Software Requirements Specification

HOSPITAL RECORD MANAGEMENT

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The main purpose of Hospital record management System is to make hospital take easy and is to develop software that replace the existing record management system in hospitals.

1.2 Document Conventions

The software product is the Hospital Management System. The system will be used to allocate beds to patients on a priority basis, and to assign doctors to patients in designated wards as need arises. Doctors will also use the system to keep track of the patients assigned to them. Nurses who are in direct contact with the patients will use the system to keep track of available beds, the patients in the different wards, and the types of medication required for each patient. Doctors must make rounds to pick up patients' treatment cards in order to know whether they have cases to treat or not. The intentions of the system are to reduce over-time pay and increase the number of patients that can be treated accurately.

1.3 Intended Audience and Reading Suggestions

Not applicable

1.4 Product Scope

1.5 References

Not applicable

2. Overall Description

2.1 Product Perspective

This Hospital Record Management System is a self-contained system that manages activities of the hospital as bed assignment, operations scheduling, personnel management and administrative issues. And include the records of the patients such as Medical history, previous used medicines etc. in the case of doctor, the records such as his/her activities, achievements etc.

2.2 Product Functions

The system functions can be described as follows:

Registration: When a patient is admitted, the front-desk staff checks to see if the patient is already registered with the hospital. If he is, his/her Personal Health Number (PHN) is entered into the computer. Otherwise a new Personal Health Number is given to this patient. The patient's information such as date of birth, address and telephone number is also entered into computer system.

Consultation: The patient goes to consultation-desk to explain his/her condition so that the consulting nurse can determine what kind of ward and bed should be assigned to him/her. There are two possible circumstances:
a) If there is a bed then the patient will be sent to the bed to wait for the doctor to come.
b) If there is no bed, the patient is put on a waiting list until a bed becomes available.

Checkup and Test: The corresponding doctor may evaluate the medical condition of the patient and keep it record. Which may include the current situation of patient. The test's that have done, medicines that prescribed etc.
There are some situations where a patient has taken some test for evaluating the patient's actual stations. All the test reports are keep in records, whenever there is a need for these records its make easier for access

Report Generation: The system generates reports on the following information: patients, bed availability and staff schedules after every six hours. It prints out all the information on who has used which bed, when and the doctor that is taking care of a given patient as well as expected medical expenses.

Pharmacy: When a doctor prescribes the medicines they need to approach the pharmacy for collecting it. Here the pharmacist has to keep records about the current status of medicine wether it is available in the pharmacy or not, description about the served medicines

2.3 User Classes and Characteristics

The system will be used in the hospital. The administrators, doctors, nurses and front-desk staff will be the main users. Given the condition that not all the users are computer-literate. Some users may have to be trained on using the system. The system is also designed to be user-friendly. It uses a Graphical User Interface (GUI).

Front-desk staff: They all have general reception and secretarial duties. Every staff has some basic computer training. They are responsible for patient's check-in or notification of appropriate people (e.g. notify administrator or nurse when an event occurs).

Administrators: They all have post-secondary education relating to general business administration practices. Every administrator has basic computer training. They are responsible for all of the scheduling and updating day/night employee shifts. Administrators in the wards are responsible for assigning doctors and nurses to patients.

Nurses: All nurses have post-secondary education in nursing. Some nurses are computer literate. Consulting nurses to whom patients give short descriptions of their conditions are also responsible for assigning patients to appropriate wards if the beds are available, otherwise putting patients on the waiting list. Nurses in wards will use the system to check their patient list

. Doctors: All doctors have a medical degree. Some have further specialized training and are computer literate. Doctors will use the system to check their patient's list.

2.4 Operating Environment

Software requirement

- Windows 7 or above operating system
- MySql server

Hardware Requirements

- Core i5 processor
- 4 GB RAM
- 25 GB of hard disk space in internal machine
- 1 TB hard disk space in server machine

2.5 Design and Implementation Constraints

- System is wirelessly networked with an encryption
- Records access to only limited premise
- Data Base is password protected
- Each user have an individual user id and password
- Only admins have the access to the whole system

2.6 User Documentation

The application will come with an "About" tab, which will allow users to access the offline and online HTML .hlp help manual. This manual will be updated with each new service pack. Other user documentation includes one user manual for lowest level users, one technical document describing the functionality of the subsection in detail for use of technicians, one copy of documentation and link to current source for future contributor

2.7 Assumptions and Dependencies

Each user must have a valid user id and password, only the authorized persons may have the access t the system. The user must be log in to the system if they need to access any of the records related to them or records about the patients, Only the admins have the authorization to add or delete or update the records.

3. External Interface Requirements

3.1 User Interfaces

<Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on.

Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.>

3.2 Hardware Interfaces

Laptop/Desktop PC
o core i5 processor
o 4GB RAM
o 500GB HDD

Purpose of this pc is to give information when Patients ask information about doctors, medicine available lab tests etc. To perform such Action it need very efficient computer otherwise due to that reason patients have to wait for a long time to get what they ask for.

3.3 Software Interfaces

Developing end

- JDK 1.8 - Java is fast, secure, and reliable. From laptops to datacenters, game consoles to scientific supercomputers, cell phones to the Internet,
- Netbeans 8.1 - IDE for Java developing.
- MySQL server - Database connectivity and management
- Adobe Photoshop cs4 - Logo and other designing such as User interfaces

Client End

- OS – Windows 7/8/8.1- Very user friendly and common OS
- JRE 1.8 - JAVA Runtime Environment for run Java Application and System
- MySQL server - Database connectivity

3.4 Communications Interfaces

- NIC (Network Interface Card) - It is a computer hardware component that allows a computer to connect to a network. NICs may be used for both wired and wireless connections.
- CAT 5 network cable- for high signal integrity
- TCP/IP protocol- Internet service provider to access and share information over the Internet
- Ethernet Communications Interface- Ethernet is a frame-based computer network technology for local area networks (LANs)
- Ubiquitous, easy to set up and easy to use. Low cost and high data transmission rates

4. System Features

4.1 System Feature 1

System features are organized by use cases and functional hierarchy so that the main functions of the system will be understandable.

4.1.1 Description and Priority

Users of the system can use the system features only after the login. Login is used for identify the user is authenticated or not.
Priority: High

4.1.2 Stimulus/Response Sequences

4.1.2.1 Basic Flow:

1. Open the login page.
2. Enter login credential (user-Id and password).
3. Click on the Login button.
4. Validate the user.
5. User Homepage is shown.

4.1.2.2 Alternate Flow:

1. If user and password does not match then it show error message.
2. Again same page is opened and asking for correct login credential.

4.1.3 Functional Requirements

Registration

Add patients

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

Assign ID

The system shall allow front-desk staff to give each patient a ID and add it to the patient's record. This ID shall be used by the patient throughout his/her stay in hospital.

Consultation

Assign Ward

The consulting nurse shall use system to assign the patient to an appropriate ward.

Assign to Waiting List

The consulting nurse shall use system to assign Patient to a waiting list if no bed is available

Medical matter management

Assign Doctor

The administrative staff in the ward shall use system to assign a doctor to a given patient.

Assign Nurse

The administration staff in the ward shall use system to assign a nurse to a given patient.

Inform Doctors
The system shall inform doctors of new patients.

Inform Nurses
The system shall inform nurses of new patients

Generate Report (normal)
The system shall generate the patient's situation record every two hours for normal patients.

Generate Report(Severe)
The system shall generate patient's situation record every half hour for severe patients.

Record procedure
The whole treatment procedure for the patient shall be recorded by the system.

Inform patient
The system shall automatically inform the patients who are on the bed waiting list of available beds whenever they become available..

4.2 System Feature 2 (and so on)

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Response time-The system will give responses within 1 second after checking the patient information and other information.
- Capacity-The system must support 1000 people at a time
- User interface- User interface screen will response within 5 seconds
- .• Conformity –The system must conform to the Microsoft accessibility

5.2 Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.

5.3 Security Requirements

All the administrative and data entry operators have unique logins so system can understand who is login in to system right now no intruders allowed except system administrative nobody cannot change record and valuable data.

5.4 Software Quality Attributes

- AVAILABILITY: The system shall be available all the time.
- CORRECTNESS: A bug free software which fulfill the correct need/requirements of the client. MAINTAINABILITY: The ability to maintain ,modify information and update fix problems of the system
- USABILITY: software can be used again and again without distortion.
- ACCESSIBILITY: Administrator and many other users can access the system but the access level is controlled for each user according to their work scope.
- ACCURACY: The reliability on the information/output. Can depend/be sure of the outcome.
- STABILITY: The system outcome/output won't change time to time. Same output will be given always for a given input.

5.5 Business Rules

- Want take the responsibility of failures due to hardware malfunctioning.
- Warranty period of maintaining the software would be one year.
- Additional payments will be analysed and charged for further maintenance
- If any error occur due to a user's improper use. Warranty will not be allocated to it
- . No money back returns for the software
- . Trust bond placement should be done before designing and coding. An advance or an Agreement.