

# Virtual Health Care System

## Web Application Requirements (High level)

Virtual Health Care System is a robust and comprehensive healthcare management system designed to streamline communication and appointment processes between patients, doctors, and administrators. The system incorporates cutting-edge technologies such as NodeJS, Express, Prisma, WEB RTC (via Agora.io), and PostgreSQL for efficient and secure data management.

### 1. Technologies

- **NodeJS and Express:** Used for server-side application development.
- **WEB RTC (Agora.io):** Third-party service for real-time communication between doctors and patients.
- **Prisma:** ORM (Object-Relational Mapping) tool for database management.
- **PostgreSQL:** Database management system.
- **Nextjs:** A React Framework for building applications.

### 2. User Roles and Functionalities

#### 2.1 Admin

- Account Management
  - Create and manage doctor accounts.
- Appointment Management
  - Create schedule slots
  - Manage doctor appointment slots (Change status of appointment).
- Access to Information
  - View appointment history and details.
  - Access and manage doctor profiles.
  - View metadata

#### 2.2 Doctor

- Appointment Management
  - View upcoming appointments.
  - Set appointment slots
  - Take appointments.
- Patient Profile
  - Access patient profiles and medical history

- View uploaded diagnostic test reports of patients.
- View previous prescriptions (if any).
- Prescription Management
  - Generate prescriptions for patients during and after consultations.
  - Send prescriptions to patients through email by using the system.
  - Attach additional medical notes and instructions to prescriptions.

## 2.3 Patient

- Account Management
  - Register a new account during the first visit.
  - Leverage features for password recovery and account security.
- Appointment Booking
  - Schedule appointments with available time slots.
  - Book appointments with specific doctors.
- Medical Record Management
  - Manage personal profile data.
  - Maintain medical history.
  - Upload diagnostic test reports.
- Prescription Access
  - Access and view prescriptions.
  - Receive prescriptions through the platform.
  - Additionally, prescriptions are emailed to the patient for easy access and reference.
- Payment and Confirmation
  - Pay consultation fees when booking appointments.
  - Receive an email confirmation with an invoice after successful payment.
  - Appointments are confirmed only after payment.
  - If payment is not made within 30 minutes of booking, the booking will be automatically canceled.
- Reviews
  - Provide reviews with ratings for consulting doctors.
  - Include a comment section for additional feedback.
  - View and manage previously submitted reviews.

## 3. System Features

- Real-time communication through WEB RTC.
- Secure user authentication and authorization.
- Seamless appointment scheduling and management.

- Comprehensive patient profiles and medical records.
- Seamless integration for patients to pay consultation fees securely.
- Automated email notifications for appointment confirmations, invoices, and prescription delivery.
- Doctors can generate detailed prescriptions during and after consultations.

#### **4. Single-Page Application (SSR)**

- Landing Page: Provides information about the PH HealthCare system.
- Doctor Profile: Displays detailed information about doctors.

## ENTITY RELATIONSHIP DIAGRAM

