

Software Requirements Specification
for

HOSPITAL MANAGEMENT SYSTEM

Version 1.0 approved

Prepared by S NISHOK KUMAR

(15CS30024)

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

27th January 2017

Table of Contents

Table of Contents.....	
Revision History.....	
1. Introduction.....	
1) Purpose.....	
2) Product Scope	
3) References.....	
2. Overall Description.....	
1) Product Functions.....	
2) Operating Environment	
3) Design and Implementation Constraints.....	
4) Assumptions and Dependencies.....	
3. External Interface Requirements.....	
1) User Interfaces.....	
2) Hardware Interfaces.....	
3) Software Interfaces.....	
4) Communications Interfaces.....	
4. Functional Requirements.....	
1) Global database	
2) Login interface	
a)Patient features	
b)Doctor features	
c)Staff features	
d)Specialised medical experts	
e)Admin features	
f)Hospital features	
5. Nonfunctional Requirements.....	
1) Performance Requirements.....	
2) Software Quality Attributes.....	
6. Other Requirements.....	
Appendix A: Glossary.....	
Appendix B: Analysis Models.....	
Appendix C: To Be Determined List.....	

Revision History

Name	Date	Reason For Changes	Version

1.Introduction

1)Purpose

The purpose of this product is to bring together all the hospitals, doctors,staffs,patients and other respective parties related to medical care under a single system to facilitate interlinking between different parties and to facilitate more efficient and effective service to consumers.The application aims to maintain a global database of all parties to provide better service.The application is being developed taking into consideration the consumers who through this system will have more options to access and hospitals who can manage their daily needs efficiently.

2)Product Scope

The scope of the application is as follows:

- 1) Maintaining a global database of all concerned medicare parties.*
- 2)Developing the Hospital Management System application.*
- 3)Application will allow all concerned parties to access database and to choose services accordingly.*
- 4)Application of the software is mentioned as under:*
 - a)Present a login interface through which parties can access services making decisions based on available database.*
 - b)Admin access to maintain and modify database.*

3)References

www.wikipedia.org

https://10.5.18.110/moodle/pluginfile.php?file=%2F10706%2Fmod_resource%2Fcontent%2F1%2FSRS_EXAMPLE2.pdf

2.Overall Description

1)Product Functions

- 1)Maintain a database of all hospitals, doctors/medical experts, staff and patients.*
- 2)Present a login interface.*
- 3)User can login as patient,doctor(or)specialised medical expert, staff or as admin or can register with system as first timer.*
- 4)Each party will be able to access their profiles and choose services/ modify the database according to access level given to them.*
- 5)Product also provides specific cloud storage for parties to store data and payment interface for money transactions between parties.*

2)Operating Environment

The software is developed for the Windows Operating System platform and also Linux based operating systems. It will run on any Linux based OS. and on Windows 7 and after based Windows OS. The software also coexists with Paytm and Google Wallet for cash transactions and Dropbox for cloud storage.

3)Design and Implementation Constraints

There will be two major constraints in developing this product:

- 1) Interfacing with Google Wallet and Dropbox.
- 2) Making real time updates to the database and allowing access at the same time.
- 3) Number of users accessing the online database at the same time might affect database updation speed.
- 4) Memory requirement should not be high.

4)Assumptions and Dependencies

It is assumed that the unix system used for building the software should be compatible with components of the software. It is assumed that products Google Wallet, Paytm, Dropbox and SQL work free of bugs

3.External Interface Requirements

1)User Interfaces

Login screens with interactive gui for better experience with icons, buttons and clear fonts.. If database is accessed ,it is displayed in tabulated and formatted form.

2)Hardware Interfaces

Windows/Mac/Linux personal computers/laptops with I3 or above processors(1.7 GHZ and above speed) with monitor and mouse/touch input and other common hardware peripherals and minimum 2 GB RAM.

3)Software Interfaces

Language used: JAVA

Platform: Unix(version 2.6..32-642.11.1.e16.centos.plus.x86_64)

Tools: GUI and other open tools

IDE: Netbeans for JAVA GUI

Database: MySQL.

Shares interfaces with DropBox, Google Wallet, Paytm and SQL..

4)Communication Interfaces

Internet protocols like FTP and HTTP will be used for downloading medical reports and bills and also to send updates made to database to global server. There is no specific browser required as application will directly use network connection like a browser to download data.



4.Functional Requirements

1)Global healthcare database

First maintain a global database of all hospitals, doctors, healthcare experts, staff and workers and patients on a server which will be accessed in suitable form whenever the application is run. Updates to the database will be reflected in the application every 30 seconds. Updates to the database are performed by parties concerned and the database managers/admin.

2)Login Interface

- After access to the database has been established, a login interface is shown with login options as follows:

- 1)Login

2)SignUp

If signup is chosen, party(hospital/patient/doctor/staff) registers with database.

If login is chosen, new screen is shown.

1)Patient

2)Doctor

3)Staff

4) Hospital

5)Specialised medical expert

6) Admin

7)Exit.

Choice is accepted and separate screens are displayed for respective party.

-

a)Patient features

- Patient is allowed to view his own profile, download medical report or bill, change profile details, to choose doctor(if first time), to change doctor within same hospital or go to different hospital(only by notifying the doctor first and paying dues).Patient is allowed to pay money to hospital through Google Wallet/Paytm through the application.No patient is allowed to view the other's profile.

b)Doctor features

Doctor is allowed to view the patients under him/her, add or remove patients as necessary and prescribe treatments and medication for patients under him/her.Doctor receives payment from hospital through application using Paytm/Google Wallet.

c)Staff features

Staff can be categorized according to specialty as nurse, receptionist and so on and will be allowed access levels to hospital inventory/ accounts according to occupation. Staff can receive salaries through Google Wallet/Paytm. According to occupation, staff can either accept payment from patient, assign doctors to patients, place orders for inventory, access inventory and other features based on occupation.

d)Specialised Medical Experts

They have almost similar features as that of doctors, but only difference is that they will not be affiliated to any one hospital. They receive payments through Paytm/Google Wallet via application

e)Admin features

- Admin access is only for the software developers and the people managing the database. They can make changes only to the database like adding new parties and removing new parties. They cannot access sensitive details of a party such as password, date of birth, account number and et al.

- **f)Hospital features**

- Each hospital can access its own localised database containing list of doctors, employees, patients and medical experts currently providing services in the hospital's name. Hospital access is given to the owner of the hospital with unique ID and password. Approved users can change the localised database without accessing sensitive details.

5.Nonfunctional Requirements

1)Performance Requirements

The primary performance requirement is speed of internet network so that updates to database done elsewhere are accessible in real time. In case of large number of users accessing the database at once, the speed at which updates are refreshed might go down due to traffic.

2)Software Quality Attributes

a)Availability:

The users should be able to download the software or get access to the cd if they have basic internet connection or nearby store sells cd.

b) Reliability:

The software is reliable and unforeseen calamities like power shortage or system crash will not do harm to your profile or undergoing cash transactions. They will simply be put on hold.

c) Portability: The software is basically built for home computers but if it is used on laptop it is portable.

d) Maintainability:

Software updates will be made available every month to maintain smooth running.

e)Security:

The system is highly secure. All confidential information of user in their accounts are hidden from other parties upto required extent.

f)Modifiability:

Application is not open source and hence cannot be modified without developer consent.

g)Safety requirements:

There are no safety requirements with this application. In case of device hazards, data flow is

stopped and reverted to previous safe state hence not corrupted or compromised.

h)Flexibility:

Application is easily modifiable by developer to maintain and update with changing environment.

6.Other Requirements

User interface should be effective and interactive and appealing for maximum effect. Software should be approved for use in respective area without violating any rules and regulations of CopyRight Act and existing patents in the country in which it is used.