Software Requirements Specification
for Active Site

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Introduction

1.1 Purpose

Create an artificial Intelligence for the detection of glucose, hydration, and other nutritional and health items with continuous monitoring from a sensor. The global goals are to provide an easy way to monitor nutrition and health, provide personalized recommendations based on real-time data analysis, help users achieve their health goals, promote health culture by making it easy for users to keep their nutrition and health and improve app's functionality and user experience based on user feedback.

1.2 Product Scope

The project scope for the Active Site app includes the development of an AI-based system for continuous monitoring and analysis of glucose, hydration, and other nutritional and health items using a sensor-based approach. The app is designed to provide personalized recommendations and insights to users based on their individual health needs and goals.

1.3 Definitions

- Active Site: The name of the mobile application being developed as part of this project.
- Glucose: A type of sugar found in the blood that provides energy to the body's cells.
- Hydration: The process of adding water to the body or the state of having enough water in the body.
- Artificial Intelligence: A branch of computer science that involves the development of algorithms.
- Machine Learning: A subset of AI that focuses on the development of algorithms and statistical models.

1.4 Acronyms

- SRS: Software Requirements Specification
- AI: Artificial Intelligence
- ML: Machine Learning
- iOS: iPhone Operating System

1.5 Assumptions

- The development team has access to the necessary hardware and software tools required for the development.
- The development team has the necessary skills to develop a mobile application with artificial intelligence.
- The application will be developed in English language only.

Overall Description

2.1 Perspective

Active Site is a mobile application designed to help users monitor and manage their glucose, hydration, and other nutritional and health data. The app uses sensor-based technology and artificial intelligence algorithms to provide real-time analysis of user data and personalized recommendations for improving their health.

2.2 Functions

Continuous monitoring of glucose and hydration levels using a wearable sensor. Analysis of nutritional intake and activity levels. Real-time alerts and notifications to remind users to take medication or drink water and personalized recommendations.

2.3 User Characteristics

Diabetes patients familiar with monitoring their glucose levels. Fitness enthusiasts who may have experience using mobile applications to track their workouts and nutrition. Health-conscious individuals who may be new to monitoring their health data but are motivated to make positive changes to their lifestyle

2.4 Constraints

The app must comply with relevant data privacy and security. Must be compatible with iOS and Android mobile devices and wearable sensors. And it must be with a user-friendly interface.

2.5 Assumptions

Users will have access to compatible mobile devices and wearable sensors. Users will provide accurate and up-to-date information about their health and wellness. The app will be developed and maintained using industry best practices for software development and data privacy and security

2.6 Dependencies

The app may require regular updates and maintenance to ensure compatibility with new mobile devices and operating systems. Requires user feedback and input to continually improve its performance and effectiveness.

Requirements

3.1 Tables of requirements

3.1.1 Functional

Code: F-REQ001	User registration	Version: F-REQ001-v1.1
Users can: - Create an account. - Provide personal information (age, gender, height, and medical history). - Set goals. - View and edit their personal information and goals.		
Parent: None		

Code: F-REQ002	Data collection	Version: F-REQ002-v1.2
The sensor gains the data and sends it to the app. The app can also gain data manaully added by the user.		
Parent: None		

Code: F-REQ003	Data processing	Version: F-REQ003-v1.1
The app uses machine learning algorithms to: - Process the data - Provide personalized recommendations and insights for the user. - Real-time analysis of glucose and hydration levels.		
Parent: F-REQ002		

Code: F-REQ004	User interface	Version: F-REQ004-v1.1
The app includes a user interface that allows users to: - Input data. - View real-time metrics. - Access personalized recommendations and insights. User interface also includes features such as: - Customizable alerts and notifications. - Visualizations of user data over time. - Integration with other fitness apps.		
Parent: None		

Code: F-REQ005	Security and privacy	Version: F-REQ005-v1.1
The app implements robust security and privacy features to protect user data and ensure compliance with applicable regulations.		
Parent: None		

3.1.2   Non-functional

Code: NF-REQ001	Performance	Version: NF-REQ001-v1.1
The app must be able to: - Process large amounts of data quickly and accurately. - Handle high levels of user traffic without experiencing significant slowdowns or crashes.		
Parent: None		

Code: NF-REQ002	Usability	Version: NF-REQ002-v1.1
The app must: - Be easy to use and navigate. - Have clear instructions and an intuitive design. - Be accessible to users with disabilities (features such as text-to-speech and high-contrast modes).		
Parent: None		

Code: NF-REQ003	Reliability	Version: NF-REQ003-v1.1
The app must be reliable and available at all times. Have minimal downtime for maintenance or updates. The app must be able to recover quickly from any errors or malfunctions.		
Parent: None		

Code: NF-REQ004	Compatibility	Version: NF-REQ004-v1.1
The app must be compatible with a wide range of devices and operating systems.		
Parent: None		

3.2   User causes

Diabetes Patients: Diabetes patients who need to monitor their glucose levels regularly can benefit from the continuous monitoring and real-time analysis provided by the app.

Fitness Enthusiasts: Fitness enthusiasts who want to optimize their performance can use the app to track their hydration levels, activity levels, and nutritional intake.

Health-conscious individuals: People who want to maintain a healthy lifestyle can use the app to track their nutritional intake and monitor their hydration levels.