**Relationships between Tables:**

1. **Users Table**:
   * One-to-one relationships with both **Doctors** and **Patients** tables, as a user can only be a doctor or a patient.
2. **Cities Table**:
   * One-to-many relationship with the **Doctors** table, as multiple doctors can be located in one city.
3. **Appointments Table**:
   * Many-to-many relationship between **Doctors** and **Patients**, as a patient can have multiple appointments with different doctors, and doctors can have multiple appointments with various patients.
4. **Medical Information** and **Medical News Tables**:
   * Both tables serve as information sources independent of user interaction and contain content accessible to all website users.

Each role has specific functionalities:

**1. Administrator Role:**

* **Purpose**: Manage doctors, patients, cities, and website content.
* **Permissions**:
  + Add and remove cities in the database.
  + Manage doctors and patient records, including adding, modifying, and deleting information.
  + Manage user accounts and logins.
  + Oversee and update website content related to diseases, preventions, cures, and medical news.

**2. Doctor Role:**

* **Purpose**: Allow doctors to manage their profiles and availability.
* **Permissions**:
  + Login to access their personal dashboard.
  + View and update their profile information.
  + Manage availability by specifying available days, times, and dates.
  + View and manage their scheduled appointments.

**3. Patient Role:**

* **Purpose**: Provide a user-friendly way for patients to find doctors and book appointments.
* **Permissions**:
  + Create a unique user account with required contact information.
  + Search for doctors by location and specialty.
  + Book appointments based on doctor availability.

**Summary**

This basic database structure provides a foundation for:

1. **User management** for three different roles.
2. **Location management** to host services across various cities.
3. **Doctor and patient record management**, ensuring profile and appointment handling.
4. **Medical content management** to keep users informed about medical information and updates.