Project proposal

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Introduction

The healthcare sector plays a vital role in ensuring the well being of any society but in developing countries like Pakistan hospitals face multiple challenges such as high patient load shortage of staff inefficient record keeping and delays in service delivery. Public hospitals like **Pakistan Institute of Medical Sciences (PIMS) Islamabad** often operate under immense pressure due to the large number of patients they serve on a daily basis. In such environments the absence of a well structured digital system leads to problems including mismanagement of patient records long waiting times duplication of work errors in treatment history and administrative inefficiencies .A **Hospital Management System (HMS)** offers a modern solution to these issues by integrating technology into healthcare operations. HMS is a comprehensive computer based information system designed to manage both clinical and administrative aspects of hospitals. It automates routine processes such as **patient registration appointment scheduling medical record management billing pharmacy management laboratory integration and staff coordination**. By centralizing and digitizing hospital operations it reduces manual errors improves data accuracy enhances transparency and ensures timely access to patient information.

Stakeholders

Stakeholder	Role in the System
Patient	Book appointment views reports
Receptionist	Registers patients schedules appointments
Doctor	Consults patients prescribes medicine tests
Nurse	Assists doctors updates vitals
Lab Technician	Manages lab reports

Pharmacist	Dispenses medications
Admin	Manages staff wards billing

Functional Requirements

Patient Registration

The system shall allow receptionists to register patients and will generate a unique Patient Id.

Appointment Scheduling

Patients or receptionists shall be able to schedule reschedule or cancel appointments

Emergency Triage

The system shall allow nurses to mark emergency patients with triage levels Critical Serious Stable

Doctor Consultation

Doctors shall view patient history shall record notes and shall prescribe tests and medicines

Lab Test Request

Doctors shall order lab tests lab staff will update and upload reports

Pharmacy Management

Prescriptions shall be sent to the pharmacy module pharmacists shall dispense medicines and update stock

Inpatient Admission

The system shall assign rooms/beds and update occupancy status

Billing

The system shall calculate charges for consultation lab pharmacy and admission

ReportGeneration

The system shall generate discharge summaries and allow staff to print or email them

User Management

The admin shall create and manage user roles receptionist doctor nurse

Notification System

The system shall send SMS/email notifications for appointments and test results

Non-Functional Requirements

Security

The system shall encrypt all user data and shall use secure login

Usability

The system shall have a user friendly interface suitable for non technical staff

Compatibility

The system shall run on all major browsers and be mobile responsive

Performance

The system shall support at least 1000 concurrent users

Availability

The system shall offer 99% uptime during working hours