HealingHand

HealingHand is a web platform designed to streamline healthcare access by allowing patients to book appointments with doctors at their convenience. Developed using ReactJS, JavaScript, MongoDB, and NodeJS, the site provides a user-friendly interface where patients can schedule appointments in specific time slots, ensuring efficient care delivery.

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Tech Stack

React JS

React JS is a JavaScript library for building user interfaces.

Express

Express is a Node.js web application framework.

Node.js

Node.js is a JavaScript runtime environment.

MongoDB

MongoDB is a NoSQL database.

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Authentication

Secure Authentication System

1

The application includes a secure authentication system to ensure that only authorized users can access certain features. This system handles user login, logout, and session management.

Role-Based Access

3

Different roles (Patient, Doctor, Admin) have different levels of access, enforced through the authentication system.

2

JWT (JSON Web Token)

JWT (JSON Web Token) is used for secure authentication in the application. Upon login, a JWT is generated and sent to the client, which is then included in the header of subsequent requests. The server verifies this token to authenticate the user and grant access to protected routes, ensuring secure and efficient session management without needing server-side storage.

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Home Page

Users

Users can select doctors, viewable by users, doctors, and admins, aiding in appointment bookings and overall platform management.

Doctors

Doctors can view their own profiles, viewable by users, doctors, and admins, aiding in appointment bookings and overall platform management.

Admins

Admins can manage all profiles, viewable by users, doctors, and admins, aiding in appointment bookings and overall platform management.

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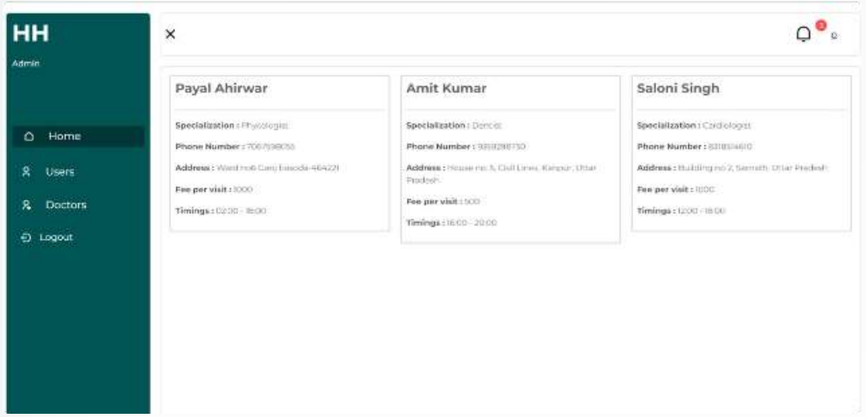

Home Page

The Home Page shows a list of available doctors, viewable by users, doctors, and admins. Users can select doctors, doctors can view their own profiles, and admins can manage all profiles, aiding in appointment bookings and overall platform management.

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Admin Page: A Central Hub for Platform Management

The Admin Page provides a central control panel for managing the application. Admins can review and approve or reject doctor applications, manage user accounts, and oversee overall platform activities. This page features a dashboard with tools for monitoring appointments, user registrations, and system performance. It ensures that the admin can efficiently handle administrative tasks and maintain the integrity and smooth operation of the application.

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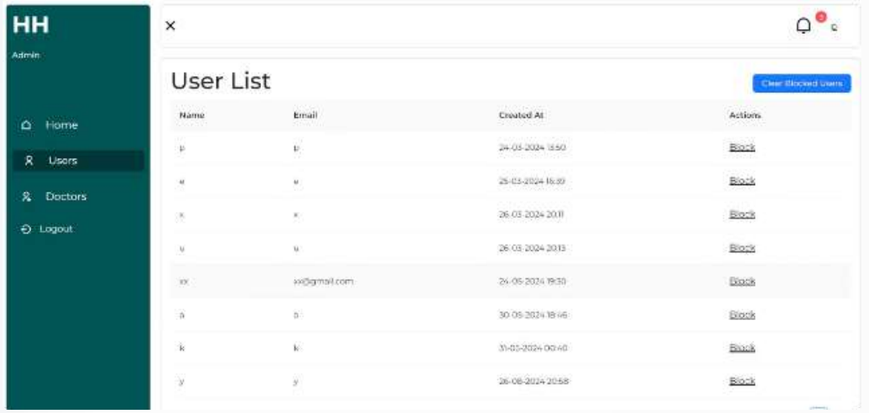
User List: Managing User Accounts

User List

The Admin Page displays a list of users, allowing admins to manage user accounts and oversee platform activities.

User Management

Admins can access and modify user information, including account details, permissions, and activity logs. This ensures that user data is secure and that the platform operates smoothly.



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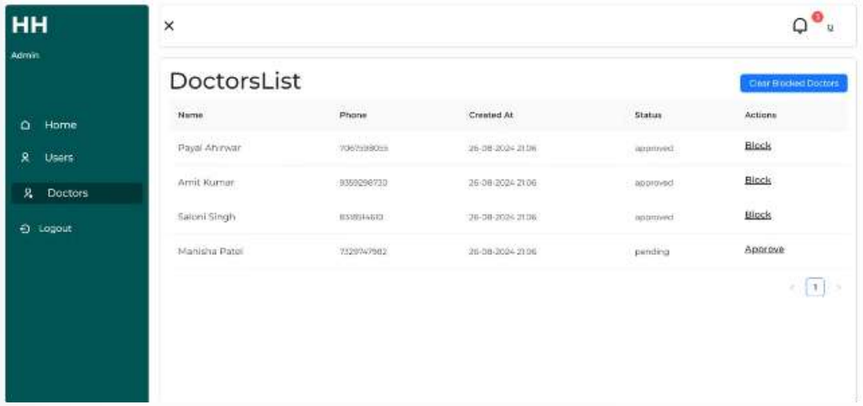
Doctors List: Overseeing Doctor Accounts

Doctor List

The Admin Page displays a list of doctors, allowing admins to manage doctor accounts and oversee platform activities.

Doctor Management

Admins can review doctor profiles, manage their availability, and ensure that they meet the platform's standards. This helps maintain the quality of healthcare services offered.



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Doctor Page: Managing Appointments and Profiles

Appointment Management

In this project, doctors have the ability to manage appointments by approving or rejecting bookings made by patients.

Doctor Profile

Additionally, each doctor has their own profile page, allowing them to update their information, view their schedule, and manage patient interactions efficiently.

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Appointments List: Approving and Rejecting Bookings

1 Appointment Overview

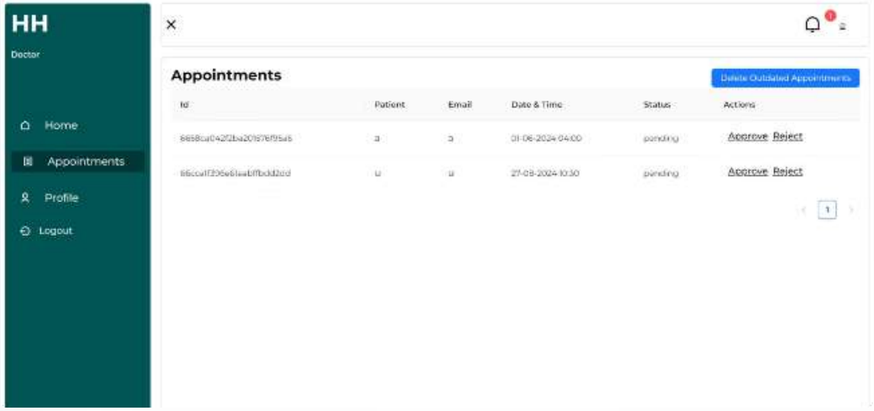
The Appointment Page for doctors allows them to view user appointments and approve or reject them as needed.

2 Appointment Details

Doctors can access detailed information about each appointment, including the patient's name, date, time, and reason for the appointment.

3 Appointment Management

Doctors can approve or reject appointments based on their availability and the patient's needs.



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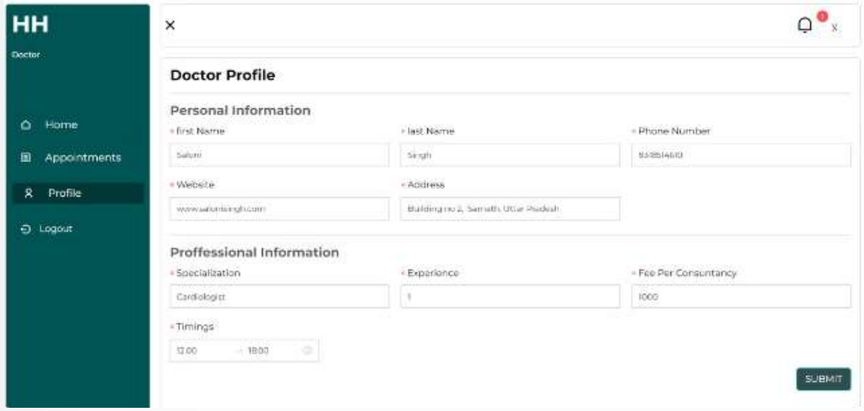
Doctor Profile: Displaying Doctor Information

Doctor Information

The Doctor's Profile Page displays all relevant details about the doctor, including their qualifications, specialties, and availability.

Profile Management

Doctors can also update their profile information as needed, ensuring that their details remain current and accurate.



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User Page: Applying for Doctor Roles and Booking Appointments

1

Doctor Application

This project is a web platform where users can apply to become doctors and book appointments seamlessly. The site provides a streamlined interface for users to submit applications for doctor roles, which are subject to admin approval.

2

Appointment Booking

Additionally, patients can easily schedule appointments with available doctors, ensuring accessible and efficient healthcare services.

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Apply for Doctor: Submitting Doctor Applications

1

Application Form

The Apply for Doctor Page allows users to submit applications for doctor positions.

2

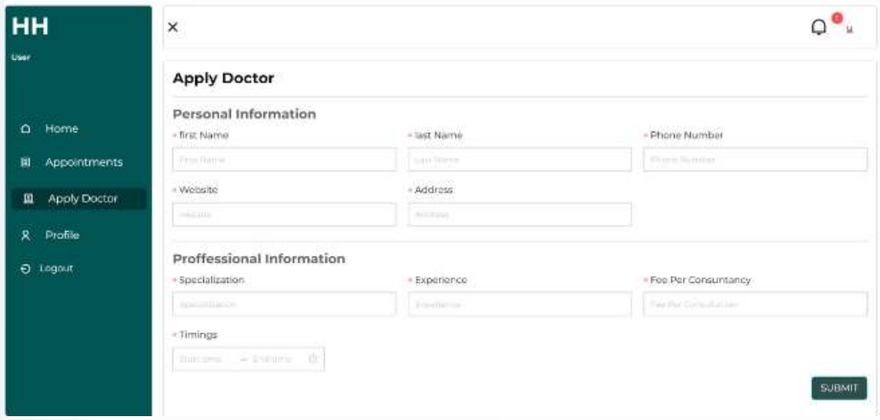
Qualifications and Experience

Users can fill out a form with their qualifications and experience, which is then reviewed by the admin for approval.

3

Application Submission

This page facilitates the application process for users seeking to join as doctors.



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Book Appointment: Scheduling Appointments with Doctors

Doctor Selection

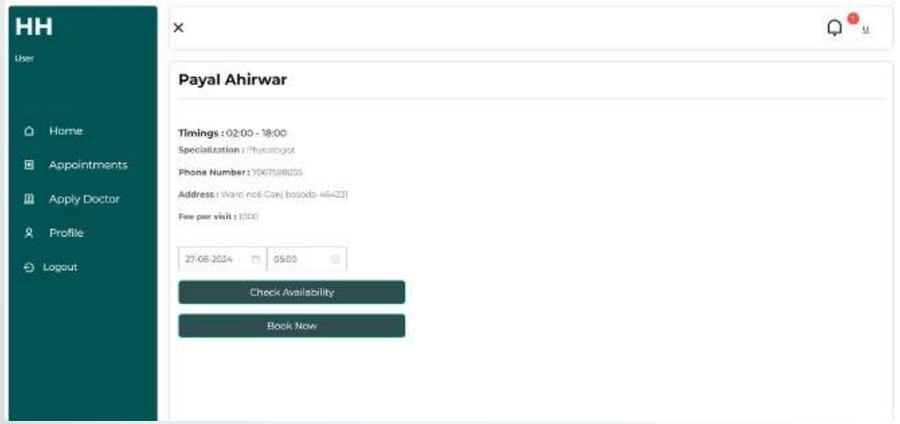
The Book Appointment Page lets users select a doctor and book an appointment directly.

Schedule Availability

Users can check the doctor's schedule for availability and book an appointment within the available time slots.

Appointment Confirmation

If the doctor is free during the selected time, the appointment can be confirmed.



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Challenges Faced

Developing a complex MERN stack application for a healthcare platform presented several challenges. Managing states across different components was a key issue. To address this, I implemented Redux for centralized state management, providing a single source of truth for the application's state. This approach ensured efficient state management and updates across the application, improving consistency and performance. Another critical aspect was ensuring the security and privacy of sensitive patient and doctor information. I utilized JWT (JSON Web Tokens) for authentication and implemented role-based access control to restrict access to sensitive information to authorized users only.

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Future Scope

1 Telemedicine Integration

Adding a video consultation feature to enable remote appointments would be a valuable addition. This would be particularly beneficial in situations where in-person visits are not feasible.

2 Prescription Management

Enabling doctors to issue digital prescriptions directly through the platform would streamline the process. These prescriptions could be sent electronically to pharmacies or patients, enhancing efficiency and convenience.

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