

DocSpot - Doctor Appointment Booking System

1. Abstract

DocSpot is a doctor appointment booking system developed using the MERN (MongoDB, Express.js, React.js, Node.js) stack.

The platform simplifies the process of scheduling medical consultations by enabling both patients and doctors to connect

seamlessly online. It is designed to make healthcare more accessible and reduce the time spent on traditional appointment procedures.

2. Objective

The primary objective of DocSpot is to enable unhealthy patients to book appointments with available and interested doctors

easily through a modern web-based system.

3. Team Member

- Team Leader: Gummalla Avinash (23A21A6130)

4. Technology Stack

- Frontend: React.js
- Backend: Node.js with Express.js
- Database: MongoDB
- Runtime Environment: Node.js
- Package Manager: npm/yarn
- Version Control: GitHub
- Other Tools: Postman (for API testing), JWT (for authentication), Mongoose (for MongoDB object modeling)

5. Target Users

- Patients: Who are looking for easy and fast appointment booking.
- Doctors: Who want to manage their availability and appointments efficiently.

6. System Architecture

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graph LR; A[React Frontend] <----> B[Node.js + Express Backend]; B <----> C[MongoDB Database];
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JWT Authentication

7. Key Features

- User and Admin login system.
- Appointment booking module for patients.
- Schedule management for doctors.
- Admin dashboard to manage doctors and appointments.
- Authentication and Authorization using JWT.
- Responsive and user-friendly UI.
- Real-time feedback and validation for forms.

8. Modules

8.1 User Module

- Register/Login as a patient.
- Browse available doctors.
- Book, cancel or reschedule appointments.

8.2 Doctor/Admin Module

- Login and manage schedule.

- View upcoming appointments.
- Modify availability and slot preferences.

8.3 Admin Panel

- View all users and doctors.
- Add or remove doctors.
- Review reports of appointments.

9. Screenshots

(You can insert screenshots here for each module or page: Landing page, Login, Dashboard, Booking interface, etc.)

10. Future Enhancements

- SMS/email reminders for upcoming appointments.
- Integration of telemedicine via video calls.
- Review and rating system for doctors.
- In-app chat feature between doctor and patient.
- Payment gateway integration.

11. Conclusion

DocSpot bridges the gap between doctors and patients by providing a modern digital platform for scheduling appointments.

Its clean interface and robust backend enable quick, secure, and reliable access to healthcare services.

The project demonstrates the effective use of the MERN stack to address real-world problems in healthcare.

12. References

1. MongoDB - <https://www.mongodb.com/>
2. Express.js - <https://expressjs.com/>
3. React.js - <https://reactjs.org/>
4. Node.js - <https://nodejs.org/>
5. JWT - <https://jwt.io/>
6. GitHub - <https://github.com/>
7. Postman - <https://www.postman.com/>