DOCSPOT: SEAMLESS APPOINTMENT BOOKING FOR HEALTH

Using MERN Stack

Team Details

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1. INTRODUCTION

DocSpot is a MERN stack healthcare appointment booking system connecting Patients, Doctors, and Admins. It enables appointment scheduling, medical document uploads, notifications, and secure authentication.

1.1 Key Features

- Patient Registration & Secure Login (JWT + bcrypt)
- Doctor Browsing & Filtering
- Appointment Booking & Management
- Doctor Dashboard
- Admin Panel
- Notification System

2. IDEATION PHASE

The system eliminates manual scheduling issues and ensures real-time availability and centralized management.

2.1 Problem Statement

Patients face delays in manual booking systems. DocSpot provides structured digital scheduling.

3. REQUIREMENT ANALYSIS

Secure authentication, role-based access control, appointment tracking, database management, and notifications are required.

3.1 Functional Requirements

- User Registration & Login
- Role-Based Access
- Doctor Approval
- Appointment Booking & Cancellation
- Status Tracking

3.2 Non-Functional Requirements

- Scalability

- Security

- Responsive UI

- Performance Optimization

4. PROJECT DESIGN

Client-server architecture using React frontend, Express backend, MongoDB database, and JWT authentication.

4.1 ER Diagram Explanation

Users, Doctors, and Appointments collections with one-to-many relationships.
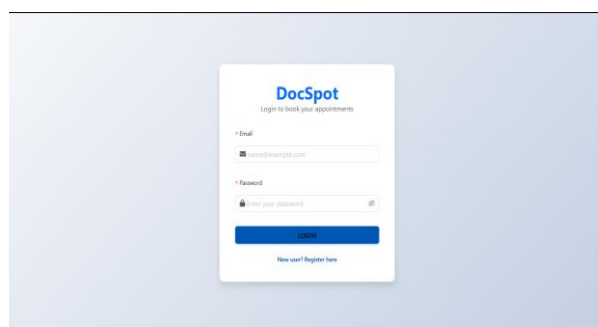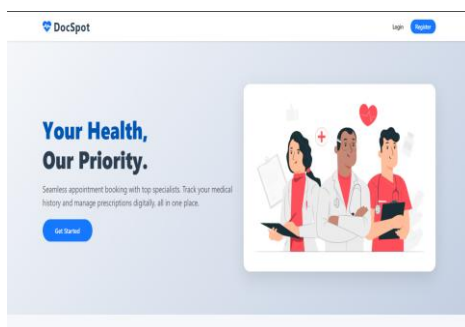
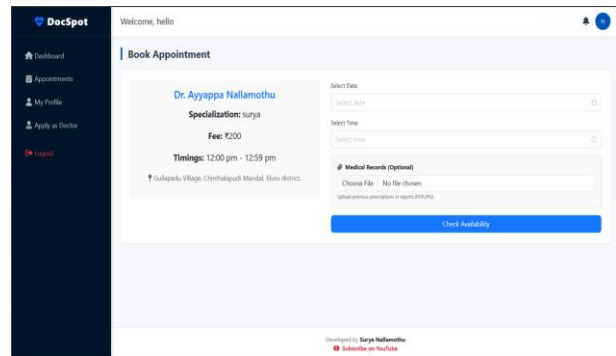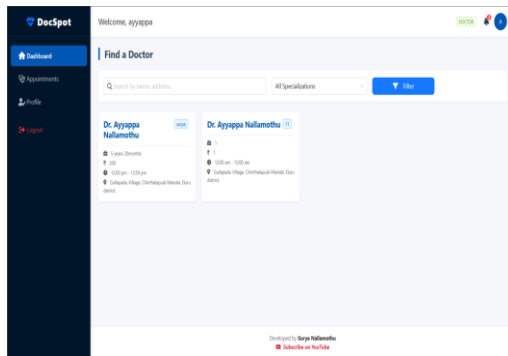## 5. PROJECT PLANNING & SCHEDULING

- Setup & Configuration

- Backend Development

- Database Design

- Frontend Development

- Testing & Deployment

6. FUNCTIONAL AND PERFORMANCE TESTING

All modules tested using Postman and manual testing to ensure correct workflows and performance.

7. RESULTS

8. ADVANTAGES

- Secure authentication

- Scalable architecture

- User-friendly interface

- Real-time tracking

8. DISADVANTAGES

Requires internet connection and server maintenance.

9. CONCLUSION

DocSpot improves healthcare accessibility through a secure and scalable MERN implementation.

10. FUTURE SCOPE

- Video consultation

- Payment gateway

- AI recommendations

- Mobile application

11. APPENDIX

Technology Stack: MongoDB, Express.js, React.js, Node.js

Backend: express, mongoose, bcryptjs, jsonwebtoken, cors, multer, dotenv

Frontend: React, Axios, Ant Design, Bootstrap, Material UI

Github : https://github.com/ayyappavenkatasurya/DocSpot-Seamless-Appointment-Booking-for-Health