**1. User Stories and System Goals**

**1.1. Patient Goals**

* **As a patient**, I want to easily find a doctor based on my needs so that I can quickly book a consultation.
* **As a patient**, I want to book an appointment with a clear understanding of the cost and appointment details.
* **As a patient**, I want a simple way to manage my bookings and see a history of my medical visits.
* **As a patient**, I want to be rewarded for using the platform so that I am encouraged to return for future appointments.

**1.2. Doctor Goals**

* **As a doctor**, I want a simple, digital dashboard to manage my daily schedule and availability without confusion.
* **As a doctor**, I need a secure and intuitive way to update my professional profile and services.
* **As a doctor**, I need to easily access and add to my patients' medical history to provide better care.

**1.3. Administrator Goals**

* **As an admin**, I need a comprehensive overview of the entire platform to monitor user activity, financial performance, and system health.
* **As an admin**, I need the ability to securely manage user accounts and confirm the credentials of new doctors.
* **As an admin**, I need to manage clinic information and ensure doctors are correctly associated with their practice locations.

**2. Business Logic and Rules**

**2.1. User & Profile Management**

* The system must support distinct user roles for Patient, Doctor, and Admin with different levels of access.
* Patient, doctor, and admin profiles must be linked to a single user account for authentication purposes.
* The system must allow for the deactivation of a user account without permanently deleting their data to maintain a historical record.
* New doctor profiles must be flagged for admin verification before they are publicly visible on the platform.

**2.2. Appointment & Scheduling**

* The system must ensure that a single time slot cannot be booked by more than one patient.
* Appointments must be trackable through a lifecycle with statuses such as Confirmed, Completed, and Cancelled.
* A unique confirmation code must be generated for each booking to serve as a simple reference number for patients and clinics.

**2.3. Financials & Rewards**

* The system must accurately track the consultation\_fee for the doctor and a separate transaction\_fee for the platform for each appointment.
* A patient loyalty program must be implemented where patients earn points for each completed booking.
* Patients with a sufficient points balance must be able to redeem those points for a free appointment.
* All points transactions must be recorded for auditing purposes.

**2.4. Medical Records**

* The system must provide a secure channel for doctors to add a patient's diagnosis, treatment, and other relevant medical history to a confidential record.
* Patient medical records should be viewable only by the patient and the authorized doctors who have treated them.

**2.5. Clinic & Association Management**

* The system must allow a single clinic to have multiple doctors.
* The system must allow a single doctor to be associated with multiple clinics.
* The system must provide a mechanism for clinic administrators to manage the profiles and doctors associated with their specific clinic.

**3. Key Performance Indicators (KPIs)**

* Total number of appointments booked per day/week/month.
* Total revenue generated, broken down by consultation fees and platform fees.
* Active user count, segmented by user role.
* The average rating for doctors.
* The number of points redeemed vs. points earned.