Health Information Management Platform
Software Requirements Specification
Version 1.0

Revision History

Date	Version	Description	Author
1-02-24	1.0	Initial version	Capstone

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1. Introduction

1.1 Purpose

This document aims to provide a comprehensive overview of the Health Information Management Application, designed to store patient information, X-ray images, prescriptions, and record doctor activities. The primary purpose is to streamline healthcare processes, enhance information accessibility, and maintain a detailed record of patient interactions.

1.2 Scope

The Health Information Management Application intends to centralize patient data, including medical images and prescriptions. The application encompasses user registration, data storage, image uploads, prescription recording, and activity logging for doctors. The scope also emphasizes data security and compliance with healthcare regulations.

1.3 Definitions, Acronyms, and Abbreviations

- **HIMA:** Health Information Management Application
- **EMR:** Electronic Medical Record
- **API:** Application Programming Interface

1.4 References

- [Healthcare Data Management Standards]
- [Medical Imaging Guidelines]

1.5 Overview

The subsequent sections of this document will provide a detailed description of the Health Information Management Application, covering stakeholders, major features, and specific requirements concerning functionality, usability, reliability, performance, security, supportability, design constraints, and more.

2. Overall Description

2.1 Problem Statement

Healthcare facilities often face challenges in efficiently managing patient information, medical images, and prescriptions. The Health Information Management Application addresses these challenges by offering a digital solution to organize and access critical healthcare data seamlessly.

2.2 Stakeholders

- Doctors/Healthcare Providers

- Application Administrators
- System Developers

2.3 Users

- **Doctors/Healthcare Providers:** Doctors/Healthcare Providers responsible for entering and accessing patient information.
- **Application Administrators:** Those overseeing the system's operation and managing user accounts.

2.4 Major Features

- Patient Information Management
- Medical Image Storage (X-rays, etc.)
- Prescription Recording
- Doctor Activity Logging

3. Specific Requirements

3.1 Functionality

3.1.1 User Registration and Authentication

- **3.1.1.1** The system shall provide a user registration interface.
- **3.1.1.2** Users shall authenticate through secure methods (e.g., password, biometrics).
- **3.1.1.3** The system shall maintain a secure database of user profiles.
- **3.1.1.4** Administrators shall have the capability to manage user accounts.

3.1.2 Patient Information Management

- **3.1.2.1** Doctors shall enter and update patient information.
- **3.1.2.2** EMRs shall include demographic details, medical history, and allergies.

3.1.3 Medical Image Storage

- **3.1.3.1** The application shall support the upload and storage of medical images (X-rays, etc.).
- **3.1.3.2** Images shall be categorized based on patient and date.

3.1.4 Prescription Recording

- **3.1.4.1** Doctors shall record and update patient prescriptions.
- **3.1.4.2** Prescriptions shall include medication details, dosage, and instructions.

3.1.5 Doctor Activity Logging

- **3.1.5.1** The system shall log doctor activities, including patient interactions.
- **3.1.5.2** Activity logs shall capture date, time, and actions performed.

3.2 Usability

3.2.1 User Interface

- **3.2.1.1** The user interface shall be intuitive for healthcare providers.
- **3.2.1.2** Responsive design shall be implemented for various devices.

3.3 Reliability & Availability

3.3.1 System Uptime

- **3.3.1.1** The system shall aim for 99.9% uptime.

3.3.2 Data Backup

- **3.3.2.1** Regular backups of patient data shall be performed.
- **3.3.2.2** Backup data shall be stored securely.

3.4 Performance

3.4.1 Response Time

- **3.4.1.1** The system shall aim for a response time of under 5 seconds.
- **3.4.1.2** Performance shall be monitored and optimized as needed.

3.4.2 Scalability

- **3.4.2.1** The system shall scale to accommodate a growing volume of patient data.
- **3.4.2.2** Infrastructure shall be scalable based on demand.

3.5 Security

3.5.1 Data Encryption

- **3.5.1.1** The system shall employ secure storage for sensitive patient information.

3.5.2 Image and Prescription Security

- **3.5.2.1** Medical images and prescriptions shall be stored securely.
- **3.5.2.2** Access to images and prescriptions shall be restricted to healthcare providers.

3.6 Design Constraints

3.6.1 Technology Stack

- **3.6.1.1** The system shall be developed using android studio (Language used java),database=firebase.

3.6.2 Compliance with Healthcare Regulations

- **3.6.2.1** The application shall comply with healthcare data management standards.
- **3.6.2.2** Data protection laws and regulations shall be adhered to.

3.7 Interfaces

3.7.1 User Interfaces

- **3.7.1.1** The application shall have a user-friendly and responsive interface.
- **3.7.1.2** Multilingual support shall be provided for user interfaces.

3.7.2 Hardware Interfaces

- **3.7.2.1** The application shall require devices with internet connectivity.
- **3.7.2.2** Compatibility with common devices used in healthcare settings shall be ensured.

3.8 Communications Interfaces

- **3.8.1** Communication with external systems shall follow industry-standard protocols.

3.9 Licensing Requirements

- **3.9.1** Healthcare providers shall agree to the application's terms and conditions during registration.

3.10 Applicable Standards

- **3.10.1** The application shall adhere to international standards for healthcare information systems.
- **3.10.2** Compliance with data protection laws and regulations shall be maintained.

4. Supporting Information

4.1 Project Plan

- **4.1.1** A detailed project plan, including milestones and timelines, shall be developed.
- **4.1.2** Regular project updates shall be provided to stakeholders.

4.2 Vision Document

- **4.2.1** The vision document outlines the overall goals and objectives of the Health Information Management Application.

4.3 Use Case Analysis

- **4.3.1** Use cases detailing various user interactions and scenarios shall be documented.

4.4 Non-functional Requirements Model

- **4.4.1** Non-functional requirements, such as performance and security measures, shall be detailed.

4.5 Traceability Matrix

- **4.5.1** A traceability matrix shall be maintained to link requirements to their sources, ensuring comprehensive coverage.

This Software Requirements Specification establishes a comprehensive foundation for the development and implementation of the Health Information Management Application, ensuring a clear understanding of its objectives, functionalities, and requirements for all stakeholders involved in the healthcare ecosystem.