



NIT CALICUT HEALTH CARE MANAGEMENT SYSTEM



SOFTWARE REQUIREMENTS SPECIFICATION

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1. Introduction

1.1 Purpose

The software requirement specification document is specifically designed to delineate the boundaries of the Healthcare Information System design and functionality. Parties interested in this documentation would include the system owners, the system users[Health centre Staff. Students & Doctor], the Software manager and the design team.

1.2 Scope of Document

- The proposed software product is the **Health Centre Management System (HMS)**. The system will be used to get the information from the patients and then storing that data for future usage.
- In addition to the specific design components of this software, this document will make clear the design team's goals of creating value-added software which not only correctly captures patient health information, but then efficiently stores it, sorts it, retrieves it, and delivers this critical care information where it is needed by healthcare professionals by using Data Mining techniques. The benefit of having accurate, complete, and timely health information is that it will inevitably save human lives.
- The current system in use is a paper-based system. It is too slow and cannot provide updated lists of patients within a reasonable timeframe and when required
- The intentions of the system are to provide all the required information under one system and retrieve it when required.
- The statement of requirements in this document are both functional and non-functional

1.3 Definitions, Acronyms, and Abbreviations

1.3.7 (HIPAA) -The Health Insurance Portability and Accountability Act of 1996

1.3.8 (SDLC)-The Software Development Life Cycle.

1.3.13 (FAT32) - File Allocation Table 32 Bit

1.3.17 Vendor. A licensed and authorized agent of the development team or their vested remaindermen.

1.4 Overview of document

The objective of this document therefore is to formally describe the system's high level requirements including functional requirements, non-functional requirements and business rules and constraints.

The Software Requirement Specification will define and illustrate the overall Software and its requirements- both functional and non-functional. In addition the SRS will define the users and their respective characteristics as well as any constraints to development that the team has identified.

The format of the SRS document will address the overall Software first- including functionalities and objectives in an overview. The subsequent sections will specifically address the components of the larger software system. These sections delineate specifications for every facet of the components design.

2. Software Description

2.1 Software Overview

This Health Center Management System is a self-contained system that manages Patient Information. Medical records are the keystone to the healthcare profession; however these records are not utilized to their fullest potential. Often records are inaccurate, misplaced, and /or duplicated unnecessarily. In a world which recognizes the improvement of data digitization as a constructive force which often increases efficiency while lowering costs; it is our view that medical records networking could only benefit the quality of healthcare offered in NITC and most importantly the Students of this college will be able to keep a track of their own medical history for future problems or ailments.

2.2 User Characteristics

2.3.1 The primary user will be a healthcare professional like a physician, a nurse, or a medical technician.

Note. This is a Medical Information System therefore to limit access and ensure integrity of the data only licensed medical personnel have access to input, search, and update functions.

2.3.2 Nurse Administrators, Physician Office Administrators, System

Administrators and/or Therapists will have limited access and information capabilities.

2.3.3 Patients will have limited access to the system, they can only view their medical history and test reports by entering their ID (Roll no. or NITC staff id no.)

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2.3 Assumptions and Dependencies

2.5.1 It is assumed that the Health Centre will have enough trained staff to take care of the system.

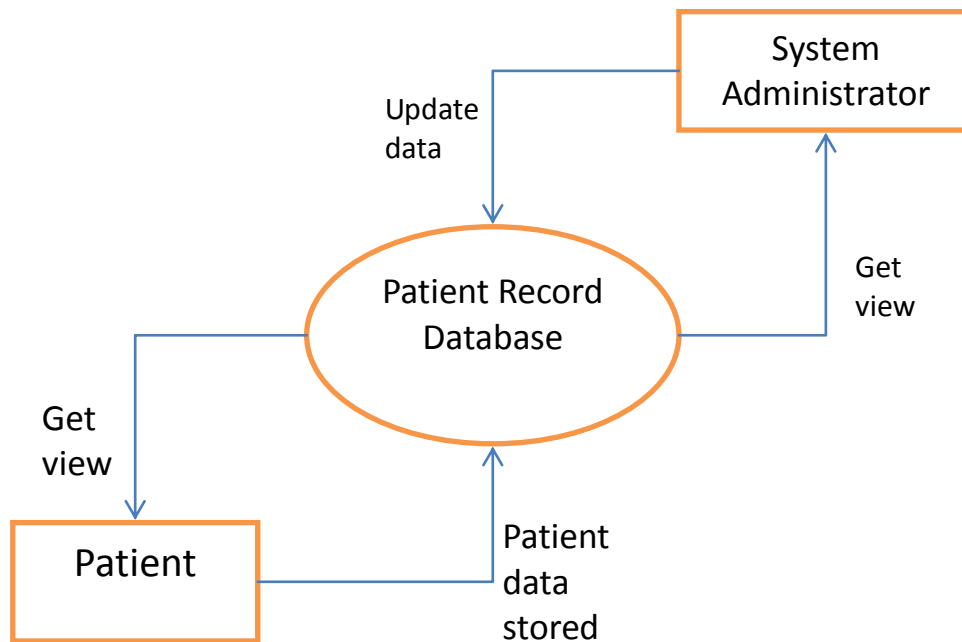
2.5.2 The system relies on a Physician relationship with a Health Centre system with which he/she is a staff member.

2.5.3 The SDLC chosen to implement the system will be model driven and based on subsequent versions to insure data integrity and functionality.

2.5.4 The Entire System will be used on a stand alone machine for the present version of the Health Centre management system.

2.5.6 The initial data and information about the database of students and staff will be provided by NITC.

2.4 DATA FLOW DIAGRAM:



3. Specific Requirements of Health Center Management System

3.1 Functional Requirements of Health center management System

3.1.1 The software must request username and password for access to data by staff and Doctor, only after authentication will allow access to the system.

3.1.2 The software must require high levels of error correction and input validation.

Note. Message box prompts would require a second entry of key data fields including Name, Age, Gender & Contact no. Staffs inputs will similarly prompt proper code sets for diagnosis and the prescribed medication.

3.1.4 The software must allow browsing by the physician or staff of historical medical information of the patients by entering their unique id (Roll no. or NITC ID card no.)

3.1.5 The software must identify the patient by a unique numeric identifier derived from the patient's **roll no** (in case of Student) or **NITC Staff ID no.** (in case of staff).

3.1.6 The software must allow patient to view their own medical record on the system and they have privilege to Read only.

3.1.7 The software must only allow deletions by the staff and only after archiving data in flat file format.

Note. Deletions will only be performed at the request of the patient or the decedent's heirs or authorized personnel in compliance with HIPAA guidelines.

3.1.8 The software to be developed must display the correct patient name and details.

3.1.9 The software to be developed shall display the correct time of day in compliance with ISO 8601.

3.1.10 The software to be developed must operate without interruption twenty-four hours a day.

3.1.11 The software must allow full and complete record search queries by physicians and staffs; also allow access to limited bloodwork, medication, and allergen information by lab Technician and display results in order specified by operator.

3.1.12 The software must allow input of diagnostic imagery and FAT32 compression for storage and transmission of data.

3.1.13 The software must enable output of real-time data and the test reports of the patients.

3.1.14 The software must retrieve and sort medical record information and allow for screen and print output of said information.

Note. Print output will include name, roll no and requested diagnostic information only.

3.1.15 The Staff will be able to upload the Health Details of the patient of to the system after they have been diagnosed by the doctor. All the details including:

- Medicines Prescribed
- Tests Prescribed
- Symptom observed
- Preventions to be taken
- Results of any Tests done

3.1.16 The software should be easy to use and should require minimum manual operation.

3.1.17 The software should have a user-familiar interface so that the system would not pose an additional workload to the users.

Note. Interface design would follow generally accepted model conventions for placement of dropdown menus and toolbars.

3.2 Non- Functional Requirements of Health center management System

3.2.1 The software interface must follow design conventions which allow for familiar location of drop down menus, help, easy updation etc.

3.2.2 Input errors will be returned in red with appropriate message box.

3.2.3 More than five attempts at login and failure will produce a red flag to system administrator.

3.2.4. Details of the Staff present at the health center including the Doctors timing, lab technicians timing etc. will be displayed on the system for easy reference by the patients

3.2.5 Emergency contact no's of nearby Blood banks, Ambulance ,Hospitals and other required technicians will be provided.