Application Manual

Nutrition Tracker

Version 1.0

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1.0 Introduction

This is a mobile application built for the purposes of effectively and efficiently tracking macronutrients and calories. Through a customizable weekly logging goal and accompanying streak calculator, nutrition tracking can become a habit instead of feeling like a chore. The tracking interface is built for quick and easy food tracking. It features a barcode scanner, database search, saved food selection, and manual entry all in one place so you have many options to log your nutrition during the day. Lastly, there is a visual home screen that allows you to quickly visualize your daily progress towards your nutritional goals.

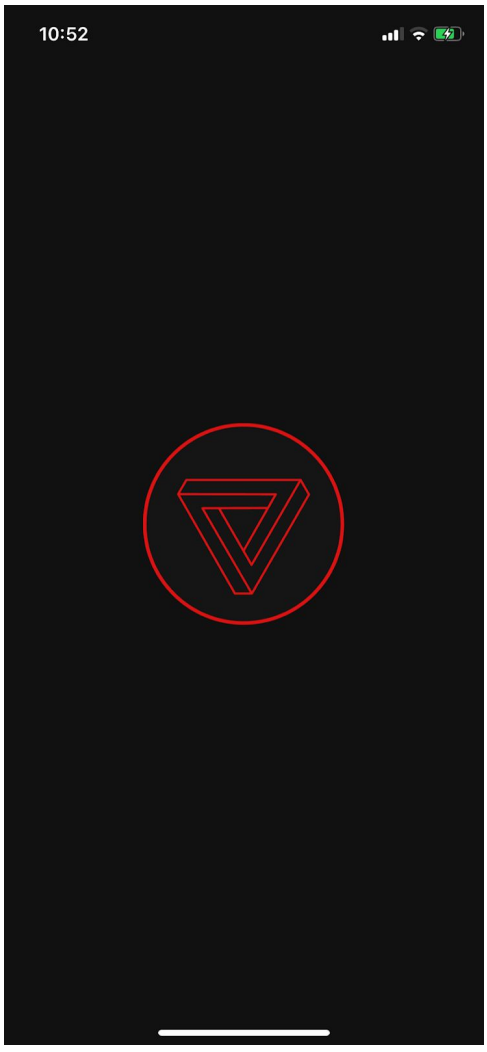

Figure 1.1: Application Introductory Screen

2.0 Home

The home screen is where the user's macronutrients and calories for the day are summarized. Each of the macronutrients are displayed in progress wheels that animate from zero to their current value on the application startup. A full progress wheel indicates that the user has successfully reached their daily macronutrient goal. Below is a legend that shows a numerical fraction and percentage for the current value relative to the goal. Following the macronutrient summary is a progress bar for calories along with similar numerical summaries located underneath.

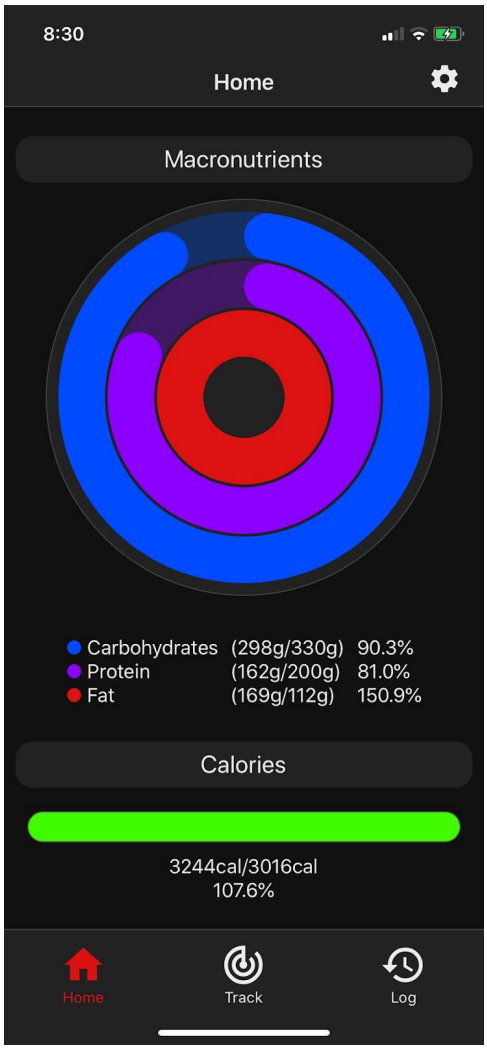

Figure 2.1: The Home Screen.

3.0 Track

The tracking screen is where the user is able to quickly log foods during the day. The top menu provides options that automatically fill in all of the fields and the circular summary below. Manual entry into these fields is still always an option if the Nutritionix API does not recognize the food. After these fields are two buttons. The left button adds the current food to the user's saved foods when toggled, and the right button logs the food displayed in the interface. As required by Nutritionix, the "Powered by Nutritionix API" attribution is provided at the bottom of the screen.

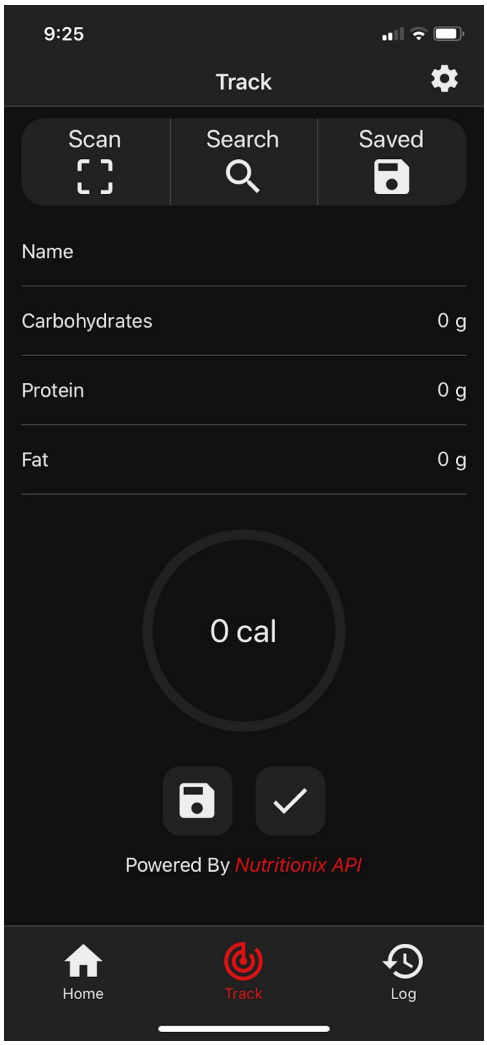

Figure 3.1: The Tracking Screen

3.1 Scan

After pressing the scan option from the tracking screen, the application opens the user's camera (asking for permission to use the camera the first time) revealing the barcode scanner. The camera puts the flashlight into torch mode so the scanning operation can be performed in poor lighting conditions as well. The scanning area is indicated by a square with its corners outlined in white located in the middle of the screen. In order to scan the food, simply place the barcode of the product into this area. The scanning operation can be closed at any time by pressing the cross in the top right hand corner of the screen.

Figure 3.2: The Barcode Scanning Interface

Once the scanner recognizes the barcode it will make a request to the Nutritionix API. With the nutritional information in the response, the app automatically fills out the form and then the user can simply hit the checkmark button to log the food.

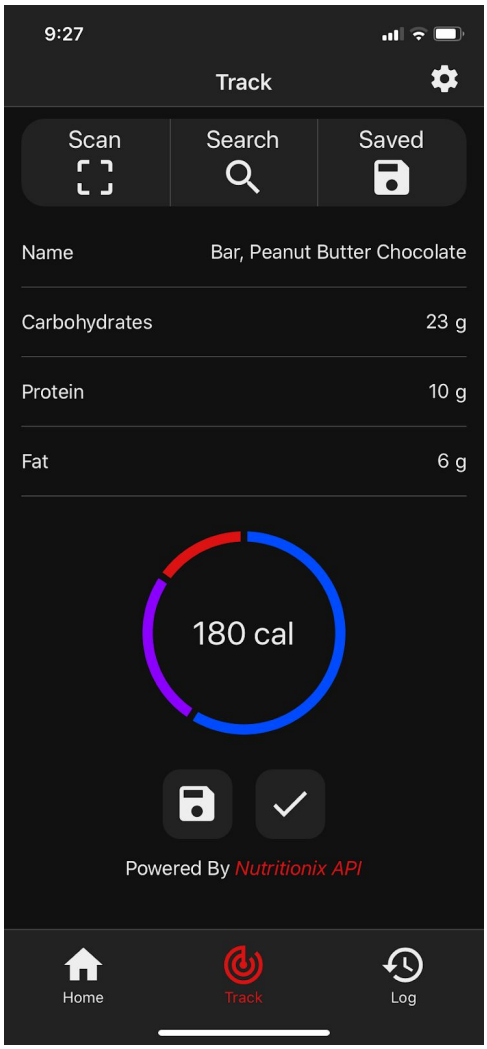

Figure 3.3: Nutrient breakdown of the Protein Bar

3.2 Search

The user also has the option to search the Nutritionix food database directly. Pressing the search option from the tracking interface will bring the user to the search interface shown in Figure 3.4. As the user types in the search field, a list of results sorted based on relevancy is returned in response to the current query. After pressing one of the results, the nutrient breakdown is summarized in the same interface as in Figure 3.3.

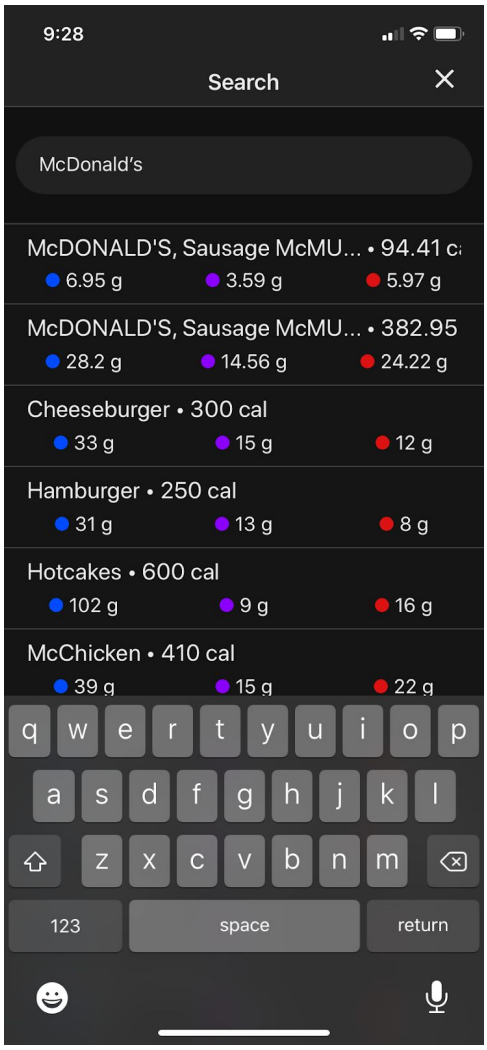

Figure 3.4: Food Search Interface

3.3 Saved

The last tracking option the user has is to access their saved foods. Pressing the saved option from the tracking interface brings the user to a screen as shown in Figure 3.5. Here the user will find all of their saved foods underneath a search field. As the user types in the search field, the user's saved foods are filtered in response to the current query. After pressing one of the results, the nutrient breakdown is summarized in the same interface as in Figure 3.3.

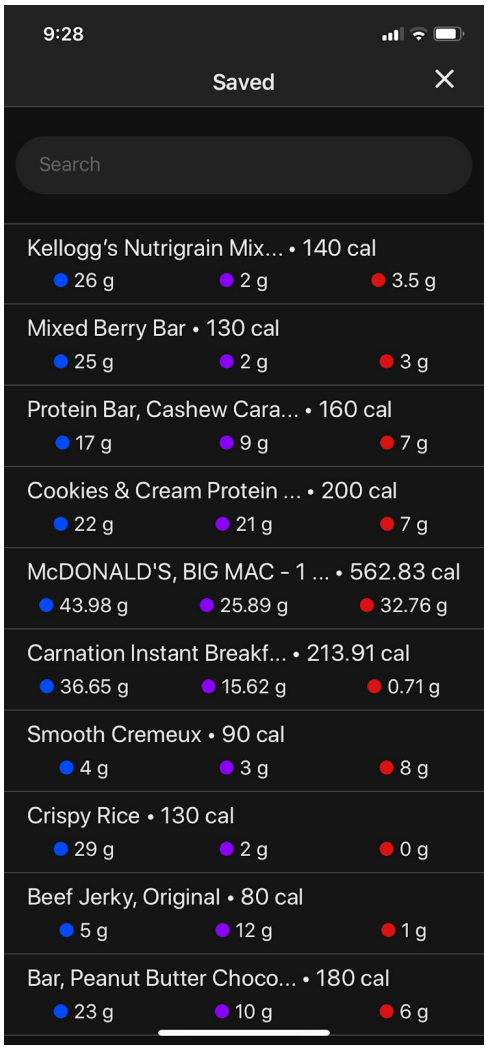

Figure 3.5: Saved Foods Interface

4.0 Log

The logging screen is where the user can view all of their activity in the app. It features a calendar which shows the activity level each day, streaks, and daily summaries. Above the calendar there is a numerical total for each activity level. When the user logs on a particular day, but does not meet all of their macronutrient goals by the end of the day, they receive a dark red circle on that date. If they do meet their goals, they get a bright red circle. An example is shown in Figure 4.1 below.

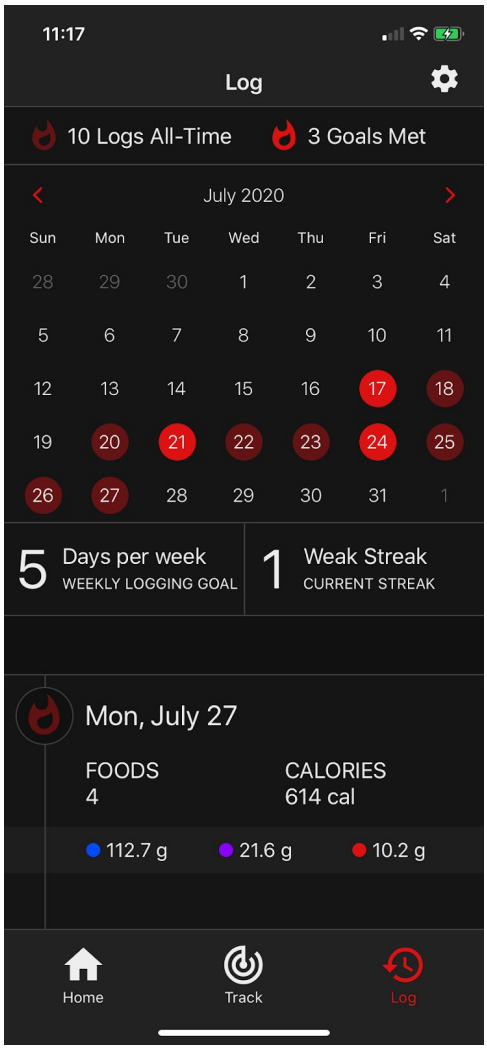

Figure 4.1: The Logging Screen

Below the calendar the user is reminded of their current logging goal (5 days per week in Figure 4.1) and their current streak. (1 week for the week of July 19th when the user logged 6 out of 7 days in the week in Figure 4.1).

Continuing to scroll through the log screen shows the user more daily summaries as in Figure 4.2. Each summary contains the number of foods logged that day, the total number of calories consumed, and the macronutrient breakdowns. The macronutrient breakdowns use the same color codes as the home screen to make the summary more visual.

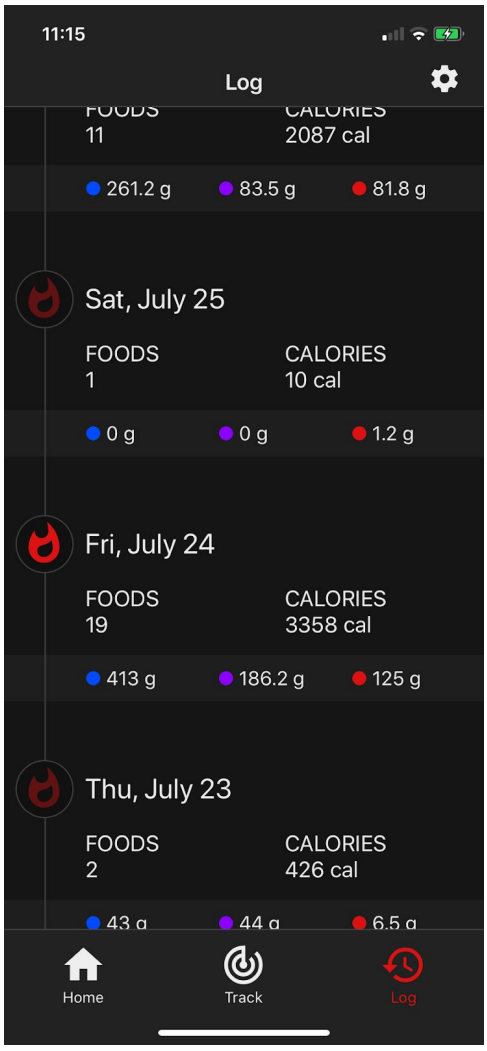

Figure 4.2: Daily Logging Summaries

To view the foods that have been logged on a particular day, the user can simply press on one of the summaries which will show a screen as in Figure 4.3 on the next page.

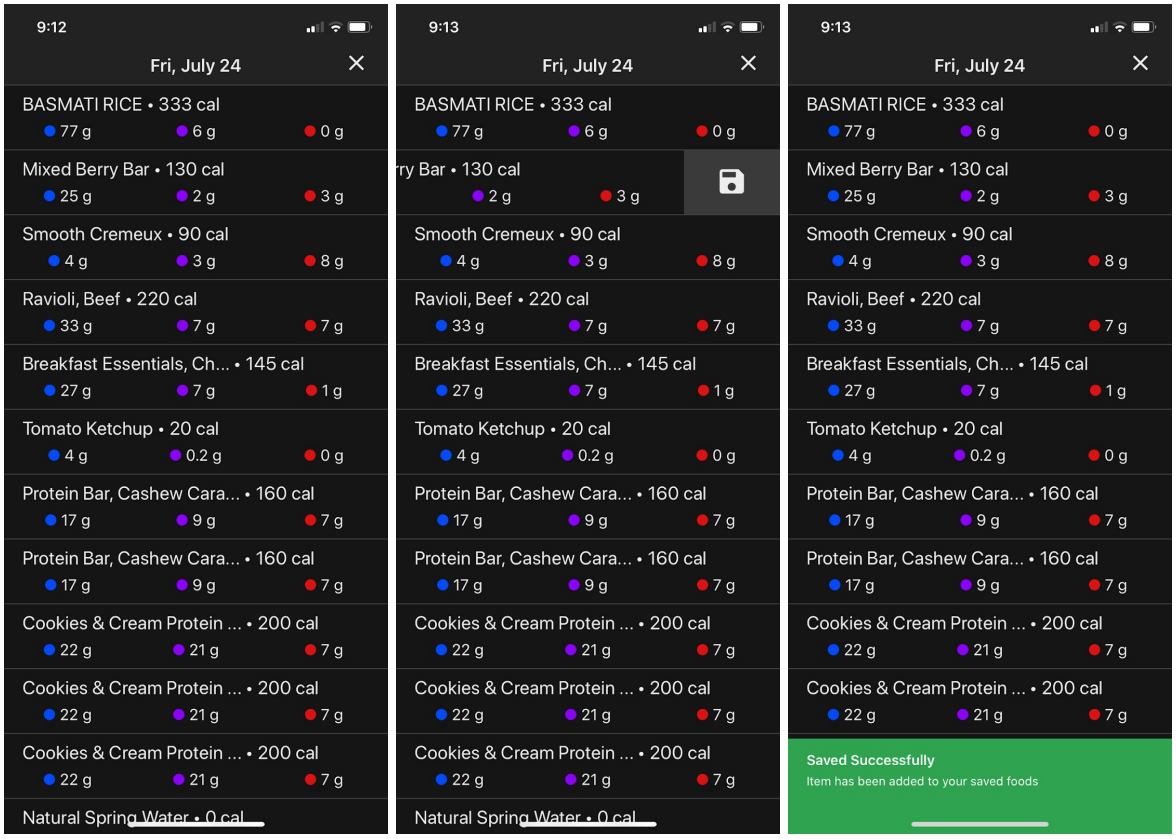

Figure 4.3:

Left: List of foods logged on Friday, July 24
Middle: Swipeout with save operation
Right: Flash message notifying the user of a successful save

Here the user can see all of the foods they logged on a particular day. A handy operation is the ability to save one of these foods for later use. To do so, the user simply has to swipe a food to the left and the save button will appear. After pressing it, the item is added to the user's saved foods and they are notified with a flash message. There is also a button to go back to the log screen in the top right corner of the screen.

If the user is accessing the foods logged on the current date, there is also a delete operation available in the swipeout. After pressing the delete button, the item will be removed from the list and a flash message will appear. Macronutrient and calorie totals for the day will be updated with the deletion.

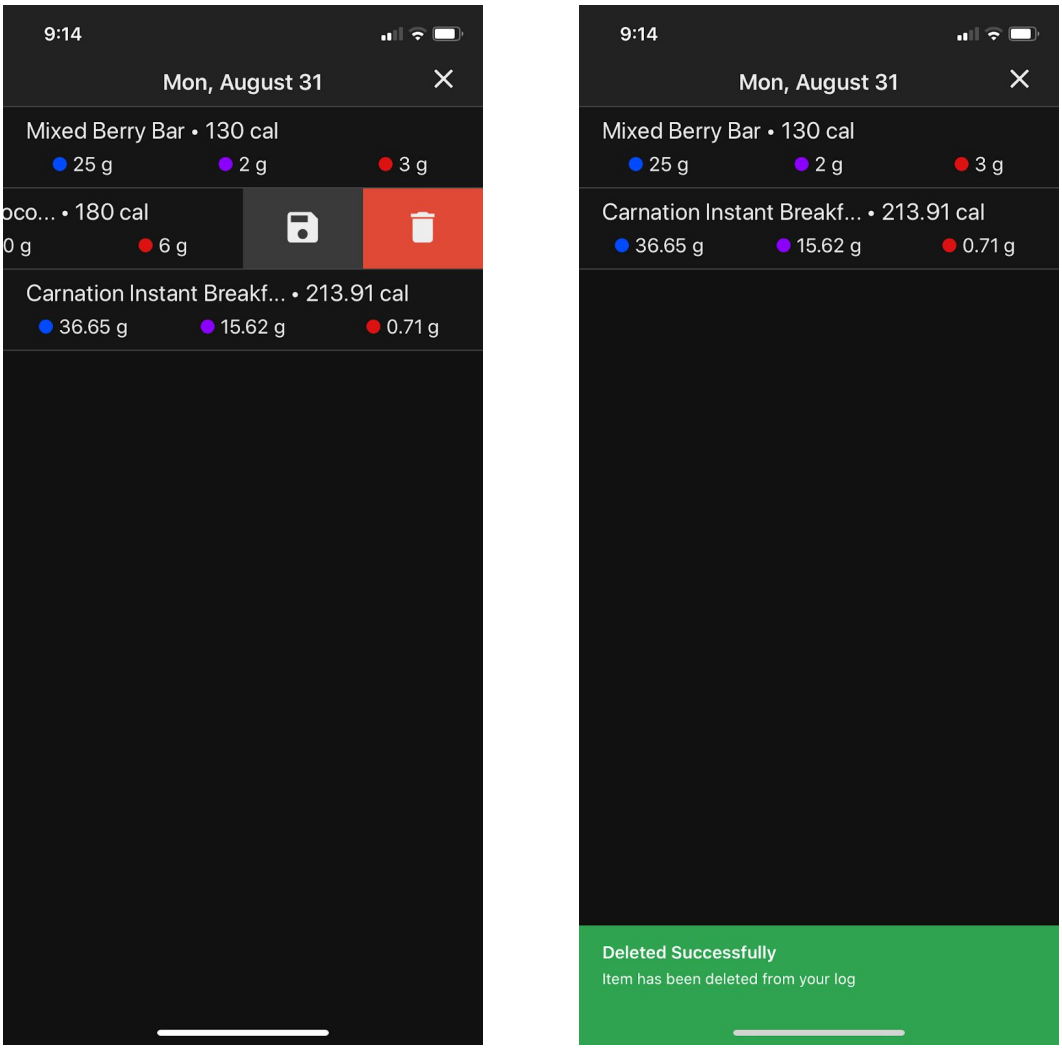

Figure 4.4:

Left: Swipeout with save and delete operations
Right: Flash message notifying the user of a successful deletion

5.0 Settings

The settings screen contains user preferences for the application along with settings for nutritional and logging goals. All changes in settings take effect immediately.

5.1 Dark Mode

The first setting is a toggle for dark mode. When the setting is not toggled the application will be in light mode and when toggled the application will be in dark mode. Upon logging in to the application for the first time, the application will detect whether dark mode is enabled on the iPhone or Android device and toggle dark mode automatically if it is enabled. If the user has no preference or is in light mode, the application will default to light mode.

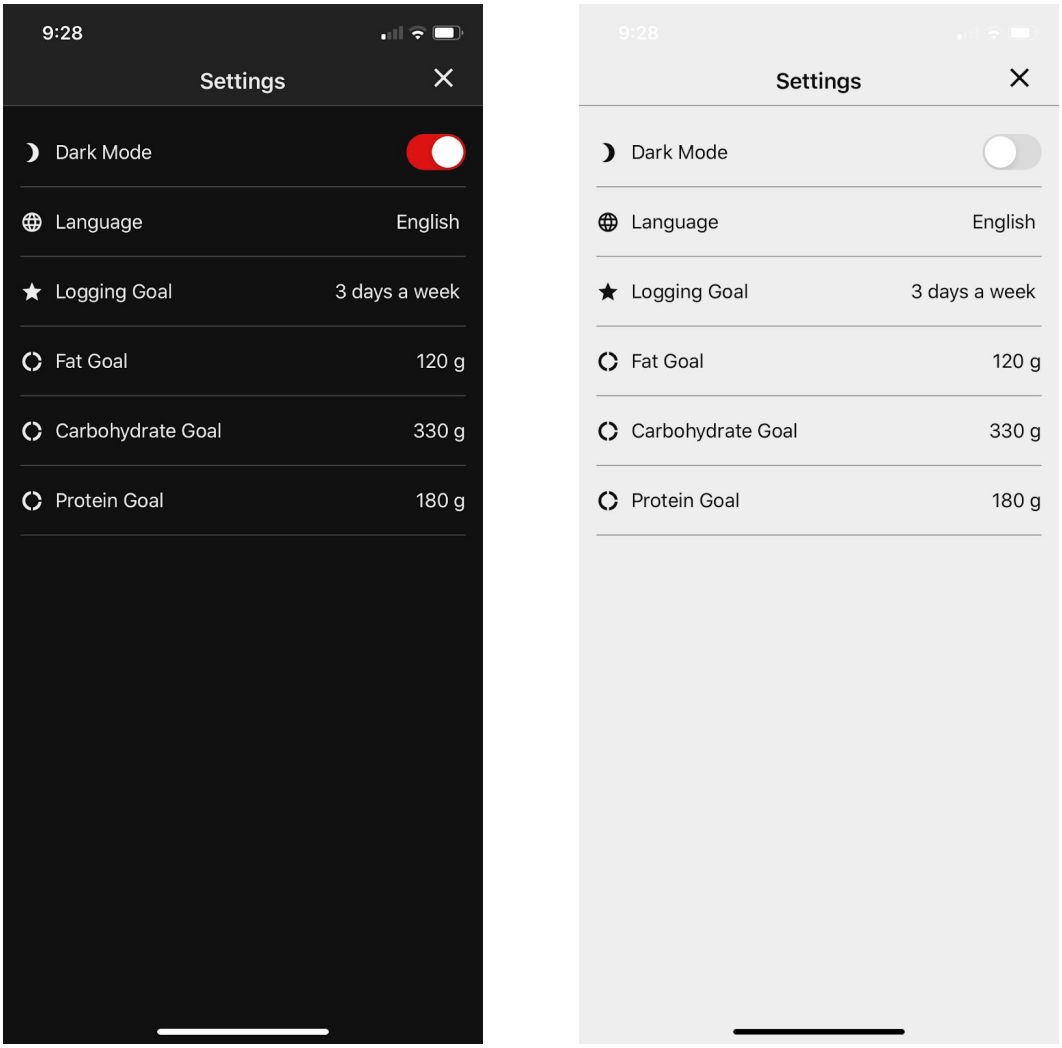

Figure 5.1: The Settings Screen. (Left: Dark Mode, Right: Light Mode)

5.2 Language

The second setting allows the user to select a language for use in the application. Pressing on the setting brings up a wheel picker as shown on the left in Figure 5.2. The picker allows the user to scroll through the languages available on the application. In version 1.0, only English and French are supported. Adding other languages is simple and can be done by request. If the user does not wish to proceed, pressing anywhere in the shaded region above the picker will cancel the operation. When a choice is found, simply pressing the “Set Language” button will confirm the selection. The right side of Figure 5.2 shows the settings screen after switching to French. Upon logging in for the first time, the application will also detect the language being used on the iPhone or Android device and set the language automatically if it is supported. If the language is not supported, the application will default to English.

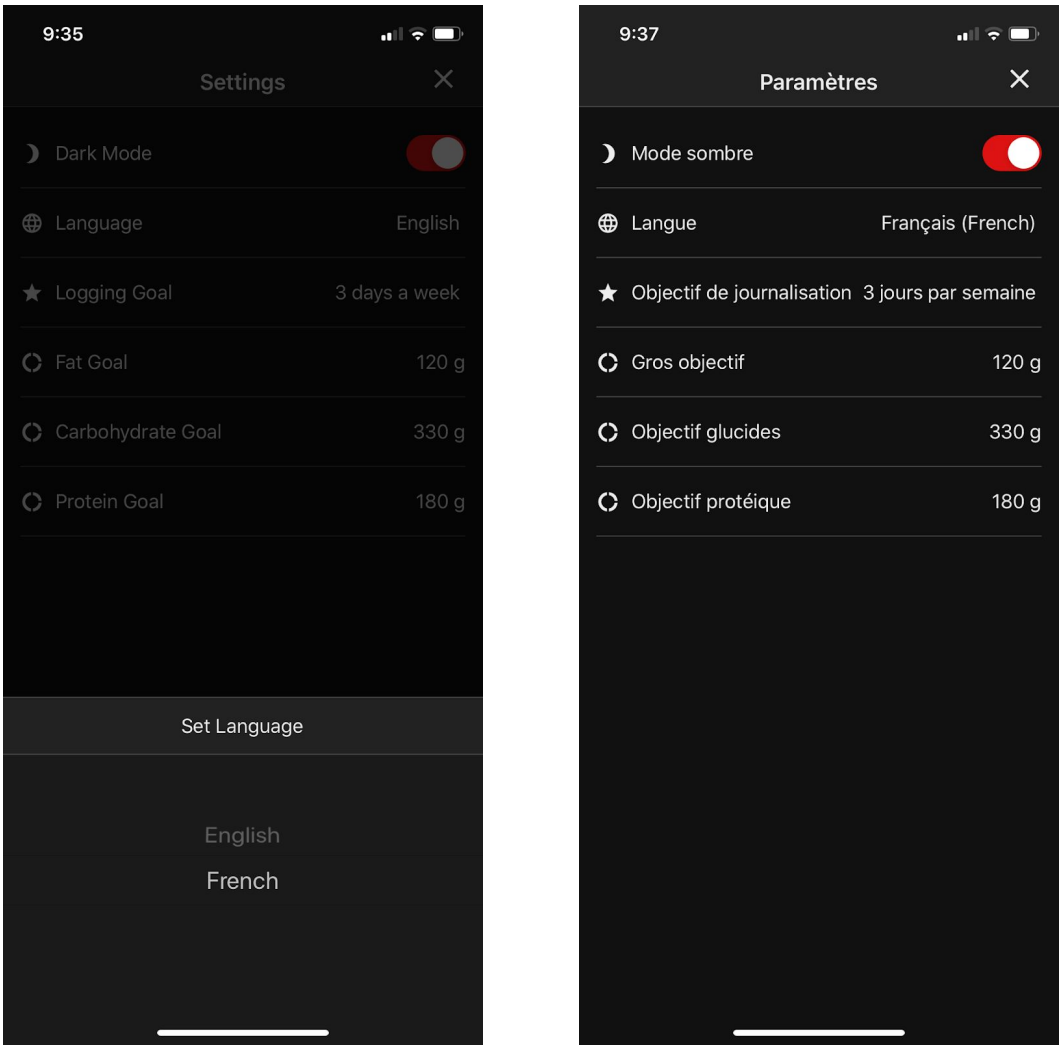

Figure 5.2: Changing the application language. (Left: Language picker, Right: Settings screen after selecting French)

5.3 Goal Settings

Following on the settings screen are the goal settings. Pressing one of the goals brings up a picker where the user can adjust the values for each of their goals, as shown in Figure 5.3.

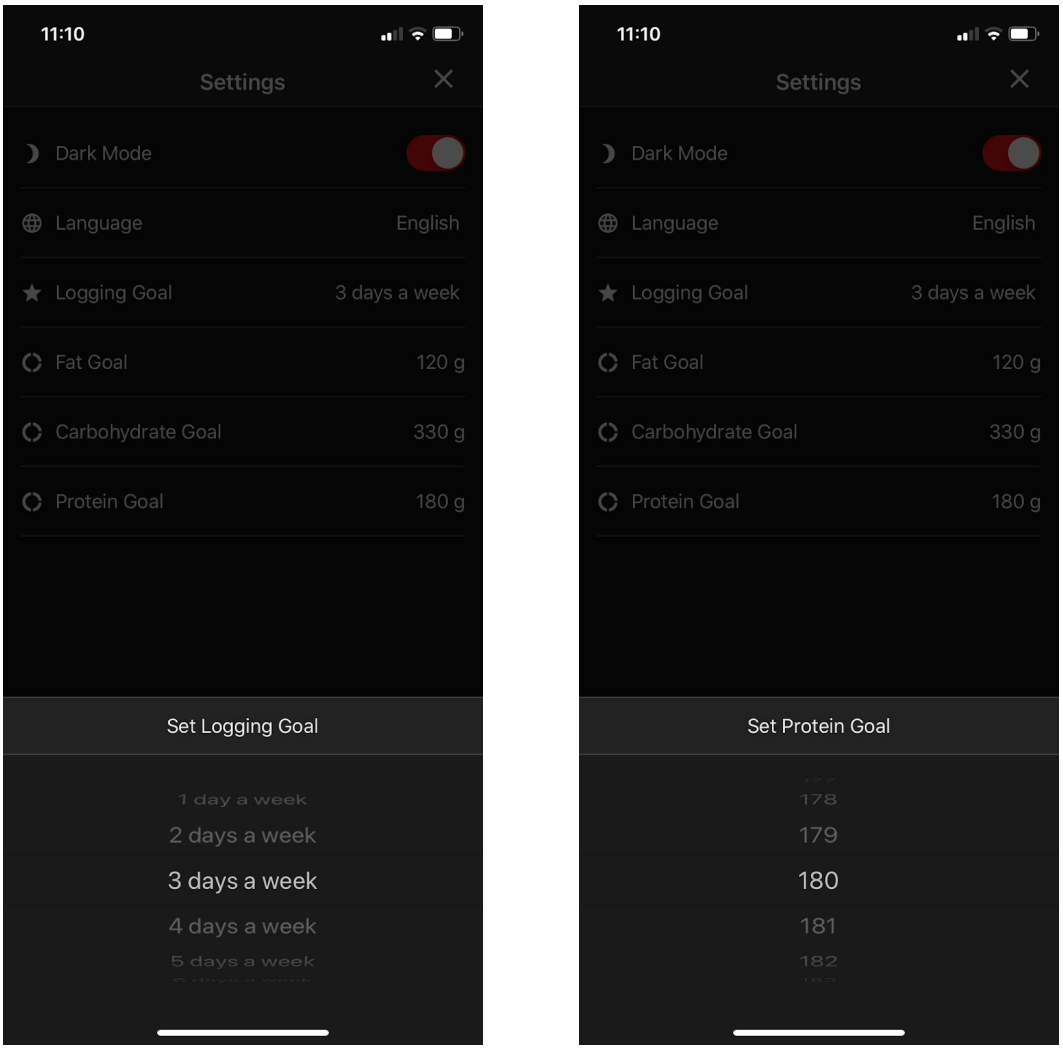

Figure 5.3: Changing goal settings. (Left: Weekly Logging Goal, Right: Protein Goal)

6.0 Navigation

The main navigation elements for the app are summarized in Figure 5.1 below:

1) A text element that lets the user know which screen they are currently on.
2) A separate button in the header to navigate to the settings screen. It appears on all of the main routes.
3) The app navigation bar which shows all of the routes and which route the user is currently on (highlighted in red). Navigating to a different screen is achieved by pressing one of the routes highlighted in white.

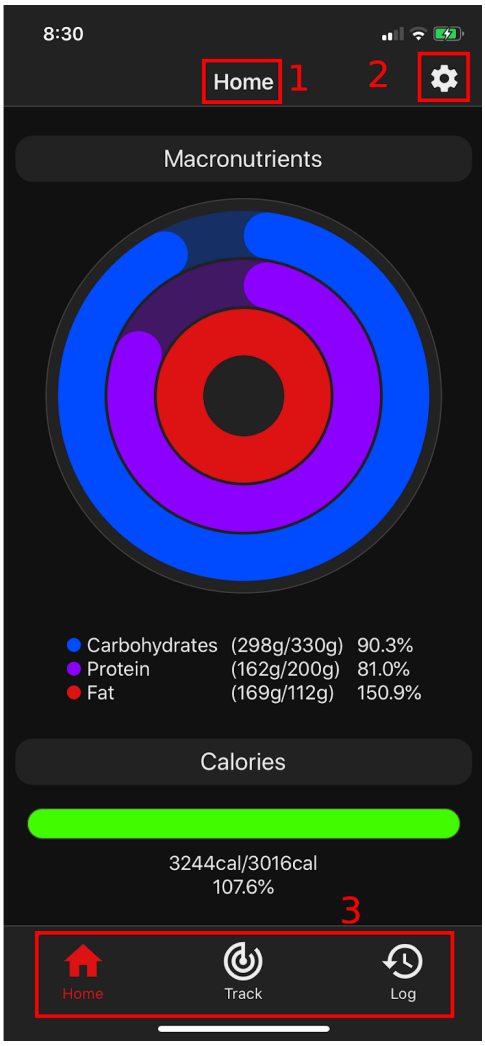

Figure 5.1: Navigation Elements.

7.0 Subsequent Versions

1. A questionnaire when opening the app for the first time that asks the user for their height, weight, average activity level, etc. in order to automatically recommend macronutrient goals.
2. As an IOT addition, connect a ESP32 with a weight sensor via Bluetooth to automatically synchronize the mass of the food with the app. The app can then calculate the serving size and the exact macronutrients without any manual entry. This would improve both the efficiency and accuracy of nutrition logging for foods such as rice, pasta, cereal, etc. with a small amount of hardware.