1. Introduction

Project Title:

DocSpot — Seamless Appointment Booking for Health

Team Members:

- Ponnada Jaya Chaitanya – Team Leader
- Velpuri Posibhavani – Team Member
- Kone Veera Sravani – Team Member
- Gurugubelli Abhiram – Team Member
- Polisetti Ambica Prasanna – Team Member

Team ID: LTVIP2026TMIDS35287
Team Size: 5

2. Project Overview

Purpose

DocSpot is an online healthcare appointment booking platform that connects patients with doctors. It simplifies booking, managing schedules, and receiving notifications in a secure and user-friendly way.

Key Features

- Patient Registration & Profile Management
- Doctor Search & Filtering
- Appointment Booking & Management
- Doctor Dashboard
- Admin Panel
- Email & SMS Notifications
- Secure Authentication (JWT & bcrypt)

3. Architecture

Frontend:

- Built using React.js
- React Router for navigation
- Bootstrap / Material UI / Ant Design for styling
- Axios for API communication

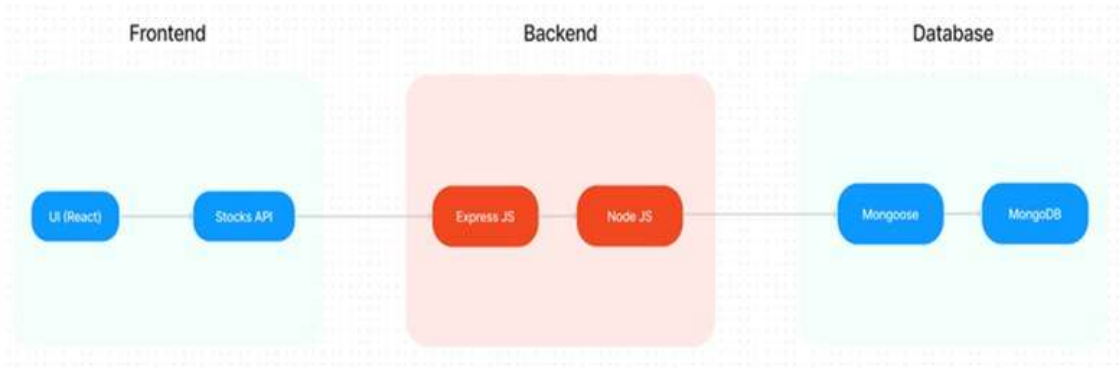
Backend :

- Node.js with Express.js
- RESTful API architecture
- JWT for authentication
- bcrypt for password hashing

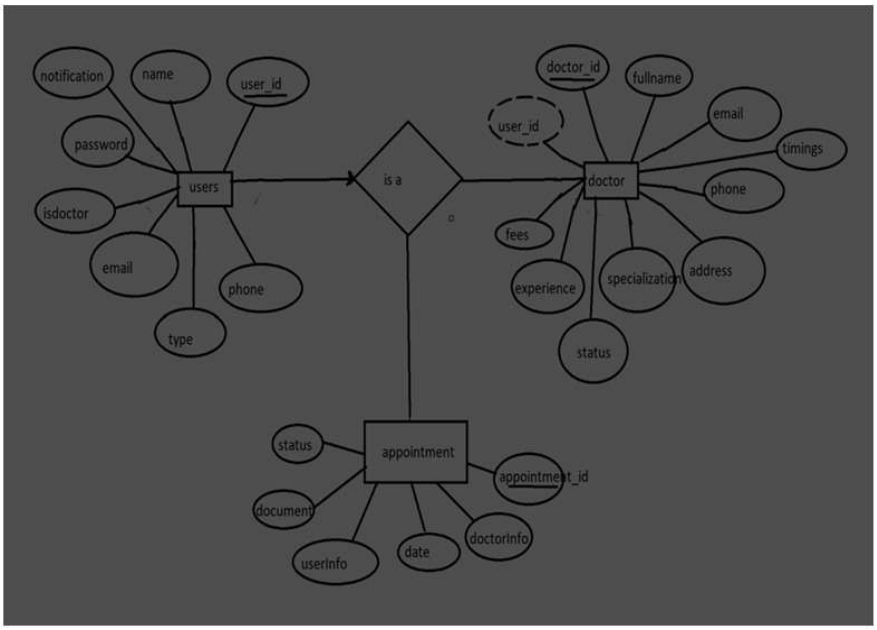
Database :

- MongoDB (NoSQL database)
- Collections:
    - Users
    - Doctors
    - Appointments

System Architecture Diagram of DocSpot



ER Diagram of DocSpot System



4. Setup Instructions

Prerequisites

- Node.js
- MongoDB
- Git

Installation Steps

Clone Repository

cd docspot git clone https://github.com/docspot/docspot.git

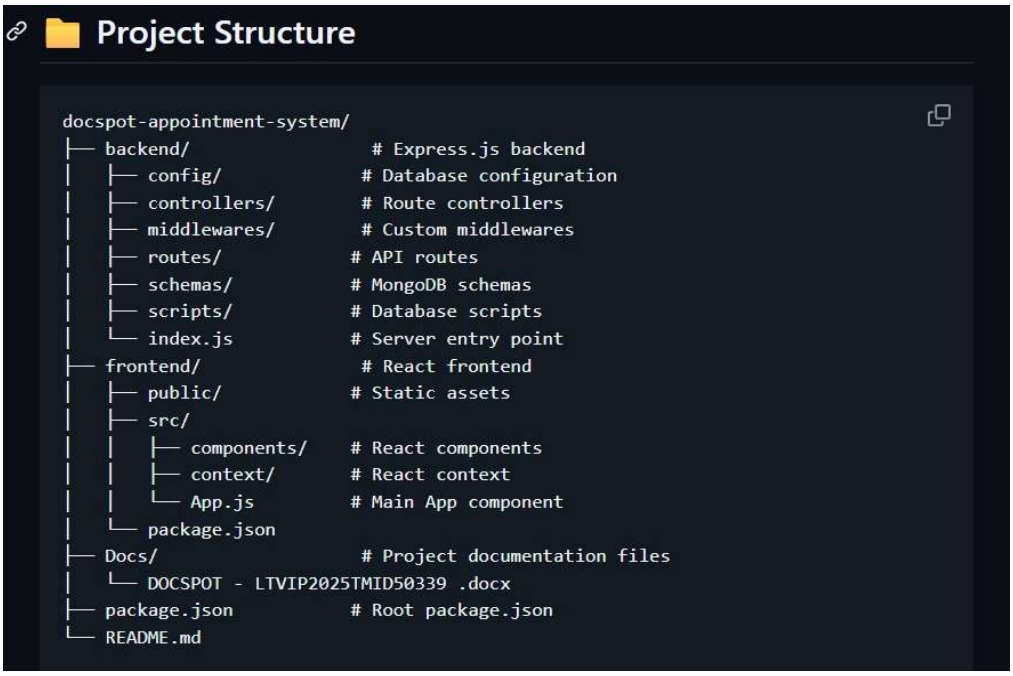
Backend Setup

cd backend
npm install
npm start

Frontend Setup

cd frontend
npm install
npm start

5. Folder Structure



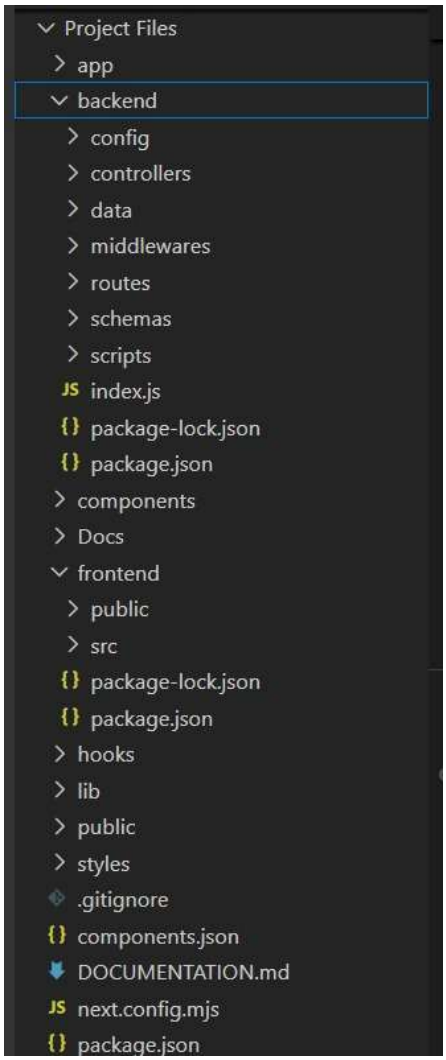
Client (Frontend)

- public/
- src/
- components/
- pages/
- services/
- App.js
- index.js

Server (Backend)

- config/
- controllers/
- models/
- routes/
- middleware/
- uploads/
- server.js

Detailed Project Structure (VS Code View)



6. Running the Application

Frontend:

npm start

Runs on: http://localhost:3000

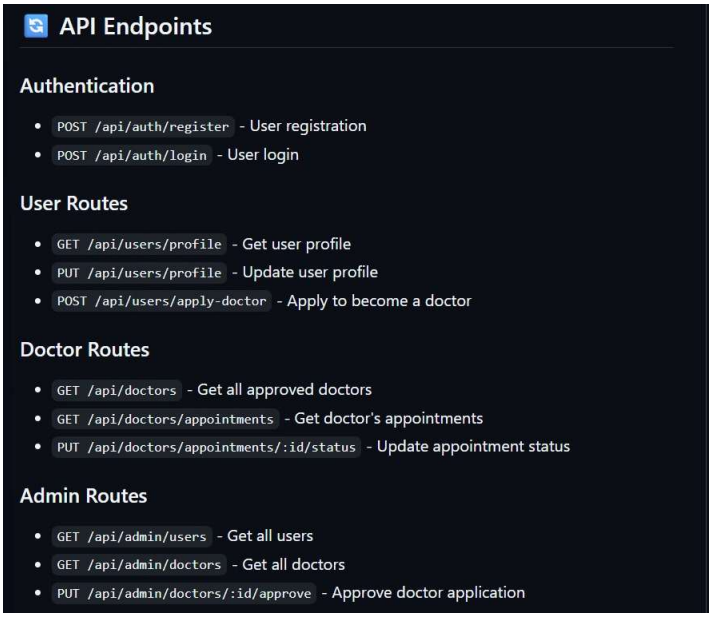
Backend:

npm start

Runs on: http://localhost:5000

7. API Documentation

The backend exposes RESTful API endpoints to support frontend operations. Key endpoints include:



User Registration:

- POST /api/users/register

Request Body:

```
{
  "name": "John Doe",
  "email": "john@example.com",
   "password": "password123",
    "type": "patient"
}
```

Response:

```
{
  "success": true,
  "message": "User registered successfully."
}
```

User Login:

- POST /api/users/login

Request Body:

```
{
  "email": "john@example.com",
  "password": "password123"
 }
```

Response:

```
{
  "token": "<jwt_token>",
  "user": {
            "_id": "user_id",
            "name": "John Doe",
            "email": "john@example.com",
            "type": "patient"
           }
  }
```

Fetch Doctors List:

- GET /api/doctors
- Query Parameters: Optional filters (e.g., specialization, location)

Response:

```
[{
 "_id": "doctor_id",
 "fullname": "Dr. Smith",
 "specialisation": "Cardiology",
 "experience": "10 years",
 "fees": 500
},  ...]
```

Book Appointment

- POST /api/appointments

Request Body:

```
{
  "doctorId": "doctor_id",
  "userId": "user_id",
   "date": "2025-07-01T10:00:00Z",
   "documents": ["document_url_1", "document_url_2"],
   "status": "pending"
}
```

Response:

```
{
  "success": true,
 "message": "Appointment booked successfully."
 }
```

Other Endpoints: Include routes for appointment status updates, doctor registration approval, and user profile management.

8. Authentication

- JWT Token-based Authentication
- Password hashing using bcrypt
- Role-based Authorization (Admin, Doctor, Patient)
- Stateless session handling

9. User Interface

Includes:

- Landing Page
- Login & Register Page
- Patient &Doctor Dashboard
- Admin Dashboard
- Booking History

10. Testing

- Unit Testing
- Integration Testing
- Performance Testing
- Security Testing
- User Acceptance Testing

11. Screenshots / Demo

Demo Video: https://drive.google.com/file/d/18C61itAUcULcNt8OR3e2nthye2zoJcSr/view

12. Known Issues

- No direct appointment rescheduling
- Minor notification delays
- Mobile UI needs optimization
- File upload size warning missing

13. Future Enhancements

- Direct Rescheduling Feature
- Real-time Chat
- Payment Integration
- Multi-language Support
- AI Doctor Recommendation
- Mobile Application