Solution Architecture – HouseHunt: Finding Your Perfect Rental Home

Team Details

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Team ID	LTVIP2026TMIDS89460
Project name	Docspot: seamless appointment booking for health

Project Overview

DocSpot is a full-stack healthcare appointment platform built on the MERN stack that digitizes the end-to-end booking experience. It enables Patients to discover doctors and schedule visits, Doctors to manage appointments and profiles, and Admins to control the entire ecosystem. Secure JWT-based authentication and role-based access ensure controlled access across dashboards. Built-in protections like Helmet, rate limiting, and injection sanitization strengthen security. A seeded admin ensures immediate governance from day one.

Scenario-Based Case Study

In a growing urban clinic network in Hyderabad, appointment management was chaotic—manual bookings caused double scheduling and missed follow-ups. After implementing DocSpot, patients began browsing verified doctors online and booking slots instantly. Doctors could approve or reject requests in real time, reducing no-shows and administrative calls. The admin gained centralized control over all users and schedules, eliminating data silos. Within months, operational efficiency improved, patient wait time dropped, and the clinic scaled without increasing front-desk staff.

Technical Architecture

DocSpot follows a client–server architecture built using the MERN stack (MongoDB, Express.js, React, Node.js).
The frontend is developed with React and Ant Design, communicating with the backend via Axios and RESTful APIs.
The backend uses Express.js to manage routing, middleware, authentication, and business logic.
JWT authentication and role-based access control ensure secure access for Admin, Doctor, and Patient roles.
MongoDB Atlas with Mongoose manages structured data for Users, Doctors, and Appointments, ensuring scalability and reliability.

Solution Architecture Diagram