**Test Cases for Manual Testing:**

**1. Find Availability of Doctors by Specialty:**

* **Test Case 1:** User searches for "cardiologist."
  + Expected Result: System displays a list of cardiologists with their available slots.
* **Test Case 2:** User searches for a specialty that doesn't exist.
  + Expected Result: System displays an error message indicating the specialty is not found.

**2. Find Doctors Near Location:**

* **Test Case 3:** User enters a valid zip code.
  + Expected Result: System displays a list of doctors near the entered zip code, sorted by distance.
* **Test Case 4:** User enters an invalid zip code.
  + Expected Result: System displays an error message indicating the zip code is invalid.

**3. Book Appointment and Receive Confirmation:**

* **Test Case 5:** User selects a doctor and chooses an available slot.
  + Expected Result: System allows booking and sends a confirmation email/notification.
* **Test Case 6:** User tries to book an already booked slot.
  + Expected Result: System displays an error message indicating the slot is unavailable.

**4. Conflict Management:**

* **Test Case 7:** Doctor attempts to book two appointments for the same time slot.
  + Expected Result: System prevents double booking and shows an error message.
* **Test Case 8:** User attempts to book a past time slot.
  + Expected Result: System displays an error message indicating the time slot is unavailable.

**5. Appointment Reminder with Directions:**

* **Test Case 9:** User schedules an appointment and receives a confirmation.
  + Expected Result: User receives a reminder notification one hour before the appointment with a link to driving directions.
* **Test Case 10:** User disables notifications on their device.
  + Expected Result: System still attempts to send a notification despite user settings. (Note: This may require additional logic depending on the chosen notification system)