

UTD- Fall 2022

# CS 6360 Database Design - Database Project

Phase 2

Team members

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Phase 2: Conceptual and Logical Database Design (20%)

**a) ER Diagram (including the description of the entities, attributes, keys, cardinality, and participation constraints).**

**Diagram

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Patient –

Patient entity represents patients with each entity having attributes id, firstName, lastName, Age, Gender, Phone No, medical history of the patient.

Doctor –

Doctor entity represents virtual doctor with each entity having attributes id, firstName, lastName describes the name of the doctor, rating describes the rating given to doctor by patients, specialization describes the doctor’s specialization and availability describes the timings when the doctor is available.

Appointment –

It is the relationship which bounds patient with doctor. Patients book appointments to receive doctor consultations. It has its own attributes like Date and Time representing the date and time of the appointment booked by patient, Status representing if the appointment is booked or not, Ratings and feedback given by patient after the doctor consultation, Payment status, Payment amount which represents the payment information of the appointment

Prescription –

Prescription refers to the medication and suggestions prescribed by the doctor to the patient for an appointment. Each prescription is captured against an appointment and hence it is a weak entity.

Medicine –

The medicines prescribed by the doctor are captured in the medicine entity represented by a unique identifier and name of the medicine.

Pharmacy –

It represents a store/warehouse of medicines capturing attributes like storeId, Name, Location of the store, Availability count of the medicines.

**b) Database Schema**

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**c) List of business rules and integrity constraints of the database.**

1. Doctors must work for minimum 6 hours/week and 3 days a week.
2. Doctors cannot work for more than 40 hrs/week.
3. For regular appointments patients pay - doctor’s fee + $3
4. For late night/ early morning sessions - doctor’s fee + $5
5. On weekends patients pay - doctor’s fee + $7
6. Pharmacies with no stock of a particular medicine are not visible to the user.
7. Patients can rate multiple doctors
8. Doctors can have multiple user ratings
9. A particular user can rate a doctor only after taking at least one session
10. A doctor can not belong to more than one specialization
11. For each appointment a doctor has to prescribe medicine or lifestyle changes which cab be done by adding suggestions or medicine name.
12. Ratings needs to between 0 to 5
13. A patient can not have more than one “approved” appointment with the same doctor on the same day
14. A prescription can have many medicines and a medicine can be prescribed in many prescriptions.
15. There can be no prescription without an appointment.
16. A medicine may be available at many pharmacies and a pharmacy can have many medicines.

**d) Interface requirements**

Each expected user interface of the project is defined as follows (one in each page) –

i) Website Startup Page

Diagram

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ii) Login Page

Diagram

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iii)User Dashboard post login

Table

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iv)Raise an issue page

Graphical user interface

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v) Doctors Dashboard

Table

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vi)Pharmacist Dashboard

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