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

- The system must accurately track the consultation_fee for the doctor and a separate transaction_fee for the platform for each appointment.

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.

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.

- The average rating for doctors.