# MedTrackPro

Implement a system on which multiple patients can register. Each patient has certain properties like FirstName, LastName, Age, GuardenerName, Married/UnMarried, Weight, Height, Gender etc. Each patient can select from multiple categories of doctor specializations or they can write what he is feeling (writing a problem) and the system automatically gives recommendations which doctor is suitable to this patient. Each patient may assign to multiple doctors on the recommendation of doctor or on patient demand. Each doctor has profile in the system, in profile, there is some info like educational background, Specializations, Years of Experience, etc.

**MedTrackPro Requirements**

1. **Patient Registration:**
   * Multiple patients can register in the system with the following details:
     + **Personal Information**: FirstName, LastName, Age, Gender, Marital Status (Married/Unmarried), Weight, Height, Guardian Name (if applicable).
   * **Health Details**: Medical history, allergies, and ongoing treatments (optional).
   * **User Experience**: The registration form should be user-friendly with validation for required fields and appropriate data formats (e.g., date of birth, age calculation).
2. **Doctor Specializations:**
   * A list of doctor specializations (e.g., Cardiologist, Neurologist, Pediatrician, etc.) should be available.
   * **Self-reporting Option**: Patients should also have the option to describe their symptoms or health issues in a free-text input field. The system will analyze the text to automatically suggest relevant specializations based on the patient's input.
3. **Doctor Recommendations:**
   * **Automatic Recommendations**: Based on the patient’s symptoms or reported problem, the system will recommend suitable doctor specializations.
   * **Patient Demand**: Patients can also manually select their preferred doctor specialization.
   * **Doctor Matching**: The system should recommend a list of doctors based on their specialization and the patient's needs, which includes matching expertise.
4. **Patient-Doctor Assignment:**
   * Each patient can be assigned to multiple doctors:
     + **Doctor’s Recommendation**: The system can suggest assignments based on the doctor’s professional advice.
     + **Patient’s Demand**: Patients can request to be assigned to specific doctors of their choice.
   * Each patient’s assigned doctors should be tracked with a history of consultations and interactions.
5. **Doctor Profile:**
   * Every doctor has a detailed profile that includes:
     + **Personal Information**: Name, contact details, availability.
     + **Educational Background**: Degrees, certifications, medical school history, and relevant training.
     + **Specializations**: List of medical fields or specialties the doctor practices in.
     + **Years of Experience**: How long the doctor has been practicing.
     + **Patient Reviews**: A rating or review system where patients can rate doctors based on their consultations.
     + **Consultation Schedule**: Availability times and preferred methods of consultation (in-person, virtual, etc.).
6. **System Features and Functionality:**
   * **Search Functionality**: Patients should be able to search for doctors based on specialization, name, rating, or location.
   * **Doctor Filtering**: Doctors should be filterable by years of experience, specialization, and rating.
   * **Patient Feedback**: After consultation, patients can provide feedback on their experience with the doctor.
   * **Data Security**: The system should ensure that patient data is stored securely, adhering to privacy standards (e.g., HIPAA, GDPR).
7. **Scalability & Flexibility:**
   * The system should be able to handle a large number of patients and doctors, with the ability to scale horizontally if necessary.
   * The interface should be flexible, allowing for easy integration with future features (e.g., virtual consultation options, additional fields for doctor expertise).
8. **User Interface (UI) Requirements:**
   * **Patient UI**: Simple and intuitive interface for registering, viewing recommendations, and interacting with doctors.
   * **Doctor UI**: Interface for managing personal profiles, availability, and patient consultations.
   * **Admin UI**: A central admin panel for managing patient records, doctor profiles, and system analytics.