PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

Software Requirements Specification

for

MEDICAL MANGEMENT SYSTEM

Version 1.0 approved

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Chinmaye A : Purpose, User classes,Use case diagram ,User interface

Monika K M: Intended Audience, Operating Environment , Assumptions and Dependencies

Rachana BG : Product Perspective, Design and Implementation Constraints ,software interface

Reema Ayeli : Product Scope , product functions , Use case diagram , communication interface

Functional requirement and Non functional requirement was done by everybody

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Introduction

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.

Intended Audience

The intended audience of this document would be the client and specific employees like Manager, Developers of this software and System Operators. Project team, supervisor , Software engineers who would work on further development of the project with the objective to refer and analyze the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. Clients that is novice or professional event managers, volunteers.
The document would final provide a clear idea about the system that is building.

Product Scope

The scope of the application is as follows:

1)Developing the Hospital Management System application.

2)Application will allow all concerned parties to access database and to choose services accordingly.

3)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

References

No formal document was referrenced for this SRS document.

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Overall Description

A Medical management system is a software designed to manage all the areas of a hospital such as medical, administrative and the corresponding processing of services. MMS is an abbreviation of hospital management system. The Medical management system (MMS) is an integrated software that handles different directions of clinic workflows. It manages the smooth healthcare performance along with administrative, medical, legal, and financial control. That is a cornerstone for the successful operation of the healthcare facility.

Product Perspective

Medical Centre follows manual procedures to keep track of its day to day activities. When scenarios such as patient information handling, employee handling, stock handling, financial analysis and report generation is taken into consideration there exists many issues with regard to efficiency, security, accuracy and reliability. Due to improperly managed details medical center faces quite a lot of difficulties in accessing past data as well as managing present data. The manual file systems which are being used at present require storage facilities which is also another overhead. The fully functional automated hospital management system which will be developed through this project will eliminate the disadvantages caused by the manual system by improving the reliability, efficiency and performance. The usage of a database to store patient, employee, stock details etc. will accommodate easy access, retrieval, search and manipulation of data. The access limitations provided through access privilege levels will enhance the security of the system. The system will facilitate concurrent access and convenient management of activities of the medical center.

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.

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User Classes and Characteristics

There are four types of users that will interact with the system :

- patients ,
- doctors ,
- admin
- secretary

1. Patients will able to book a free time slot with a doctor without login, but just by using his unique insurance number. He can use this health card number to check all his examinations he has ever done in the medical system.

2. Doctors will have their own accounts given by the admin also they will have a time Slot Management using Calendar, Writing Client Report on occupied time slot.

3. Secretary will have her own account given by admin and Can forcefully occupy and cancel doctor time slot.

4. Administrator manages the staff management system. He can add a new staff member or remove one. He randomly generates a password and sends it confidentially to worker. The worker itself can reset the password.

Operating Environment

Software requirements

● Windows 10

● MySQL database

Hardware Requirements

● Core i5 processor

● 4GB Ram

● 20GB of hard disk space in terminal machines

● 1TB hard disk space in Server Machine

Design and Implementation Constraints

The project is constrained by the Internet connection. Since the application fetches data from the database over the Internet, it is crucial that there is stable Internet connection for the application to function. For this project since it is a web based application we have decited to use Pure PHP .This application will be capable to work on different Operating Systems for example on Windows 7,8,10 , Windows XP, Linux,Max etc.

2.6 Assumptions and Dependencies

It is assumed that some actions performed behind the scenes are performed regularly according to law. Therefore users under Drejtoria e Informacionit, who confirm the assistance, according to “Vendimit te Keshillit te Ministrave Nr.787 date 14.12.2005”. Therefore a client must have a health insurance card. For security issues, it is taken for granted that after administrator assigns a worker to a directory, he send confidentially by mail the random generated password.

External Interface Requirements

User Interfaces

1. Different screen resolutions and apperance based on devices
2. Receive native push notifications in real time
3. Sliding navigation drawer for the product
4. Static navigation drawer for the web page
5. Responsive simple design

Software Interfaces

The users and doctors will be able to authenticate using the following methods, but the app uses a unique identifier which is not affected by the possibly different sign in method.

- classic username and password
- email and password
- Phone number

Communications Interfaces

There is no specific browser required as application will directly use network connection like a browser to download data.

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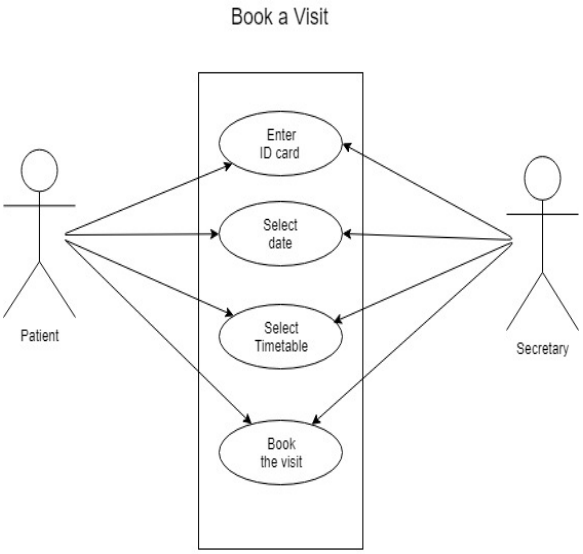
Analysis Models

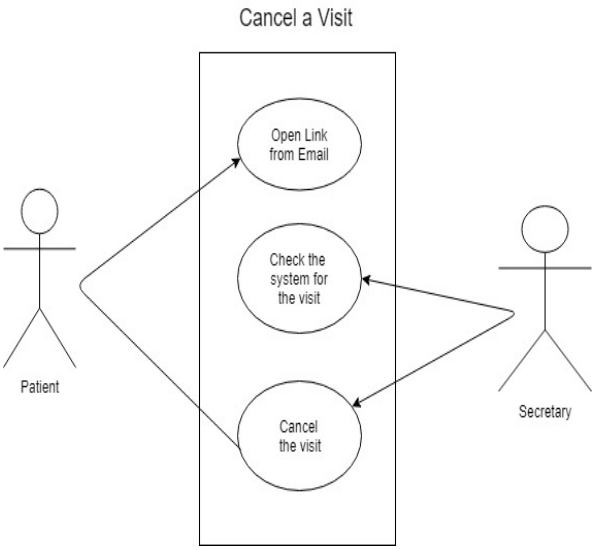
UML

In UML, use-case diagrams model the behavior of a system and help to capture the requirements of the system. Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors.

System Features

Use Case diagram





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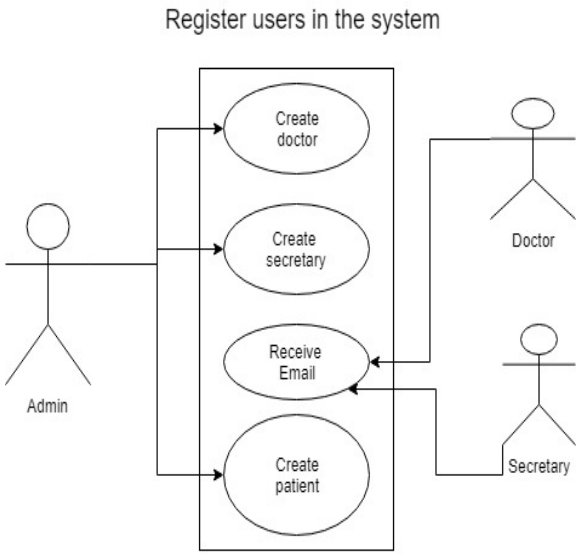

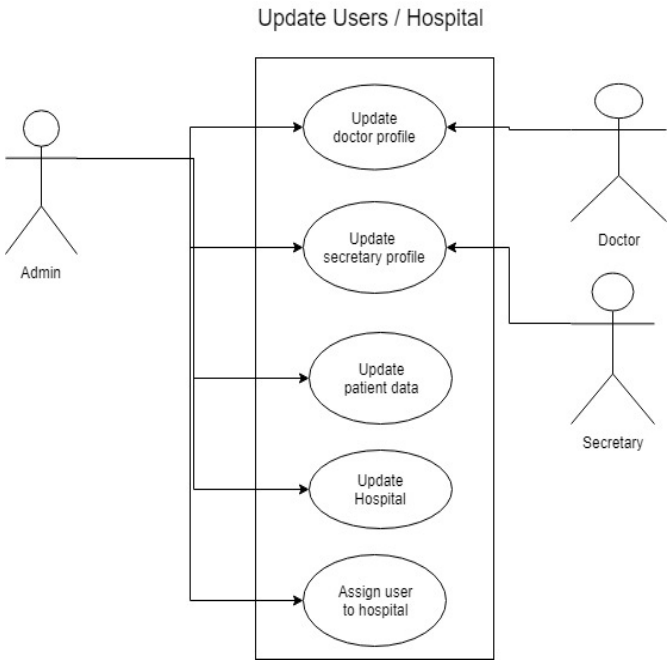

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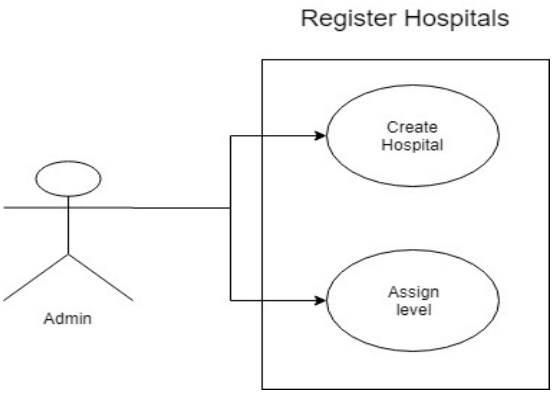

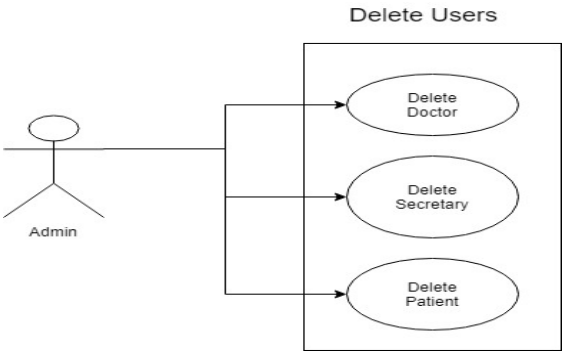

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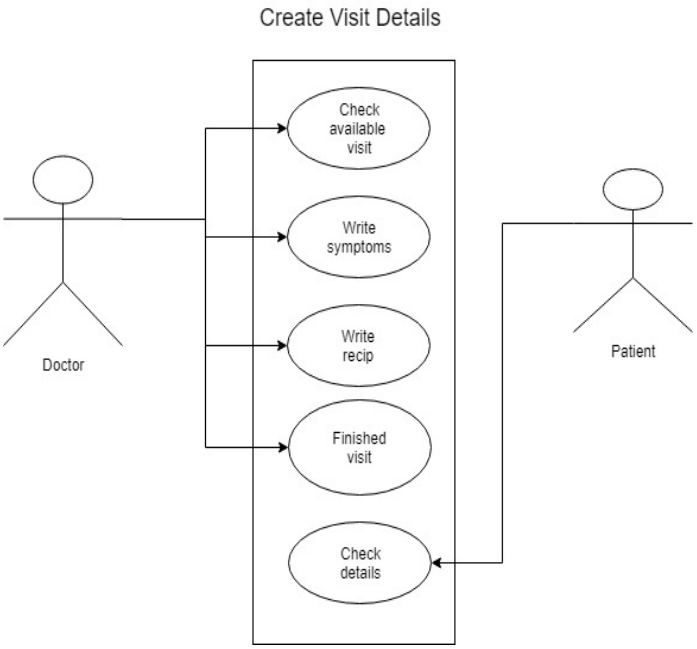

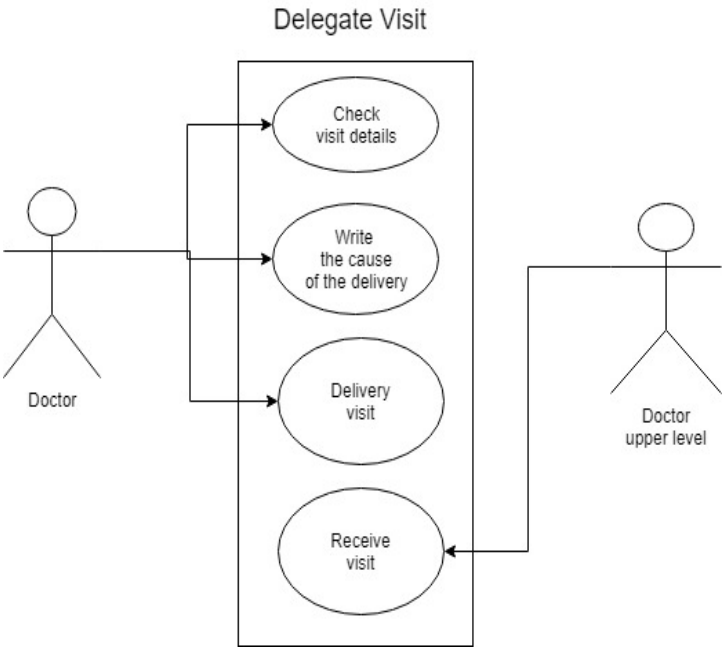

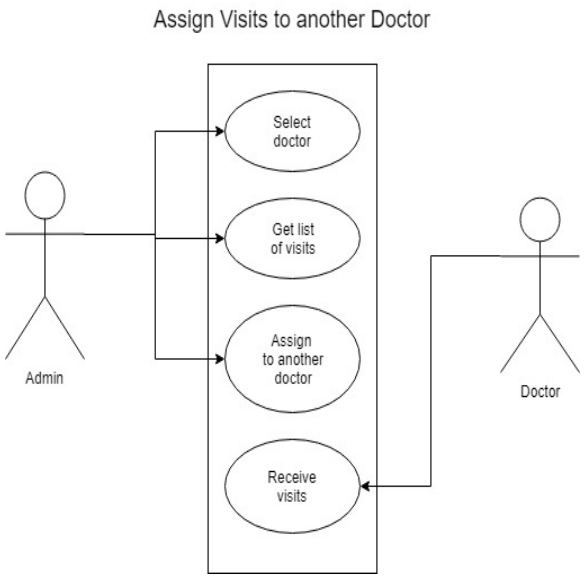

5.1.1 Description and Priority

The software system must provide a function to manage user accounts and data-structure templates . The minimum user account types must be:

(1) Admin

(2) Doctor

(3) Patient

(4)Secratory

The administrator account type will grant “super user” access to a user for the purpose of managing the software system. The administration function of the software system is a medium priority.

5.1.2 Functional Requirements

1)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(admin/patient/doctor/secretary) registers with database.

If login is chosen, new screen is shown.

1)Patient

2)Doctor

3)Secretary

4) Admin

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

- Admin creates ,Updates, deletes doctor, secretary ,patient.
- Book a visit
- Cancel a visit
- Admin creates ,Updates, deletes patient.

Other Nonfunctional Requirements

Performance Requirements

Response time-The system will give responses within few seconds after checking the patient information. Capacity-The system must support many people at a time

User interface- User interface screen will response within 5 seconds.

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. 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.

Security Requirements

- Specify the factors that will protect the system from malicious or accidental access, modification, disclosure, destruction, or misuse. For example:
  - encryption
  - activity logging, historical data sets
  - restrictions on intermodal communications
  - data integrity checks
- Security provided to the access of user private information.
- Security provided to access of data.
- Restriction provided to access of data.
- There should also be provided a term of agreement to the user, in order to access their information and the data posted to the server.
- The android application should also include a list of modules and components that will be required to be accessed from the application, as known as permissions

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.

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.

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.

Appendix A: Glossary

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.>

Appendix B: Field Layouts

An Excel sheet containing field layouts and properties/attributes and report requirements.

Sample sheet with information required to register the customer

Field	Length	Data Type	Description	Is Mandatory
Account Number	16	Numeric		Y
ISFC code	11	Alphanumeric		Y
Card Amount	20	Numeric		Y
Mandate Start Date	8	Date	Date of Mandate Registration	N
Mandate End Date	8	Date	Date of Mandate Expiry	N
Status	25	Alphanumeric	Status of Registration	Y
Customer Name	60	String		Y
Reject Reason Code	4	String	Reject Reason code in case mandate is rejected	N

Sample Report Requirements: Include the fields to be included in the report

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Registration Report	**Transaction Report**
Bank Account Number	Transaction Reference Number
ISFC Code	Bank Account Number
Bank Name	IFSC Code
Account Status	Bank Name
Account Type	Customer Name
Customer Name	Card Number
Card Number	Debit Transaction Amount
SI Start Date	Transaction Date
Status	Status
Remarks	Debit Attempt Number
	Remarks

Appendix C: Requirement Traceability Mat

Sl. No	Requirement ID	Brief Description of Requirement	Architecture Reference	Design Reference	Code File Reference	Test Case ID	System Test Case ID