
Software Requirements Specification

for

Hospital Management Software

Version 1.0

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Revision History

Name	Date	Reason For Changes	Version
P.V.S.L. Hari Chandana	18-01-2018	draft	1.0

1. Introduction

1.1 Purpose

The purpose of this software is to automate the hospital management system, thereby reducing the manual work. This document defines the requirements which the software application must meet and serves as a guide for the developers of this software system.

1.2 Product Scope

- The software proposed is Hospital Management Software. The system will be used to automate the various book-keeping activities of a hospital.
- Used to manage the routine, salary of doctors. Also assists patients in booking appointments and maintaining their records. Helps the management of staff in the hospital.
- This software helps in increasing the efficiency of management and also increases the number of patients that can be treated accurately.

1.3 References

- 1). Hospital Management System, The Practo blog for doctors
<https://doctors.practo.com/hospital-management-system/>
- 2). Hospital Information System-Wikipedia
https://en.wikipedia.org/wiki/Hospital_information_system

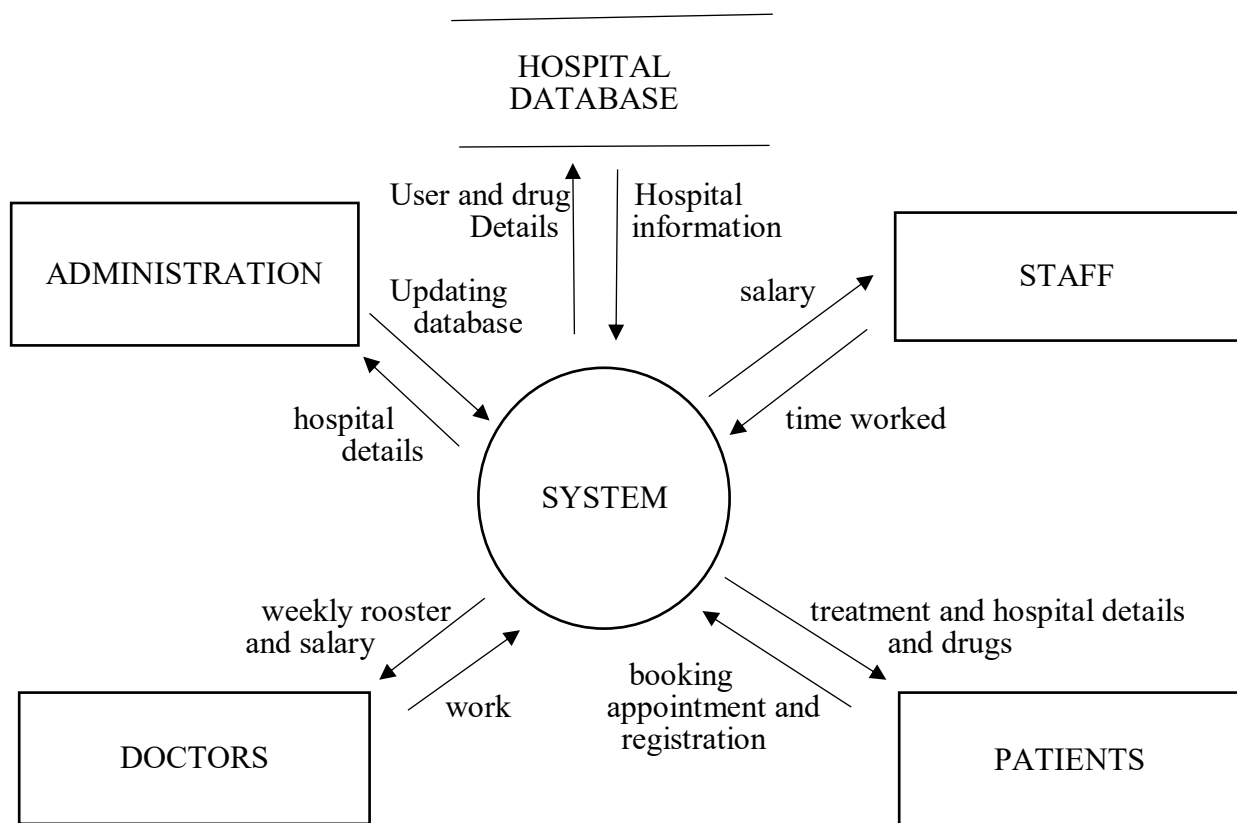
2. Overall Description

2.1 Product Functions

The software will contain specific features to effectively carry out Hospital management software. The same will be accomplished by addressing the following functionalities:

- **Routine management:** The weekly schedule/roster of the doctors will be prepared and uploaded to the hospital web site. Specific working hours of each doctor will be mailed to them.
- **Patient registration:** The patients can login into the hospital web site and search for a doctor with certain specification or book appointments with the available doctors. They can also view the previous doctor prescriptions, lab reports and diagnosis report on the web site.

- **Salary management:** The administrator will provide pay slips for the doctors at the end of every month. The salary of the staff and nurses will also be managed.
- **Drug warehouse management:** The prescribed drugs will be provided to the patients and the records are maintained in the database.
- **Room and bed allotment:** The patients who are joined in the hospital will be provided beds and rooms based on the current vacancies and the specific requirements.
- **Hospital details:** The administration will be able to view the total number of patients who visit, the total income and the salary outgo.



Data Flow Diagram

2.2 Operating Environment

- The system shall be a web based i.e. online application.
- It works on multiple computers sharing same database by which users of different departments can use it.
- It will work on windows and also Linux.

- The user can access the system, if they have an internet connection.

2.3 Design and Implementation Constraints

- Hospital database will be password protected.
- The software should use less RAM and processing power.
- The language used will be English.
- User will have individual user ID and password

2.4 Assumptions and Dependencies

- It is assumed that the hospital would have enough management to take care of the system.
- The hospital is assumed to be open for the whole day.
- The system has an interface which is easy enough to understand
- All necessary hardware and software are available for implementing and use of the system

3. System Features

The major services and functional requirements for the software can be illustrated by system features. In the following, necessary description is provided for each use case in the system.

3.1 Routine Management

This feature is associated with the preparation of weekly rosters of regular doctors. The weekly roster contains the visiting hours of every doctor and the specific consultation room allotted to them for each day. It is automatically uploaded on the hospital web site by the administrator for everyone to see. Also, mails are sent to doctors regarding their specific duty hours.

Functional Requirement

INPUT: The system administrator can update the weekly roster at any time.

VIEW SCHEDULE: Doctors and patients can view the roster from the system website.

OUTPUT: The roster and the changes if any are mailed to the respective doctor or patient.

3.2 Registration

The patients, doctors and the staff will be able to register into the hospital website using a username and a password. The information of the user will be automatically stored in the hospital database. The full details of the user are taken.

Functional Requirements

INPUT: The user can create an account in the website by entering personal details such as name, age, gender, address, phone number, mail and chronical diseases (if any), occupation.

SYSTEM LOGIN: User can login to the system using username and password.

ERROR GENERATION: Repeated username are not accepted. The user is prompted to enter another username. Duplicate accounts are not accepted. The user is prompted that their account already exists.

UPDATE DATABASE: The details of the user are stored in the hospital database automatically.

DELETE ACCOUNT: The administrator can delete any patient account if necessary.

OUTPUT: The patients can look into their previous records by selecting

- Prescriptions
- lab reports
- diagnosis reports
- bills.

The doctors will be able to look into:

- their roster
- the details of the patients they have treated
- any necessary details about the hospital.

3.3 Booking Appointment

The patients can log into their account and book appointments with the available doctors when required. The patients will be able to see the specific doctors available for any day over the week, their qualifications and expertise. The free slots of the doctors will be visible to them and they can book an appointment. Any necessary bed or room can also be booked online and the administration will a lot them with the same as per the requirement.

Functional Requirements

DOCTOR DETAILS: The patients can look into the details and specification of the doctors.

DOCTOR AVAILABILITY: The user can check the availability of the doctor from the weekly rooster. Green color would indicate available and red would indicate unavailability.

BOOK APPOINTMENT: User selects the book appointment, after entering the specified details of the doctor required and also the problem in short.

BOOK ROOMS: The user can also book a bed or a room in the website.

APPOINTMENT CONFIRMATION : The administration sends the mail of confirmation to the user after the appointment is confirmed.

3.4 Salary Management

The administrator can manage the salary of the doctors, nurses and staff through this feature. The hospital administrator can input the names of regular doctors and their basic pay. This can be updated any time. Also, the variable pay of the visiting doctors is calculated. The administrator should be able to generate pay slips for the doctors at the end of every month. The salaries of the staff and nurses is also managed based on the number of their working hours.

Functional Requirements

INPUT: The administrator will be able to calculate the salaries of the doctors individually.

- The visiting doctors' salary is calculated by multiplying the number of patients they have looked and the basic charges for each patient.
- The regular doctors are paid a basic salary. The details are maintained in the database.

STAFF SALARY: The salaries of the nurses and staff is also maintained individually in the database based on the number of hours they work.

UPDATE SALARY: Selecting update would allow the administration to change the basic pay of doctors or the staff.

GENERATE AND SEND PAYSLIPS: Pay slips are generated at the end of every month.

3.5 Administrative Management

The administration should be able to access or update the database. The names of the specific doctors who tender their resignation must be deleted. The administration must be able to see the total number of patients who have visited the hospital for any given period, the total income, the total salary outgo so far.

Functional Requirements:

UPDATE DATABASE: The administration can update the database by deleting the names of any doctors who tender their resignation.

PATIENT QUANTITY: Entering a period of time gives the number of patients who visited the hospital and also the number of patients who were admitted.

INCOME AND WAGES: The income column provides the total income so far and also the total salary outgo so far.

3.6 Drug Warehouse Management

The records of the drug store are also maintained in the hospital database. The prescribed generic drugs should be provided to the patient.

Functional Requirements

DRUG DETAILS: The records of the drugs present in the drug store are maintained in the database.

DRUG AVAILABILITY: When a drug is asked for the corresponding availability can be checked from the database.

UPDATE DATABASE: After patients are provided with the specified medicines, the database is updated by the management.

NOTIFICATIONS: In case of absence of any medicine, a mail is sent to the management notifying them about the absence of the drug.

4. External Interface Requirements

4.1 User Interface

- The system provides good graphical interface for the user and administrator to operate on the system, performing the tasks such as create, update, viewing the details of the webpage.
- Input will be from both keyboard and mouse clicks.
- The user can navigate through the system by clicking on links and icons. The icons will give appropriate response to the given input.
- Written help will be provided on every webpage so the user can navigate easily through the software.
- Error messages will be provided in case of wrong input or system faults.

4.2 Hardware Interface

No hardware interface has been identified.

4.3 Software Interfaces

The communication between the database and web portal consists of both reading and writing data

- After the user enters the details for registration, the system cross checks the data with the database to avoid any duplications.
- Details of the user are automatically stored in the database
- In case of system errors notifications are sent to the management.
- The details of drugs can also be found and updated in the database.

4.4 Communications Interfaces

- The system should be able send emails to doctors about their roster or any urgent information to be conveyed.
- The system should also be able to send emails to the patients about their status of appointments and also to convey any sudden changes in their booking.
- In case of any error in the system, error mails should be sent to the administrator.
- The database is encrypted and can only be accessed by the administration.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- The system should be fast and error free. All the webpages should be fully downloaded within seconds.
- The system should have built in error checking and correction facilities.
- It should be able to handle large amount of data comfortably.
- Responses to query and booking status should be given very fast.

5.2 Software Quality Attributes

- **Reliability:** For the system to be reliable, the system is being developed using software that is established to be stable and easy to use.
- **Availability:** The system is available all time i.e. runs 24/7.
- **Flexibility:** In case the system stops suddenly due to network speed or any other constraint, the data entered by the user is not cleared.
- **Maintainability:** The system shall provide the capability to back up data
- **Safety:** The data of the user is kept confidential and safe in the database.

6. Other Requirements

The system requires a database to maintain the records of all the entities and also details of the hospital.