GROUP NAME: Script Squad

APP NAME: Vital-Sync

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1. INTRODUCTION

Vital-Sync is an upcoming application that will allow the user to holistically track their health and fitness journey. This document will aim to investigate the designing of the application by giving a brief overview of the application, innovative features, and a detailed list of requirements for the Application.

Name of the Application: **Vital-Sync**

Sync our Fitness, Elevate Your Life

Icon Design:
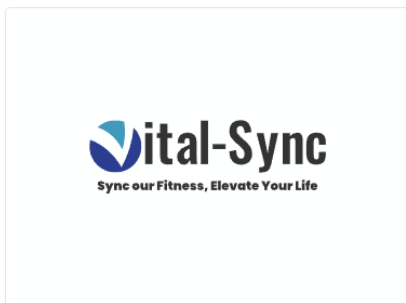
2. BRIEF OVERVIEW

Vital-Sync is an all-in-one fitness application which has a combination of workout routines, personalised diet plans as well as recipes which are basically a health guide for the user in terms of calories in take daily. The aim of the application is to provide a comprehensive approach for the user when it comes to fitness and nutrition. The workout section basically provides the user with variety of exercises specifically for the user based on what the user wants to do, which could be either gain, lose or maintain their weight. Vital-Sync has a progress tracker, customised routines and a notification bell which is like a reminder for the user.

The diet planner offers meal suggestions based on the users' dietary preferences and fitness objectives. All the features in the Vital-Sync application create a comprehensive fitness solution that helps you stay motivated and helps you manage and achieve your goals with ease. The applications innovative features provide unparalleled insight and flexibility making sure it caters to users with variety of fitness levels and goals, whether you are a beginner or an advanced user seeking for help and new challenges, Vital-Sync adapts to your needs, also offering a personalised plan and real-time feedback to keep you motivated.

3. DETAILED LIST OF THE REQUIREMENTS

- **Welcome page**

A welcome page is displayed to welcome the user into the new application. The has an icon, a short description of what the application is about, then a proceed button that directs the page to the next page.

- **Registration Page**

The user must register using their Username, Email address as well as a password. Then they click the T&Cs check box meaning they are agreeing to the terms and conditions of the application Vital-Sync. Then below that there's a link that the user can click on if they already have an existing account, the user then logins in.

- **Login Page**

The login page is placed for users that already have an existing account within the application, so the users will be required to add their username and password to proceed with the logging in. The user clicks and the button then they are logged in into the system. Alternatively, the user can also register using the link below if ever they were taken to the login page while they don't have an existing account.

- **Health profile page**

The health profile page allows the user to input their important health details for the app to personalise it according to their specific details. The user will be required to add their height, weight, age and sex. By doing that the application will generate accurate recommendations as well as tracking the progress making sure that the app helps the user with tracing their goals.

- **Dashboard page**

The dashboard page displays Welcome User with the logged in users specific name on the top right of the page, then on the far left a date is placed automatically when the user accesses the application. Below the date is a notification bell that allows the user to either get updates regarding workouts, motivational quotes or tips for the user based on the specific page. On the left side of the page there is a tracking system where the user basically has a summary of their daily goals so the number of steps, the distance as well as the glass of water in-take for the specific user is automatically displayed as the daily goals of the user. Then a graph on the right side is displayed which presents the total number of calories by using the age, weight and the height of the user inside a round graph and the total calories will be displayed inside the graph. Below that is the information about the user they had inputted in the health profile page, it basically displays the user's heartbeat rate, the user's height, weight and the user's age.

Below the dashboard page is a navigation bar that utilises fragments to display other pages. The navigation bar consists of four pages.

- **Diet Tracker page**

The diet tracker page consists of a notification button the top right which gives the user constant notifications. The page displays the number of calories the user has consumed, and the calories have burnt. On the top right a graph is displayed that shows the total calories for the specific user. Then below that is the of carbs, protein and fats left. The user can simply calculate the calories consumed by either clicking the breakfast, lunch as well as dinner. The diet tracker page the navigation bar consists of four pages including the dashboard namely diet tracker, health guide and the settings page. Then the continuation of the diet tracker page. The top of the page has a search bar which allows the user to search any type of food they would like to choose. The user is allowed to choose the food they would like so it could either be breakfast, lunch and dinner so when they click this they are directed to a specific page. Then after they have chosen the types of food the calories are calculated and displayed for the user based on the specific meal. Then the user can click the add to tracker button when they are done.

- **Health Guide page**

The health guide page consists of a recyclable list view that has three categories the user can user can choose from. The categories of the different pages are recipes, workouts and the food section page. The Recipes page will consist of smoothies, breakfast, lunch, dinner, as well as deserts and any other the recipes the user may need. The workouts page mainly consists of upper body, cardiovascular, lower body and fully body workouts. The food section has three pages the healthy food page, the power bites and the body building.

The health page consists of a notification bell that allows the user to either get updates regarding workouts, motivational quotes or tips for the user based on the specific page.

- **Settings Page**

The settings page is placed for users can have options on how the app should work for them. The top of the page consists of a search bar where the user can search for anything they are looking for. The user can change the settings to sleeping mode or day mode. The user can customise options, so when they click there, they are taken to the customisation page where the user can modify their weight, height as well as their age. The user is

able modify their colours as well of the application. Then the next list view is a privacy and security page where they are allowed to have terms and conditions, the security feature allows the user to have biometrics. Then below that is the languages where the user can choose their preferred language. Below is a help and support functionality that allows the user to find help and support when they are having issues with the application. Lastly is rating poll where the user can rate the app for updating purposes. The settings page also has a navigation bar.

This is the welcome page which consists of the application icon, a short description of what the page is about, then below is a click here button that directs the page to the next page.

Once the user has clicked on the click here button, they are directed to the registration page where the user will be required to add their username, email address and password. Then when they are done, they can click the create an account button or alternatively they can sign-in if they already have an account.
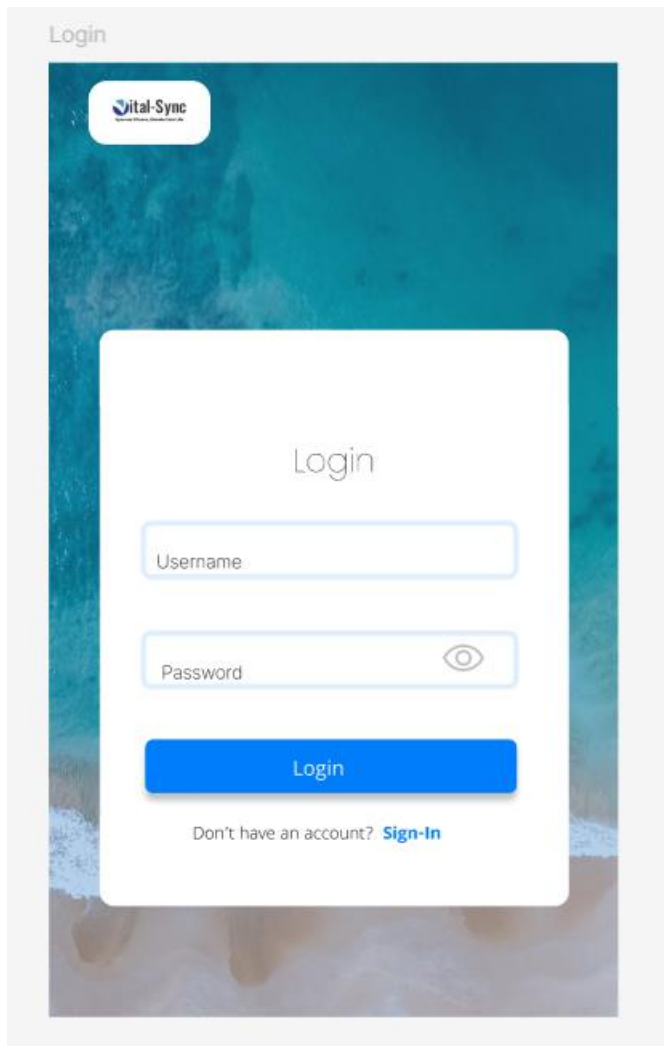
The user is then directed to the login page after registering where they can simply login using their username and password, then click the login button or alternatively they can sign-in if they have an existing account.

Vital-Sync

Age:

---Select Birth Date----

Height:

--- Enter Height cm----

Weight:

---Enter Weight (KG)----

Sex:

---M/F----

Click Here →

Once the user is regarded as a user with the application, they are firstly required to share a little information about themselves. So, the user is requested to add their age, height, weight and sex then continue.
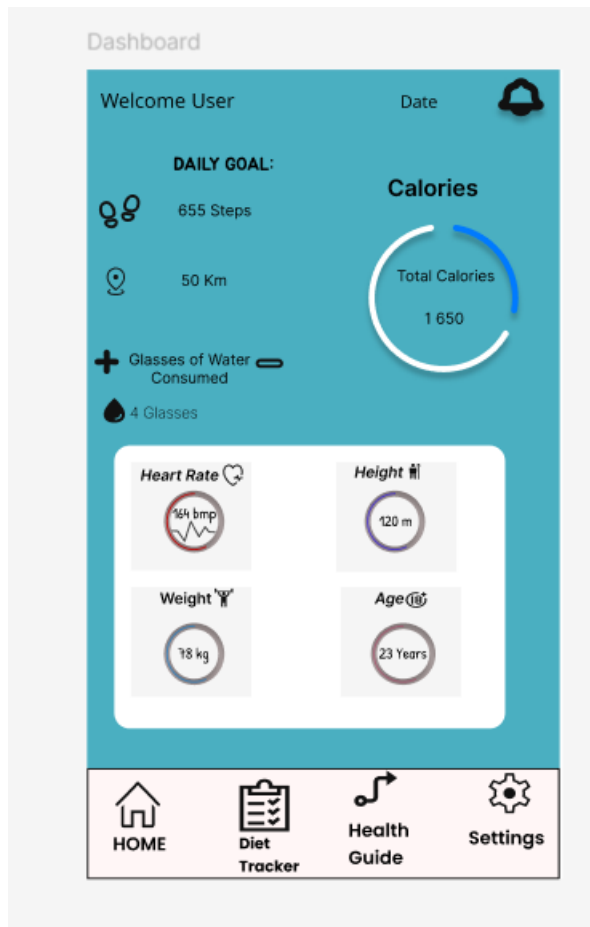
Dashboard. Myfitnesspal [s.a]

Fitnesspal dashboard (myfitnesspal, 2024).

The dashboard consists of a welcome user on the top, then a date on the right as well as notification bell that's sends notifications frequently to the user. Then below that there is a daily goal where the user can see their number of steps, the distance they have walked as well as the water the user has consumed. On the right is a graph that displays the number of calories of the user. Then below is the information about the user they had inputted in the health profile page. The diet tracker page the navigation bar consists of four pages.
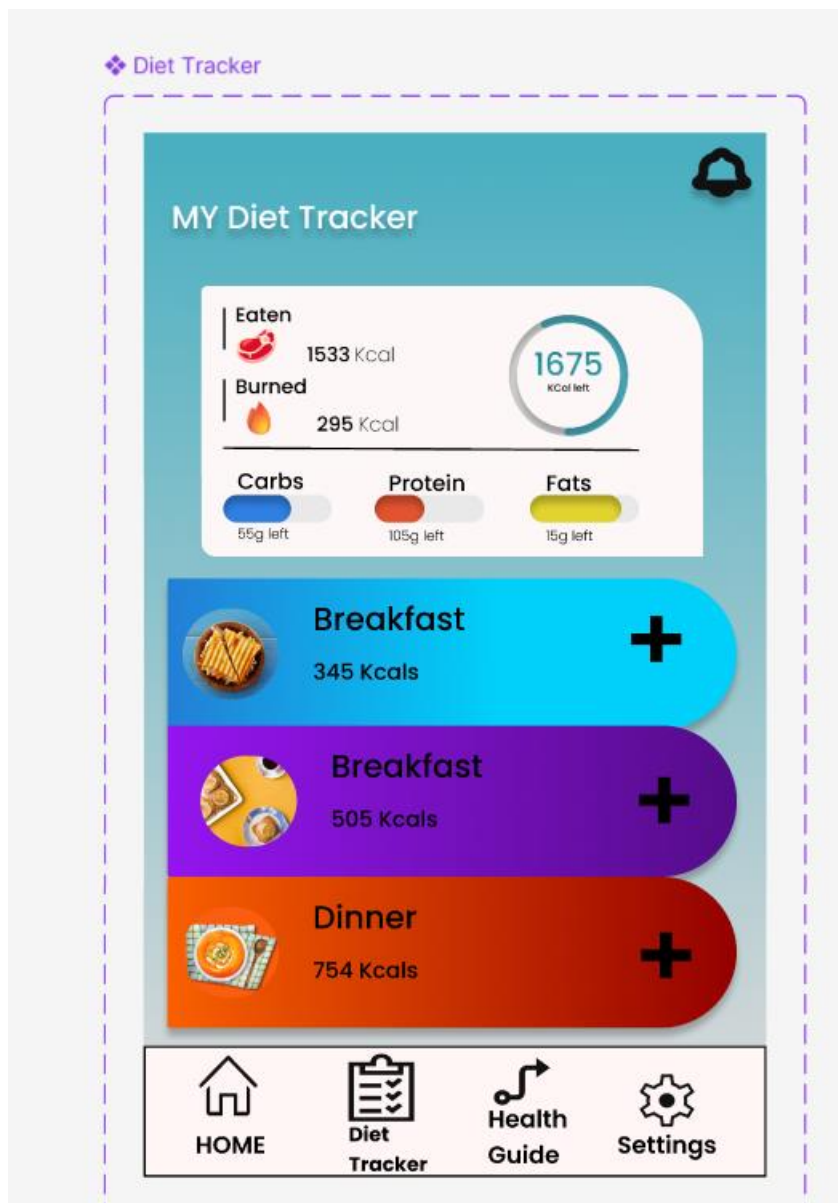
Diet Tracker. Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

The diet tracker page has a notification button the top right which gives the user constant notifications. The page displays the number of calories the user has consumed, and the calories have burnt. On the top right a graph is displayed that shows the total calories for the specific user. Then below that is the of carbs, protein and fats left. The user can simply calculate the calories consumed by either clicking the breakfast, lunch as well as dinner. The diet tracker page the navigation bar consists of four pages.
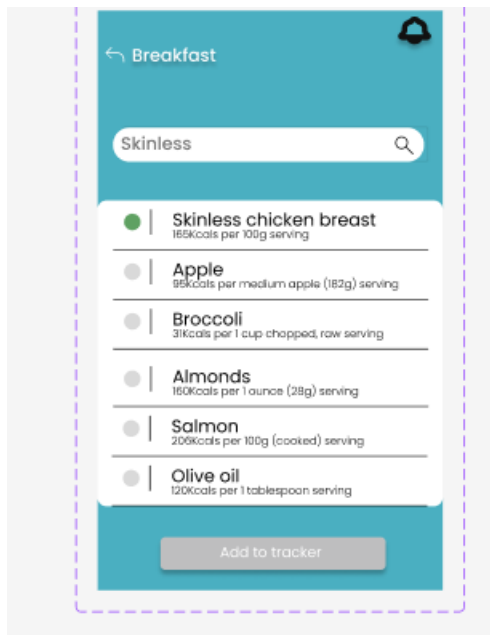
Calories. Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

This is the continuation of the diet tracker page. The top of the page has a search bar which allows the user to search any type of food they would like to choose. The user is allowed to choose the food they would like so it could either be breakfast, lunch and dinner so when they click this they are directed to a specific page. Then after they have chosen the types of food the calories are calculated and displayed for the user based on the specific meal. Then the user can click the add to tracker button when they are done.

Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

This is the health guide page that allows the user to select between the recipe section, the workout session or the food section. These pages help the user with their goals. The navigation bar consists of four pages.

Recipes

- Smoothies
- Dinner
- Lunch
- Breakfast
- Desserts
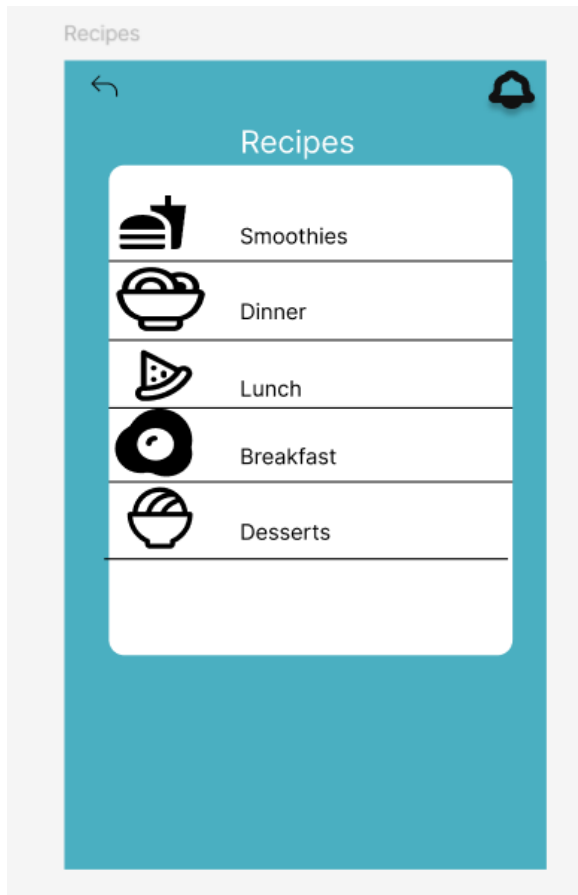
The recipe section allows the user to choose the recipe they would like to make, could be either the smoothies, dinner, lunch, breakfast or deserts. The top of the page has a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notification bell that updates the user with notifications.

Smoothies

Banana Smoothie

Spinach Smoothie

Dinner

Spaghetti Bolongese

Chicken & Rice

Food Section

Food Section

Breakfast

English Breakfast

Pancakes

Lunch

Avocado & Bacon Sandwich

Kota / Bunnychow
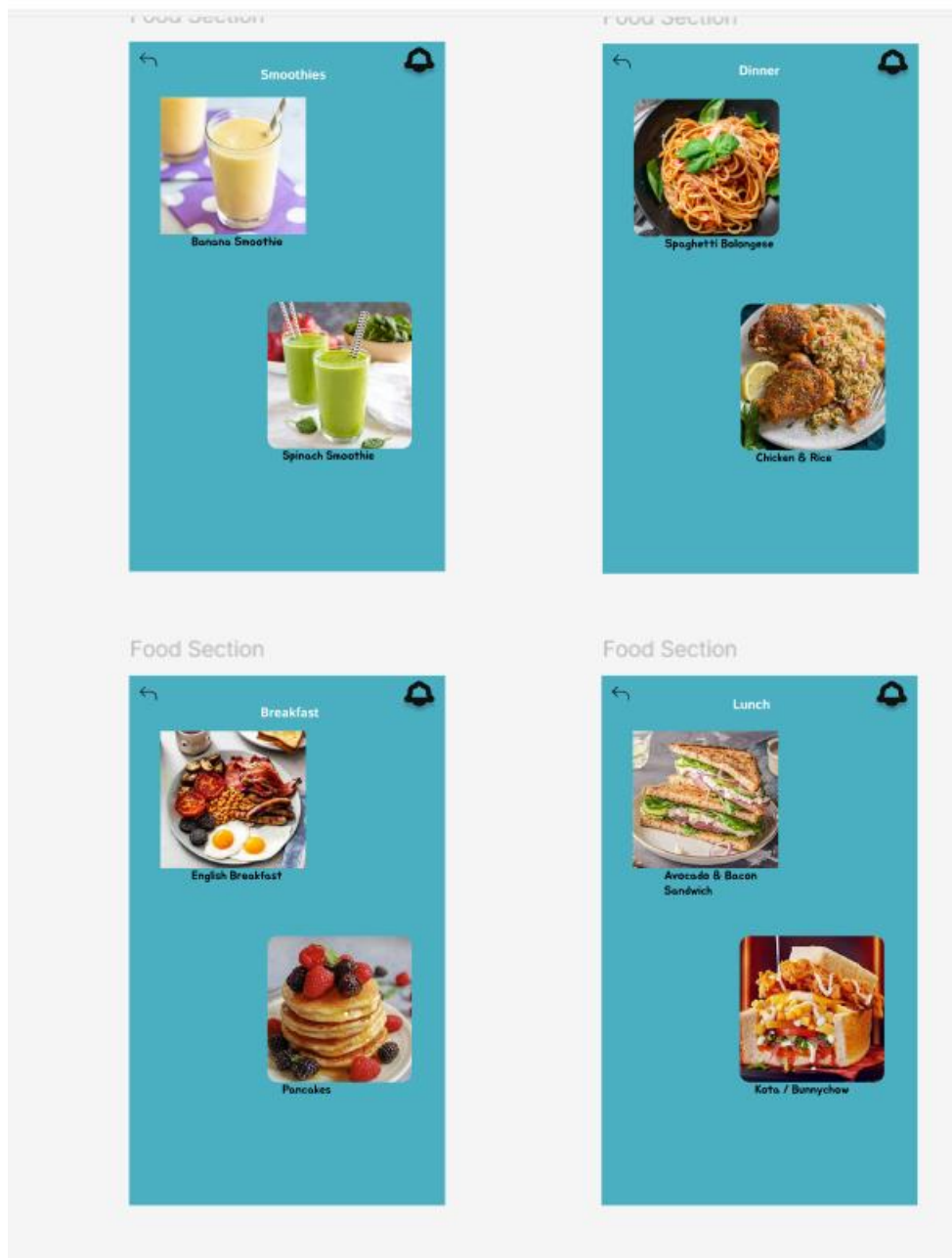
After the user has chosen the specific recipe, they would like to create they are taken to one of the five pages depending on the recipe section they chose, then they can choose one of many recipes they would like to try then a display of the recipes is shown to them. The top of the page has a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notification bell that updates the user with notification
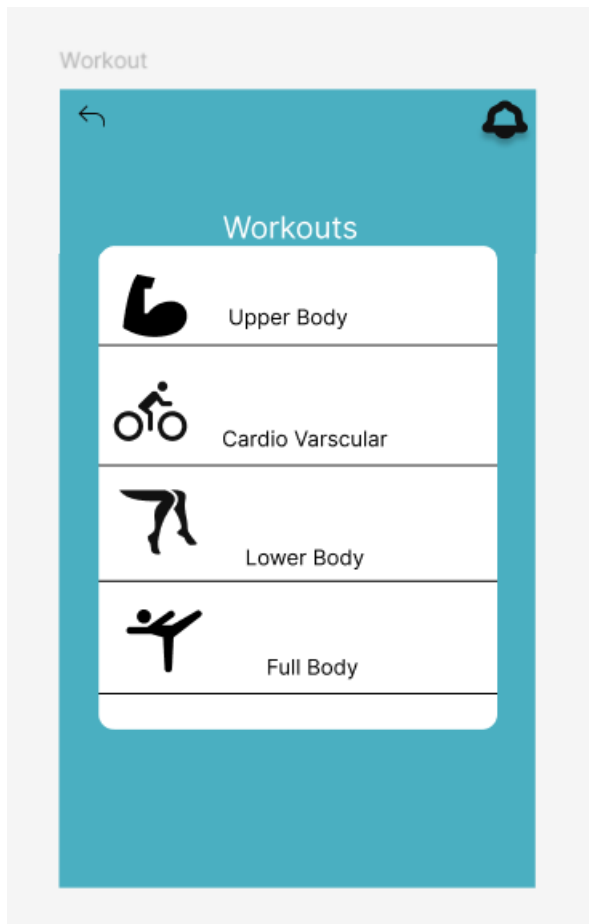
The workout section page gives the users an option to either choose between upper body, cardio vascular, lower body, and full body. From there they are given an option to choose their workout preferences. The top of the page has a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notification bell that updates the user with notifications.

Upper Body

Beginner

Intermediate

Advanced

Cardio Vascular

Beginner

Intermediate

Advanced

Lower body

Beginner

Intermediate

Advanced

</>

Full body

Beginner

Intermediate

Advanced

From the health guide page if the user has clicked the workout section page they are directed to this page where they can select which workout preferences, they want that's also suitable for them. They can either choose between beginner, intermediate and advanced. The top of the page has a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notification bell that updates the user with notifications.

The food section page basically allows the user to select whether they want to check information about the healthy food, power bites and body building. The top of the page has a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notification bell that updates the user with notifications.

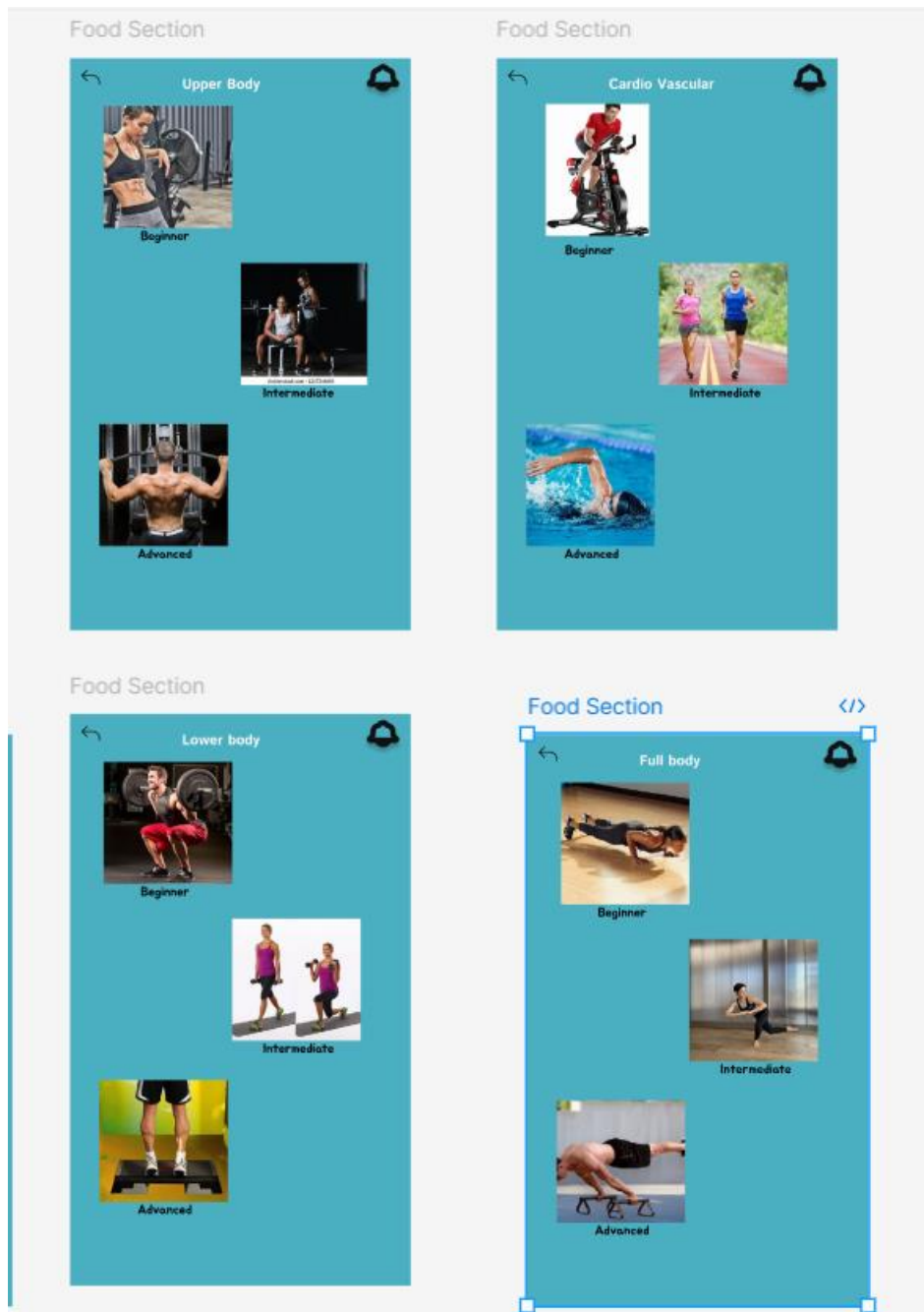Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

The settings page consists of a back button on the top right that allows the user to navigate back to the dashboard page, then on the top right the page has a notifica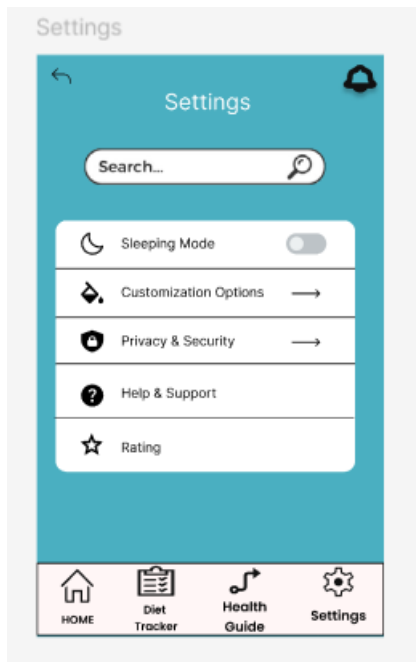tion bell that updates the user with notifications. Below that is a search button for the user to search for anything they are looking for. The page has a sleeping mode button that allows the user to select whether its sleeping mode or day mode. Then next is a customisation button that allows the user to be able to customize the application according to their preference. The user is also allowed to read the privacy and security policy of the application. The user can also receive help and support when they click on the help and support button. The user is lastly allowed to rate the application.
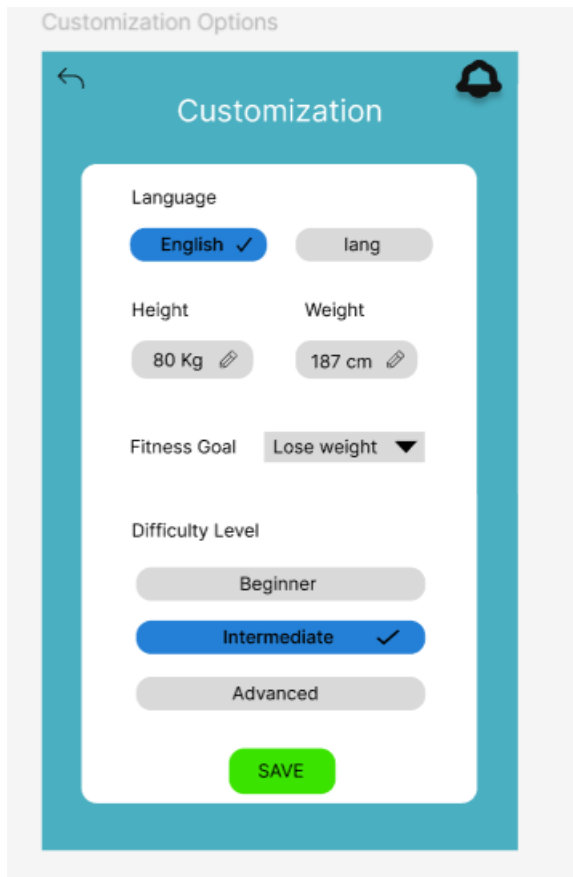
Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

Under the customisation page the user is allowed to choose their preferred language. The user us allowed to modify their height and weight. The user is allowed to modify their fitness goal and choose whether they want to lose weight, maintain their weight or gain weight. The user is lastly allowed to modify their fitness difficulty level whether they are beginner, intermediate or advanced. Then they can gladly save their modifications.
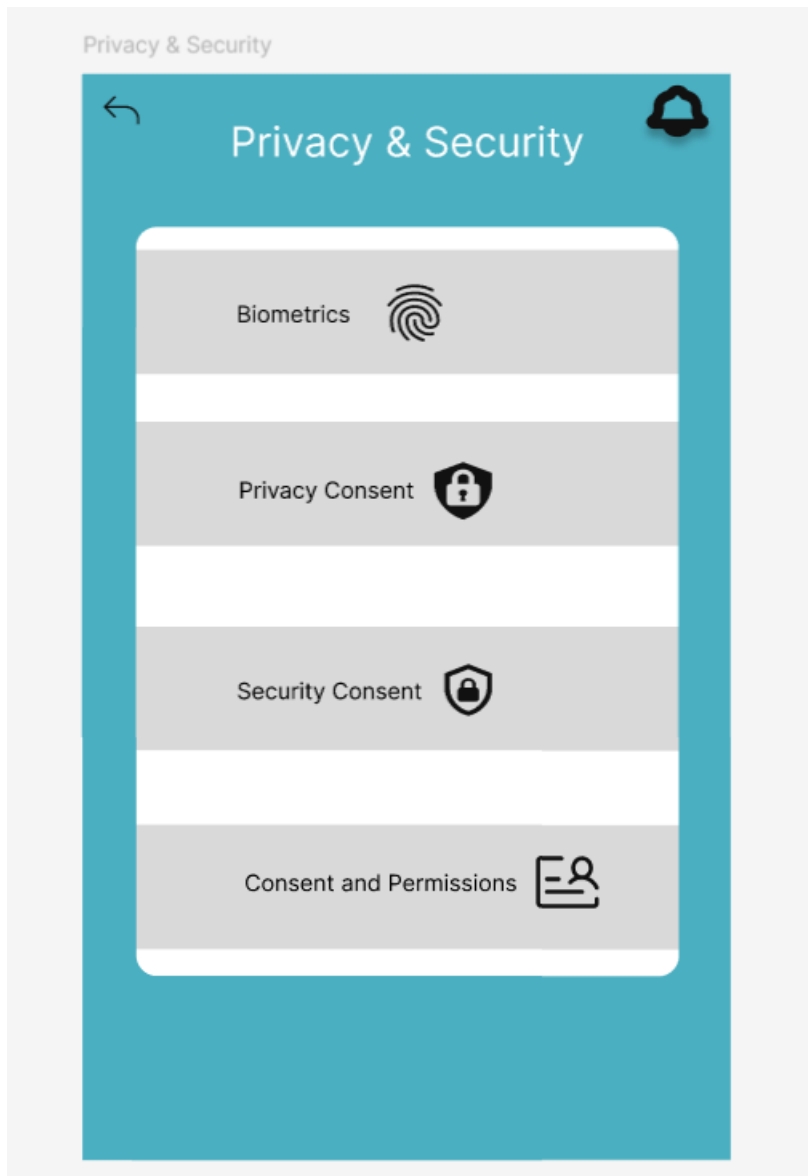
Samsung Health, Cimino [s.a].

Samsung Health. (Cimino, 2024)

The page simply consists of biometrics which the user will use to access the application and they are officially authorised as a user. The user has the right to read through the privacy consent, the security consent and the permissions.

4. API

An API is a set of protocols as well as instructions written in programming languages that helps with determining how two software components will communicate with one another. APIs work behind the scenes and also allows the users to locate and retrieve the requested information. In our application the API will be integrated as the backend so that there is a clear communication between the mobile app and the server. The data the API will manage will be the user authentication, food data management which will be the workout and nutrition tracking. (Coursea, 2024)

The API will be created using Node.js as it is efficient, scalable and easy to use for building RESTFUL APIs. The database that will be used for storage purposes will be MongoDB or MySql as they are flexible and particular when managing user data. Alternatively, a firebase can be used because it allows the running of the backend code in response to events triggered by Firebase features or HTTPS request. It is a secure host for web apps, has dynamic content and a serverless API. The API hosting will either be on a Google Cloud Platform or Microsoft Azure as they both support multiple languages, and the application has to have at least two languages. These are serverless compute services that will allow the API to run in response to events with automatic scaling based on demand. (Corbo, 2022)

5. UML DIAGRAM

API
- Workout Data
- User Information
- Nutrition Data
- User Preferences and Setting

Registration
- RegistrationID
- UserName
- Email
- Password

Login
- UserID
- UserName
- Password

Health Profile
- Age
- UserName
- Sex
- Weight
- Height

DashBoard
- Username
- Calories Overall
- Active stats
- Water intake
- Health stats

Diet tracker
- Calorie Stats
- Breakfast
- Lunch
- Dinner

Health Guide
- Recipe section
- Workout section
- Food section

Settings
- Sleeping mode
- Customization Options
- Privacy & Security
- Help & Support
- Rating

Workout
- Upper Body
- Cardio Varscular
- Lower Body
- Full Body

Food Section
- Healthy Food
- Power Bite
- Body Building

Recipe section
- Smoothies
- Dinner
- Lunch
- Breakfast
- Desserts

UML Diagram : Smart Draw . [s.a].

UML Diagrams. (smartdraw, 2024)

6. DETAILED LISITING

Username (String)– Unique name for specific user

Password (String)- Unique password for specific user

Lower body (String) - Specific information

Full body (String) - Specific information
Name (String)- Name of the food item

Serving (String)- Standard serving size

Calories(String)- Calories per serving

Macronutrients(List)- Data on fats, proteins, carbohydrates

Micronutrients(List)- Vitamins, minerals

Category(String)- Food groups

Height (Int) – Users height
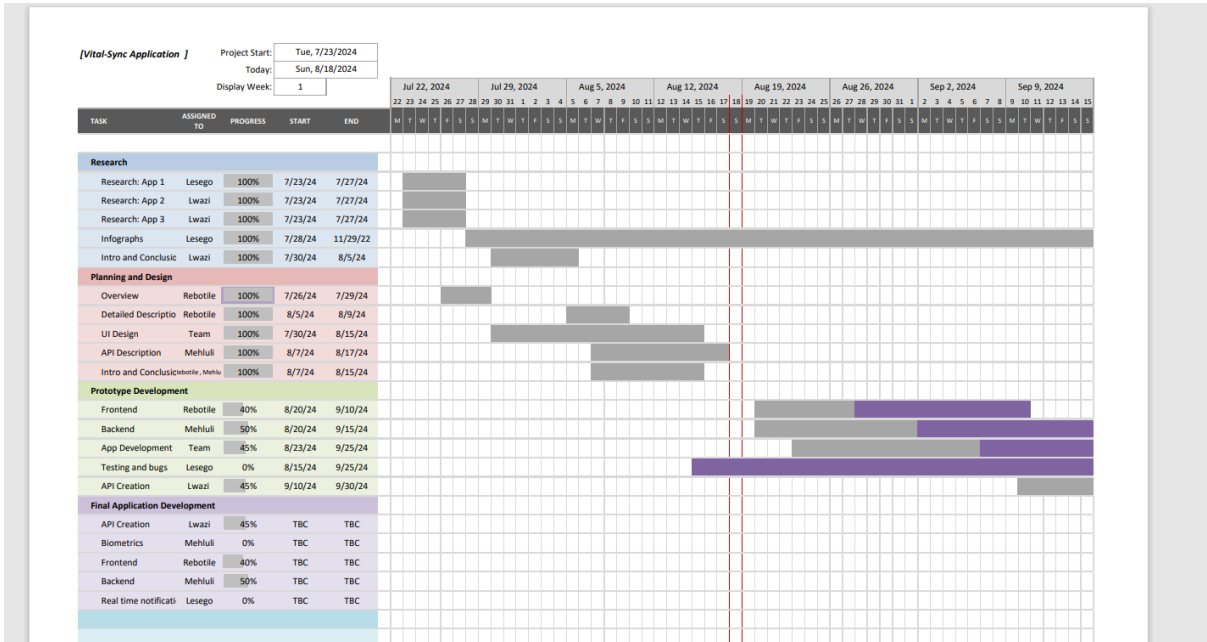Weight (Int) – Users Weight
(Geeksforgeeks, 2024)

7. GANNT CHART

TASK	ASSIGNED TO	PROGRESS	START	END
Research				
Research: App 1	Lesego	100%	7/23/24	7/27/24
Research: App 2	Lwazi	100%	7/23/24	7/27/24
Research: App 3	Lwazi	100%	7/23/24	7/27/24
Infographs	Lesego	100%	7/28/24	11/29/22
Intro and Conclusic	Lwazi	100%	7/30/24	8/5/24
Planning and Design				
Overview	Rebotile	100%	7/26/24	7/29/24
Detailed Descriptio	Rebotile	100%	8/5/24	8/9/24
UI Design	Team	100%	7/30/24	8/15/24
API Description	Mehluli	100%	8/7/24	8/17/24
Intro and Conclusic	Rebotile , Mehlu	100%	8/7/24	8/15/24
Prototype Development				
Frontend	Rebotile	40%	8/20/24	9/10/24
Backend	Mehluli	50%	8/20/24	9/15/24
App Development	Team	45%	8/23/24	9/25/24
Testing and bugs	Lesego	0%	8/15/24	9/25/24
API Creation	Lwazi	45%	9/10/24	9/30/24
Final Application Development				
API Creation	Lwazi	45%	TBC	TBC
Biometrics	Mehluli	0%	TBC	TBC
Frontend	Rebotile	40%	TBC	TBC
Backend	Mehluli	50%	TBC	TBC
Real time notificati	Lesego	0%	TBC	TBC

Figure 1 Gannt Chart: Sandy, W. [s.a].

 How to Geek. (Gannt Chart,2022)

8. CONCLUSION

In conclusion, Vital-Sync will help the users on how to approach their health and fitness journey. This document has explored the apps design and highlighting all the features and a detailed list of the requirements. The apps focus will be on delivering a flawless and comprehensive experience that actively enhances the user's health journey, making it easier to achieve their fitness goals.

AI tools used

In our application we used an online Logo AI generator tool that helped with generating our vital-Sync logo with the caption sync our fitness, evaluate your life. (LogoAI, 2024). We used Microsoft Copilot to help us understand the structure and what is required in a brief overview. (Copilot, 2024).

9. REFERENCING LIST

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