



COLLEGE: KCA UNIVERSITY

COURSE: Bsc. SOFTWARE DEVELOPMENT

UNIT CODE: BSD 2205

UNIT: SOFTWARE COMPUTING PROJECT

**ST JOSEPH'S MISSION HOSPITAL - MIGORI
PATIENT'S RECORD MANAGEMENT
SYSTEM REQUIREMENTS SPECIFICATION
DOCUMENT**

REG NO: 20/04451

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DATE OF SUBMISSION: 10/10/2022

1. Introduction

This is a system requirement Specification document for St. Joseph's Mission Hospital Patient's Record Management System. It describes the functions and goals that the system can perform. This will be used to describe the scope of the project and plan the system's design and implementation.

1.1. Purpose

The purpose of this document is to describe all the requirements of St. Joseph's Mission Hospital Patient's Record Management System.

1.2. Intended Audience

The following are some of the system's intended audience:

- Administrative staff
- Doctors
- Nurses
- Surgeons
- Clients
- Development team
- Supervisor

The hospital management and its team members use this documents as a means to communicate the system requirements to the development team. The development team will conduct conversations about system requirements and ideas for the requirements. Only the requirements stated in this document or a future revision will be used to define the scope of the system.

1.3. Project Scope

The software product is a Patient's Record Management System. The system will be used to register patients, manage admissions and perform the overall management of all departments. These functions will be performed with a high degree of accuracy. The modules of the St. Joseph Patient's Record management system are user-friendly and easy to access.

The intentions of the system is to store and manage patient's records. This will help doctors to easily correctly diagnose patients and prevent the loss of patient's records due to the use of physical cards.

2. Overall Description

St Joseph Patient's Record Management System is a system that will be used to manage all patient's records. The system will enable smooth healthcare performance along with medical, legal, financial and administrative operations. Hence successful operation of St Joseph's Mission Hospital.

2.1 User Classes and Characteristics

The system will be used in St Joseph Mission Hospital by the Administrative staff, the doctors, nurses and the front-desk staff. Some of the user's may not be computer literate, hence there will be a need to train them on using the system. The system is designed to be user-friendly.

Administrative staff

- ✓ They all have a basic computer training
- ✓ Responsible for all the scheduling and updating of the the day/night employee shift
- ✓ Responsible for assigning doctors and nurses to patients.
- ✓ Have a post-secondary education relating to general business administration practices.

Nurses

- ✓ Are computer literate
- ✓ Have a post-secondary education in nursing.
- ✓ Responsible for assigning patients to available wards
- ✓ Patient's give short descriptions of their conditions
- ✓ They check their patient's list

Front-desk staff

- ✓ Have general reception and secretarial duties.
- ✓ Have some basic computer training.
- ✓ Responsible for patient's check-in.
- ✓ Notify administrators or nurses when an event occurs.

Doctors

- ✓ All have a medical degree
- ✓ Are computer literate.
- ✓ Use the system to check their patient's list.
- ✓ Record patient's diagnosis.

2.2 Operating Environment

The software will operate on a hardware platform and an operating system.

Hardware Platform

The development will be done on a HP laptop, Intel Processor, Core i5 7th Gen.

The laptop has an 8 GB RAM and a 2.7 GHz processor speed.

The system will operate on a hardware platform with the following minimum requirements:

- ✧ 4 GB RAM
- ✧ Intel Processor
- ✧ Core i3 5th Gen
- ✧ 1.9 GHz processor speed.

Operating System

The development is done on a windows 10 operating system.

The system will operate on from windows 7 operating system and above.

2.3. Design and Implementation Constraints

The system should:

- ✓ Ensure the integrity of the patient's information.
- ✓ Make information accessible even in concurrent patient consultation.
- ✓ Be able to handle a significant number of transactions at any given time.
- ✓ Guarantee speed of data display.
- ✓ Support a high rate of concurrent transactions.
- ✓ Anticipate difficulties and limitations regarding system upgrades and improvements.

2.4 User Documentation

The following are some of the user documentations that will be delivered along with the software.

- User manuals
- Release notes
- Installation guides

2.5 Assumptions and Dependencies

- ✓ It is assumed that the end users will be there to test the system.
- ✓ Compatible computers will be available before the system is tested and installed.
- ✓ The estimated budget is available to facilitate the system development.

3. Functional Requirements

REQ-1: Admission

Add Patients

The system will allow the front-end desk staff to add new patients.

Assign ID

Front-end staff will assign the patient's their ID that corresponds their national ID. For patient's below the age of 18 years, they will use their birth certificate number.

REQ-2: Consultation

Assign to Waiting List

The consulting nurse will assign patients to a waiting list if no bed is available.

Assign Ward

The consulting nurse shall assign the patients to an appropriate ward.

REQ-3: Medical Matter Management

Assign Doctor

The administrative staff shall assign a patient to a doctor

Assign Nurse

The administrative staff shall assign a patient to a nurse.

Inform Nurses

The system shall inform nurses of new patients

Inform Doctors

The system shall inform doctors of new patients

Surgery Case

The administrative staff shall use the system to assign a surgery room, surgeon and nurses to the patient

Emergency Case

The administrative staff shall use the system to assign an emergency room, doctors, and nurses to the patients immediately.

Generate Report

The system shall generate the patient's situation record

Inform Patients

The system shall inform patients of the people on the bed's waiting list and their status.

REQ-4: Checkout

Delete Patient ID

The administrative staff shall delete the patient ID when they checkout.

Add to beds-available list

Administrative staff shall put evacuated beds in the beds available list.

REQ-5: Report Generation

Patient Information

The system shall generate the patients reports about the following information: patient's ID, name, ward name, bed number, and the doctor's name.

Bed Availability

The system shall generate reports on the available beds.

Staff Schedule

The system shall generate reports on staff schedule

The report includes: staff ID, staff name, staff type, staff duty.

REQ-6: Database

Patient's Mandatory Information

Each patient shall have the following mandatory information: first name, last name, phone number, ID number, address, postal code, city, country,

Update Patient information

The system shall enable update of the patient's information

Search for patients

The system shall allow searching for a patient

Staff Mandatory information

Each staff shall have the following mandatory information: ID number, first name, last name, phone number, address, city, country, duty schedule, employee type.

Update Staff information

The system shall enable update of the staff information

Search of Employee information

The system shall enable search of the employee information

Ward Types

Types of wards, Cancer, cardiac, maternity and surgical wards.

Room information

Each room will include: room number, list of beds, full/not full.

Bed information

Each bed includes:

Bed number, occupied/not occupied, patient's ID

4. External Interface Requirements

4.1 User Interfaces

This is the interface between the software and the user.

Example User interfaces

Adding Patient's Records

Add New Patient's Record

Patient's ID	<input type="text"/>	Age	<input type="text"/>
First Name:	<input type="text"/>	Gender	<input type="text"/>
Last Name:	<input type="text"/>	Location	<input type="text"/>
Birthday:	<input type="text"/>		
		Date Added	<input type="text"/>
<div><div>PREV</div><div>ADD RECORD</div><div>NEXT</div></div>			

Adding A Doctor's Records

Adding Doctor's Records

Doctor's ID	<input type="text"/>	Age	<input type="text"/>
First Name:	<input type="text"/>	Gender	<input type="text"/>
Last Name:	<input type="text"/>	Location	<input type="text"/>
Birthday:	<input type="text"/>		
		Date Added	<input type="text"/>
<div><div>PREV</div><div>ADD RECORD</div><div>NEXT</div></div>			

Adding Nurse’s Records

Adding Nurse's Records

Nurse's ID	<input type="text"/>	Age	<input type="text"/>
First Name:	<input type="text"/>	Gender	<input type="text"/>
Last Name:	<input type="text"/>	Location	<input type="text"/>
Birthday:	<input type="text"/>		
		Date Added	<input type="text"/>

PREV

ADD RECORD

NEXT

Adding Staff’s Records

Adding Staff's Records

Staff's ID	<input type="text"/>	Age	<input type="text"/>
First Name:	<input type="text"/>	Gender	<input type="text"/>
Last Name:	<input type="text"/>	Location	<input type="text"/>
Birthday:	<input type="text"/>		
		Date Added	<input type="text"/>

PREV

ADD RECORD

NEXT

4.2 Hardware Interfaces

This is the logical and physical characteristics of each interface between the software and the hardware components of the system.

- **Hardware required**

- CPU Requirements**

- ✓ Core i3 and above processor
 - ✓ 5th generation and above
 - ✓ 4GB Ram and above
 - ✓ 1.9 GHz and above
 - ✓ 500 GB Hard disk and above

Monitor

Keyboard

Mouse

- **Supported devices**

The software is developed only for windows 32-bit or 64 bit.

- **Nature of data and control interaction between the hardware and the software**

The administrators can only access the system by providing their login credentials.

4.3. Software Interfaces

The system is developed for windows 7, windows 8 and windows 10

The system will use VB net for the user interface.

It will store all the data with the use of MySQL.

4.4 Communication Interfaces

The system synchronizes with MySQL to store all the information concerning all the patient's\

5. Other Non-Functional Requirements

5.1 Performance Requirements

Response time

System shall give responses in 1 second after checking the patient's information.

Capacity

The system should support 1500 people at a time

User Interface

The screen should respond within 3 seconds

Conformity

The system should conform to Microsoft accessibility guidelines to be able to use VB Net.

5.2. Security

Patient Identification

The system will require the patient to identify himself using an ID number.

Login ID

Any administrator who uses the system should have a login ID and a password.

Modification

Any modification shall be done only by the administrative staff.

Front Desk Staff rights

Front desk shall add new patients but not be able to modify the patient's records.

Nurse's Rights

Only view the information in the system

Doctor's Rights

Only view all the information in the system.

5.3. Maintainability

Backup

The system should provide capability to backup the data

5.4 Reliability

Availability

The system should be available all the time.

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