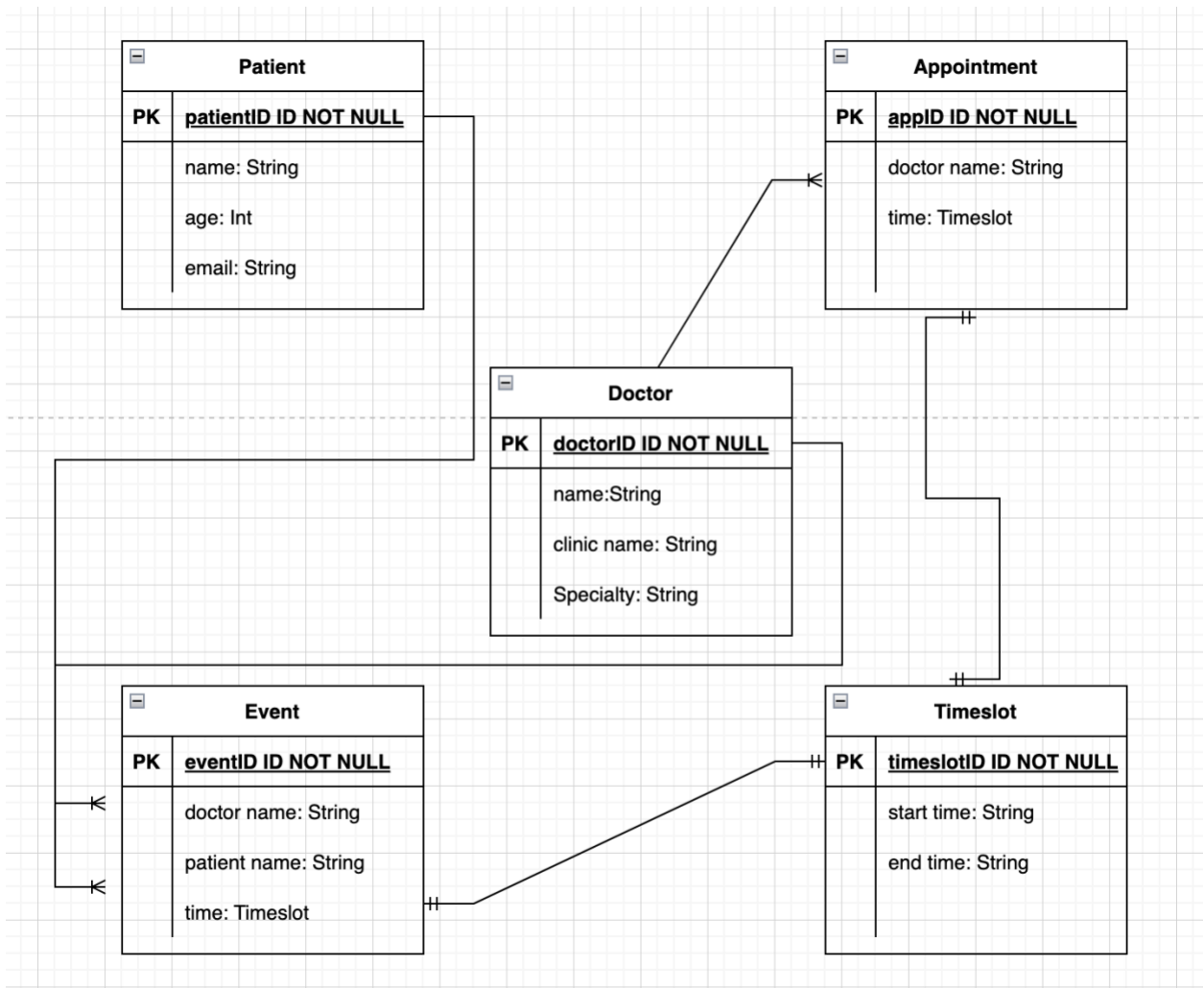


API Design: GraphQL API

1.1 Design subtask

1. Schema (types) of your GraphQL API (Draw ER or UML class Diagram)



Patient to Event is 1:M relationship

Doctor to Event is 1:M relationship

Doctor to Appointment is 1:M relationship

Appointment to Timeslot is 1:1 relationship

Event to Timeslot is 1:1 relationship

If an appointment is booked by a patient, it becomes an event, and such appointment timeslot would be no longer available in the calendar.

2. Various queries that your API will support (describe the name, inputs, and outputs)

Assumptions: Doctor's and patient's name are unique

Query ID	Name	Inputs	Outputs
1	doctorByName	doctor name	Doctor
2	appointmentByDoctorName	doctor name	[Appointments]

3. Mutations that you API will support (describe the name, inputs, and outputs)

Mutation ID	Name	Inputs	Outputs
1	createDoctor	doctor name, clinic name, specialty	Doctor
2	createPatient	patient name, age, email	Patient
3	createTimeslot	start time, end time	Timeslot
4	createAppointment	doctor name, timeslot	Appointment
5	deleteAppointment	doctor name, timeslot	Appointment
6	createEvent	doctor name, patient name, timeslot	Event
7	deleteEvent	patient name, timeslot	Event
8	updateEvent	doctor name, new patient name, timeslot	Event

Please note that normally delete and update mutation methods can return nullable, but here I decide to return what is being deleted or updated for easier verification in testing.

4. Endpoint of your GraphQL API (URL)

I take Apollo's Server's default as my GraphQL's endpoint: <http://localhost:4000>

1.2 Testcases design subtask

10 tests are below. In implementation, 20 cases will be conducted with 2 cases on each test.

TC ID	Description	Inputs	Expected Output	Remarks
1	test doctorByName	doctor name	Doctor	Test Q1
2	test appointmentByDoctorName	doctor name	[Appointments]	Test Q2
3	test createDoctor	doctor name, clinic name, specialty	Doctor	Test M1
4	test createPatient	patient name, age, email	Patient	Test M2
5	test createTimeslot	start time, end time	Timeslot	Test M3
6	test createAppointment	doctor name, timeslot	Appointment	Test M4
7	test deleteAppointment	doctor name, timeslot	Appointment	Test M5
8	test createEvent	doctor name, patient name, timeslot	Event	Test M6
9	test deleteEvent	patient name, timeslot	Event	Test M7
10	test updateEvent	doctor name, new patient name, timeslot	Event	Test M8