Coding Exercise: Build an Appointment Management API

Objective

Build an Appointment Management API. Create a Django-based REST API for managing appointments, enabling providers and patients to connect to each other through appointments.

Models

Provider:
- id
- user (User, OneToOneField, required)

Patient:
- id
- user (User, OneToOneField, required)

Topic:
- id
- name (CharField, max_length=256, required) # Examples: "Primary Care Checkup", "Bug Bite", "Fatigue")
- duration (PositiveIntegerField, required) # This represents how long in minutes an appointment of this topic will last.

Appointment:
- id
- provider (Provider, one to many, required) # This is a Doctor, Coach, Therapist, etc.
- patient (Patient, one to many, required)
- topic (Topic, many to many)
- provider_notes (TextField, optional)
- status (CharField, choices: Scheduled, In Progress, Completed, Overdue, UserCanceled, ProviderCanceled default: Scheduled)
- start_time (DateTimeField, required)
- created_at (DateTimeField, auto_now_add=True)
- updated_at (DateTimeField, auto_now=True)

APIs

Create an API suite that accomplishes the following. For the purpose of this exercise, assume that providers and patients are always available for appointments.

As a **patient:**
- Create an appointment for you and a provider. It must be in the future, include a topic and a start_time.
- Get details of a single appointment by ID associated to the requesting "patient" (ie see your own appointment as member).
- List appointments associated to the requesting "patient" (ie see your list of appointments as member).
- Update an appointment by ID associated to the requesting "patient" to status "UserCanceled " (ie see your own appointment as member).
  - If we want to notify a provider that an appointment is canceled what are some ways to do that?

As a **provider:**
- Create an appointment for you and a patient. It must be in the future, include a topic and a start_time.
- Update an appointment to add provider_notes to an object the provider is associated.
- Get details of a single appointment by ID associated to the requesting "provider" (ie see your own appointment as provider).
- List appointments associated to yourself as a "provider" (ie see your own appointments as a provider).
- Update an appointment by ID associated to the requesting "patient" to "ProviderCanceled" (ie see your own appointment as provider)
  - If we want to notify a patient that an appointment is canceled what are some ways to do that?

NOTE: For Appointment objects in API responses, include an end_time derived from the start_time and topic duration.