

Database Design CS 6360

Project Phase 1 – Conceptual Design

Dallas Care Hospital Database

The hospital database has been designed according to the description with the following Entities, with corresponding attributes and relationships:

Entities	Attributes	Primary Key	Relation	Related entities
PERSON	Name {First_Name, Middle_Name, Last_Name}, Address, Gender, DOB, Phone(multiple)	Person_Id	Super Class	EMPLOYEE, CLASS1_PATIENT
EMPLOYEE	Start_Date	Employee_Id	Super Class	DOCTOR, NURSE, RECEPTIONIST
CLASS1_PATIENT			consult	DOCTOR
			is a	PATIENT, PERSON
CLASS2_PATIENT		Patient_Id	visit	VISITOR
			can be	EMPLOYEE, CLASS1_PATIENT
			is a	PATIENT
			assigned	ROOM
			assigned	TREATMENT
PATIENT			is a	PERSON
			Union	CLASS1_PATIENT, CLASS2_PATIENT
DOCTOR	Specialization		Super Class	TRAINEE, PERMANENT, VISITING
			attend	CLASS2_PATIENT
			access	RECORD
NURSE			govern	ROOM
RECEPTIONIST			maintain	RECORD
VISITOR	Person_Id, Patient_Id, Name, Address, Phone	Visitor_Id	maintain	CLASS2_PATIENT
PHARMACY	Name, Price, Qty, Date_Of_Expiry	Medicine_Code	for	TREATMENT
TREATMENT	Name, Duration {Start_Date, End_Date},	Treatment_Id	assigned	CLASS2_PATIENT
			contain	PHARMACY
ROOM	Type, Duration {Start_Date, End_Date}	Room_Id	governed by	NURSE
RECORD	Patient_Id, Date_Of_Visit, Date_of_Appointment, Treatment_Id, Description, Payment_Id	Record_Id	record	TREATMENT, CLASS2_PATIENT, PAYMENT
			maintained by	RECEPTIONIST
PAYMENT	Date_Of_Payment, Amt_Due, Cash, Insurance_Id	Payment_Id	can be	CASH, INSURANCE
INSURANCE	Provider, Coverage, Amt	Insurance_Id	is a	PAYMENT
CASH	Amt		is a	PAYMENT

1. Person can be an Employee or a Class 1 Patient or both.
2. Every Class 1 patient consults a doctor. A Class 1 patient can consult at most one doctor but one doctor can be consulted by more than one Class 1 patient.
3. Employee can be either a Doctor, or a Nurse, or a Receptionist, but not both.
4. Doctor can be either a Trainee, or Permanent or a Visiting doctor. A doctor can attend many Class 2 patients. A Doctor can access the records for pharmacy and treatment details.
5. Class 2 patient is assigned a Room in the hospital. A Class 2 patient can be an Employee or a Class 1 Patient or both. A Class 2 patient can be attended to by at most 2 doctors.
6. Record is maintained for all patients (with Patient_Id for class 2 patients, and Person_Id for class 1 patients).
7. Pharmacy details and Treatment details are maintained for each admitted patient. The database also stores the information of the various kinds of treatments that are offered in the hospital.
8. Nurse governs rooms. Each nurse can govern more than one room, but each room has only one nurse assigned to it.
9. A record database is maintained by the receptionist who keeps record of information with patient ID, date of visit, appointment and description, payment ID.
10. Payment can be made by Cash or Insurance, or both.