Software Requirements Specification (SRS)

CSE327 Section-5

Health Management System

(GoodLife)

Submitted to

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Chapter 1

Introduction

In recent days, health care software has acquired a lot of popularity among clinics and healthcare organizations. Medical software is very important to the healthcare industry. It helps healthcare providers to guide and handle healthcare organization and patient data.

1.1 Purpose

So Our aim is to create such a website that can calculate BMI, create a forum to discuss with other patients about disease, get the blood donation service, nutrients about food, know information about a medicine using its image and know basic information about medicine using QR scanner.

1.2 Intended Audience

This Software Requirements document is intended for:

- Developers
- Project testers
- End users

1.3 Intended Use

Developers: Developers who can review project's capabilities and more easily understand where their efforts should be targeted to improve or add more features to it (design and code the application – it sets the guidelines for future development).

Project testers: They can use this document as a base for their testing strategy as some bugs are easier to find using a requirements document. This way testing becomes more methodically organized.

End users: End users of this application who wish to read about what this project can do.

1.4 Product Scope

We are building this website to help people. We do have some business goals too. The market value of medical software project is to reach around 29.9 billion by 2023, with a CAGR of 7.4 percent from 2018 to 2023.

We are building in some unique way. We will keep some dynamic features that will grab the customers to use our website. Use of health management software can be helpful for both healthcare providers and patients. It has so many advantages.

1. It makes easier access to healthcare data. It allows both doctor and patient to search within electronic documents.

2. It Focus on quality care. It allows doctors to concentrate on patient care.

3. It can Improve patient satisfaction. Doctors can work more effectively due to standardized workflows and automated features like instant access to patient records and history of medical treatment. This improves patient satisfaction.

4. BMI lets know about a user's heath condition and lets a user to be more careful about her health.

5. Forum assist a patient to know other patients healing process and can discuss about the disease.

6. Blood donation service supports a user to get the need blood very quickly and easy way.

7. The image of the medicine helps to know information about it and why doctor has given to a particular patient.

8. Barcode scanner helps to know about the authenticity of a medicine and information about that particular medicine.

9. Live video streaming service will help doctors to communicate with people in real time.

1.5 Risk Definition

Risk: Following will be the risk involved in my project:

People are already using some similar apps and websites. So, what would be the real cause that would motivate them to join my website.

Risk Mitigation: Even though most of the users would already be using some similar applications, our platform would still offer them many things that is not there on other platforms. For eg.

In other platforms, similar features have been implemented in different different applications. But we will offer all the services under a common platform. So it will be easier for users to search their required services.

Doctors can check the previous medical reports of patient even if the patient was under the treatment of different doctor or doctor from different hospital/clinic. But in some similar platforms this service is restricted. In those platforms, doctors can only check the medical reports if the patient was taking treatment under the same doctor or from the same medical institution.

We will also implement go live service into our website where doctors can start live streaming video to communicate with their patients in real time even if the patients are far away from doctor. This service is missing in many of the common platforms.

We will also offer voice recognition, QR scanner, image recognition searching system which will make the usage of the system more dynamic. So many searching option is not introduced in the similar systems.

Chapter 2

Overall Description

We are going to build a website which can provide some important health oriented services. It will be a common platform for doctors, patients, medicines, ambulance service providers, blood donor, blood receiver, health conscious people. This project is new for us. We will build this project from scratch.

2.1 User Classes and Characteristics

In our system the ultimate control will be in the hand of three users. They are:

- Product owner
- Admin
- Developer

Product owner: Product owner has the full right to take any kind of decisions. According to his/her decision admin and developer can update the system.

Admin: Admin has the full access to the system which means he/she is able to manage any activity with regard to the system. He/she is the highest privileged user who can access to the system. The admin can change any information stored into the database system. He/she can add, delete, edit, update any information.

Developer: Developer has the control on the developing part of the system. He/she has the right to change/update any feature. He/she can also change user interface and can introduce new design for the system.

Our system will be worked as a linkage between its users. Our target users will be:

- Doctors
- Patients
- Ambulance service providers
- General people who need blood, want to donate blood, are conscious about their food and medicine.

Doctors: Doctors can store information about their name, location of their hospital/private clinic, contact number, qualification, medical specialities etc into the database system. They can check the medical reports and basic information about their patient. They can also write medical reports and submit it into the database system of their patients. Doctors can also go live if they want to communicate with patients in real time.

Patients: Through our website patients can store their basic information such as name, contact number, age, gender, medical reports, prescriptions etc. They can search information about any doctor from our database

system. They can also discuss with each other about their diseases and doctors through our forum system. By discussion they can get idea which doctor will be better for them. Patients can search for medicine through the system. They can also search for ambulance services in case of emergency. Patients can comment or ask question to the doctor at real time when the doctors start live streaming video. Patients can also search for medicine through our website.

Ambulance Service Providers: They can store their information like the name of the company, their contact no., their website link.

General people: People can check their BMI, daily calorie, body water, body fat, blood pressure condition by using our website. Blood receiver can search for blood donor through our system. People who are very conscious about their health can search information about the nutrient of any food.

2.2 User Needs

Doctors: They can reach more patients through our system as our system will provide service like live streaming video. They can know the detail information about their patients in a smarter way as they can access the patient id where patient's information is stored in both descriptive and brief manner. So it will be easier for doctors to provide better treatment. As doctors can store their information, so people can know about them through our system. As they can also write medical reports using our system, they don't need to worry about any kind of pen and paper.

Patients: Basic needs of patients are to get proper treatment. As our system provide a platform where patients can communicate with each other so they can discuss about doctors. As a result the chance of getting better treatment will increase. Patients can store their medical reports and prescription into our database system. So they don't have to carry any medical papers during the time of visiting a doctor. They don't need to worry whether they miss any medical reports or not as all the reports are already stored in the system. Patients also get into trouble why doctor recommends a particular medicine to them. So by using our searching system they can get the brief idea about name of the medicine group, components of the medicine, medicine usage information, its side effects etc. The system will also suggest same group of medicine from different companies. As our system also provide live streaming video service so people from rural area can also get the service from a good doctor in real time. Blood donation is very emergency need of a patient. Sometimes it become difficult to get blood on time. People can also get blood donation system from our website. Our system will try to provide all the services based on emergency. System will also suggest some similar blood donation services to the patient.

Ambulance service providers: As they can store their information so they can reach many people and provide their service to more people.

General people: For general people our system will provide some special features. Many people want to know whether they intake proper amount of calories or not, whether their body mass index is normal or not. Our system will provide all those features to those health conscious people. People who are conscious about health also want to know about the nutrients about food and also want to know how much time of walking, cycling and running is required to burn the calorie. We also provide them these type of facilities

2.3 Operating Environment

As our product is basically a website so it can run on any operating system. For our database system we will use Mysql database system. Currently, we will not use any hosting site for our project. So any person can run the project on any operating system by using localhost. But when we will introduce the product in the market, we will surely integrate hosting site with it so that users can get the services without any trouble.

2.4 Constraints

Technical Constraints:

• User must be 14+ years old

• Our image processing and QR code scanning system can not detect more than one medicine at a time. So, user has to capture and upload individual for each medicine.

Business Constraints:

• Budget and time restrictions.

• Resource limitations

2.5 Assumptions

• Users know English.

• Users have internet service.

• User's device support internet service.

Chapter 3

Requirements

There are mainly two types of requirements which we will provide. The requirements are:

- Functional requirements
- Non-functional requirements

3.1 Functional Requirements

System features:

• Communicate through forum:

User should log in the forum to communicate other users. Users can post and comment through forum.

• Get information about a medicine through QR scanner and image processing:

By using QR scanner and uploading image of the medicine user will get details information about medicine.

• Search doctors, medicine, ambulance service:

There will be a search option where user can search the doctors, medicine and ambulance. User can also search through voice recognition system.

• Check calories, fat nutrients in a food:

Here user can get information about food nutrients and suggest how much time he/she need for walking, cycling or running to burn calories.

• Calculate BMI, blood volume, blood pressure, daily calories, body fat:

User gives their information (height, weight, age, gender) manually and get a result about their BMI, blood volume blood pressure, daily calories, body fat. • Doctors can go live:

By login doctor can start live streaming video and communicate with their patients. Patients can comment on the video.

• Patients can store medical reports:

By login patient can store their medical reports as pdf or image. So doctors can view information about patients in both broad and short manner.

External Interface Requirements:

• Use Interface:

Front-end software: raw html, CSS, JavaScript.

Back-end software: php, mysql.

• Hardware Interface:

Windows.

A browser which supports CSS, HTML JavaScript.

3.2 Non Functional Requirements

Performance: The product will be based on web and has to be run from a web server. The product will take initial load time depending on internet connection strength which also depends on the media from which the product is running. The performance will depend upon hardware components of the client/user. But we will try to provide better interactivity to the user which will need less time to load data and interact with the system. So, ultimately user experience will be smoother.

Safety: There will be a backup log so that damage or crush data can be recovered by using backup log.

Security: The system shall automatically log out all customers after a period of inactivity. The customer's web browser shall never display a user's password.

Quality:

- **Availability:** The Health Management System available to store the user report and give their health issue related different services.
- **Correctness:** The Health Management System gives the accurate medicine information, BMI and blood volume reports.
- **Maintainability:** The administrators maintain the server for the better services.
- **Usability:** It satisfies a maximum number of user needs.

Appendices

Appendix A

Glossary

SRS: A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development.

BMI: The body mass index (BMI) or Quetelet index is a value derived from the mass (weight) and height of a person.

QR-code: (abbreviated from Quick Response Code) is the trademark for a type of matrix barcode (or two-dimensional barcode).