

# Book A Doctor - Project Documentation

## 1. Introduction

Project Title: Book A Doctor

Team ID: LTVIP2025TMID53796

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## 2. Project Overview

Purpose:

An online platform to schedule doctor appointments, enabling patients to browse doctors by specialty and availability, book slots, and upload medical records. Doctors manage their appointments, and admins monitor and approve doctor registrations.

Key Features:

- Patient registration and profile creation
- Search and filter doctors
- Appointment booking with document upload
- Doctor dashboard for managing slots and visits
- Admin panel for approvals and monitoring

## 3. Architecture

Frontend:

- Built with React.js using Material UI and Bootstrap for UI design.
- Axios for API calls and React Router for navigation.

Backend:

- Node.js with Express.js for routing and logic.

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- JWT for authentication and bcrypt for secure passwords.

Database:

- MongoDB with Mongoose for schema definitions.

## 4. Setup Instructions

Prerequisites:

- Node.js & npm
- MongoDB or MongoDB Atlas

Installation:

- Clone repository and install dependencies with ``npm install`` in both frontend and backend folders.
- Create a ``.env`` file in backend with `MONGO_URI`, `JWT_SECRET`, and `PORT`.

Run Servers:

- Frontend: ``npm start`` in frontend directory
- Backend: ``npm start`` in backend directory

## 5. Folder Structure

Frontend:

- `src/components`, `src/pages`, `src/services`

Backend:

- `routes`, `controllers`, `models`, `middlewares`, `uploads`, `server.js`

## 6. Running the Application

- Frontend runs at `http://localhost:3000`
- Backend runs at `http://localhost:5000` (or configured port)

## 7. API Documentation

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- POST /api/user/register - Register user
- POST /api/user/login - Login user
- GET /api/doctors - Fetch doctor list
- POST /api/appointments - Create appointment
- GET /api/admin/appointments - Admin views all appointments

## 8. Authentication

- JWT used for session management
- bcrypt for password hashing
- Role-based access for user, doctor, admin

## 9. User Interface

- Login/Register pages
- User dashboard for booking and tracking
- Doctor panel to manage patients
- Admin panel for approval and governance

## 10. Testing

- Postman for API testing
- UI tested on Chrome and Firefox with demo data

## 11. Screenshots / Demo

Demo Video: <https://drive.google.com/drive/folders/1pteT8STdObONWwELNDHRK9bItLuiJ-1?usp=sharing>

GitHub Repo: (to be added)

## 12. Known Issues

- Appointment list requires refresh to update in real time
- Limited file format support for uploads

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## 13. Future Enhancements

- Add chat between doctors and patients
- Integrate payment gateway
- Separate dashboards for better UX
- Add analytics for admin dashboard

## Conclusion

The Book A Doctor project is a MERN stack-based healthcare booking app that efficiently connects patients with healthcare providers while providing robust admin controls and secure authentication.