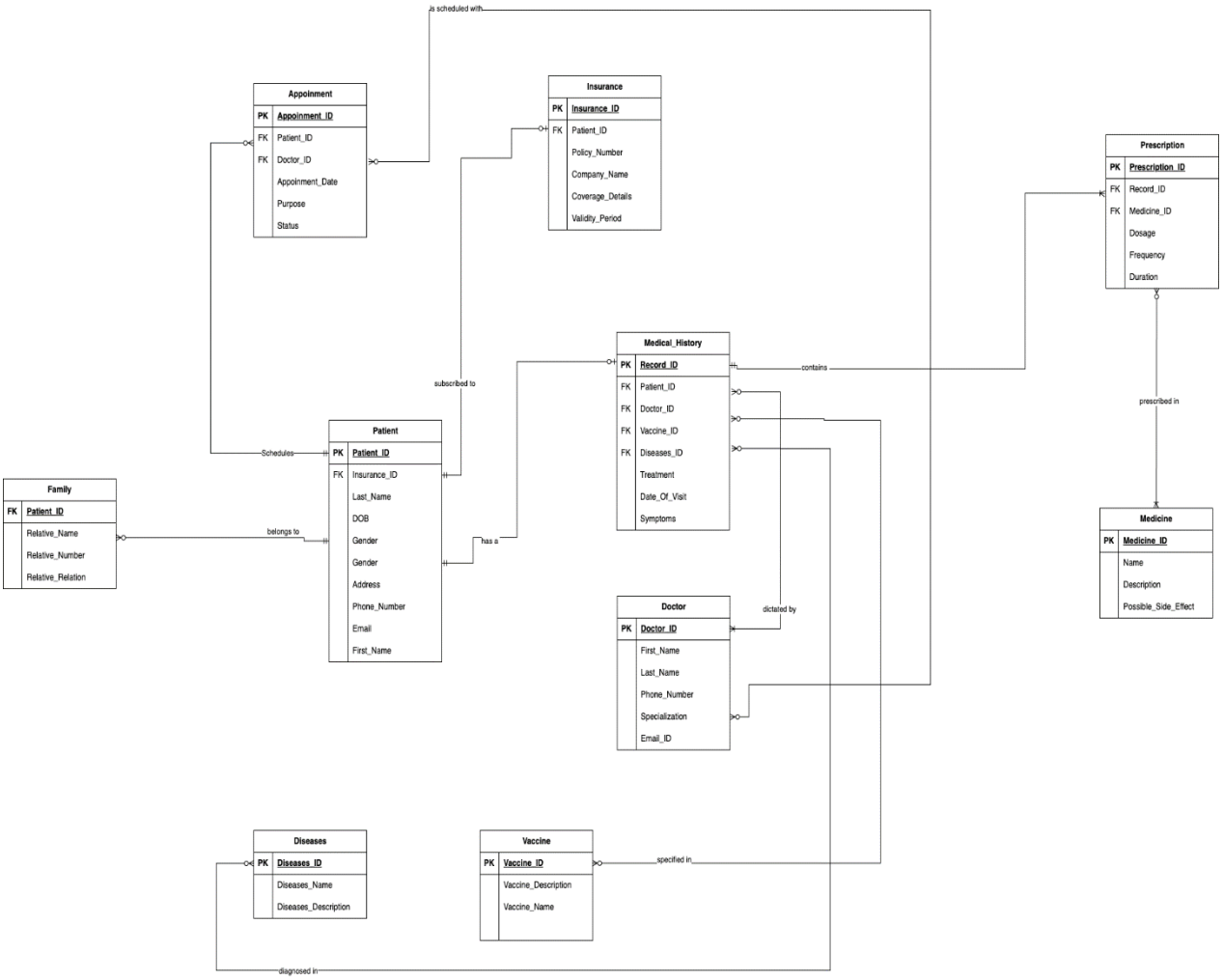
ER Diagram - Patient Record Management System



ERD

Entities:

Patient: Represents the individual receiving medical care, with attributes like ID, last name, first name, date of birth, gender, address, phone number, email, and a foreign key to Insurance.

Doctor: Represents the medical professionals providing care, with attributes including ID, first name, last name, phone number, specialization, and email ID.

Appointment: Details the scheduled meetings between patients and doctors, including attributes such as ID, date, purpose, and status, with foreign keys linking to Patient and Doctor.

Insurance: Contains information about the patient's medical insurance, with an ID, policy number, company name, coverage details, and validity period.

Medical History: Captures a patient's medical records, with attributes such as record ID, treatment, date of visit, and symptoms, with links to Patient, Doctor, Vaccine, and Diseases.

Prescription: Relates to the medications prescribed to a patient, with its own ID and details such as dosage, frequency, and duration, and is connected to Medical Record and Medicine.

Medicine: Details the medication itself, with attributes including medicine ID, name, description, and possible side effects.

Vaccine: Lists vaccines with an ID, description, and name.

Diseases: Records details of diseases with an ID, name, and description.

Family: Represents the patient's family members, with attributes that include the patient's ID, relative's name, number, and relation type.

Relationships:

Belongs to: A patient may belong to zero or many families. Consequentially, a family may have one or many members who are patients.

Schedules: A patient may schedule zero or many appointments. An appointment must belong to a patient.

Subscribed To: A patient may or may not subscribe to an insurance policy that has a unique insurance ID. However, an insurance policy must belong to a patient.

Has A: A patient may or may not have a medical history; it depends on their prior medical records. A medical history, however, must belong to a patient.

Is Scheduled with: An appointment is scheduled by a patient with one or many doctors. A doctor may have zero or many appointments scheduled with the patients.

Contains: A medical history of a patient may have one or many prescriptions. A prescription must belong to medical history.

Prescribed In: A medicine may be prescribed in zero or many Prescription records. However, a prescription may have one or many medicines prescribed in it.

Specified In: A medical history may have zero or many vaccination records. A vaccine can be specified in zero or many medical histories.

Diagnosed In: A disease may be diagnosed in zero or many medical histories. However, medical history may have zero or many diseases diagnosed in it.

Dictated By: A medical history may be dictated by one or many doctors. However, a doctor may dictate zero or many medical histories.

Key Design Decisions:

The Patient Record Management System's ER diagram comprehensively captures crucial healthcare data, covering all aspects of patient care, from medical records to insurance details. Its design effectively connects vital elements, mirroring the dynamic relationships between patients and providers, and maintaining data accuracy through strategic key assignments. Built for scalability, the system easily accommodates additional patient data for seamless integration. Highlighting the key entities ensures that crucial healthcare procedures are thoroughly documented. Furthermore, the diagram facilitates data analysis, simplifying the collection and synthesis of patient information to support both operational and clinical decision-making.

The system's modular elements allow for swift updates, mirroring the ever-changing nature of healthcare services. It efficiently manages complex relationships, such as patients with multiple physicians, capturing the intricate healthcare landscape. In addition, the ER diagram prioritizes seamless data accessibility, a critical component for prompt and well-informed patient care decisions, solidifying its role as the cornerstone of a robust healthcare database system.

GitHub Link: https://github.com/Ronak-Mahidharia/DMDD_T9.git