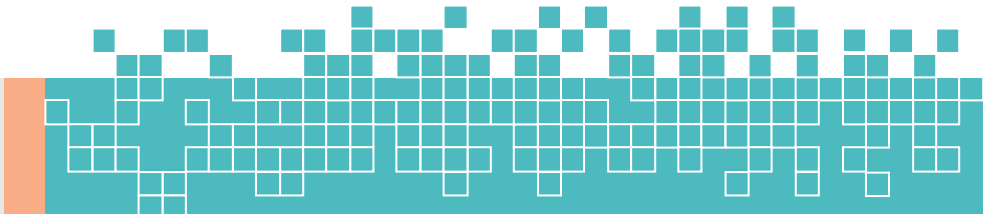
BUSINESS REQUIREMENS DOCUMENT

DEC. 2024

[FOR OUR HOSPITAL DATABASE SYSTEM]



1. Project Overview

- **Project Title**: **Hospital database Management System**
- **Objective:** To design and implement a centralized **Hospital Management System database** to streamline the management of patient records, doctor schedules, billing, appointments, and hospital inventory.
  This system will reduce paperwork, enhance data security, and ensure efficient handling of daily hospital operations.
- **Project Scope**: This database design supports a hospital management system that will store, manage, and process information about patients, doctors, staff, rooms, treatments, bills, and appointments.
- **Target Audience**: The target audience for the Hospital Database Management System encompasses a wide range of stakeholders, including hospital administrators, medical staff, patients, support teams, and IT professionals. Each group has unique needs and expectations, from efficient access to medical records and streamlined operations to secure data management and regulatory compliance. Understanding and addressing these diverse requirements ensures the system is user-friendly, efficient, and capable of supporting the hospital's mission to deliver high-quality healthcare services.

2.Stakeholder Analysis

Stakeholder	Role	Impact on System
Hospital Admin	Oversees overall operations	Full access to all features
Doctors	View patient records, manage schedules	Limited access to relevant records
Staff	Access patient treatment details	Limited access to patient data
Patients	View appointment status, billing info	Access via patient portal
IT Team	Maintains system availability	Handles database support & security

3. Business Processes

Process Name	Description
Patients data	Record all patient's info like: name, id, address, etc.
Doctors data	Record all doctor's info like: name, id, specialty, etc.
Staff data	Record all patient's info like: name, id, role, etc.
Treatment processes	Record the patient's diagnosis and track his treatment process
Department's info	Record each department info like: location and head
Rooms status	Record each room info like: room number and it's availability
Appointments	Record every appointments info like: date and time
Bill's paying	Record the payment status and info for every patient

4. Functional Requirements

The key system functionalities that the hospital database support.

1. Patient Management

- **Register New Patients**: Add new patient records with personal details (name, age, gender, contact number, address, etc.)
- **Patient Record Management**: Update and retrieve patient information, including diagnoses and treatment records.

2. Appointment Management

- **Schedule Appointments**: Book appointments for patients with specific doctors.
- **Reschedule or Cancel Appointments**: Update appointment dates or cancel them if necessary.

3. Doctor Management

- **Doctor Registration**: Add new doctors with details (name, specialization, contact number, department, etc.).
- **Schedule Management**: Track doctor's appointment schedules.
- **Access to Patient Records**: Doctors can view patient records before consultations.

4. Billing Management

- **Invoice Generation**: Automatically generate bills for services, treatments.
- **Payment Tracking**: Record payments made by patients or insurance providers.
- **Insurance Integration**: Track and verify patient status details.

5. Room Management

- **Room Availability Tracking:** The system must display real-time room availability
- **Room Maintenance:** The system must prevent room allocation to patients if the room is marked as "unavailable" by room ID or room number.

6. Staff Management

- **Staff Registration:** The system must allow the admin to register new staff members with the his own informations.
- **Staff Role & Permissions:** The system must differentiate between the manager and the normal staff and record role.

7. Treatment Management

- **Treatment Plans:** The system must allow doctors to create treatment plans for each patient according to his diagnosis.

5. Non-Functional Requirements

Category	Description
Performance	Queries should return results within 2 seconds.
Scalability	The system should support 10,000+ patients and 100+ concurrent users.
Security	Data must be encrypted, and role-based access control should be implemented (Admin, Doctor)
Data Privacy	Comply with Patient Health Information standards for privacy and confidentiality.
Availability	System uptime should be 99.9% to ensure uninterrupted service.
Backup	Data should be backed up daily to prevent loss.
Recovery	In case of system failure, data recovery should be completed within 1 hour.