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**1. Introduction**

**1.1 Purpose**

The purpose of this document is to define the software requirements for an ecommerce website that includes the functionalities for online doctor consultations and emergency ambulance dispatch services. The platform aims to provide users with a seamless experience for purchasing products, accessing healthcare professionals, and requesting urgent medical assistance

**1.2 Scope**

This platform will serve as a one-stop solution for ecommerce, telemedicine, and emergency medical services. It will include:

* A product marketplace for medical and general goods.
* Online doctor consultations (both video and chat).
* Emergency ambulance dispatch service with real-time tracking.

The primary users will include:

* End users (patients/customers).
* Doctors/healthcare professionals.
* Ambulance service providers.
* Administrators.

**1.3 Definitions, Acronyms, and Abbreviations**

* EHR: Electronic Health Records
* API: Application Programming Interface
* UI/UX: User Interface/User Experience
* GPS: Global Positioning System

**1.4 References**

* ISO/IEC 25010:2011 for software quality requirements.
* Relevanthealthcare compliance standards (e.g., HIPAA, GDPR).

**2. Overall Description**

**2.1 Product Perspective**

The ecommerce website will be a web-based platform with responsive design. The product will integrate:

* An ecommerce system for browsing and purchasing products.
* A telemedicine system for doctor consultations.
* A real-time GPS-enabled ambulance dispatch module.

**2.2 Product Features**

 **Ecommerce:**

* Product catalog, search, and filter options.
* Secure payment gateway.
* User reviews and ratings.

 **Online Doctor Consultation:**

* Scheduling video or chat consultations.
* Prescription generation and download.
* Integration with patient EHR.

 **Emergency Ambulance Dispatch:**

* SOS button for immediate requests.
* Real-time ambulance tracking.
* Notifications for estimated time of arrival.

**2.3 User Characteristics**

1. **End Users:** Basic knowledge of internet usage.
2. **Doctors:** Familiarity with telemedicine tools.
3. **Ambulance Providers:** Skilled in emergency response and GPS navigation.
4. **Administrators:** Trained for backend operations and system monitoring.

**2.4 Constraints**

* Compliance with healthcare regulations (e.g., HIPAA).
* Support for high traffic and scalability.
* Multi-language support.

**3. Specific Requirements**

**3.1 Functional Requirements**

** Ecommerce Module:**

* User registration and login.
* Product browsing, searching, and filtering.
* Secure cart and checkout process.

 **Online Doctor Consultation Module:**

* Search for doctors by specialty, location, or availability.
* Book and manage appointments.
* Real-time video and chat functionality.

 **Emergency Ambulance Dispatch Module:**

* Dedicated SOS button.
* Integration with GPS for real-time tracking.
* Notifications for both users and ambulance drivers.

 **Admin Module:**

* Manage products, doctors, and ambulance providers.
* Monitor system performance and logs.
* Generate reports and analytics.

**3.2 Non-Functional Requirements**

**Performance:**

* + Support up to 10,000 concurrent users.
  + Page load time under 2 seconds.

**Security:**

* + Data encryption (AES-256).
  + Role-based access control.

**Availability:**

* + 99.9% uptime.
  + Disaster recovery support.

**Usability:**

* + Intuitive UI for all user types.
  + Accessibility standards (WCAG 2.1 compliance).

**4.System Design Constraints**

**4.2 Hardware Interfaces**

* **User Devices:**
  + Desktop browsers, iOS, and Android devices.

**4.2 Software Interfaces**

* Frontend: HTML5, CSS3, Bootstrap v5.0
* Backend: Node.js&PHP.
* Database: MySQL/PostgreSQL for structured data and MongoDB for unstructured data.
* **Third-Party APIs:**
  + Payment Gateway APIs (e.g., Stripe, PayPal).
  + Video Consultation APIs (e.g., Zoom, Twilio).
  + GPS Tracking APIs (e.g., Google Maps).

**4.3 Communication Interfaces**

* HTTPS for all communications.
* WebSocket for real-time updates.

**5. Appendices**

**5.1 Assumptions**

* Users will have stable internet access.
* Doctors and ambulance providers will update their availability in real-time.

**5.2 Future Enhancements**

* AI-based doctor recommendations.
* Integration with wearable health devices.
* Multi-currency and regional shipping support.

**6.Pre-existing Solutions and Differentiation**

**6.1 Existing Solutions**

**There are several platforms available that cater to ecommerce, telemedicine, or ambulance services separately. Examples include:**

**Ecommerce Platforms:**

* + **Amazon and Flipkart provide general product marketplaces but lack healthcare-specific integrations like online consultations or emergency services.**

**Telemedicine Platforms:**

* + **Practo and Zocdoc offer doctor consultations but do not integrate ecommerce or emergency ambulance dispatch services.**

**Emergency Ambulance Services:**

* + **Apps like Uber Health and 108 Emergency cater to ambulance dispatch but lack ecommerce or telemedicine features.**

**6.2 How This Solution is Better**

Our platform is uniquely positioned as a comprehensive solution by integrating:

**Unified Ecosystem:**

* + Combines ecommerce, telemedicine, and ambulance dispatch into a single platform, offering users convenience and time savings.

**Seamless Experience:**

* + Users can purchase medical supplies, consult a doctor, and request an ambulance from one app.

**Real-Time Features:**

* + GPS-enabled tracking for ambulance dispatch and real-time video consultations.

**Personalization:**

* + AI-driven doctor recommendations and product suggestions based on user history.

**Regulatory Compliance:**

* + Adheres to healthcare standards such as HIPAA and GDPR, ensuring data security and privacy.

**Scalability:**

* + Built for high traffic, allowing for smooth operation even during emergencies.