

Institiúid Teicneolaíochta Cheatharlach



At the Heart of South Leinster

Functional Specification



Diet Track

Diet Tracker Application

Student Name: Emmanuel Ayelabola

Student ID: C00242748

Course: Bachelor of Science (Honours) Software Development

Supervisor: Dr Chris Staff

Submission Date: 25/04/2022

Abstract

In today's lifestyle, society is changing, and people are more dedicated towards achieving a fit and healthy body. This drastic shift has changed the way of living in almost every household, most people now crave healthy and nutritious meals. This why healthy eating, nutritious meals and diet tracking have become an essential element in everyone's lifestyle in order to accomplish a healthy life and balanced diet in such a busy and strenuous environment. The purpose of this project is to develop an application that is used to monitor and track the user's diet. The application will track nutritional intake and manage diets for healthy eating, weight loss, weight maintenance, weight gain, and fitness.

This document will provide a detailed description of the Functional Specification conducted prior to the development of the diet tracking application which will help users track and monitor their diets.

Table of Contents

1. Introduction.....	6
2. Application Description.....	6
3. Functional Specifications	7
Main Functionalities.....	7
Main Use Cases.....	8
Application Context Diagram.....	9
Detailed Use Cases	9
User Registration	10
Login.....	11
Logout	11
Add Weight.....	12
CRUD Meal Planner	12
Create Meal Plan	12
Delete Meal Plan	13
Update Meal Plan.....	13
View Goals	14
View Nutritional Plans	14
View Recipe Recommendations	15
Add to Food Diary.....	15
Delete from Food Diary.....	16
Create Meal	16
Update Meal.....	17
Delete Meal	17
4. Target Users.....	18
5. Non-Functional Specifications (FURPS+)	18
Functionality.....	18
Usability	19
Reliability	19
Performance	19
Supportability.....	20
Security (+).....	20
5. Metrics / Success Measurement.....	20

6. Testing	21
Testing for Functionality	21
Testing for Usability	21
Testing for Compatibility	21
Performance Evaluation	21
7. Conclusion	21

Table of Figures

Fig1. Main Use Case

Fig 2. Depreciate Use Case

Fig3. Diet Track Context Diagram

Table of Tables

Table 1 – Core and Non-Core Functionalities Table.

Table 2 – User Registration Table

Table 3 – Login Table

Table 4 – Logout Table

Table 5 – Add Weight Table

Table 6 – Create Meal Plan Table

Table 7 – Delete Meal Plan Table

Table 8 – Update Meal Plan Table

Table 9 – View Goals Table

Table 10 – View Goals Table

Table 11 – View Recipe Recommendations Table

Table 12 – Add to Food Diary Table

Table 13 – Delete from Food Diary Table

Table 14 – Create Meal Table

Table 15 – Update Meal Table

Table 16 – Delete Meal Table

1. Introduction

The aim of this project is to create an application which will help users who want to achieve a fit and healthy lifestyle. The application will achieve this by tracking their nutritional intake and managing their diets for weight loss, weight maintenance, weight gain and healthy eating. This document describes the application structure and specifies the functionality of the application. All the functionality planned to be implemented in the creation of this application will be discussed. The application is created to provide users with a way to track their diets which means the functionality implemented will be most of the popular functionalities used in various diet tracking applications.

This functional specification document will describe the functional and non-functional requirements for the application is divided into numerous sections such as Use cases, Furps+ and metrics .This document will provide an immerse overview of this application's development and its core functionalities, but this does not mean the functionalities mentioned are fixed and cannot be changed. The dynamic nature of software changes allows this to be achievable. During the development stage of this application goals will evolve and changes will be made when necessary as we will obtain user feedback, which will help create a user focused application.

2. Application Description

Diet tracking applications have become an integral part of a lot of people's lives, mainly because in today's lifestyle many people are now focusing on tracking their diets in order to have a fit and healthy body. The conventional methods for studying food intake or tracking diets were extremely inaccurate but since the introduction of smartphones and mobile devices these apps have made diet tracking significantly easier, convenient and much cheaper.

The purpose of this project is to create a user-friendly application that is used for tracking nutritional intake managing diets for weight loss, weight maintenance, weight gain, healthy eating, fitness and so much more. The application will also be also used to monitor calories, the intake of carbohydrates, proteins, fats and many other nutrients, based on your diet the application can also suggest healthy meals and recipes for users to prepare. The diet application created will be free, but some of them can be purchased and users can be charged subscription fees for full functionality.

3. Functional Specifications

Main Functionalities

There are specific requirements the proposed application must fulfil to meet the objectives of the project. The requirements to be achieved are listed in the table below:

	Functionalities	Data	Data Input	Data Output
1	Calorie Counting (Core)	Barcode Scanning/Manual Input	Added to the user's daily calorie intake.	Comparison of Calories. Total amount calories consumed daily
2	Food Diary (Core)	Barcode Scanning/Manual Input	Added to the user's daily food diary,	All nutritional facts of added food/meals
3	Recipe Recommendations (Core)	Manual Input	Users chosen diet/ healthy meals	Complete recipe with ingredients and steps on how to prepare chosen meal
4	Weight Log (Core)	Manual Input / weekly / same time daily	Added to User's weight log	Comparison on weight data (weight loss or gain)
5	Meal Planning (Core)	Manual Input	Users' choses diet/meal plan	Suggested meal plan for user and added to food diary
6	Goal Setting (Non-Core)	Manual Input	Added to the user's daily goal log	View goals Comparison on goals set (goals achieved/not achieved/how to improve
7	Nutrition Advice/ Plans (Non-Core)	Manual input	Using eating and food habits.	Advice is given to user in order to improve diet

Table 1 – Core and Non-Core Functionalities Table.

Main Use Cases

A use case is a set of situations that describe how a user interacts with a gadget. A use case diagram depicts the link between actors and use cases. A use case diagram's main components are use cases and actors. The functional needs are given in the order in which they relate to the overall system. The functional requirements will be expressed using a natural language description and UML Analysis Models . The use case diagrams for the Diet Track application are shown in the pictures below. The major interactions between users and the system are depicted.

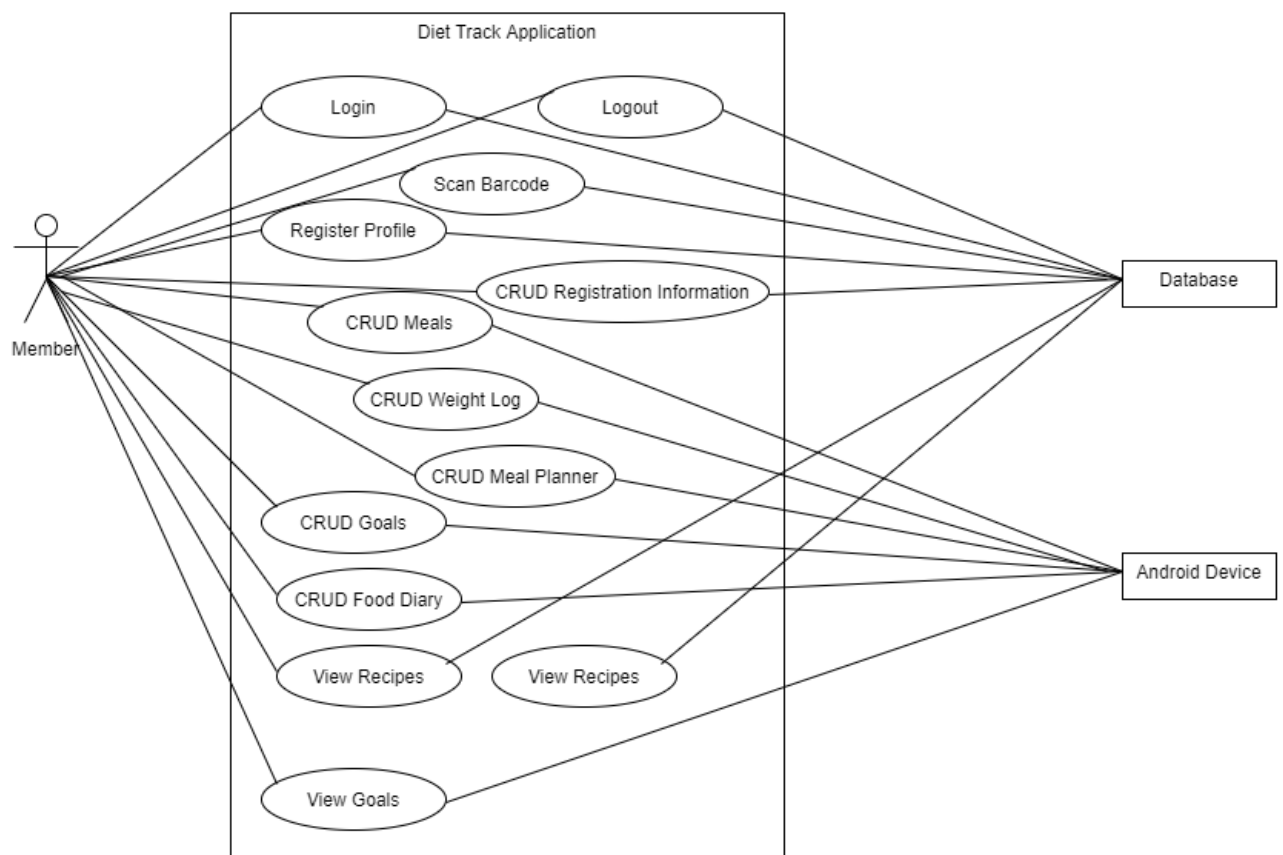


Fig1. Main Use Case

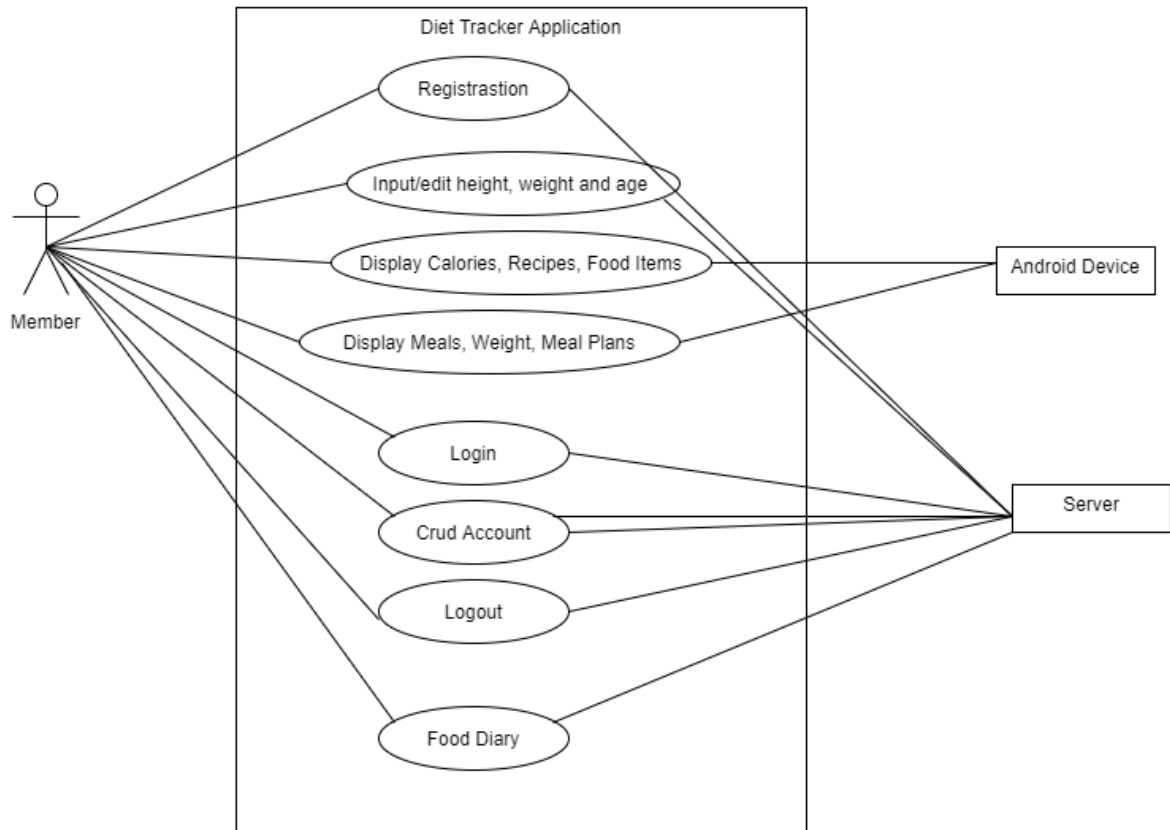


Fig 2. Depreciate Use Case

Application Context Diagram

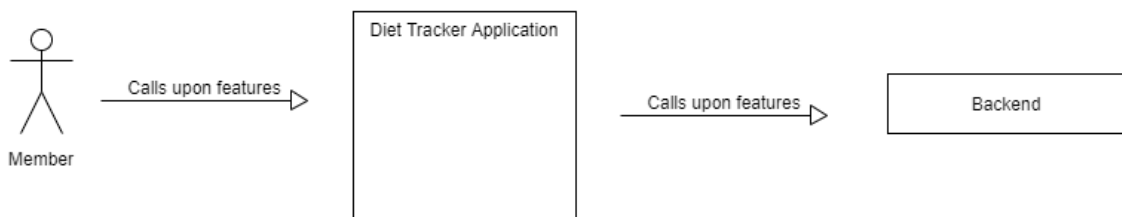


Fig3. Diet Track Context Diagram

Detailed Use Cases

Uses cases are a series of scenarios that characterize a user’s interaction with a device. The relationship between actors and uses cases are shown using a use case diagram. The principal components of a use case diagram are the cases and actors. The uses cases below are represented as a sequence of straightforward steps and will contain the actors, a brief description of the use case, preconditions, postconditions and alternatives.

User Registration

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wants to register for an account. The actor will provide all the information required, complete the registration form and submit the information. This use case concludes once the actor successfully registers with the system.
Preconditions	The actor wants to register for a new account.
Activity	<ol style="list-style-type: none"> 1. The actor selects the sign up/register account option. 2. The system displays the registration form for the actor. 3. The actor enters his / her information into the fields presented on the form. 4. Once the form is complete it is submitted by the actor. 5. The system verifies the information provided to ensure all required fields have been completed and confirms the email and password are appropriate. 6. The system then displays the message “User Registration Successfully Complete” to the actor and redirects him/her to the Login Page.
Postconditions	The actor has successfully registered an account.
Alternatives	<p>5a. The actor did not complete all the required fields.</p> <ol style="list-style-type: none"> 1. The fields that were not completed by the actor are highlighted by the system, the actor is prompted to complete the uncomplete fields and submit the registration form again. 2. Step three is repeated by the actor. <p>5b. The email entered by the actor already exists in the system.</p> <ol style="list-style-type: none"> 1. An “Email already exists” message will be displayed by the system and will prompt the actor to enter a new email. 2. Step three is repeated by the actor. <p>5c. The password entered by the actor does not contain an uppercase and lowercase letter, a number and a special character.</p> <ol style="list-style-type: none"> 1. The appropriate error message will be displayed, and the actor will be prompted to enter a new password. 2. Step three is repeated by the actor.

Table 2 – User Registration Table

Login

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wants to login to their account. The actor will enter their email and password into the fields provided on the login page. They will completely fill out the login requirements and submit the information. This use case concludes as soon as the actor successfully logs into the application.
Preconditions	The actor wishes to login to the mobile application and has the application installed on his/her device.
Activity	<ol style="list-style-type: none"> 1. The actor selects the login option. 2. The system displays a login page with a login form. 3. The actor inputs their login details (email and password) into the fields provided on the form. 4. The system verifies the email and password entered. 5. The system will redirect the actor to the home screen page if all the information that was provided by the actor is correct.
Postconditions	The actor has successfully logged into the mobile application.
Alternatives	<p>4a. The email or password inputted by the actor was not valid.</p> <ol style="list-style-type: none"> 1. An error message with “email or password does not exist” will be displayed by the system and the actor will be prompted to enter their login details again. 2. Step 3 is repeated by the actor.

Table 3 – Login Table

Logout

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wants to logout of their account. The actor chooses logout from the home screen. An on-screen message will display asking the actor if they are sure they want to log out. The actor selects “yes”, and the use case concludes when the actor has successfully logged out.
Preconditions	The logged in actor wishes to logout
Activity	<ol style="list-style-type: none"> 1. The logout option is selected by the actor from the home page. 2. The actor confirms they want to logout. 3. The system kills the session, logs the actor out and then redirects to the login page.
Postconditions	The actor has successfully logged out of the application.
Alternatives	<p>1a. The actor does not want to logout.</p> <ol style="list-style-type: none"> 1. The logout button was selected by the actor in error 2. The actor confirms they do not want to logout. 3. Nothing executes and the actor stays on the home screen.

Table 4 – Logout Table

Add Weight

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to add their weight into the weight log. When the actor chooses “Add weight” from the home screen the actor will then be directed to the weight log. This use case concludes when the actor adds their weight.
Preconditions	The actor is logged in and wishes to add their weight.
Activity	<ol style="list-style-type: none"> 1. The actor selects “Add Weight” from the home screen. 2. The system displays a form so the actor can input their weight. 3. The actor inputs their weight into the given field. 4. The actor will confirm the weight given by submitting the form 5. The system will add the weight into the weight log
Postconditions	The actor successfully adds their weight.
Alternatives	<ol style="list-style-type: none"> 4a. The actor does not fill in their weight. <ol style="list-style-type: none"> 1. The system will display the error message “field cannot be left blank”. 2. Step three is repeated.

Table 5 – Add Weight Table

CRUD Meal Planner

Create Meal Plan

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to create a meal plan. When the actor chooses “Meal Planner” from the home screen the actor will be directed to that page. The actor will then choose the “add meal plan” option which will show a form to input a meal plan. This use case concludes when the actor adds their meal plan.
Preconditions	The actor is logged in and wishes to create a meal plan.
Activity	<ol style="list-style-type: none"> 1. The actor selects “Add meal plan” from the meal planner screen. 2. The system displays a form so the actor can input their chosen meal plan. 3. The actor inputs their meal plan information into the given fields. 4. The actor will confirm the meal plan given by submitting the form 5. The system will add the meal plan into the meal planner.
Postconditions	The actor successfully creates a meal plan.
Alternatives	<ol style="list-style-type: none"> 4a. The actor does not complete a required field. <ol style="list-style-type: none"> 1. The system will display the error message “field cannot be left blank”. 2. Step three is repeated.

Table 6 – Create Meal Plan Table

Delete Meal Plan

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to delete a chosen meal plan. When the actor chooses “Meal Planner” from the home screen the actor will be directed to that page. Within the meal planner page there will be a “list of meal plans” option once selected the entire meal plans that have been added are displayed. Once the chosen meal plan is selected all the meal details are shown with an option to delete the meal plan. This use case concludes when the actor deletes the chosen meal plan and redirects to the home screen.
Preconditions	The actor is logged in and wishes to delete a meal plan.
Activity	<ol style="list-style-type: none"> 1. The “Meal Planner” option is selected by the actor from the home screen 2. The system displays the meal planner page with the “list of meal plans” option which the user selects. 3. The actor selects the meal plan that him/her wishes to be deleted. 4. The actor is given an option to delete the meal plan now. 5. The actor is prompt with a Yes or No asking if they wish to delete the meal plan. 6. Once the meal plan is deleted the actor is redirected to the home page and the meal plan is deleted successfully.
Postconditions	The actor successfully deletes a meal plan.
Alternatives	<p>5a. The actor does not wish to delete a meal plan.</p> <ol style="list-style-type: none"> 1. The actor selects No instead of Yes when asked if they want to delete the meal plan. 2. The system will not delete the meal plan.

Table 7 – Delete Meal Plan Table

Update Meal Plan

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to update a chosen meal plan. When the actor chooses “Meal Planner” from the home screen the actor will be directed to that page. Within the meal planner page there will be a “list of meal plans” option, once selected the entire meal plans that have been added are displayed. Once the chosen meal plan is selected all the meal details are shown with an option to update the meal plan. This use case concludes when the actor updates the chosen meal plan and redirects to the home screen.
Preconditions	The actor is logged in and wishes to update a meal plan.
Activity	<ol style="list-style-type: none"> 1. The “Meal Planner” option is selected by the actor from the home screen 2. The system displays the meal planner page with the “list of meal plans” option which the user selects. 3. The actor selects the meal plan that him/her wishes to be updated. 4. The actor is given an option to update the meal plan now. 5. The actor is prompt with a Yes or No asking if they wish to update the meal plan. 6. Once the meal plan is updated the actor is redirected to the home page and the meal plan is updated successfully.
Postconditions	The actor successfully updates a meal plan.
Alternatives	5a. The actor does not wish to update a meal plan.

	<ol style="list-style-type: none"> 1. The actor selects No instead of Yes when asked if they want to update the meal plan. 2. The system will not update the meal plan.
--	---

Table 8 – Update Meal Plan Table

View Goals

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to check their goals. When the actor selects view goals from the home screen they will be redirected to that page.
Preconditions	The actor is logged in and wishes to view their goals.
Activity	<ol style="list-style-type: none"> 1. The “view goals” option is selected by the actor from the home screen. 2. The system will display the actors daily progress, for example their calories, protein carbs and fat goals. 3. After the results are displayed the actor can redirect back to the home screen by clicking the home button.
Postconditions	The actor successfully views their goals.
Alternatives	

Table 9 – View Goals Table

View Nutritional Plans

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to view nutritional plans that they wish to follow. When the actor chooses “nutritional plans” from the home screen they will be redirected to that page.
Preconditions	The actor is logged in and wishes to view a nutritional plan.
Activity	<ol style="list-style-type: none"> 1. The nutritional plans option is selected by the actor from the home screen. 2. The system will display a list of plans the user can choose from, for example a weight loss plan. 3. The actor chooses a plan of their choice and the plan details and steps to follow are displayed 4. After the plans are displayed the actor can redirect back to the home screen by clicking the home button.
Postconditions	The actor successfully views a nutritional plan.
Alternatives	

Table 10 – View Goals Table

View Recipe Recommendations

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to view recipe recommendations to help them prepare a meal. When the actor selects “Recipe Recommendations” from the home screen they will be redirected to that page.
Preconditions	The actor is logged in and wishes to view a recipe.
Activity	<ol style="list-style-type: none"> 1. The recipe recommendations option is selected by the actor from the home screen. 2. The system will allow the actor search for a recipe or choose from the list of recipes. 3. The actor selects the recipe of their choice, the ingredients and steps on how to prepare the meal are displayed. 4. After the recipe details are displayed the actor can redirect back to the home screen by clicking the home button
Postconditions	The actor successfully views a recipe.
Alternatives	

Table 11 – View Recipe Recommendations Table

Add to Food Diary

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to add a food item to the food Diary. When the actor selects food diary from the home screen they will be redirected to that page. The actor will then choose the “add food item” option which will show a field for manual input of the food item and a barcode scanner option to scan the food item. This use case concludes when the actor adds their food item.
Preconditions	The actor is logged in and wishes to add to the food diary.
Activity	<ol style="list-style-type: none"> 1. The “Food Diary” option is chosen by the actor from the home screen. 2. The actor “selects the add food item” option. 3. The actor selects a meal. 4. The actor will be shown all the ingredients and nutritional facts of the food item. 5. The actor amends the ingredients and amounts consumed if necessary. 6. The actor optionally deletes or adds ingredients, 7. The actor selects “add to food diary”. 8. Once added their calorie and nutritional intake will be updated and the user will be redirected to the home page.
Postconditions	The actor successfully adds to the food diary.
Alternatives	<p>3a. The actor wishes to add the food item by barcode scanner.</p> <ol style="list-style-type: none"> 1. The actor selects “scan food item”, the barcode scanner opens. 2. The actor will align the box with the barcode they wish to scan. 3. The barcode scans the food item and adds it to the food diary.

Table 12 – Add to Food Diary Table

Delete from Food Diary

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to delete a chosen food item from the food diary. When the actor chooses “Food Diary” from the home screen the actor will be directed to that page. Once the chosen food item is selected there will be an option to “delete food item”. This use case concludes when the actor deletes the chosen food item and redirects to the home screen.
Preconditions	The actor is logged in and wishes to delete from the food diary.
Activity	<ol style="list-style-type: none"> 1. The “Food Diary” option is selected by the actor from the home screen. 2. The system displays the food diary page with an option for the user to select a food item. 3. The actor selects the food item that him/her wishes to be deleted. 4. The actor is given an option to delete the food item now. 5. The actor is prompt with a Yes or No asking if they wish to delete the food item. 6. Once the food item is deleted successfully the actor can redirect to the home page via the home button.
Postconditions	The actor successfully deletes from the food diary.
Alternatives	<p>5a. The actor does not wish to delete a food item.</p> <ol style="list-style-type: none"> 1. The actor selects No instead of Yes when asked if they want to delete the food item. 2. The system will not delete the food item.

Table 13 – Delete from Food Diary Table

Create Meal

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to create a meal. When the actor chooses “Meals” from the home screen the actor will be directed to that page. The actor will then choose the “create meal” option which will show a form to input a meal . This use case concludes when the actor creates and adds their meal.
Preconditions	The actor is logged in and wishes to create a meal.
Activity	<ol style="list-style-type: none"> 1. The “Meals” option is selected by the actor from the home screen. 2. The actor selects the “create meal option”. 3. The system displays an option for the actor to create a meal by barcode scanning of ingredients or by manually adding the ingredients of a meal. 4. The actor selects an option and proceeds to add the ingredients of the meal. 5. Once all the ingredients are added the actor will choose the add meal option and the meal will be successfully created. 6. The system will then successfully add the meal into the meal database.
Postconditions	The actor successfully creates a meal.
Alternatives	<p>4a. The actor does not complete a required field.</p> <ol style="list-style-type: none"> 3. The system will display the error message “field cannot be left blank”. 4. Step three is repeated.

Table 14 – Create Meal Table

Update Meal

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to update a meal. When the actor chooses “Meals” from the home screen the actor will be directed to that page. The actor will then choose a meal from the entire list of meals that have been created. Once the meal is selected all ingredients are shown with an option to update the meal . This use case concludes when the actor updates their meal and redirects to the home screen.
Preconditions	The actor is logged in and wishes to update a meal.
Activity	<ol style="list-style-type: none"> 1. The actor selects the “Meals” option from the home screen. 2. The system displays the meals page with the “list of created meals” option which the user selects. 3. The actor selects the meal that they wish to be updated. 4. The actor is given an option to update the meal now. 5. The actor is prompt with a Yes or No asking if they wish to update the meal. 6. Once the meal is updated the actor is redirected to the home page and the meal plan is updated successfully.
Postconditions	The actor successfully updates the meal.
Alternatives	<p>5a. The actor does not wish to update a meal.</p> <ol style="list-style-type: none"> 1. The actor selects No instead of Yes when asked if they want to update the meal. 2. The system will not update the meal.

Table 15 – Update Meal Table

Delete Meal

Actors	Diet Tracker Application User
Brief Description	This use case begins when the actor wishes to delete a meal. When the actor chooses “Meals” from the home screen the actor will be directed to that page. The actor will then choose a meal from the entire list of meals that have been created. Once the meal is selected all ingredients are shown with an option to delete the meal . This use case concludes when the actor deletes their meal and redirects to the home screen.
Preconditions	The actor is logged in and wishes to delete a meal.
Activity	<ol style="list-style-type: none"> 1. The actor selects the “Meals” option from the home screen. 2. The system displays the meals page with the “list of created meals” option which the user selects. 3. The actor selects the meal that they wish to be deleted. 4. The actor is given an option to delete the meal now. 5. The actor is prompt with a Yes or No asking if they wish to delete the meal. 6. Once the meal is updated the actor is redirected to the home page and the meal plan is updated successfully.
Postconditions	The actor successfully deletes the meal.
Alternatives	<p>5a. The actor does not wish to update a meal.</p> <ol style="list-style-type: none"> 1. The actor selects No instead of Yes when asked if they want to delete the meal. 2. The system will not delete the meal.

Table 16 – Delete Meal Table

4. Target Users

The targeted users for this diet tracker application are anyone who is interested in achieving a fit and healthy body. The application developed will be understandable and useable by all users. The application will be useful for three weight classes of users, users who want to lose, gain and maintain their weight. Health-conscious people will also benefit from using this application as they can maintain a record of their meals and view all the nutritional facts involved. People in the fitness industry will also benefit from this application by utilizing the application in order to track their calories, food intake, weight, nutritional facts and so much more. In society, people are always looking for ways to be healthier and fitter than ever, which is why this application will prove very useful for many users of any age group.

5. Non-Functional Specifications (FURPS+)

This section will establish the functional and non-functional requirements for the proposed application. Functional requirements are essential requirements the application will incorporate, while non-functional requirements are requirements that specify how the application should behave when developed. Furps+ is the acronym used for non-functional requirements and is used to validate the prioritised requirements provided by a customer or client.

The subcategories of the non-functional requirements are:

- Functionality
- Usability
- Reliability
- Performance
- Supportability

Functionality

The functionality in FURPS+ represents the main product features of the application being developed. In this case successfully tracking a user's diet in order to have a fit and healthy lifestyle is the core functionality. The application must permit the user to:

- Create, Read, Update Delete (CRUD) Meal Plans.
- Add their weight into the weight Log
- Add Food items / meals into the food diary
- View Recipe Recommendations
- Count their Calorie intake

- View Nutritional Advice/ Plans

Usability

Usability refers to the consistency, responsiveness and accessibility of the application. The usability of the diet tracking application will be evaluated by potential users at every iteration of the development process. In terms of usability the application ease of use is particularly important and needs to be measurable to provide developers with a goal to achieve when developing the application. During the development process of the diet tracking application the following usability principles will be considered:

- The user should be able to log in within ten seconds, ninety percent of the time.
- Once a user has logged into the application they cannot be logged out unless the log out button is selected.
- The user interface design and aesthetics are essential to provide an engaging user experience.
- The user should be able to find and navigate between pages within fifteen seconds.
- The user should be able to register for an account within three minutes maximum, ninety percent of the time.

Reliability

Reliability is the expectation of the application's up-time, what is acknowledged as the application's failure, how fast the application can recover from a failure and what the average time should be between failures. A successful application should load without failure ninety nine percent of the time and recover from failure within 10 seconds ninety percent of the time. Software cannot be a hundred percent reliable so the goal as a developer is to get it to the highest level of reliability as possible. Accuracy is extremely important in this application as real time data is collected, calculated and displayed in a user-friendly format, for example, a user's calories will be counted, calculated and displayed. It is extremely difficult to be a hundred percent accurate a hundred percent of the time, but by providing as much accurate information as possible users will obtain an amazing user experience while using the application.

Performance

Performance involves the application response time, transmission, recovery of data speed, throughput recovery and start up time. The application response time is an important goal that needs to be achieved, to provide an amazing user experience having a response time of forty seconds on opening and logging into the application is vital. Data retrieval and transmission should take approximately five seconds maximum ninety five percent of the time. Throughput of the application

will be substantial, but users will still be offered more than adequate application performance. A considerable amount of the performance factor will be handled by the cloud provider.

Supportability

Supportability refers to the capability of the software in order to be effortlessly modified to accommodate enhancements and repairs. This application will be release on (Android). Comments and well-structured code are essential in this application as it will help maintainability and aid supportability updates and new functionalities that need to be added.

The application should accept updates without undergoing any crashes.

Security (+)

A goal in application development is to ensure that the application created is protected and secure. The cloud database and connection to the application should always be secure to prevent unauthorised access. This application will not be obtaining sensitive information from the user, but security is still crucial as the application will request user data that needs to be saved.

5. Metrics / Success Measurement

This section explains how the assessment of the application's success will be measured.

The application should run on mobile devices and permit the users to perform the following actions:

- The application that is being developed should run flawlessly on (android/iOS) platforms at least 98% of the time.
- The user should be able to register, login and logout.
- The application should be able to retrieve data from the Open Food Facts database.
- The application features should function correctly and display accurate information.
- The user should be able to scan barcodes to add food items to obtain their calorific value and to be made available to the meal planner.
- The application should display all data in an unsophisticated and comprehensible manner to all audiences.

The application will also be tested out by potential users and a survey will be carried out to measure the application's success.

6. Testing

As Diet Track is an android application, a set of approaches particular to android apps will be utilized to test the interfaces and any other functionality.

Testing for Functionality

Verification of incorrect page redirects or sites that do not load properly.

Validation of input fields and data integrity testing.

Putting the application's workflow to the test.

Testing for Usability

Verifying the application's usability and intuitiveness.

Putting the navigation and controls to the test.

Verifying the accuracy of the content.

Testing for Compatibility

Examining the compatibility of the operating system.

Compatibility testing on various android devices.

Performance Evaluation

Putting the operation's reaction time to the test.

Testing the system's capacity while it is used by numerous people.

7. Conclusion

The goal of this application is to fulfil the needs of the client and the business. This specification paper included all the functional and additional specifications needed for this program to work properly. There were use examples provided that demonstrated user behaviours, vital elements of the program, and non-essential features that are not at the heart of the application but are equally significant.