-SERVICES' with a home icon and a user profile icon. The main content area displays a form titled 'Add New In-Patient'.

### Add New In-Patient

Email *	Password *
<small>Password must contain at least 8 characters!</small>	
First Name *	Last Name *
mm/dd/yyyy <small>Date of Birth</small>	Mobile Number *
Address *	
Gender	Aadhar Number *
Insurance Eligibility	
<b>RESET</b>	<b>ADD PATIENT</b>

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/modifyPatient/'. The page header is 'MediHealth E-SERVICES' with a home icon and a user profile icon. The main content area displays a form titled 'Manage Details of a In-Patient'.

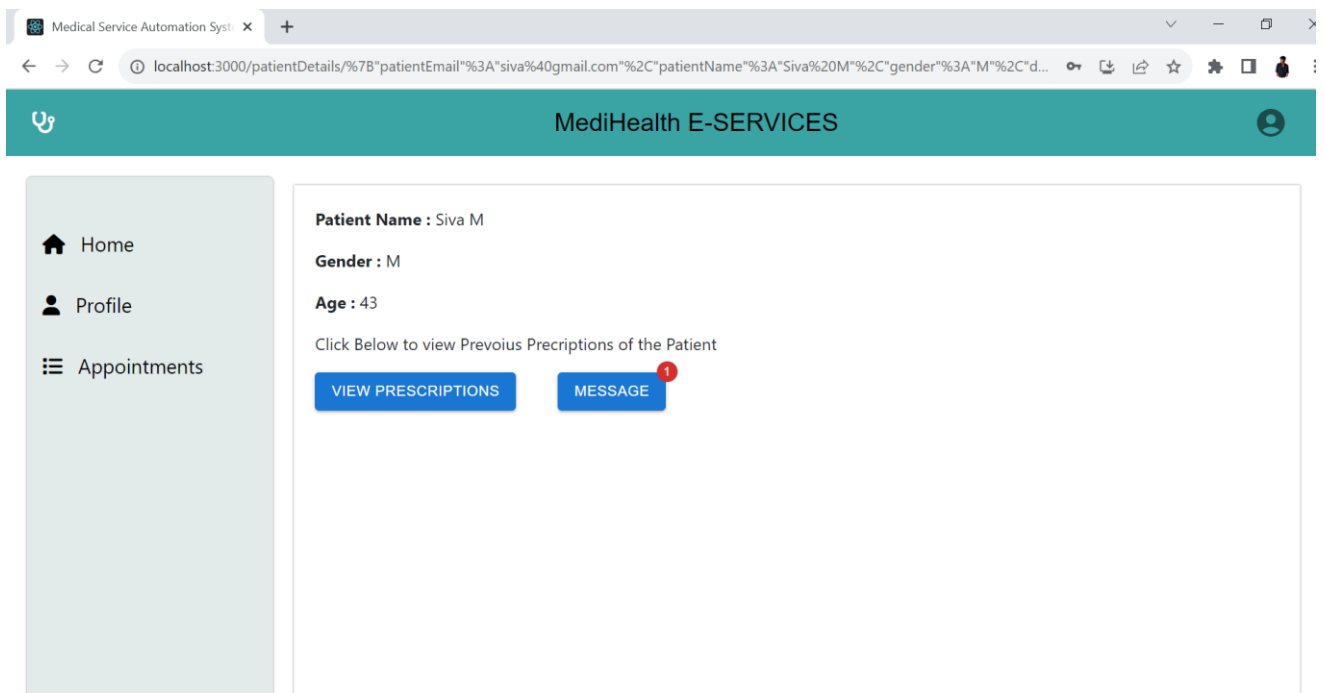
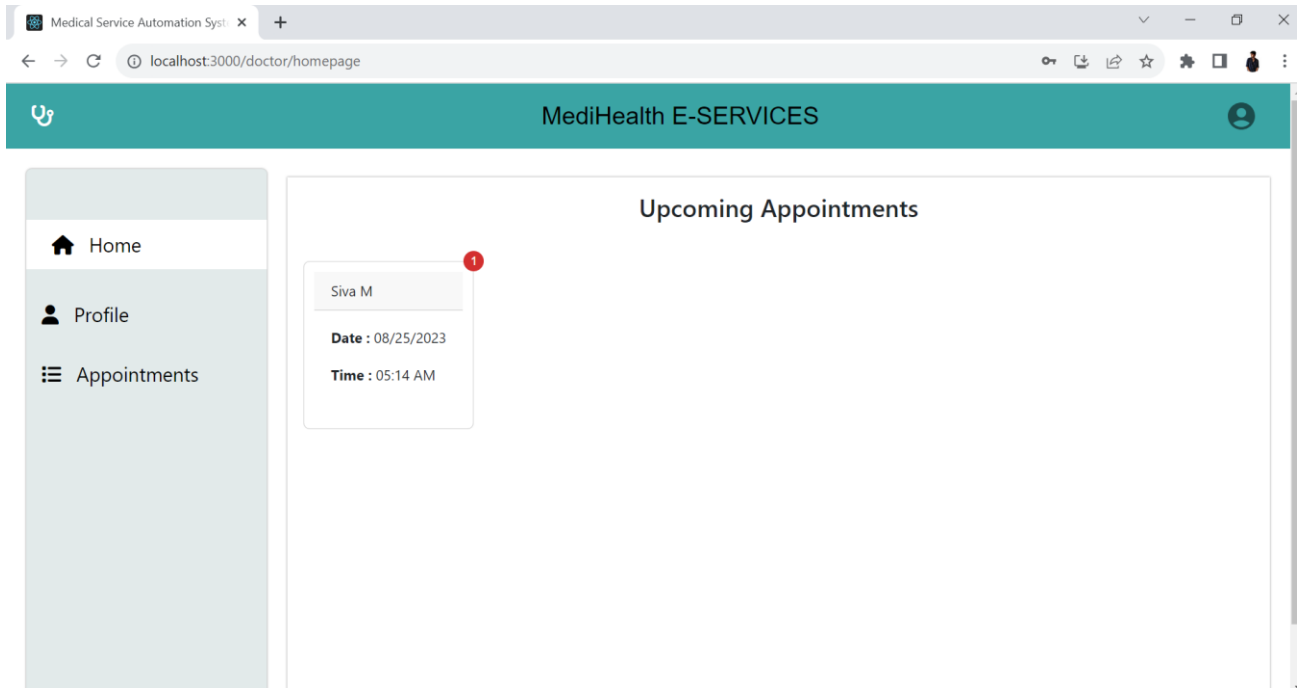
### Manage Details of a In-Patient

Aadhar Number :	<b>SEARCH</b>
First Name *	Last Name *
mm/dd/yyyy <small>Date of Birth</small>	Mobile Number *
Address *	
Gender	Insurance Eligibility
<b>RESET</b>	<b>UPDATE</b> <b>DELETE</b>

## Requirements Specification: Medical Service Automation System

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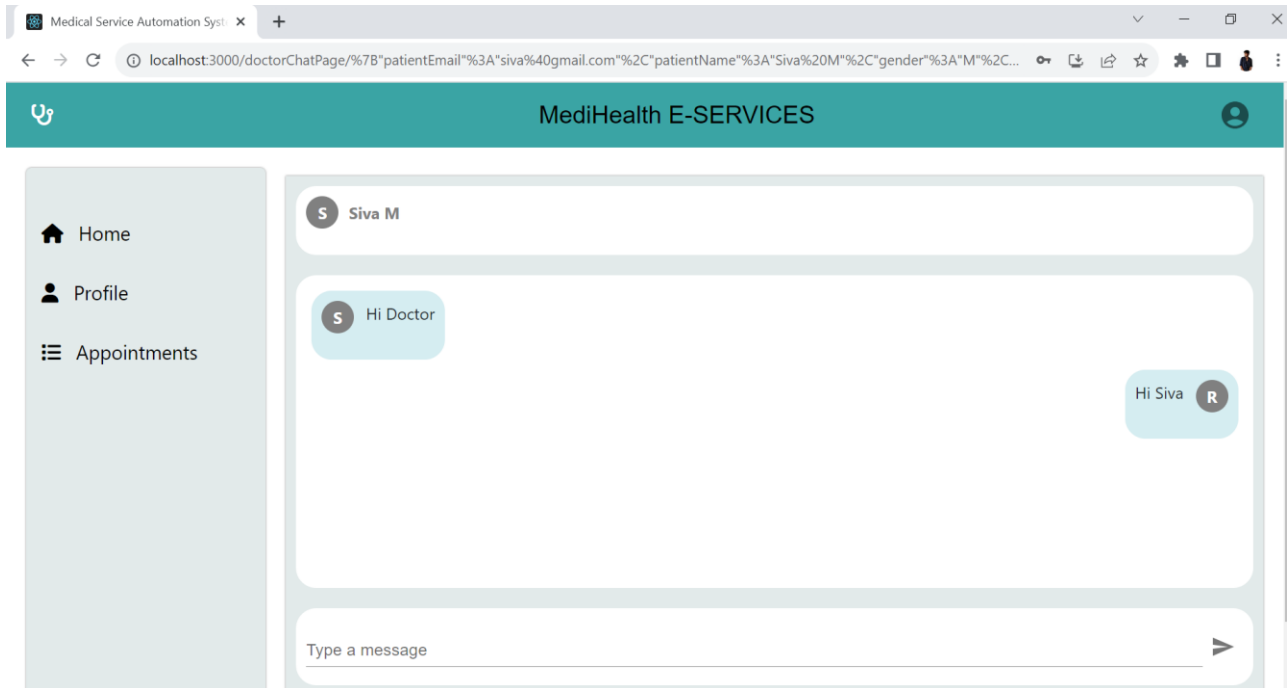
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## Requirements Specification: Medical Service Automation System

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Medical Service Automation Syst x +

localhost:3000/doctorChatPage/%7B"patientEmail"%3A"siva%40gmail.com"%2C"patientName"%3A"Siva%20M"%2C"gender"%3A"M"%2C...

MediHealth E-SERVICES

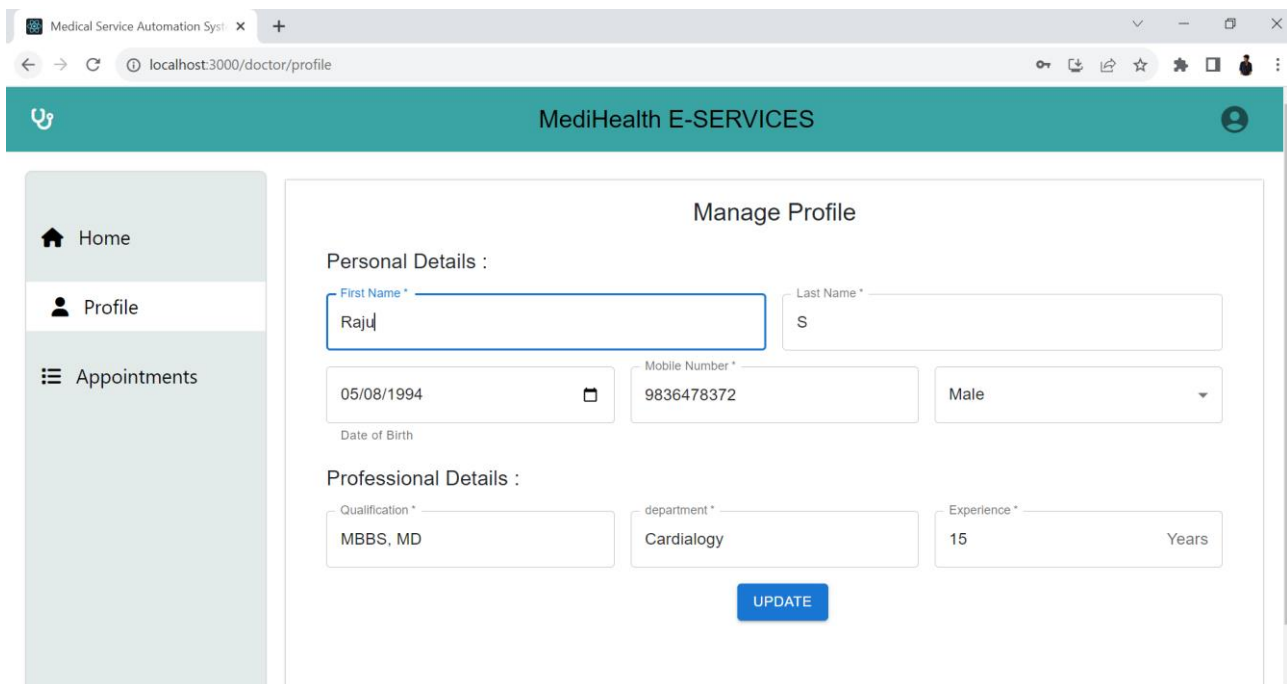
Home Profile Appointments

S Siva M

Hi Doctor

Hi Siva R

Type a message



Medical Service Automation Syst x +

localhost:3000/doctor/profile

MediHealth E-SERVICES


Home Profile Appointments

### Manage Profile

Personal Details :

First Name \* Raju

Last Name \* S

05/08/1994  Date of Birth

Mobile Number \* 9836478372

Male

Professional Details :

Qualification \* MBBS, MD

department \* Cardiology

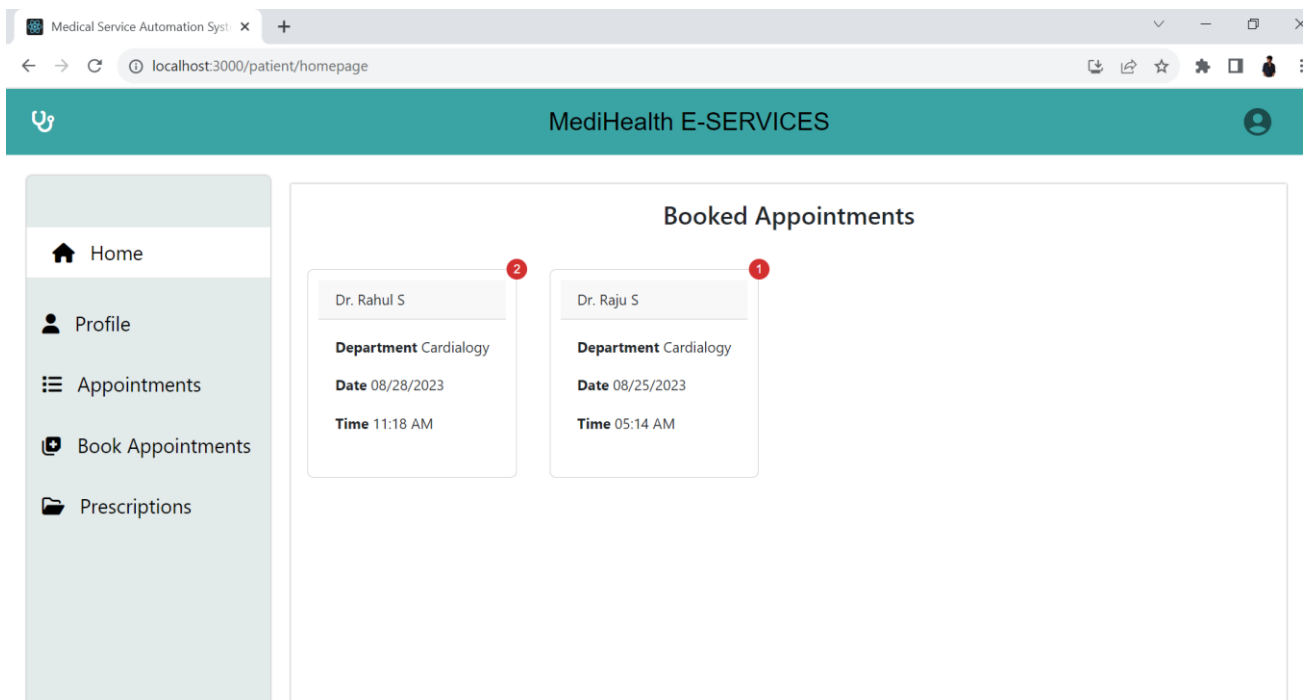
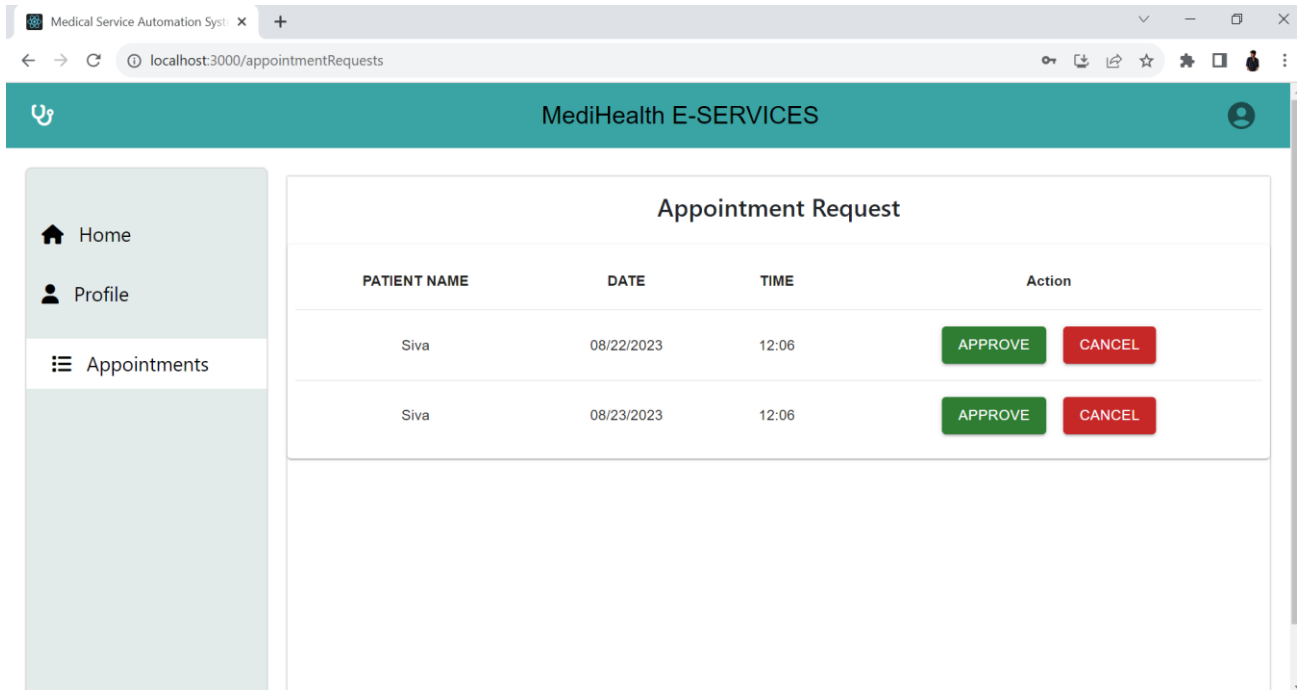
Experience \* 15 Years

UPDATE

## Requirements Specification: Medical Service Automation System

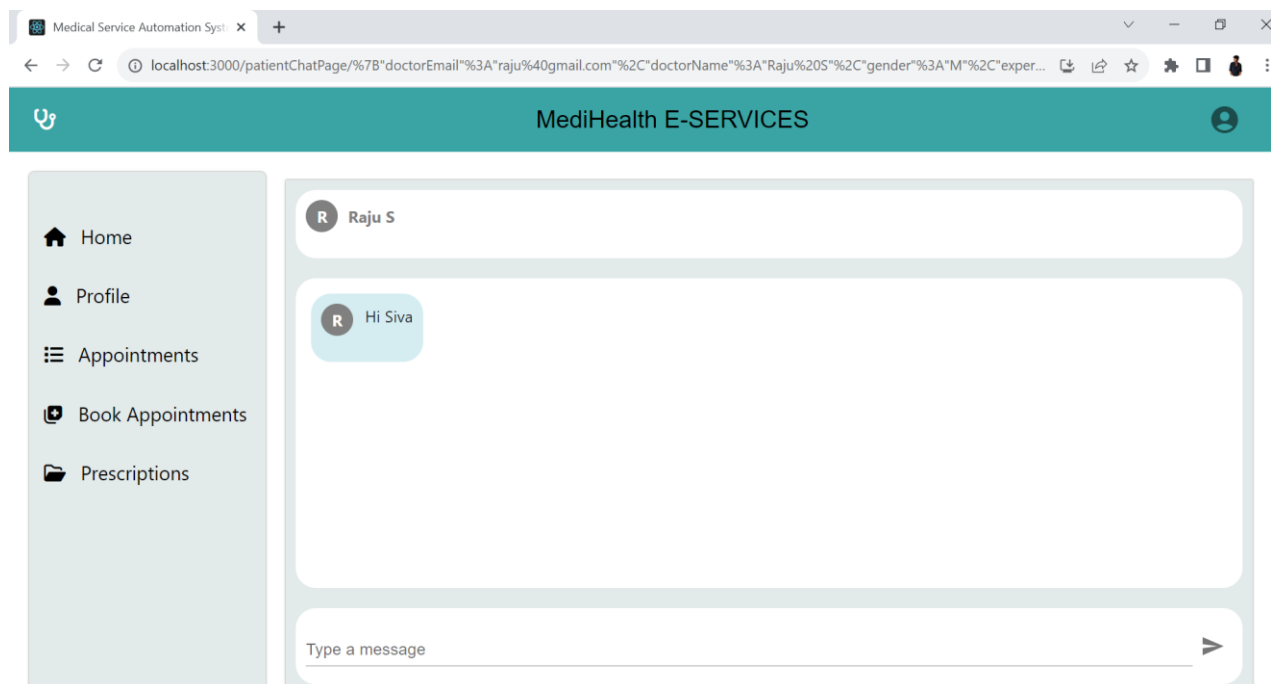
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name.



The screenshot displays a web browser window with the address bar showing a local URL. The page title is "MediHealth E-SERVICES". On the left, a sidebar menu lists: Home, Profile, Appointments, Book Appointments, and Prescriptions. The main content area shows the profile of "Dr. Raju S", a Male (M) Cardiology (Cardiology) doctor with MBBS, MD qualifications and 15 years of experience. There are two buttons: "GIVE FEEDBACK" and "MESSAGE".

Field	Value
Doctor Name	Dr. Raju S
Gender	M
Qualification	MBBS, MD
Department	Cardiology
Experience	15





## Requirements Specification: Medical Service Automation System

Version: Error! Unknown document property

name.

The screenshot shows a web browser window with the URL `localhost:3000/feedback/%7B%22doctorEmail%3A%22%22%22doctorName%3A%22%22%22gender%3A%22%22%22experience%3A%22%22%22%7D`. The page header is "MediHealth E-SERVICES". On the left is a sidebar with links: Home, Profile, Appointments, Book Appointments, and Prescriptions. The main content area has the heading "Please provide feedback below, if any....." and a large text input field with the placeholder "Provide feedback here". Below the input field is a blue "SUBMIT" button.

The screenshot shows a web browser window with the URL `localhost:3000/patient/profile`. The page header is "MediHealth E-SERVICES". On the left is a sidebar with links: Home, Profile, Appointments, Book Appointments, and Prescriptions. The main content area has the heading "Manage Profile". The form contains the following fields:
 

- First Name \*: Siva
- Last Name \*: M
- Date of Birth (mm/dd/yyyy): 06/10/1980
- Mobile Number \*: 6938449443
- Gender: Male (dropdown menu)
- Address \*: Bangalore, Karnataka
- Aadhar Number \*: 3385 2484 2882
- Policy Details : No (dropdown menu)

 A blue "UPDATE" button is located at the bottom right of the form.

## Requirements Specification: Medical Service Automation System

Version: Error! Unknown document property

name.

Medical Service Automation Syst x +

localhost:3000/appointments

MediHealth E-SERVICES

- Home
- Profile
- Appointments
- Book Appointments
- Prescriptions

DOCTOR NAME	DATE	TIME	STATUS
Dr. Rahul S	08/15/2023	11:30	Cancelled
Dr. Rahul S	08/22/2023	07:00	Approved
Dr. Rahul S	08/28/2023	11:18	Approved
Dr. Raju S	08/22/2023	12:06	Pending
Dr. Raju S	08/23/2023	12:06	Pending
Dr. Raju S	08/25/2023	05:14	Approved

Medical Service Automation Syst x +

localhost:3000/bookAppointments

MediHealth E-SERVICES

- Home
- Profile
- Appointments
- Book Appointments
- Prescriptions

### Book Doctor Appointment

Search for Department :

Department  
Cardiology

SEARCH

DOCTOR NAME	DEPARTMENT	EXPERIENCE	ACTION
Dr. Rahul S	Cardiology	20	BOOK
Dr. Raju S	Cardiology	15	BOOK

## Requirements Specification: Medical Service Automation System

Version: Error! Unknown document property

name.

Medical Service Automation Syst x +

localhost:3000/doctorBooking/%7B"id"%3A"64cce55ff12c812983e052b4"%2C"email"%3A"rahul%40gmail.com"%2C"firstName"%3A"Rahul"%2C...

Home

Profile

Appointments

Book Appointments

Prescriptions

Doctor Name : Dr. Rahul S

Department : Cardiology

Experience : 20

Fee : 500

Select date Select time

Aug 2023

Su	Mo	Tu	We	Th	Fr	Sa
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

BOOK APPOINTMENT

Medical Service Automation Syst x +

localhost:3000/doctorBooking/%7B"id"%3A"64cce55ff12c812983e052b4"%2C"email"%3A"rahul%40gmail.com"%2C"firstName"%3A"Rahul"%2C...

MediHealth E-SERVICES

Home

Profile

Appointments

Book Appointments

Prescriptions

Doctor Name : Dr. Rahul S

Department : Cardiology

Experience : 20

Fee : 500

25-08-2023 11:00

BOOK APPOINTMENT

## Requirements Specification: Medical Service Automation System

Version: Error! Unknown document property

name.

Medical Service Automation Syst x +

localhost:3000/prescriptions

MediHealth E-SERVICES

Home

Profile

Appointments

Book Appointments

Prescriptions

Prescriptions

sample.docx

Download

x-ray.png

Download

Upload New Prescriptions Below...

Choose File No file chosen Upload

MediHealth E-SERVICES

Billing

Aadhar Number : 3385 2484 2882

SEARCH

Patient Name : Siva M

Mobile Number : 6938449443

Insurance Eligibility : No

Add Fees to bill :

Name \* Bill Amount \* ADD

NAME	AMOUNT	ACTION
Consultation Fee	Rs. 500	REMOVE

Total Bill : Rs. 500.00

Payment Mode : Cash

RESET CONFIRM

## 2.4 External Interface Requirements

NA

name.

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### 3. Project Execution Related Requirements

#### 3.1 Development Environment

Technologies to be used for development of the Application:

- HTML5, CSS3
- JavaScript
- React JS
- Node JS

Software tools that can be used for development:

- Visual Studio Code

#### 3.2 Design requirements

Not applicable.

#### 3.3 Coding requirements

Since this is front end part of our Medical Service Automation System Application, we followed all the JavaScript coding standard requirements.

#### 3.4 Error handling requirements

NA

#### 3.5 Resource Requirements

Technologies to be used for development of the Application:

- HTML5, CSS3
- JavaScript
- React JS
- Node JS

#### 3.6 Training Requirements

- Since the application being developed is greatly dependent on user interaction, the end user should be comfortable with the UI.
- End users should be given a walkthrough of the working of the entire application throughout. Training should be provided with respect to efficient UI usage.

### 4. Testing Requirements

The testing phase includes front end level validation including mandatory fields and specified format fields.

### 5. Quality Assurance Activities

NA

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name.

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## 6. Software Acceptance Criteria

As this is a web Application it can run on any platform. So, there is no software acceptance criteria.

## 7. Deliverables

### 7.1 List of Deliverables

Not Applicable

### 7.2 Delivery

Not Applicable