**VertexHub E-Medical System Guide**

Welcome to VertexHub E-Medical, a comprehensive healthcare management system designed to revolutionize medical services through seamless integration and advanced features. This guide provides a detailed overview of the system's entities, functionalities, and usage instructions for both users and administrators.

**System Entities:**

1. **Users**:
   * Patients: Individuals seeking medical services.
   * Administrators: Personnel responsible for managing the system.
2. **Physicians**:
   * General Physicians
   * ENT Specialists
   * Eye Specialists
   * Bone Specialists
   * Teeth Specialists
   * Allergy Specialists
   * Heart Specialists
   * Neuro Specialists
3. **Lab Facilities**:
   * X-Ray Lab
   * MRI Scan Lab
   * Ultrasound Lab
   * ECG Scan Lab
   * Urine Test Lab
   * Blood Test Lab
   * Sugar Test Lab
4. **Medicine Categories**:
   * General Medicine
   * Specialized Medicine
   * Preventive Medicine
5. **Health Education Resources:**

* Articles
* Videos
* Interactive tools on various health topics.

**Functionalities:**

**For Users:**

1. **Account Management**:
   * SignUp: Register for a new account securely.
   * Login: Access the system with registered credentials.
   * Password Reset: Reset password if forgotten.
2. **Appointment Management**:
   * View Services: Explore available medical services.
   * Book Appointment: Schedule appointments with preferred physicians.
   * Cancel Appointment: Cancel scheduled appointments.
   * View Appointments: Review upcoming and past appointments.
3. **Health Education Resources**:
   * Explore articles, videos, and interactive tools on various health topics.
   * Search and filter resources based on categories or keywords.
4. **Feedback and Reviews**:
   * Provide feedback and ratings for healthcare providers and services.

**For Administrators:**

1. **User Management**:
   * CRUD operations for managing user accounts (Patients, Administrators, and Physicians).
   * Manage user permissions and access levels.
2. **Appointment Management**:
   * View and manage appointment schedules for all users.
   * Confirm, reschedule, or cancel appointments as needed.
3. **Content Management**:
   * CRUD operations for managing medical entities:
     + Physicians: General Physicians, ENT Specialists, Eye Specialists, Bone Specialists, Teeth Specialists, Allergy Specialists, Heart Specialists, Neuro Specialists.
     + Lab Facilities: X-Ray Lab, MRI Scan Lab, Ultrasound Lab, ECG Scan Lab, Urine Test Lab, Blood Test Lab, Sugar Test Lab.
     + Medicine Categories: General Medicine, Specialized Medicine, Preventive Medicine.
4. **System Logs Management**:
   * View and monitor system activities and logs for security and audit purposes.
   * Ensure system integrity and troubleshoot issues as needed.
5. **Security and Settings**:
   * Implement and manage robust security measures to safeguard user data and system integrity.
   * Configure system settings and parameters to optimize system performance and user experience.

**Usage Instructions:**

1. **User Registration and Authentication**:
   * Patients can register for a new account using the SignUp interface.
   * Upon registration, users can log in using their credentials.
2. **Appointment Booking**:
   * Users can explore available services and schedule appointments with preferred physicians.
   * Appointments can be canceled if needed, and users can view their appointment history.
3. **Medical History and Resources**:
   * Users can explore health education resources for self-learning.
4. **Administrator Controls**:
   * Administrators have full control over user management, appointment scheduling, content management, system logs, and settings.