DBMS Project

Course code – CSD 317

Course Title – Introduction to Database Systems Subject – Hospital Appointment Booking

Done by –

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Entities and Relationships:

Entities:

* + User :
    - Represents Individuals who use the system.
    - Includes attributes like id serial, Phone, email, username.
  + Doctor:
    - Represents whoever is treating the patients.
    - Includes attributes like id, name, gender, specialty.
  + Appointment:
    - Represents whoever must visit the hospital.
    - Includes attributes like id, patient\_name, doctor\_id, hospital\_id, appointment\_data, description.
  + Emergency\_Contact:
    - Includes attributes like id, hospital\_id, name, phone, relationship, description.

Relationships and Cardinalities:

* Appointment – Customer

Many to One

* Appointment – Doctor

Many to One

* Appointment – Hospital

Many to One

* Doctor – Doctor\_Hospital

One to Many

* Hospital – Doctor\_Hospital One to Many
* Hospital – Emergency\_Contacts One to Many

# CODE

## -- Customer Table

CREATE TABLE customer ( id SERIAL PRIMARY KEY,

username VARCHAR(255) NOT NULL UNIQUE,

gender CHAR(1),

phone VARCHAR(20) UNIQUE, email VARCHAR(255) UNIQUE, age INTEGER CHECK (age > 0)

);

## -- Doctor Table

CREATE TABLE doctor (

id SERIAL PRIMARY KEY,

name VARCHAR(255) NOT NULL UNIQUE,

gender CHAR(1), specialty VARCHAR(255)

);

## -- Hospital Table

CREATE TABLE hospital ( id SERIAL PRIMARY KEY,

name VARCHAR(255) NOT NULL UNIQUE, phone VARCHAR(20) UNIQUE,

email VARCHAR(255) UNIQUE, address VARCHAR(255) NOT NULL

);

-- **DoctorHospital Table** (Assuming Many-to-Many relationship between doctors and hospitals)

CREATE TABLE doctor\_hospital ( id SERIAL PRIMARY KEY,

doctor\_id INTEGER REFERENCES doctor(id) ON DELETE CASCADE, hospital\_id INTEGER REFERENCES hospital(id) ON DELETE CASCADE

);

## -- Emergency Contact Table

CREATE TABLE emergency\_contact ( id SERIAL PRIMARY KEY,

hospital\_id INTEGER REFERENCES hospital(id) ON DELETE CASCADE, name VARCHAR(255) NOT NULL,

phone VARCHAR(20) NOT NULL,

relationship VARCHAR(255) NOT NULL, description TEXT

);

## -- Appointment Table

CREATE TABLE appointment ( id SERIAL PRIMARY KEY,

patient\_name VARCHAR(255) NOT NULL,

doctor\_id INTEGER REFERENCES doctor(id) ON DELETE CASCADE, hospital\_id INTEGER REFERENCES hospital(id) ON DELETE CASCADE, appointment\_date DATE NOT NULL,

description TEXT

);

# Table Details

## Customer Table

id: An auto-incrementing primary key, typically SERIAL in PostgreSQL or INT AUTO\_INCREMENT in MySQL.

username: A string, which would be VARCHAR(255) in SQL. It's marked as unique. gender: A character, with the expectation of 'm' or 'f', so it's CHAR(1).

phone: A string to store phone numbers, VARCHAR(20) and marked as unique. email: A string for email addresses, VARCHAR(255) and marked as unique.

age: An integer to store age, INTEGER.

## Doctor Table

id: An auto-incrementing primary key, SERIAL or INT AUTO\_INCREMENT. name: A string for the name of the doctor, VARCHAR(255).

gender: A character for the gender, CHAR(1).

specialty: A string for the specialty of the doctor, VARCHAR(255).

## Hospital Table

id: An auto-incrementing primary key, SERIAL or INT AUTO\_INCREMENT. name: A string for the hospital name, VARCHAR(255).

phone: A string for the phone number, VARCHAR(20). email: A string for the email address, VARCHAR(255). address: A string for the address, VARCHAR(255).

## Doctor Hospital Table

id: An auto-incrementing primary key, SERIAL or INT AUTO\_INCREMENT. doctor\_id: A foreign key to the Doctor table, INTEGER.

hospital\_id: A foreign key to the Hospital table, INTEGER.

## Emergency Contact Table

id: An auto-incrementing primary key, SERIAL or INT AUTO\_INCREMENT. hospital\_id: A foreign key to the Hospital table, INTEGER.

name: A string for the contact's name, VARCHAR(255).

phone: A string for the contact's phone number, VARCHAR(20).

relationship: A string describing the relationship to the hospital, VARCHAR(255). description: A text field for additional information, TEXT.

## Appointment Table

id: An auto-incrementing primary key, SERIAL or INT AUTO\_INCREMENT. patient\_name: A string for the patient's name, VARCHAR(255).

doctor\_id: A foreign key to the Doctor table, INTEGER. hospital\_id: A foreign key to the Hospital table, INTEGER. appointment\_date: A date for the appointment, DATE. description: A text field for additional information, TEXT.

# E-R Diagram

A diagram of a medical organization

Description automatically generated with medium confidence

# Class Diagram

