

Name: Faisal Alghamdi

## Healthcare System

**Models are: Patient, Appointment, Medication**

### 1. Patient Model

- **Attributes and Validation Rules:**
  - **First Name:**
    - Should not be empty.
    - Must contain only letters.
    - Must be more than 3 letters.
  - **Last Name:**
    - Should not be empty.
    - Must contain only letters.
    - Must be more than 3 letters.
  - **Date of Birth:**
    - Should not be empty.
    - Must be a valid date in the past.
    - Age should be a positive number.
  - **Gender:**
    - Should not be empty.
    - Must be either Male or Female.
  - **Contact Number:**
    - Should not be empty.
    - Must be 10 digits.
    - Must start with '05'.
  - **Address:**
    - Should not be empty.
    - Must be a valid postal address.

Name: Faisal Alghamdi

- **Email:**
  - Should not be empty.
  - Must follow a valid email format.

## 2. Appointment Model

- **Attributes and Validation Rules:**
  - **Patient ID:**
    - Should not be empty.
    - Must be a valid patient ID that exists in the system.
  - **Doctor ID:**
    - Should not be empty.
    - Must be a valid doctor ID that exists in the system.
  - **Date and Time:**
    - Should not be empty.
    - Must be scheduled for a future date.
    - Must be formatted correctly (yyyy-mm-dd).
  - **Purpose of Visit:**
    - Should not be empty.
    - Must be more than 6 letters.

## 3. Medication Model

- **Attributes and Validation Rules:**
  - **Medication Name:**
    - Should not be empty.
    - Must be an approved medication.
  - **Dosage:**
    - Should not be empty.
    - Must specify a non-zero quantity (mg or mL).

Name: Faisal Alghamdi

- **Administration Route:**
  - Should not be empty.
  - Must be one of the standard methods (Oral or Intravenous).
- **Frequency:**
  - Should not be empty.
  - Must clearly specify how often the medication is to be taken.
- **Prescribing Doctor:**
  - Should not be empty.
  - Must be a registered doctor in the system.