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Software Development Project Year 4

Functional Specification

Elderly Care Management System(ECMS)

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# **Introduction**

The purpose of this document is to outline the functionality of the Elderly Care Management System (ECMS). The aim of this project is to create an application that helps with the management of Elderly Care patients data used by Care centres. This system will be designed to cater for two primary users the administrator and carers. Administrators handling patients details and registration and the Carer who manages daily care activities and communication.

These are a few key features I will be implementing in this project:

* Patient Profile: Keeping the patients personal and medical information.
* Activity Logs: The carer records daily activities of the patient and using automated email sends a copy of the diary to their next of kin.
* Communication Portal: Scheduling tool to allow family and friends visit there loved one.
* Multidisciplinary support team: To schedule appointments with physical therapists, speech therapist and exercises classes.
* Data security: I will implement data encryption/decryption to keep patients sensitive information secured and to adhere to the Health Level 7 standard.

This document will highlight the target audience for the application and will also discuss the systems architecture. This document will outline a context diagram, use case diagram that will show interactions between different users and will also explain FURPS+ metrics (Functionality, Usability, Reliability, Performance, Supportability+).

# **Project Overview**

The Elderly Care Management System (ECMS) aim is to enhance management of the patients information in care centres. Ensuring all patient data adheres to the Health Level 7 standards of security by implementing encryption and decryption using Shared key or Public key. The data is easily accessible and easily updatable. There are two main users ion this application: The Administrator and the Carer.

## **Core Functionality**

The core functionality of this project are:

**Data Security:** The aim is to implement cryptography for data encryption/decryption to keep the patients data secured. There are two sorts of encryption and decryption Shared Key and Public Key.

**Shared Key:**

**Public Key:**

**Health Level 7:**

**Patient Profile:**  Keep a record of the patient personal and medical information such as patients Name, Date of birth, Phone number, Home address, Email Address, Medical history, Dietary requirements, Medication, there GP and the Next of Kin name, Next of Kin Number and Next of Kin email.

**Activity Logs:** The Career records the daily activities of the patient such as patient wakes up, what they get to eat, personal care needs, appointments, visits from family, outdoor trips, to what medication was administered and the time and dosage of medication. A copy of this diary will be sent of to patients next of kin using automated email.

## **Non Core Functionality**

## 

# **Target Audience/Platform**

There are two users for the Elderly Care Management System: (Need to ask Question about the Next of Kin)

* Administrator
* Carer

The Administrator will be able to add the patients details such as there Name, Date of birth, Phone number, Home address, Email Address, Medical history, Dietary requirements, Medication, there GP and the Next of Kin name, Next of Kin Number and Next of Kin email.

Carer will be assigned to the patients for their shifts by the administrator. Carers will keep a daily record of the work they are doing with the patient. This record will be in the form of daily diary entries recording everything from when the elderly patient wakes up, what they get to eat, personal care needs, appointments, visits from family, outdoor trips, to what medication was administered and the time and dosage of medication. This recorded entry will be emailed to the elderly’s next of kin so that they can stay up to date with their loved ones progress.

This will be a web application that will be accessible on both mobile devices and desktop. User will be able to access this easily. The user interface will be designed so it is simple to navigate. Administrators and Carer will be able to easily access the application.

# **Context Diagrams**

# **Use Case Diagram**

# **Brief Use Case**

# **Detailed Use Case**

# **FURPS+ Metrics**

## **Functionality**

## **Usability**

## **Reliability**

## **Performance**

## **Supportability**

## **+**

# **References**

Oracle, 2010. *Shared Key and Public Key Encryption.* [Online]   
Available at: [https://docs.oracle.com/cd/E19047-01/sunscreen151/806-5397/howskipworks-4/index.html](%20https:/docs.oracle.com/cd/E19047-01/sunscreen151/806-5397/howskipworks-4/index.html%20)   
[Accessed 01 October 2024].