

Hospital Management System (HMS)

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Mission Statement:

The mission of the Hospital Management System (HMS) database is to streamline hospital operations, enhance patient care, and improve administrative efficiency by providing a secure, centralized, and reliable platform for managing patient information, appointments, treatments, pharmacy, medication and billing. The system will ensure accurate information flow across departments, reduce operational delays, and support informed decision-making for both medical and administrative staff.

Mission Objectives:

1. Patient Information Management

- Database Impact: Central entity with necessary attributes, connects to every other module
- Industry Relevance: Core of any HMS - patient demographics, medical history, contact info
- Technical Showcase: Master table with complex relationships, data validation rules

2. Appointment and Scheduling Management

- Database Impact: Complex time-based constraints, availability algorithms
- Industry Relevance: Critical workflow - doctor availability, patient queues
- Technical Showcase: Advanced scheduling logic, conflict resolution, time-slot management

3. Medical Staff Management

- Database Impact: Role-based access control, shift patterns, specialization tracking
- Industry Relevance: Staff allocation, credentials tracking, department assignments
- Technical Showcase: Hierarchical relationships, security permissions, performance metrics

4. Clinical Orders

- Database Impact: Inventory management, prescription workflows, test result tracking
- Industry Relevance: Critical integration between diagnosis and treatment
- Technical Showcase: Supply chain logic, dosage calculations, result reporting systems

5. Billing, Insurance & Reporting

- Database Impact: Financial calculations, insurance claim processing, revenue tracking
- Industry Relevance: Revenue cycle management - absolutely essential for hospitals
- Technical Showcase: Complex financial queries, reporting dashboards, audit trails