Sugar Sense

Software Requirements Specification

Prepared By-
Tejasri Devarapalli

Mrugandha Namjoshi

Aishwarya Athreya
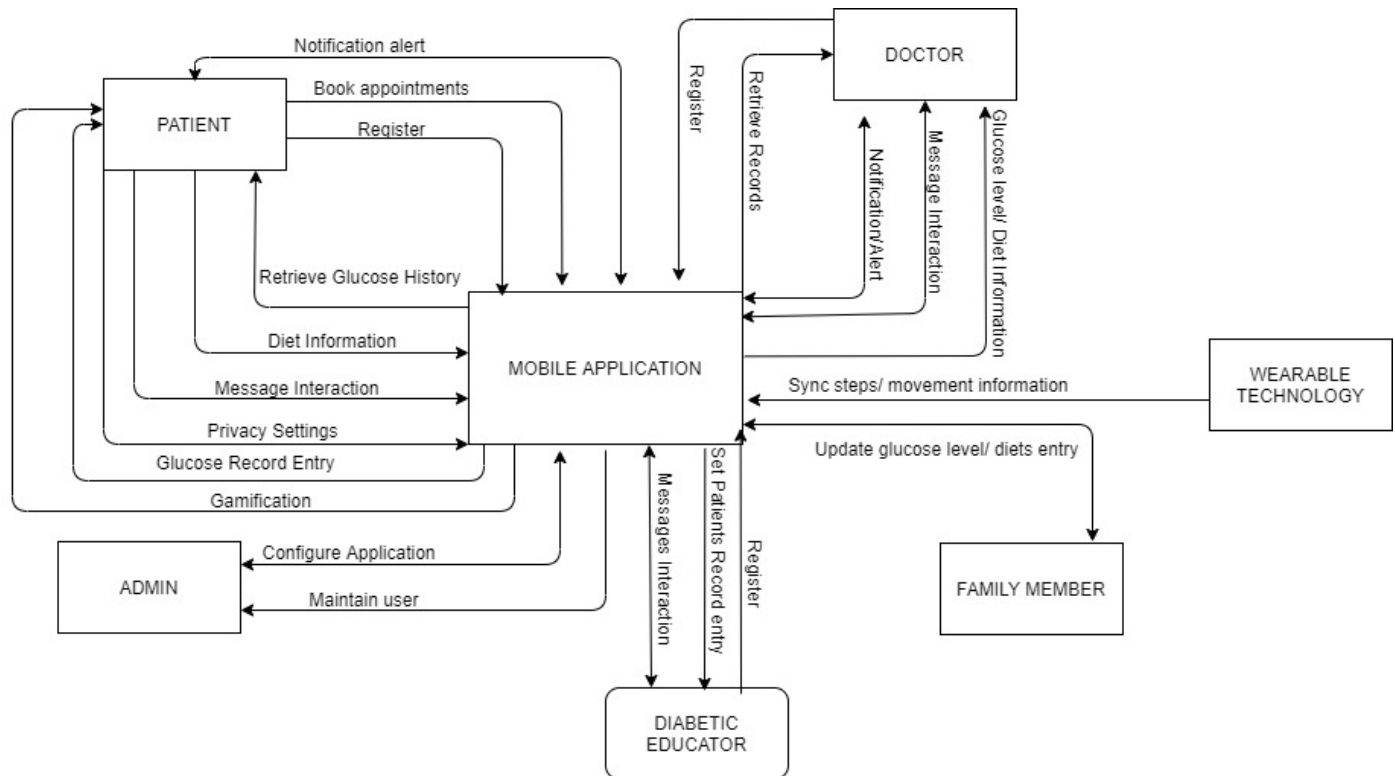
Sathwika Varma Kalidindi Chaitanya

Table of Contents

1. Project Description

1.1 System Scope

1.2 Stakeholder Description

1. **Doctor**

   Doctor Smith is a user who has put forward the idea of developing the application. He will primarily use the app to examine the health records of patients with diabetes. He is accountable for providing the requirements that will help in the development of an error-free and easily accessible application.

2. **Patient**

   Patient is a user of the application to be developed. She/he will primarily use the app for recording her glucose levels, diet and exercise habits. She/he is mainly responsible for providing the requirements that will help develop a secure and user-friendly application.

3. **Diabetes Educator**

   Diabetes Educator is a health professional who possesses comprehensive knowledge of and experience in diabetes prevention. He/She will primarily use the application to access patient's medical information. He/she is responsible for answering patients queries if the doctor is unavailable.

4. **Family Member**

   Family member is a caretaker of a patient who would assist the patient in using the application. He/she will primarily be able to perform limited operations on behalf of the patient.

5. **Admin**

   An admin helps to maintain the users of the application and manages the application based on the requirement

6. **Developer:**

   A developer is an individual that builds and creates mobile applications. He or she writes, debugs and executes the source code of the application. He/she is mainly responsible for mapping the business requirements to technical aspects of the application

7. **Tester**:

   A software tester is an individual that tests software for bugs, errors, defects or any problem that can affect the performance of computer application. He/she is mainly responsible to make sure that the application is meeting the quality standards

1.3 Process description

Dr. Smith, an Endocrinologist at a hospital observed the widespread use of smartphones and wearable technology. Inspired by the use, he is interested in using a mobile app that helps physicians with the treatment of their patients with diabetes. He also wanted to better support his patients manage their condition using the application.

Currently, Dr. Smith monitors the blood sugar records of the patients upon their visit to make sure that prescribed medicines help them control their glucose level and maintain a healthy lifestyle. Dr. Smith provides his patients with a paper-based form to help them maintain the record of their glucose reading taken multiple times in between the visits. He also verbally asks his patients about their diet, exercise habits and would encourage them to have a healthy lifestyle.

Dr. Smith would like to have a mobile application that will assist patients in recording their data of sugar levels easily and an application that will reduce the chances of data being forgotten to record. The application would help Dr. Smith avoid misreading the patients' handwriting. This application will help Dr. Smith to get prior access to this record so that he could identify the issue in advance and can plan the treatment accordingly for effective consultation. The application will help patients track their diet and exercise habits precisely by incorporating wearable technology so that Dr. Smith can figure out whether certain diet and exercise habits correlate with patients' ability to maintain their glucose level. The application will include social as well as gamification aspects like a competition between peers/other patients that encourage them to push themselves harder to maintain a healthy lifestyle.

2. User Requirements

2.1 User Requirements Documentation

User Requirement ID: 1
User Requirement description: The app shall allow new users to create an account with personal information.
Stakeholder providing this requirement: Doctor
User Requirement type: Functional

User Requirement ID: 2
User Requirement description: The app shall allow doctors to retrieve records of patients.
Stakeholder providing this requirement: Doctor
User Requirement type: Functional

User Requirement ID: 3
User Requirement description: The system shall record blood glucose levels and diet of the patients.
Stakeholder providing this requirement: Doctor
User Requirement type: Functional

User Requirement ID: 4
User Requirement description: The app shall fetch the step count, exercise information from wearable devices.
Stakeholder providing this requirement: Doctor
User Requirement type: Functional

User Requirement ID: 5
User Requirement description: The app shall allow users to book appointments with the doctor.
Stakeholder providing this requirement: Patient
User Requirement type: Functional

User Requirement ID: 6
User Requirement description: The app shall allow family members to update a patient's glucose levels and diet.
Stakeholder providing this requirement: Patient
User Requirement type: Functional

User Requirement ID: 7
User Requirement description: The app shall provide users with gamification to motivate him/her.
Stakeholder providing this requirement: Patient
User Requirement type: Functional

User Requirement ID: 8
User Requirement description: The app shall allow the users to send/receive messages to other users.
Stakeholder providing this requirement: Doctor**,** Patient
User Requirement type: Functional

User Requirement ID: 9
User Requirement description: The app shall allow the users to display medical records to specific audiences for security reasons.
Stakeholder providing this requirement: Patient
User Requirement type: Non-Functional

User Requirement ID: 10
User Requirement description: The app shall accept diabetes records from patients using an online form which resembles the standard paper-based form..
Stakeholder providing this requirement: Doctor
User Requirement type: Non-Functional

User Requirement ID: 11
User Requirement description: The app shall allow patients to update privacy settings.
Stakeholder providing this requirement: Patient
User Requirement type: Non-Functional

User Requirement ID: 12
User Requirement description: The app shall require the user to internet at least once a day to back-up all the daily progress.
Stakeholder providing this requirement: Doctor
User Requirement type: Constraint

2.2 User Requirements Analysis

User Requirement ID: 3

User Requirement Description: The system shall record blood glucose levels and diet of the patients.

Assumption: Assumption made while writing the requirement is that all the users have the blood glucose measuring device.

User Requirement ID: 7

User Requirement Description: The app shall provide users with gamification to motivate him/her.

Ambiguity: The details (outdoor/indoor activities) to be considered for gamification is ambiguous.

User Requirement ID: 11

User Requirement Description: The app shall allow patients to update privacy settings accordingly.

Conflict: Updating privacy settings for each user for gaming makes the user information more secure but conflicts with the user-friendly aspect of the application.