Name: Harsh Parmar

Roll Number: U23CS056

Topic: Hospital Management System

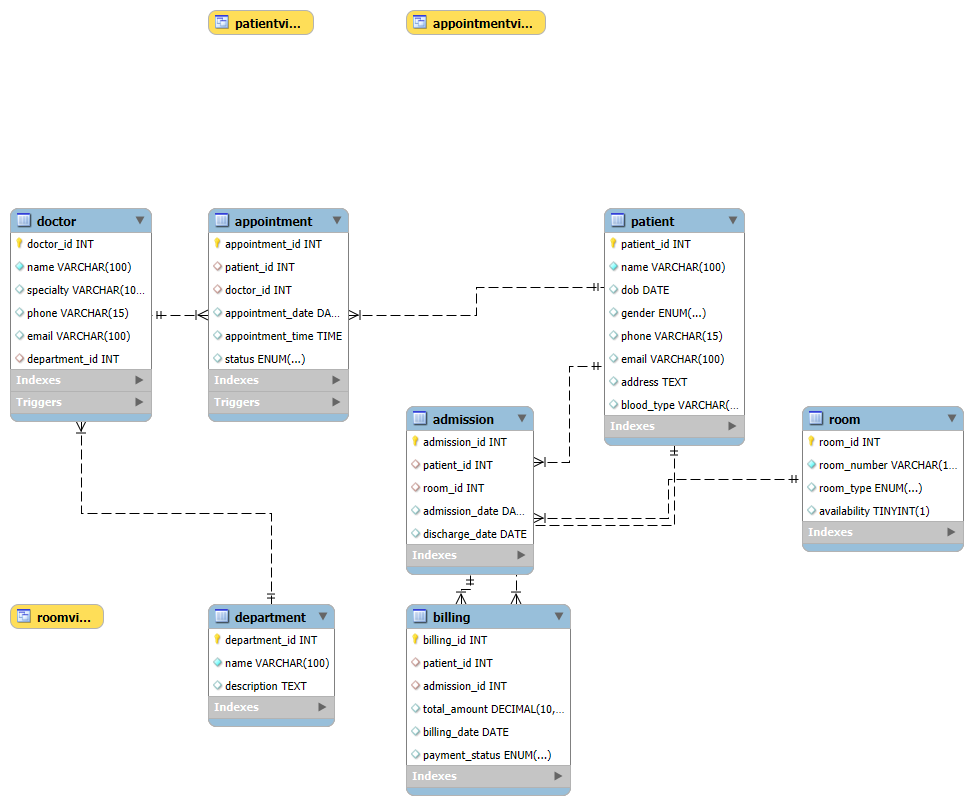
**About HMS:**

**A Hospital Management System (HMS) is software used to handle all the important activities of a hospital in one place. It helps manage patient details, doctor schedules, appointments, billing, and other hospital work efficiently. Instead of doing everything manually, the system keeps things organized and easy to access.**

**What it Does:**

1. **Patient Details: Saves patient information like their name, age, medical history, and records of treatment.**
2. **Doctor Information: Keeps track of doctor details, their specialties, and availability.**
3. **Appointments: Helps schedule patient appointments and manage doctor timetables without confusion.**
4. **Billing: Automatically generates bills based on the treatment and services provided to the patient.**
5. **Room availability: Stores number of room and which one are available and which one are ICU, General and Private**
6. **Department: Give information of all department.**

ER Diagram:



SQL Code:

create database miniproject;

use miniproject;

-- Create table for Departments

CREATE TABLE Department (

    department\_id INT PRIMARY KEY AUTO\_INCREMENT,

    name VARCHAR(100) NOT NULL,

    description TEXT

);

-- Create table for Doctors

CREATE TABLE Doctor (

    doctor\_id INT PRIMARY KEY AUTO\_INCREMENT,

    name VARCHAR(100) NOT NULL,

    specialty VARCHAR(100),

    phone VARCHAR(15),

    email VARCHAR(100),

    department\_id INT,

    FOREIGN KEY (department\_id) REFERENCES Department(department\_id)

);

-- Create table for Patients

CREATE TABLE Patient (

    patient\_id INT PRIMARY KEY AUTO\_INCREMENT,

    name VARCHAR(100) NOT NULL,

    dob DATE,

    gender ENUM('Male', 'Female', 'Other'),

    phone VARCHAR(15),

    email VARCHAR(100),

    address TEXT,

    blood\_type VARCHAR(3)

);

-- Create table for Appointments

CREATE TABLE Appointment (

    appointment\_id INT PRIMARY KEY AUTO\_INCREMENT,

    patient\_id INT,

    doctor\_id INT,

    appointment\_date DATE,

    appointment\_time TIME,

    status ENUM('Scheduled', 'Completed', 'Cancelled') DEFAULT 'Scheduled',

    FOREIGN KEY (patient\_id) REFERENCES Patient(patient\_id),

    FOREIGN KEY (doctor\_id) REFERENCES Doctor(doctor\_id)

);

-- Create table for Rooms

CREATE TABLE Room (

    room\_id INT PRIMARY KEY AUTO\_INCREMENT,

    room\_number VARCHAR(10) NOT NULL,

    room\_type ENUM('General', 'ICU', 'Private'),

    availability BOOLEAN DEFAULT TRUE

);

drop table Room;

-- Create table for Admissions

CREATE TABLE Admission (

    admission\_id INT PRIMARY KEY AUTO\_INCREMENT,

    patient\_id INT,

    room\_id INT,

    admission\_date DATE,

    discharge\_date DATE,

    FOREIGN KEY (patient\_id) REFERENCES Patient(patient\_id),

    FOREIGN KEY (room\_id) REFERENCES Room(room\_id)

);

-- Create table for Billing

CREATE TABLE Billing (

    billing\_id INT PRIMARY KEY AUTO\_INCREMENT,

    patient\_id INT,

    admission\_id INT,

    total\_amount DECIMAL(10, 2),

    billing\_date DATE,

    payment\_status ENUM('Paid', 'Unpaid') DEFAULT 'Unpaid',

    FOREIGN KEY (patient\_id) REFERENCES Patient(patient\_id),

    FOREIGN KEY (admission\_id) REFERENCES Admission(admission\_id)

);

-- Insert sample data into Department

INSERT INTO Department (name, description) VALUES

('Cardiology', 'Heart and blood vessel treatment'),

('Neurology', 'Brain and nerve treatment'),

('Orthopedics', 'Bone and muscle treatment'),

('Psychiatry', 'Focuses on mental health'),

('Pediatrics', 'Focuses on the health of infants, children, and adolescents'),

('Oncology', 'Deals with the prevention, diagnosis, and treatment of cancer');

-- Insert sample data into Doctor

INSERT INTO Doctor (name, specialty, phone, email, department\_id) VALUES

('Dr. John Smith', 'Cardiologist', '123-456-7890', 'john.smith@hospital.com', 1),

('Dr. Susan Brown', 'Neurologist', '234-567-8901', 'susan.brown@hospital.com', 2),

('Dr. Alice White', 'Orthopedic Surgeon', '345-678-9012', 'alice.white@hospital.com', 3);

-- Insert sample data into Patient

INSERT INTO Patient (name, dob, gender, phone, email, address, blood\_type) VALUES

('Alice Green', '1985-03-15', 'Female', '456-789-0123', 'alice.green@gmail.com', '123 Main Street, Cityville', 'O+'),

('Bob Johnson', '1990-07-22', 'Male', '567-890-1234', 'bob.johnson@gmail.com', '456 Elm Street, Townsville', 'A-'),

('Charlie Lee', '2000-01-10', 'Other', '678-901-2345', 'charlie.lee@gmail.com', '789 Pine Avenue, Villagetown', 'B+');

-- Insert sample data into Appointment

INSERT INTO Appointment (patient\_id, doctor\_id, appointment\_date, appointment\_time, status) VALUES

(1, 1, '2024-11-15', '10:30:00', 'Scheduled'),

(2, 2, '2024-11-16', '11:00:00', 'Completed'),

(3, 3, '2024-11-17', '14:30:00', 'Cancelled');

INSERT INTO Appointment (patient\_id, doctor\_id, appointment\_date, appointment\_time, status) VALUES

(1, 1, '2024-11-15', '10:30:00', 'Scheduled');

-- Insert sample data into MedicalRecord

INSERT INTO MedicalRecord (patient\_id, doctor\_id, diagnosis, treatment, record\_date) VALUES

(1, 1, 'Hypertension', 'Lifestyle changes and medication', '2024-11-01'),

(2, 2, 'Migraine', 'Pain relief medication and rest', '2024-11-02'),

(3, 3, 'Fractured Arm', 'Surgery and physiotherapy', '2024-11-03');

-- Insert sample data into Room

INSERT INTO Room (room\_number, room\_type, availability) VALUES

('101', 'General', TRUE),

('102', 'ICU', FALSE),

('103', 'Private', TRUE);

-- Insert sample data into Admission

INSERT INTO Admission (patient\_id, room\_id, admission\_date, discharge\_date) VALUES

(1, 2, '2024-11-10', '2024-11-13'),

(2, 1, '2024-11-11', NULL),

(3, 3, '2024-11-12', NULL);

-- Insert sample data into Billing

INSERT INTO Billing (patient\_id, admission\_id, total\_amount, billing\_date, payment\_status) VALUES

(1, 1, 1500.00, '2024-11-13', 'Paid'),

(2, 2, 3000.00, '2024-11-14', 'Unpaid'),

(3, 3, 5000.00, '2024-11-14', 'Unpaid');

TRUNCATE  table Department;

drop table Doctor;

DROP DATABASE miniproject;

Code Link : https://github.com/harshparmar23/Hospital-management-system