

Health Tracker App

Overview

Health is the most important thing for everyone. However, busy work and fast-paced life make it easy for people to ignore their own health.

In order to change this phenomenon, and to encourage people to pay attention to exercise and the importance of a healthy lifestyle, we designed this health tracker app.

The Health Tracker App allows users to track four types of daily health data: water intake, nutrition /calorie intake, workout, and sleep. In addition, Health Tracker can also suggest goals for each health data based on the user's physical data to urge users to develop healthy living habits.

Our app has three separate tabs: input data and displays in the chart, visit history data, and related settings for four types of health data.

Goals

The primary goal of this app is that users can allow the user to add or delete data entries to the data block, and the user should be able to see all the data displayed on one page.

Storing Health Data

This was a Minimal Goal. We decided to focus on 4 main categories related to health: sleep, exercise, water, and calories. For sleep, the app keeps track of the number of hours the user has slept on a given day and time. For exercise, the app tracks the number of minutes the user has worked out and the type of workout. For nutrition, the user keeps track of their meals and the calories. For water intake, the user tracks down the number of ounces they drank at any moment of the day.

Display Data as a Chart

This was a Minimal Goal. On each data page, a bar graph is used to visually display the user's data in the past seven days. The bar graph should occupy the top half page of each page, and the bottom part shows a detailed breakdown of the data for the current date. Older data information can be accessed in the history tab.

Goal for Each Health Data

This was a Minimal Goal. In each chart, there is a default goal value to indicate if the user reaches the goal every day or not. To change the value of the goal, there is a button in which users can click on in order to edit the value.

Reminder

This was a Minimal Goal. There is a section in the Me tab that allows the user to set their reminder for each data type. There is a toggle for each reminder, to indicate if the reminder is active or not. To set the reminder, user need to choose the time they want for the reminder and save. In addition, user can turn on the toggle for repeat if they want to repeat this reminder everyday. After save the setting, user can receive the local notification at the chosen time.

Quick Reference

This was a Minimal Goal. In order to facilitate users to understand the goals suitable for each of their data, in the Quick Reference section of the me tab, users can enter their body data to obtain their BMI value.

Suggest Goals

This was a Stretch Goal. In the beginning, it was envisaged that the value of the goal will be changed according to the value of the user's BMI in each chart. However, considering that everyone's physical condition is different, standard goal values may be difficult for some groups to reach. Therefore, we put Suggest Goal and BMI together in Quick Reference. Users can obtain their suggest goal and then manually change it themselves. Users can don't follow the goal now and use it as a long-term goal.

Add Notes to a Data

This was a Stretch Goal to allow users to add more specific descriptions when adding each data. This feature is applied to the Meal Screen. When adding each meal data, the user can add the description of the meal such as the name and other information.

Health Tips

This was a Stretch Goal, to allow user to be able to get some tips while they track the data and try to reach the goal. We didn't manage to accomplish this.

Display a Streak

This was a Stretch Goal, to be able to display the longest consecutive days reach the goal to motivate users to achieve goals and develop healthy habits. We didn't manage to accomplish this.

Health Analysis Report

This was a Stretch Goal, to generate a summary report from the data of user tracked last 30 days. The report should include the sum of all the data in the past 30 days, the average for each data, the total number of goals reached for each data type, streak and trend. We didn't manage to accomplish this.

Connect iPhone Health Data

This was a Stretch Goal, to be able to connect with iPhone to get the data that this app not able to get such as Number of Steps, Headphone Audio Level,etc. Then, use these data to display in the chart in our app. All of these data should be available in the history tab to be access by the user. We didn't manage to accomplish this.

Connect iPhone Clock to Set Alarm

This was a Stretch Goal, to be able to connect with iPhone Clock to set the alarm for the users according to the sleep time that they set. This feature should be able to modify the duration of each sleep data. We didn't manage to accomplish this.

User interactions

Right as the user opens the app, they land on the “Health Data” tab. Note the navigation bar on the bottom. Regardless of what page the user is on, there will always be a navigation bar to guide them to where they would like to go. On this “Health Data” page, there are 4 blocks to represent the 4 types of health data the app is keeping track of. Each of the colored blocks is a button that takes the user to a more detailed view of the health data clicked. Let’s take a closer look at the sleep data tab.

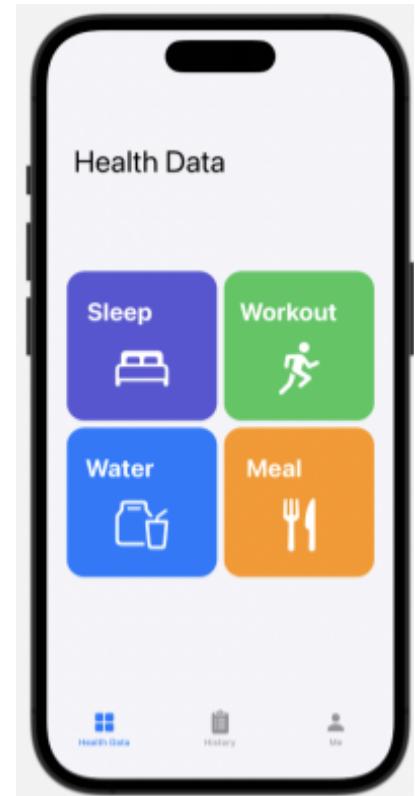


Figure 1. Health Data Tab

Sleep Data

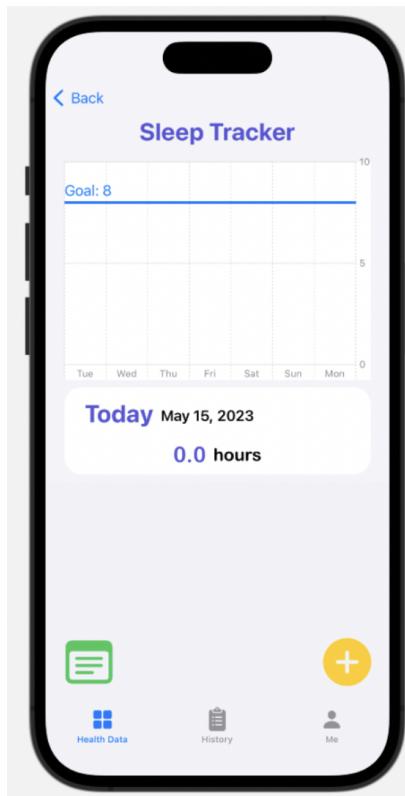


Figure 2A. Empty Sleep Data

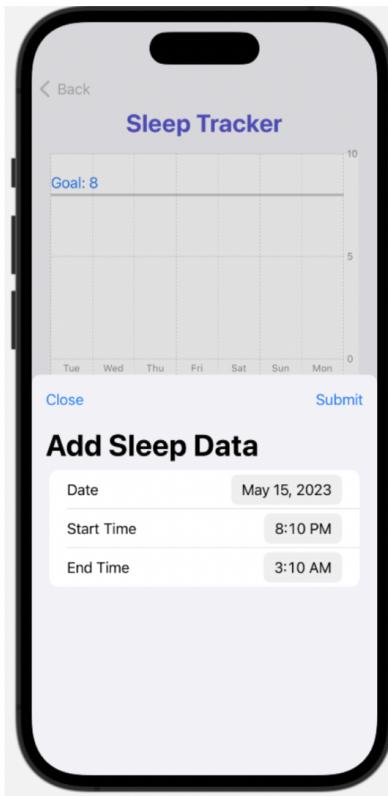


Figure 2B. Adding Sleep Data

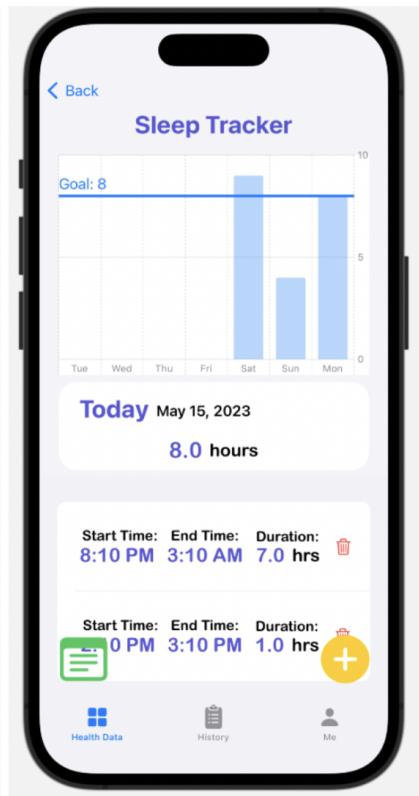


Figure 2C. Sleep Data Entries and Chart

When the user opens the app for the first time, there will be no preloaded data, thus the pages will appear blank. The first half of the page is occupied by a bar chart that summarizes the user's sleep data for the current week. On the x-axis are the days of the week, while the y-axis is the total number of hours slept during that day. There is an additional horizontal guideline that marks the user's target number of hours of sleep per day. By default, the goal is set to 8 hours per day.

The second half of the page provides a detailed breakdown of the current day's sleep data. The top section totals up the number of hours slept on that day, while the bottom section lists out the exact entries. To add an entry, the user would have to click on the floating yellow add button on the bottom right corner which brings up a form. The user can input the start date and times, and once they press submit, the duration is calculated and an entry is created. The entries will show up as a list, and users can take a closer look at an entry by clicking on it. If they wish to delete the entry, they can simply click on the right trash can icon on the right. Note that a user can sleep multiple times a day, thus the ability to create multiple entries for one day is allowed, and the bar chart keeps track of the total hours.



Figure 3A. Changing goal

Figure 3B. After goal change

Everyone has different goals to suit their needs, thus there is an option to change their sleep goals. By clicking on the floating green button on the left, there will be a form that pops up that allows the user to set the target number of hours they would like. Once that is set, the guideline in the barchart will be set to the new target.

To summarize this page, there is a bar chart covering the current week's data, and then a detailed breakdown of today at the bottom. There are two floating buttons on the bottom corners of the page which will allow users to add new entries or change their goals. This basic structure will remain consistent throughout the other tabs, as we will see when we take a look at the workout data tab.

Workout Data

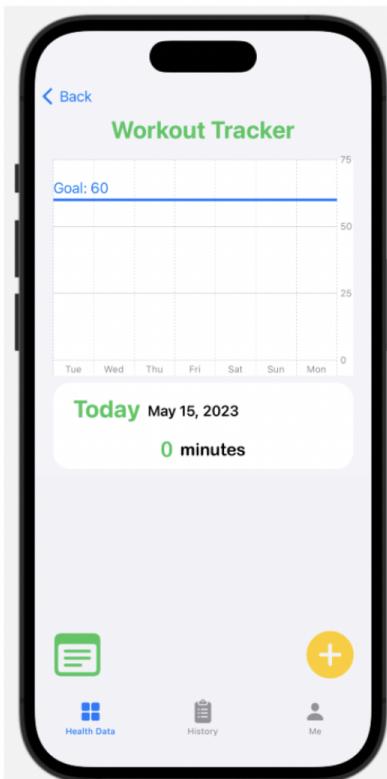


Figure 4A. Empty Workout Data

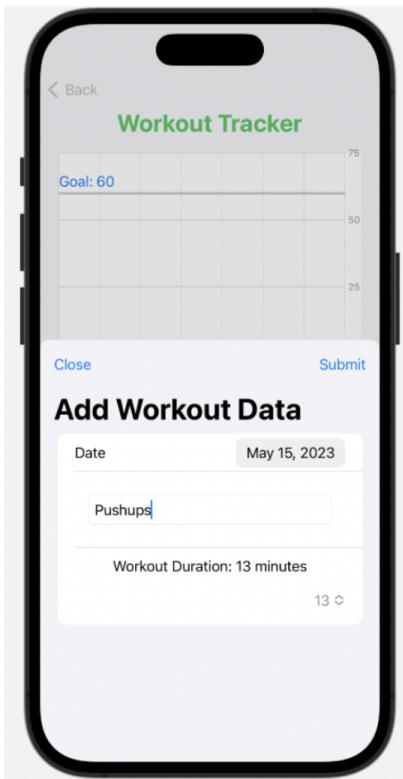


Figure 4B. Adding Workout Data

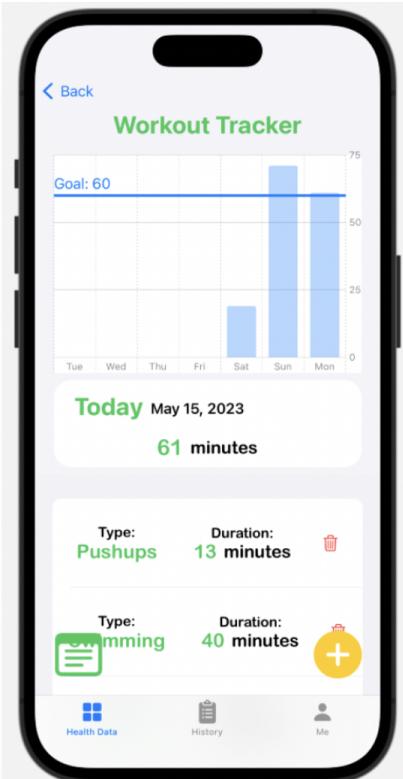


Figure 4C. Workout Data Entries and Chart

Here, we see the week's bar chart at the top section and today's breakdown on the bottom. Much of the functionalities are similar, from adding/deleting data entries to goal setting. The biggest difference lies in the type of data being stored. When the user clicks the yellow button to add a data entry, they will be presented with a form that asks for the date, workout type, and the duration (minutes). The workout type is a free form text field in which users can add as much detail as they want about the particular workout they are doing. The default goal is 60 minutes a day, but this can be changed through the green button.

Water Data

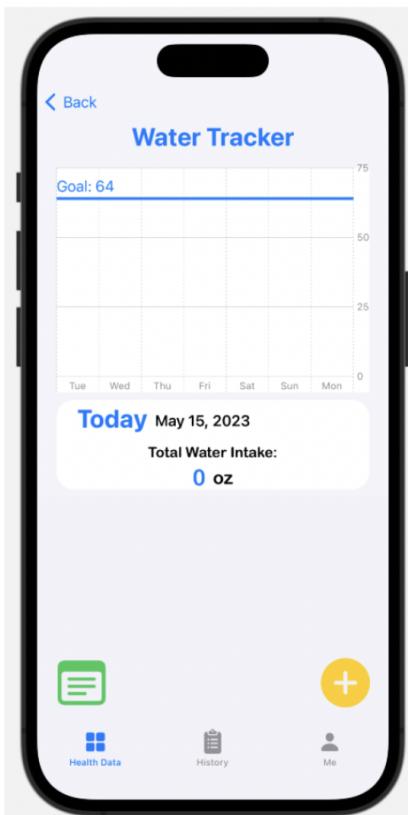


Figure 5A. Empty Water Data

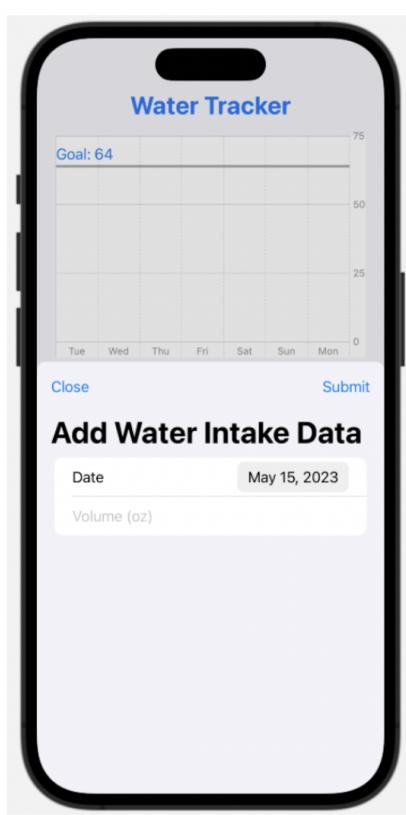


Figure 5B. Adding Water Data

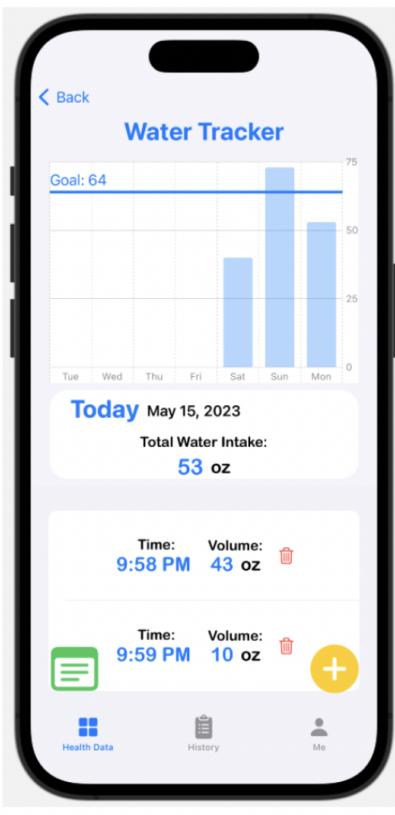


Figure 5C. Water Data Entries and Chart

For the water tab, the app keeps track of the number of ounces the user has drank throughout the day. On the bar chart, the y-axis displays the total number of ounces for each day of the week, and the default goal is set to 64 ounces which can be changed through the green button. When the user clicks on the yellow button to add an entry for the water track, they will see a form that accepts the date and a numerical value for the volume. Once they submit, an entry will be created for the current time because it is assumed that users tend to input water data right after they have just drunk. Once the entry is created, the totals will be updated.

Meal Data

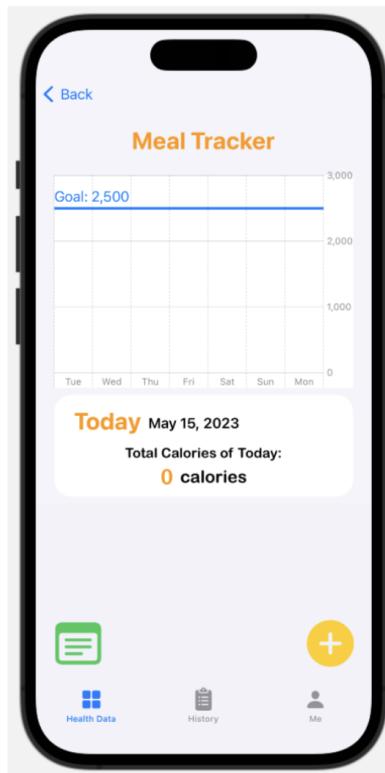


Figure 6A. Empty Meal Data

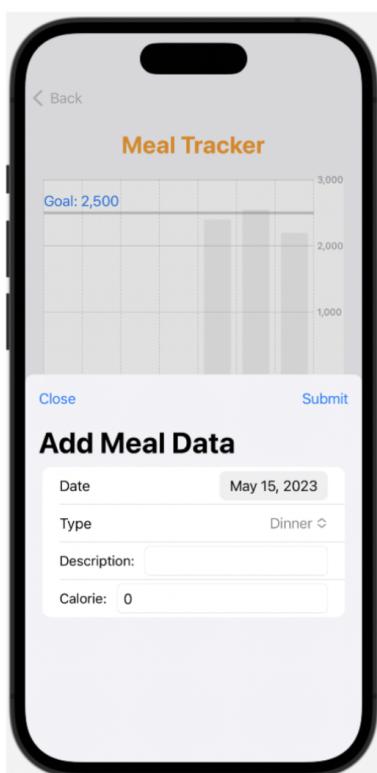


Figure 6B. Adding Meal Data

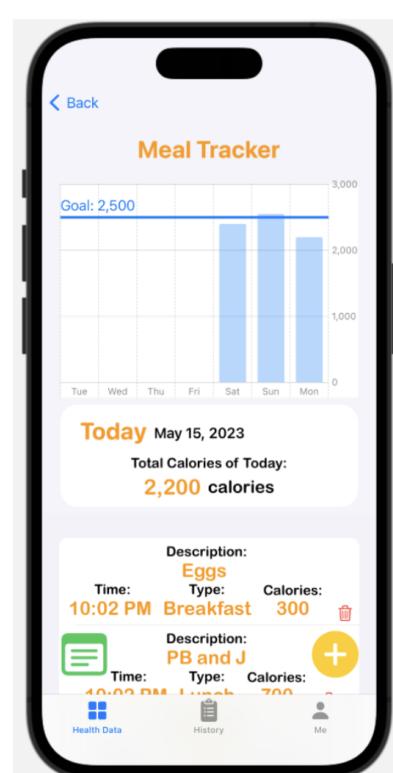


Figure 6C. Meal Data Entries and Chart

For meal data, the app primarily keeps track of the total number of calories the user has had for any given date, but the structure of the data is a bit more complicated because other parameters are also recorded. When the user makes a new entry, the form asks for the date as well as the type of meal. This is encoded as an enumeration, and the possible types are breakfast, lunch, dinner, brunch, snack, and fruit. These are all available as a dropdown menu. Then the user is asked for a description of their meal; this can be as detailed as they wish, or it can be as simple as naming the foods they ate. Then, the form asks for an estimate of the total number of calories for this data entry. Once the form is submitted, an entry will be created to reflect all of this information and the bar chart will be updated. Just like the situation for the water data, it is assumed that the user adds the meal entries just as they finish the respective meal, so the time is set to the current time.

The default goal is set as 2,500 calories a day, but just like the other health data tracks, the goal can be changed using the green button. Once it is set, the guideline in the barchart will be changed.

History Tab



Figure 7A. History Data for May 14th

Figure 7B. History Data for May 15th

The user can get a comprehensive view of all their health data through the “History” tab. They can select any date, and it will show the summarized data for each health track for the selected date.

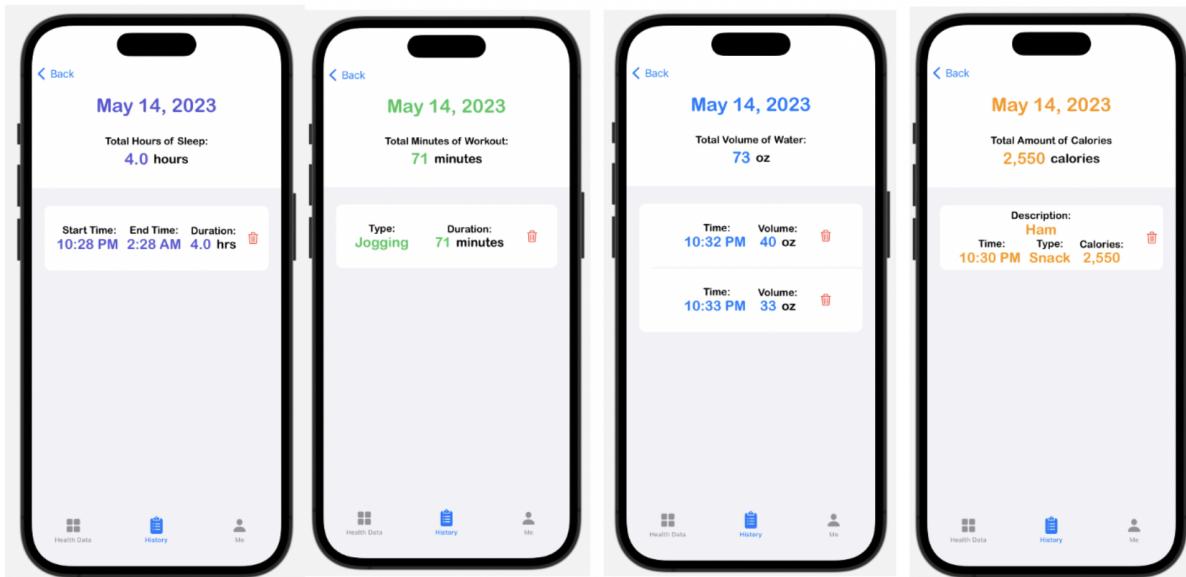


Figure 8A. May 14th's Sleep Data

Figure 8B. May 14th's Workout Data

Figure 8C. May 14th's Water Data

Figure 8D. May 14th's Diet Data

If the user were to click on one of the the colored boxes (ie. the indigo colored box for sleep data), the app would take the user to a closer look at all the entries related to that health track for the selected date. It is here the user can choose to delete older entries.

Me Tab

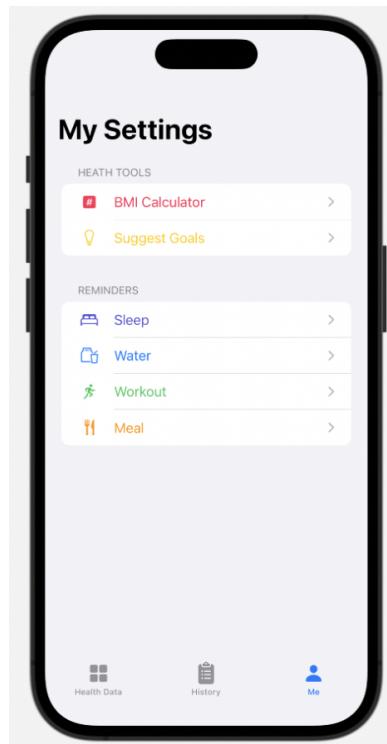


Figure 9. Me Tab

The last tab is the “Me” tab, which goes over personal settings and personalized tools provided to the user.

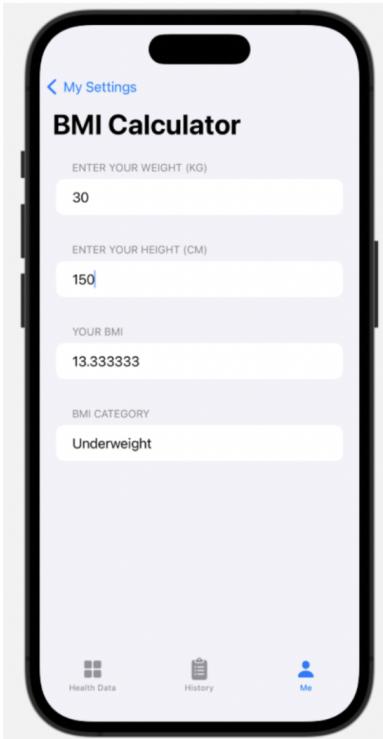


Figure 10A. BMI Calculator

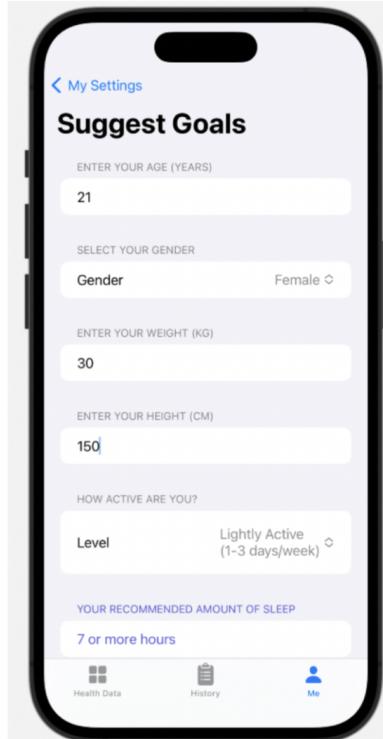


Figure 10B. Suggest Goals

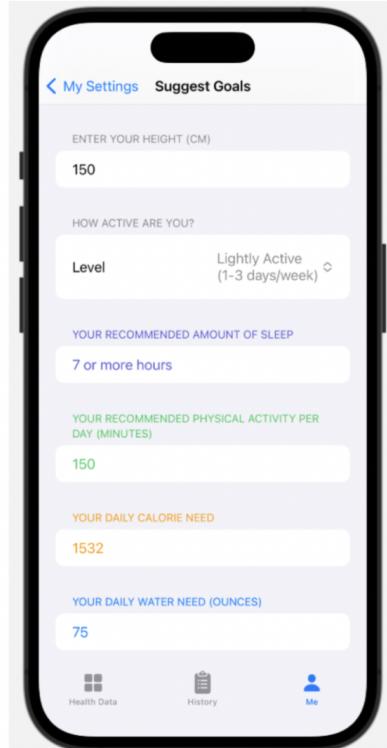


Figure 10C. Suggest Goals
(Cont.)

There are two personalized tools available to the user: the BMI calculator and the goal suggestor. To use the BMI calculator, the user simply has to input their weight (kg) and height (cm), and their BMI and BMI category will dynamically be displayed to them on the spot. The goal suggestor works in a similar fashion. It is a tool that takes in multiple user characteristics such as age and activity level, and then it automatically calculates the recommended target goals based on the data.

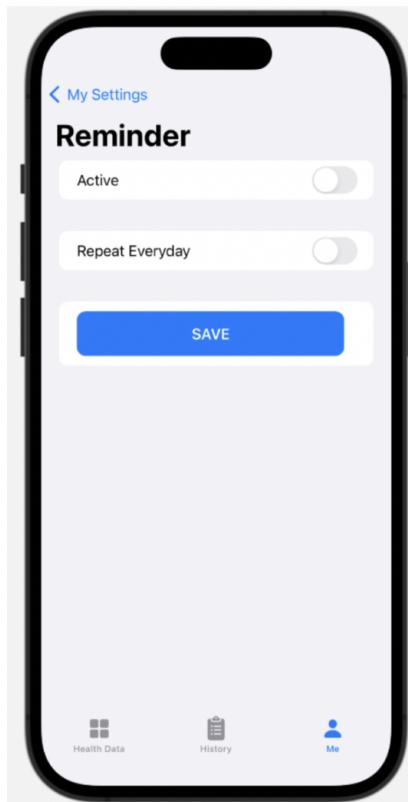


Figure 11A. Inactive Reminder

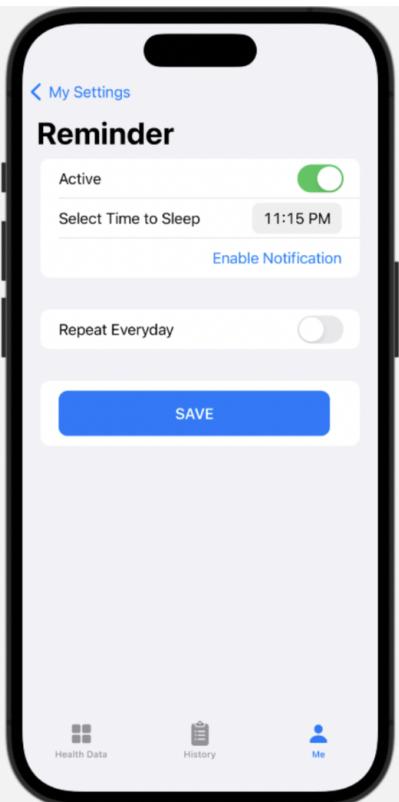


Figure 11B. Active Reminders



Figure 11C. Notification Pop-up

The last functionality is the ability to set reminders for your goals. There is a separate reminder capability for each of the 4 health tracks, but the tab looks the same for all. To set notifications as active, the user must toggle the “Active” state on, which will then ask for the time of the reminder. The user then must click on the “Enable Notification” link to allow notifications, and they also have the option to repeat the notification everyday. Once everything is set, the user will receive notifications even outside the app when it is time.