

Appointment Scheduling System

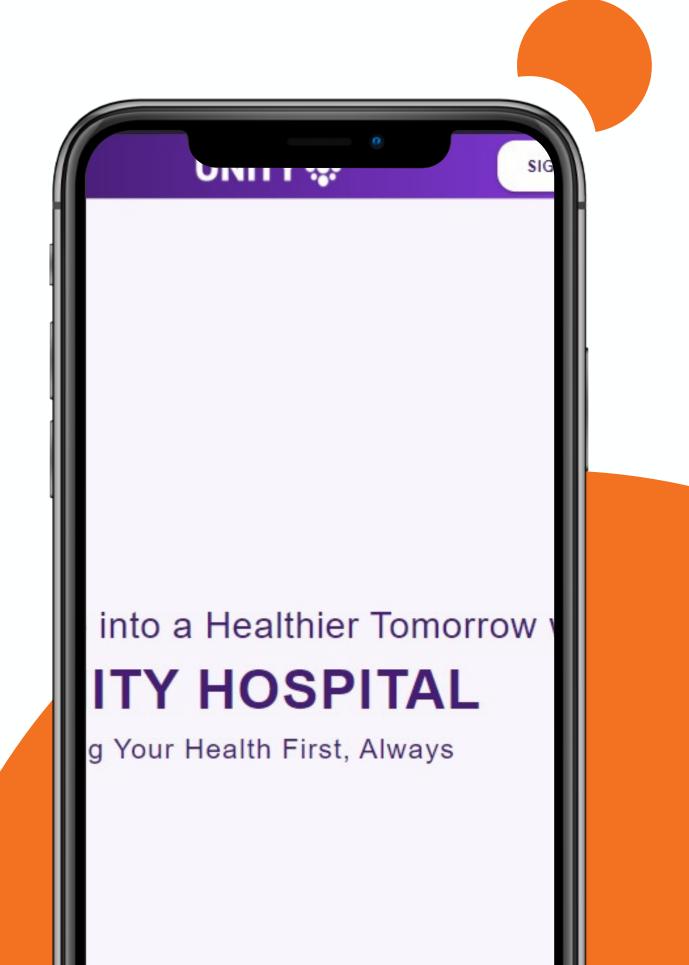
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Agenda

- 1. Problem statement
- 2. Solution Implementation
- 3. Working of final software
- 4. Challenges encountered
- 5. Future Scope
- 6. Conclusion



Problem Statement

Appointment Scheduling System:

Our task is to develop an efficient and user-friendly appointment scheduling system for a busy medical clinic. The appointment scheduling system should streamline the process of booking, managing, and cancelling appointments for both patients and medical practitioners. Participants should focus on creating a reliable and intuitive platform that optimizes the clinic's workflow and enhances the overall patient experience.

Requirements:

- User Registration and Authentication
- Calendar Integration
- Appointment Booking
- Waitlist Management
- Real-time Availability
- Administrative Dashboard



<u>Overview</u>

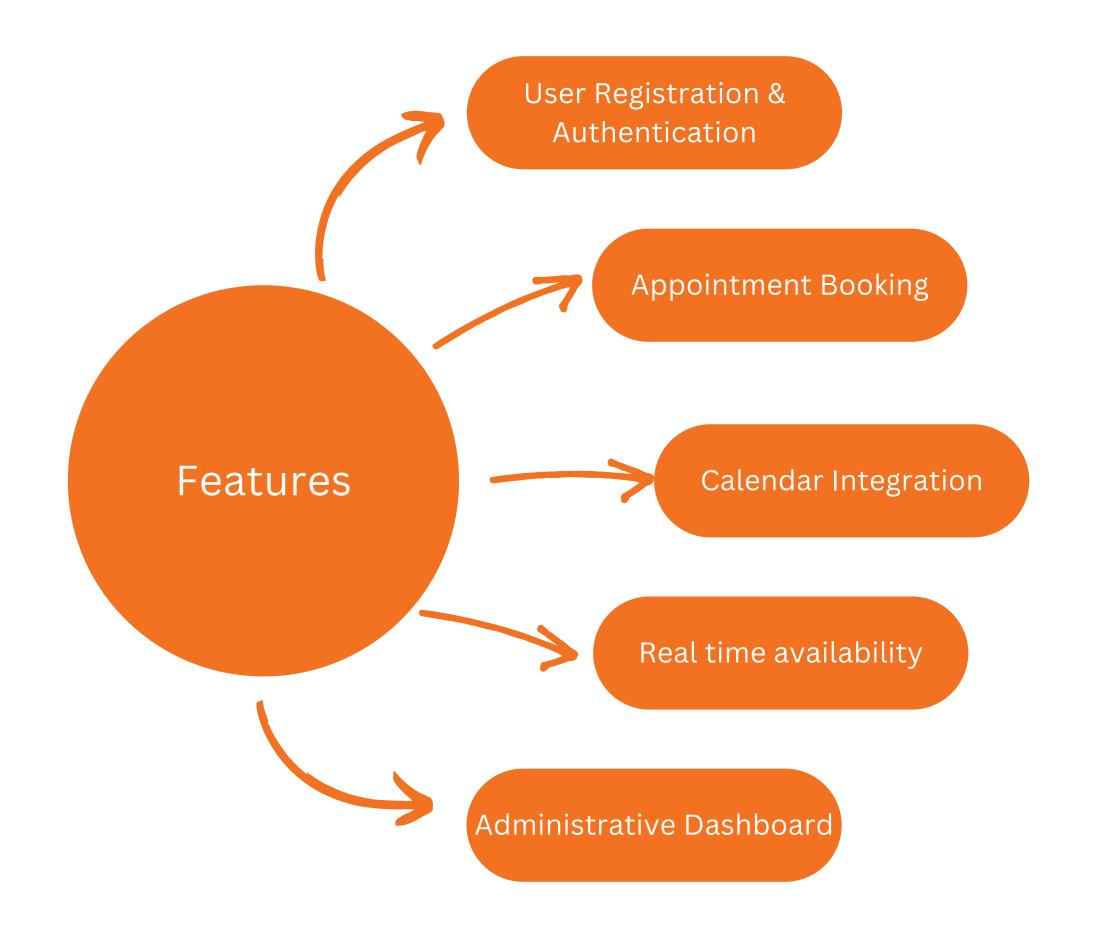
The main goal of this project was to develop an efficient and user-friendly appointment scheduling system for a busy medical clinic. We have achieved this goal by implementing a number of key features and functionalities, as outlined in the given problem statement.

We have developed a reliable and intuitive appointment scheduling system for a busy medical clinic. The system streamlines the process of booking, managing, and cancelling appointments for both patients and medical practitioners. It also optimizes the clinic's workflow and enhances the overall patient experience, reducing the administrative burden on staff.

The solution involves a full stack web application using MERN stack to meet the requirements and deliver the desired software.









Implementation overview

We have included three fields in our database that are Patient, Medical Practitioners and Administrator.

Our Database Schema:

• Patients:

Details taken are Full Name, Phone-number, Email-ID, Password, Age, Height, Weight, Gender, Disability (if any).

Doctors:

Details taken by administrator for adding a doctor are Full Name, Phone-Number, Email-ID, Password, Age, Specialization, Room of Seating.

The implementation of the solution is done based on following functionalities.

1. User login/ Authentication:

- The users of this system are patients, medical practitioners and administrator.
- New Patients need to register first on the system, they need to fill their profile details. Existing patients can login with their credential.
- Administrator has no need to register. The Admin details are already defined. They need their credential to login.
- Medical Practitioners need to login by providing their credential.
- For authentication, Java web token(JWT) is used. We have encrypted login details to ensure privacy achieved through encrypt.

2. Appointment Booking:

• Only patients can create appointments. Patients can manage/edit appointments and Medical Practitioners can only reject appointment. And after successful appointment, they can give prescription digitally on that appointment.

3. Calendar Integration:

• To enhance view and managing of appointments for the users based on the selected date. All appointments on that selected date are visible. Patients can view their past, current and future appointments.

4. Real time availability:

• Patients should be able to see which appointment slots are available in real time. This will help them to find an appointment time that works for them.



Software Images



Challenges & Solution

Challenges	Solution
Calendar Integration	 The system must be able to integrate with the clinic's existing calendar system and other software applications. To integrate with the clinic's existing systems, the system can use open APIs.
Real-time availability	 Use a database to store all of the clinic's appointment availability information. This information can then be displayed to patients in real-time on the clinic's website or app.
Administrative Dashboard	 Design the dashboard with the needs of clinic staff in mind. Make sure it is easy to use and provides all of the information and functionality that they need.



Future Scopes

Patient review:

Patients can leave reviews of their experience with the clinic and their doctor or practitioner.

Appointment reminders:

Patients and practitioners can receive email or SMS reminders about upcoming appointments.

• Online payments:

Patients can pay for their appointment fees online using a credit, debit card, UPI.

Multi-language support:

Multi-language support would make the appointment scheduling system more accessible to patients from all backgrounds.



Forgot password:

In case any patient or medical practitioner forgot's his/her login password then this feature would send a message to the registered mobile number about setting the new password.

• Tele-medicine integration:

It would allow patients to have virtual appointments with their doctor or practitioner. This would be convenient for patients who live in remote areas or who have difficulty traveling to the clinic.

Augmented reality:

Augmented reality could be used to provide patients with a virtual tour of the clinic before their appointment. This would help to reduce patient anxiety and make the appointment experience more comfortable.

Conclusion

We believe that our appointment scheduling system is a valuable tool for medical clinics of all sizes. It helps in providing a robust and user-friendly solution for managing appointments between patients and doctors. It can help clinics to streamline their workflow, improve patient satisfaction, and increase revenue.

