

# **Software Requirements Specification**

For

## **Fitness Web Application**

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# 1. Introduction

## 1.1 Purpose

We chose to integrate software that focuses on one's physical health - specifically focusing on achieving a desired weight in a given time period. Since it can be difficult and unmotivating for people to come up with their own plan of achieving a desired weight, this application aims to do the heavy lifting for them.

## 1.2 Scope and Feature Introduction

Implemented as a web application, *Your Personal Fitness Trainer* will allow its users to provide information about their daily calorie intake, suggest a new plan, or make changes to said existing plan, to help the user reach the desired weight in a given time period. The application's rigor will adjust according to the deadline, where short deadlines will have more exercise and healthier diets, whereas longer deadlines to meet the given weight will include a more relaxed plan.

# 2. Vision

## 2.1 Vision Statement

For anyone, who wants to obtain their desired weight whether for their health or a personal goal. *Your Personal Fitness Trainer* is a web-based application designed to help simplify and plan your weight management. By planning out their training regime and diet in a given time frame removing the complexities of planning and researching all on your own. *Your Personal Fitness Trainer* will allow them to input your daily calorie intake and then receive a personalized plan and then allow them to change and adjust the plan as they like. This allows for plans to either be more slow and gradual if the time frame is longer or more rigorous if shorter. *Your Personal Fitness Trainer* will provide users with a virtual fitness trainer who will allow them to get a training regime and diet plan quickly allowing them to spend more time on reaching their goals.

## 2.2 User Requirements

FE-1: Perform search queries in the database to connect user input to the correct consumable

FE-2: See an onscreen display on the calories listed given various items of food/beverages

FE-3: User input UI for age, height, weight, and desired weight

FE-4: User Login requiring username and password

## 2.3 Assumptions and Dependencies

AS-1: Users will have access to some device whether a laptop, phone, or tablet That will allow them to use the application

AS-2: Users will input their daily calorie intake and activity levels accurately to allow for accurate recommendations

AS-3: The effectiveness of the training regime and diet depends on the user following it consistently during the time frame

AS-4: Users have some knowledge of working out and dieting before using this application

# 3. Scope and Limitations

## 3.1 Feature Documentation Table

<u>Feature</u>	<u>Description</u>	<u>Status</u>
FE-1	Method to return the calories of a food based on the search of the food name in the database	Fully implemented
FE-2	Method to display the calories of various food and beverage items onscreen.	

FE-3	User input UI for age, height, weight, and desired weight, storing the input for further calculations	
FE-4	User login system requiring a username and password for authentication	

### 3.2 Limitations / Exclusions

LI-1-A: It cannot be guaranteed that users follow the guidelines that the application provides

LI-1-B: Similar to LI-1-A, some users may not feel motivated to continue through their assigned plan without personalized/social support

LI-2: Not to be confused with reliability, but as companies change the contents of their products, it cannot be guaranteed that the application will always provide 100% accurate results

## 4. System Features

### SF-1: Calorie Calculator

Given a list of food and beverages, the application will take all items and calculate the total calories of those items. This feature also supports individual items, returning the number of calories of a single item.

### SF-2: Offer Calorie Plan

Given an age, height, weight, and a designated weight to be achieved, the application will offer an extensive and precise calorie plan to achieve that desired weight by the deadline date.

### SF-3: Offer Exercise Plan

Given an age, height, weight, and designated weight to be achieved, the application will offer an extensive and precise exercise plan to achieve that desired weight by the deadline date.

### SF-4: Take a current plan, suggest changes

Given an existing diet or plan, the application can identify and offer changes to that diet/plan to achieve the desired weight

## 5. Overall Description

### 5.1 Product Perspective

The application will be designed to be simple and as user-friendly as possible, since the application is organized, and has a clear focus on weight loss, the application's simplicity and organization offer users a reason to use the application for dietary and exercise planning rather than referring to search engine results.

### 5.2 User Classes and Characteristics

This application is not designed with specific user classes in mind. Instead, the application appeals to everyone interested in what the application performs. However, the levels of knowledge between users can be divided into subcategories.

#### UC-1: Entry

- Anyone who wishes to learn about dieting/exercising
- This user class may use the application simply to learn about how many calories a particular food/beverage has

#### UC-2: Intermediate

- This user class may use the application for setting up a food plan, and look for advice on weight loss

#### UC-3: Advanced

- This user class may use the application every day for establishing a food plan, and browse for a multitude of workouts on the application to achieve a desired weight.
- This user may also use the application multiple times, to achieve a desired weight multiple times in their lifespan

### 5.3 Operating Environment

OE-1: The application will be fully operable on any version of the following browsers released in or after June 2025. The following search engines should support the website:

- a. Google Chrome
- b. Microsoft Edge

- c. Safari
- d. Firefox

OE-2: The application requires that the user has a QWERTY-layout keyboard on hand, whether through a computer or by the keyboard given on mobile phones.

## 5.4 Design and Implementation Constraints

DC-1: All application backend code will be written in Python

DC-2: All UI components will be created with HTML, CSS and Vue.js

DC-3: Javascript will connect frontend to backend

# 6. External Interface Requirements

## 6.1 User Interfaces

UI-1: The system is accessed through a web browser on any computer

## 6.2 Hardware Interfaces

HI-1: The application will support input from a QWERTY keyboard and traditional phone display keyboard

Figure 1: Example UI For Application Input

Enter your age :  welcome (2)

Enter your height:

Enter your weight:

How much do you want weight later:

When:

Do you prefer cardio ☐ or weight training ☐

After confirm ↓

Your work out plans are:

< To be specific later >

## 7. Nonfunctional Requirements

### 7.1 Usability



U-1: When a new user opens the application for the first time, they will be guided through a user-friendly interface that explains the features of the application

## 7.2 Security

S-1: The application will feature user login requiring a username and password, which in turn should ensure user authentication and establish security

## 7.3 Availability

A-1: The application will be designed up be available 99% of the time

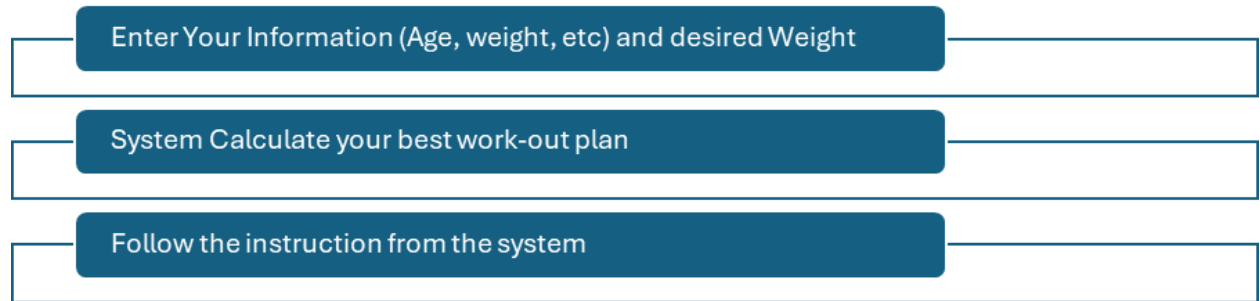
## 7.4 Reliability

R-1: The application should accept multiple copies of user input and relay the same output. For example, if the same diet of calories is given to the application, then a similar result should be returned to the user on how to increase/decrease calorie intake accordingly

Figure 2: Application Using Instruction Diagram



Figure 3: Process Flow Chart



## Appendix A: Revision History

<b>Name/Title</b>	<b>Date</b>	<b>Changes made/updates</b>
Fitness Tracker SRS	2/7/2025	Initial Outline
Fitness Tracker SRS	2/10/2025	Ready for Submission

## Appendix B: Issues Raised

<b>Issue Description</b>	<b>Status</b>
Table of Contents Needed	Resolved
Need extensive detail for User Cases	Resolved
Add Names to Cover	Resolved
Diagrams for UI Needed	Resolved
Overall Description Needed	Resolved
Added Limitations to Scope	Resolved
Needs more features	Resolved