SOFTWARE DESIGN DOCUMENT

Table of contents

Contents

1. System Vision

This software system offers a comprehensive nutritional information for a wide range of food items that commonly consumed around the world. This software will allow users to search for food and view their nutritional value.

1.1 Problem Background

A lot of people find it hard to keep track on their diet, this software application will help people to access accurate information regarding of foods they consume in order to support their diet progress, macro nutrients, and overall health from data set this application provides.

1.1.1 Dataset

The data set used for this software is a comprehensive foods nutritional database from all around the world. This dataset provides more than 30 attributes for each food item information such as calories, fat content, protein, carbohydrates, sugars, calcium, etc.

1.1.2 Data input/output

Users will input what food they want to see its nutritional value in a search query, and the system will provide all the information based on the input.

1.1.3 Target user

Target users for this software application are:

1. Individuals: People who are trying to monitor their food intake or keep track of their diet.
2. Healthcare professional: Doctors, dietitians, and nutritionist can use this software to help them give proper nutritional content to their patients
3. Researcher: Researchers can use this software for their data collection and analysis.

1.2 System Capabilities/Overview

1.2.1 System Functionalities

This software has multiple functionalities that can help the convenience for users, such as:

1. Food Item Search: Users will be able to find specific food they want to know by write the food name in the search box.
2. Nutritional Breakdown: The system will provide a detailed nutritional breakdown for every food items.
3. Filtering and Sorting: Users able to filter and sort items by various criteria based on their preference, such as: high-protein, low fat

1.3 Benefit Analysis

This software offers several key benefits, such as:

1. Convenience: Users can access this software from anywhere as long they have internet connections .
2. Health and societal impact: This software promote better nutrition habits and public health awareness.
3. Accurate information: Users will get accurate information regarding nutritional content of foods to make healthier choice.

2. Requirements

2.1 User Requirements

Here are some examples describing the functionalities from the end-user's perspective:

Fictional user

1. John Thompson – *fitness enthusiast*

- Age: 26
- Needs: Want to focus on his diet. Need to find high-protein, low-fat foods for his macronutrient daily intake

Expected user interactions:

1. Searching and filtering for food items
    - Description: John will be able to search for high-protein, low-fat food, and the system will retrieve all the food that have that criteria.
    - User need:
        - Simple search interface
        - Quick search result
        - Filtering options based on nutrients values
2. Detailed nutritional information
    - Description: John will get detail information about his food item, such as calories, fat, carbohydrates, proteins, fiber, etc.
    - User need:
        - Clear and detailed nutritional data
        - Easy to understand breakdown of macronutrients

2.2 Software Requirements

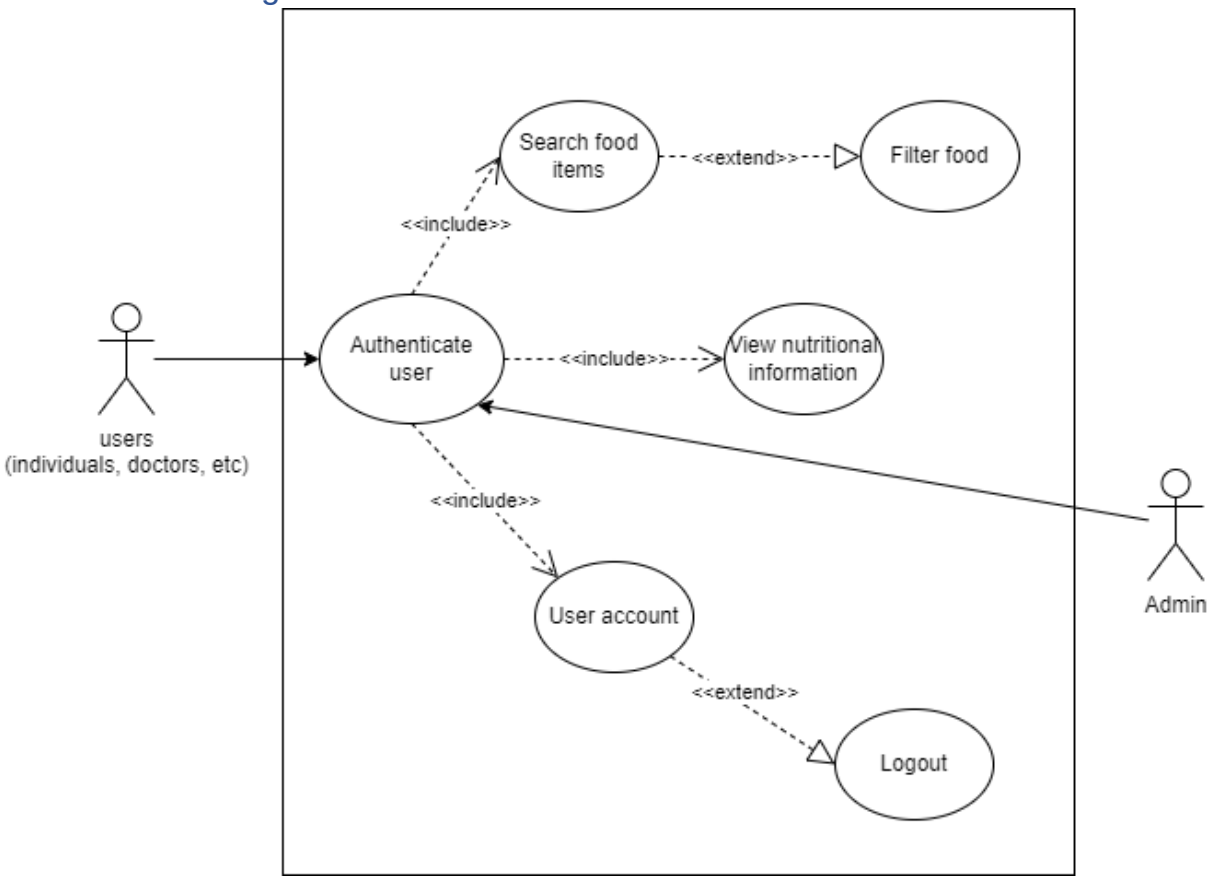
Here are some software requirements for the project:

1. Search functionality
    - The system shall provide a search bar where users can input a food item to retrieve its nutritional value
    - The system shall allow user to find food by category, such as dairy, vegetables, meat
    - The system shall have filter functionality where users can filter it based on their preference

2. Viewing nutritional information
    - The system shall display a detailed nutritional profile for each food item, including calories, fats, carbohydrates, proteins, vitamins, and minerals.

3. User account and data saving
    - The system shall allow users to create an account with a username and password for personalised usage.
    - The system shall store user preferences, such as previously searched food items and report settings.
    - The system shall allow users to save and revisit past searches

2.4 Use case diagram



3. Software Design and System Components

3.1 Software Design

3.2 System Components

4. User Interface Design

4.2 Visual Design