



Hospital Management System (HMS)

Revolutionizing healthcare operations through a secure, user-friendly, and responsive full-stack system.



Project Vision: Digitizing Hospital Operations

Patient Registration

Streamlined intake process

Doctor Management

Efficient scheduling & profiles

Appointment Booking

Flexible scheduling, status updates

Prescriptions & Billing

Digital, integrated, transparent

Key User Personas

Tailored experiences for every role within the system.



Admin

Oversees entire hospital operations.



Doctor

Manages patients, diagnoses, and prescriptions.



Receptionist / Staff

Handles patient check-ins and scheduling.



Patient

Books appointments, views records, manages payments.

Authentication & Role-Based Access

Ensuring secure access and data integrity for all users.

- **Email/Password Login:** Standardized secure entry.
- **Role-Based Access Control:** Customized permissions for each user type.
- **Secure Session Handling:** Protecting user data during active sessions.





Core Modules: Empowering Efficiency

From administrative oversight to patient self-service.

01

Admin Module

Staff & department management, analytics, reports.

02

Doctor Module

Daily appointments, patient history, digital prescriptions, lab uploads.

03

Patient Module

Appointment booking, rescheduling, viewing reports & invoices.



Streamlined Patient Journey

Seamless management of appointments and billing.

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Appointment Management

Doctor availability, booking, status updates, notifications.

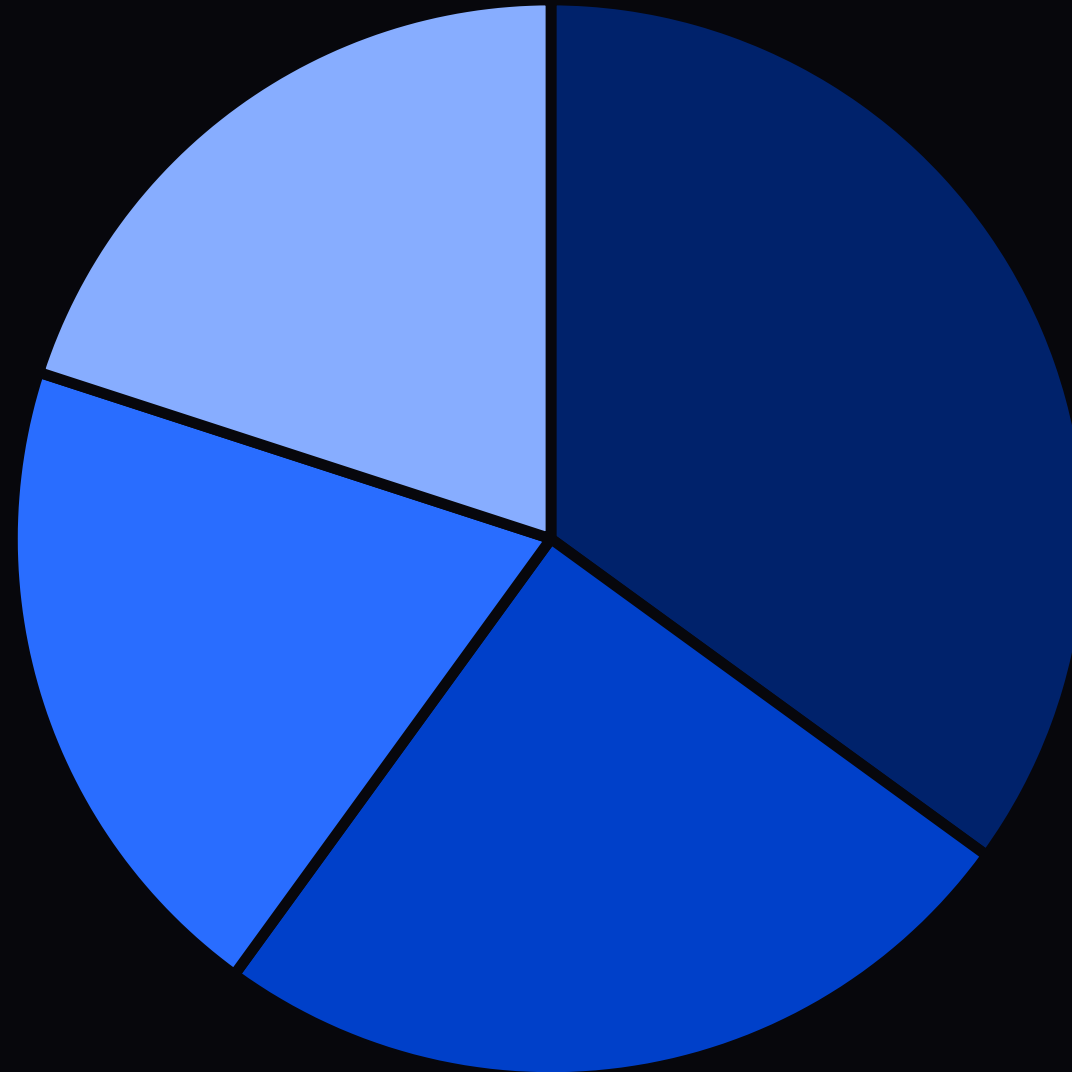
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Billing & Payments

Auto-generated bills, PDF invoices, payment tracking.

Data-Driven Insights

Comprehensive dashboards and reports for informed decision-making.



■ Patient Statistics

■ Revenue Reports

■ Appointment Trends

■ Operational Efficiency

Admin Dashboard: Visual analytics with charts.

Reports: Daily, weekly, monthly breakdowns of patient and revenue data.

Our Lean Tech Stack

Leveraging free, robust tools for a scalable and efficient solution.



Frontend

React or simple HTML/CSS for responsive UI.



Backend

Node.js or Python (Flask) for powerful server-side logic.



Database & Auth

Firebase / Supabase (PostgreSQL) for data, Firebase Auth for secure login.



Hosting

Replit / Vercel for reliable and free deployment.

Non-Functional Priorities

Building a reliable and robust HMS.



- **Secure Data Handling:** Protecting sensitive patient information.
- **Fast Load Time:** Optimizing performance for quick access.
- **Error Handling & Validation:** Ensuring system stability and data accuracy.
- **Responsive Design:** Seamless experience on mobile and desktop.

Deliverables: Bringing HMS to Life

Working Web Application

Fully functional, user-ready system.

Clean Source Code

Well-documented, maintainable, and scalable.

README with Setup Instructions

Clear guide for easy deployment and understanding.

Sample Demo Data

Pre-populated data for immediate testing and demonstration.

