Software Requirements Specification

for

Government E-Channeling

Prepared by Team CyberPulse

2024 / 04 / 18

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1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for developing a government E-Channeling especially for Sri Lanka. Through this system, it aims to speed up citizen's access to government services using an online platform.

1.2 Intended Audience

The intended audience for this document includes government officials, team members , testers, patients and hospitals that are involved in the project

1.3 Scope

The scope of this project includes the design, development, implementation and maintenance of a website that facilitates appointment scheduling for government hospitals. This includes features for user registration, scheduling the appointments, and communication facilities with the hospital staff via SMS service. Moreover, this system will include a barcode system that will help users with hospital registration.

2. Overall Description

2.1 Product Perspective

The Government E-Channeling System will connect citizens with government agencies as a centralized platform.This will offer features such as user registration, appointment scheduling, notifications via SMS and reporting functionalities.

2.2 Product Features

- Help users with hospital registration.
- Appointment scheduling
- Notifying the users about the appointment details via SMS

2.3 User Characteristics

- **Citizens (Patients)**
  Individuals seeking healthcare services from government hospitals. They might be vary in age, technology proficiency, and accessibility requirements.

- **Hospital Staff**
  This includes the administrative staff that manage scheduling and handle registration at government hospitals. They may have different levels of technical skill and need access to administrative features.

- **Developers**
  These individuals are responsible for the government's E-Channeling system's development, design, and maintenance. They are in charge of ensuring that the system is functional, secure, and adaptable, and have experience in software development.

2.4 Assumptions and Dependencies

Assumptions :
- Users have access to internet connected devices
- Government hospitals are willing to participate in this project, and they are willing to provide the necessary support.

Dependencies :
- Integrating with government hospital databases and appointment systems.
- Integrating with SMS services.
- Users have basic knowledge and are familiar with barcode scanning services.

3. System Features and Requirements

3.1 Functional Requirements

The functions that the website must support, like scheduling and managing appointments, are described in depth by the functional requirements. These include:

- User registration: This allows the user to register in the hospital system.
- Appointment scheduling:This enables users to schedule appointments for government hospital services.
- Appointment management: This allows users to view or cancel their appointments if needed.
- Notification system: Send SMS notifications to users for appointment details.
- Barcode-based hospital registration: This provides a feature for users to register at hospitals using barcode technology.

3.2 Non-Functional Requirements

- Usability: The website should have a userfriendly interface, that enables easy use for citizens and hospital staff.
- Accessibility: The website should obey the Web Content Accessibility Guidelines (WCAG) to ensure accessibility for users with disabilities.
- Security: It is necessary to encrypt user data during transmission and storage. Role-based access control should be implemented to restrict unauthorized access to sensitive information.
- Performance: The website must have to respond rapidly and support numerous users at once without experiencing any performance issues.

3.3 System Interfaces

System interfaces explain how the website will interact with existing government databases and services. These include:

- Integration with government hospital databases: The website needs to be incorporated with hospital databases so that details about appointments and services that are offered can be accessed.

- Integration with SMS notification services: The website needs to be incorporated with SMS notification services to send appointment reminders and updates to users.

3.4 User Interfaces

User interfaces outline the design and layout of the website's user interface. These include:
- User registration interface: A form for users to create accounts with their personal information like name, ID, Address, Phone number,Specilizations and date.
- Appointment scheduling interface: A user-friendly calendar interface for users to schedule appointments with government hospitals.
- Appointment management interface: A dashboard for users to view or cancel their appointments.
- Barcode registration interface: An interface for users to register at hospitals using barcode technology.

3.5 Software Interfaces

Software interfaces describe how to interact with any software or services provided by third parties. For instance, connecting appointment reminders using SMS notification APIs.

3.6 Use Case Diagram
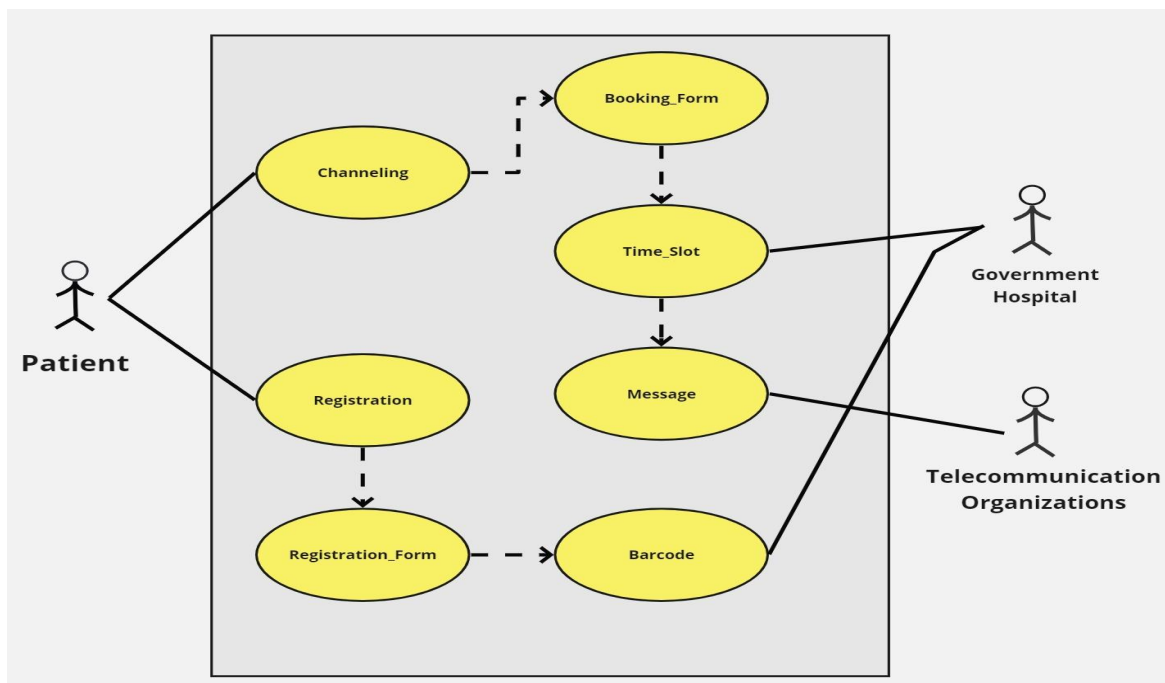
A Use Case Diagram provides a visual representation of how users(actors) and the system interact. It describes the various ways users can interact with the system to accomplish particular activities or goals.This diagram provides the foundation for requirement analysis and system design.It is also crucial for understanding the functionality of the system from the viewpoint of the user.

3.7 Entity Relationship Diagram
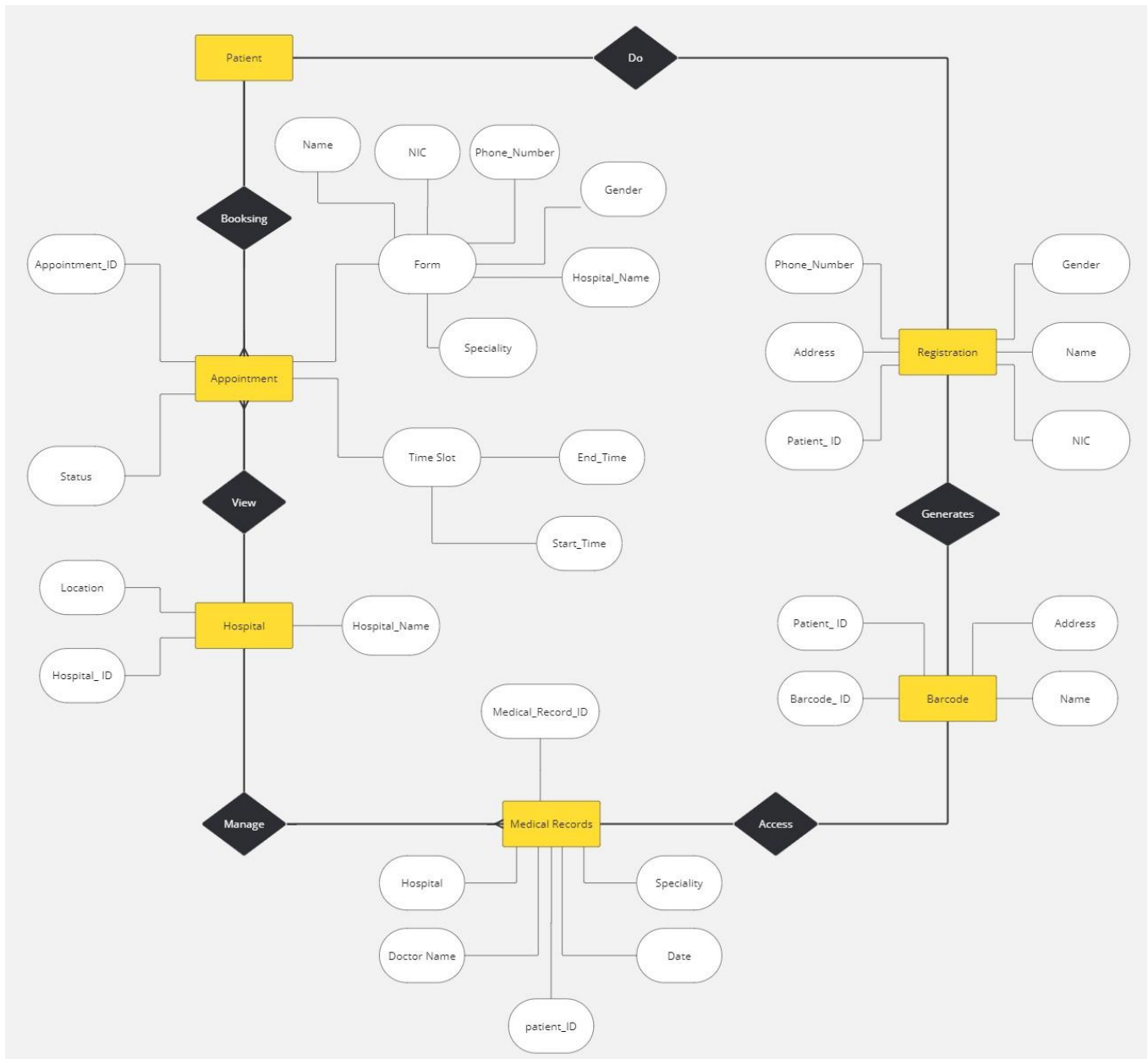
Entity relationship diagram is a graphical representation used in database to represent the entities,their attributes and their relationships. ER diagrams is crucial for database developers to understand and communicate the database system. Entities are real-world object or concept that is distinguishable and can be uniquely identified.