

Final Project Portfolio

Group 4 - Fitness Tracker

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Link to video demo:

https://drive.google.com/file/d/1wnxkSKH-NiYhgQfO27KDXwh0t2M-9Sg_/view?usp=sharing

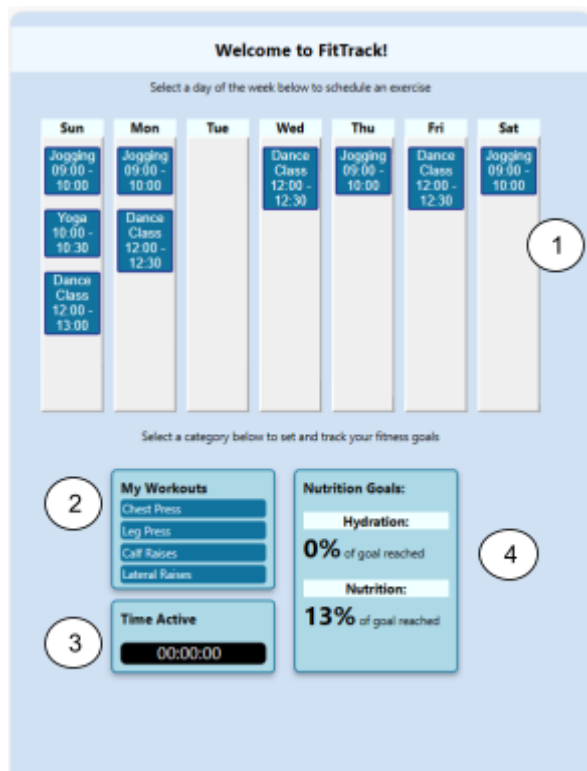
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Final Design

Homepage

The homepage features several interactive buttons (labelled 1-4). The calendar (1) displays events for the current week. Users can select any of the the day columns (ex. Sunday, Monday) to be directed to the Schedule page, where they can view, add, or remove events. The My Workouts button (2) displays common workouts. Selecting this button will take users to the Workouts Tracker page. The Time Active button (3) displays the recorded time users spent walking that day. Selecting this button will direct users to the Time Active page, which lets users set goals for walking/running and see their steps. Lastly, the Nutrition and Hydration (4) button displays the user's progress in tracking their nutrition goals.



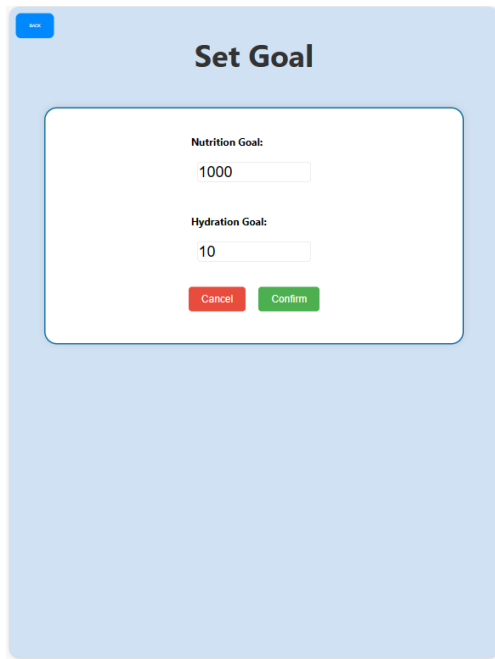
Nutrition and Hydration Tracker

Upon clicking the hydration and nutrition button, it leads us to the main page of the hydration and nutrition tracker. (1) displays the hydration bar which visualizes what percentage of the hydration goal the user has accomplished. (2) displays the nutrition bar which visualizes what percentage of the nutrition goal the user has accomplished. (3) primarily shows the current date, but if the user wants to set their goals and inputs for another date, they can choose another date as well. (4) Navigate back to the homepage. (5) The Set Goal button will navigate us to the Set Goal page, where user can input their Hydration Goal and Nutrition Goal(in the units of calories and Litres) respectively.

The screenshot shows a mobile application interface titled "Nutrition Info". At the top left is a blue "BACK" button with a circled "4" next to it. Below the title is a date "2023-12-06" with a circled "3" next to it. Below the date is the text "Select the bars below to add your food and water intake". There are two vertical bars: the left one is labeled "1" and "Hydration NaN%", and the right one is labeled "2" and "Nutrition NaN%". Below these bars is a section titled "Breakdown:" with the text "Calories: 0 calories". Below this is a list of nutrients with their values: "Carbohydrate: 0 g", "Fat: 0 g", "Protein: 0 g", "Sodium: 0 mg", "Potassium: 0 mg", "Cholesterol: 0 mg", "Fiber: 0 g", and "Sugar: 0 g". At the bottom right is a red "Set Goal" button with a circled "5" next to it.

Set Goal

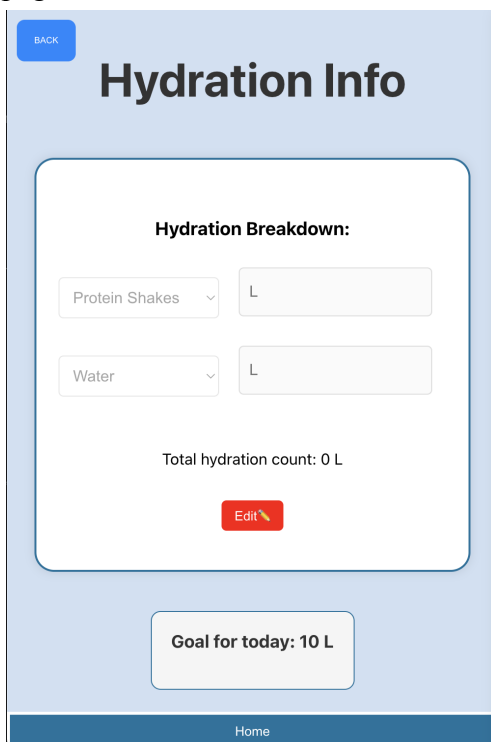
Upon clicking the Set Goal button, it leads us to the Set Goal page. The user inputs his/her goal and by clicking Confirm, the input gets saved and navigates back to the main page. By clicking cancel, it leads back to the main page without saving any input.



The 'Set Goal' screen features a light blue background. At the top left is a small blue button labeled 'Home'. The title 'Set Goal' is centered at the top in bold black text. Below the title is a white rounded rectangle containing two input sections. The first section, 'Nutrition Goal:', has a text input field with the value '1000'. The second section, 'Hydration Goal:', has a text input field with the value '10'. At the bottom of this white box are two buttons: a red 'Cancel' button and a green 'Confirm' button.

Hydration Tracker

Clicking the Hydration bar from the main page(left bar), navigates us to the Hydration Info page



The 'Hydration Info' screen has a light blue background. A blue 'BACK' button is in the top left corner. The title 'Hydration Info' is centered at the top in bold black text. Below the title is a white rounded rectangle. Inside this box, the title 'Hydration Breakdown:' is centered. There are two rows of input fields. The first row has a dropdown menu showing 'Protein Shakes' and a text input field with 'L'. The second row has a dropdown menu showing 'Water' and a text input field with 'L'. Below these is the text 'Total hydration count: 0 L'. At the bottom of the white box is a red 'Edit' button with a pencil icon. Below the white box is a light blue box containing the text 'Goal for today: 10 L'. At the very bottom of the screen is a dark blue bar with the word 'Home' in white text.

By clicking Edit, the user can put their input of the type of drink they consumed. The navbar at the bottom navigates to the Homepage. The user can choose numerous drink from the dropdown

Please Choose

- ✓ Water
- Lemonade
- Gatorade
- Coconut Water
- Sports Drinks
- Electrolyte Water
- Energy Drinks
- Protein Shakes

Users can add item types by clicking Add Item, they can remove any unnecessary item by clicking Remove Item. Clicking save will save the user input.

Hydration Breakdown:

Water	2
Energy Drinks	0.5
Protein Shakes	.75

[Add Item](#) [Remove Item](#)

Total hydration count: 3.25 L

[Save](#)

Nutrition Tracker

Clicking the Nutrition bar from the main page(right bar), navigates us to the Nutrition Info page

[BACK](#)

Nutrition Info

Nutrition Breakdown:

Chicken	gm/pc
Eggs	gm/pc

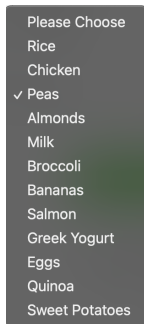
Total calories: 0.00 calories

[Edit](#)

Goal for today: 1000 calories

[Home](#)

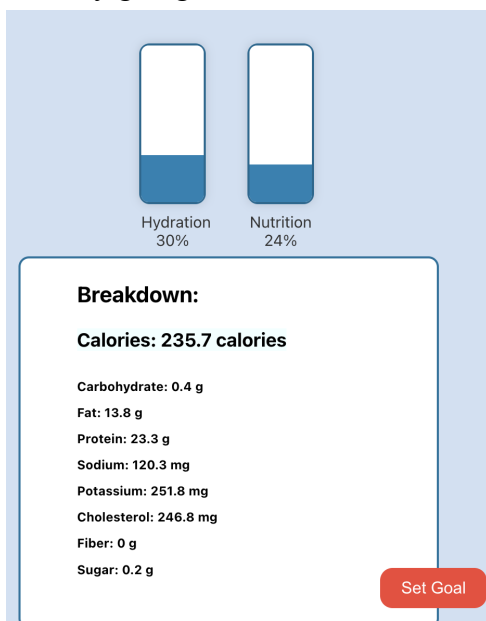
By clicking Edit, the user can put their input of the type of food they consumed/are planning to consume. The navbar at the bottom navigates to the Homepage. The user can choose numerous foods from the dropdown



User can add item types by clicking Add Item, they can remove any unnecessary item by clicking Remove Item. Clicking save will save the user input.

A form titled 'Nutrition Breakdown:'. It contains three rows, each with a dropdown menu and a text input field. The first row has 'Chicken' in the dropdown and '50' in the input. The second row has 'Eggs' in the dropdown and '1' in the input. The third row has 'Salmon' in the dropdown and '25' in the input. Below these are two buttons: 'Add Item' (green) and 'Remove Item' (red). At the bottom, it says 'Total calories: 235.68 calories' and a 'Save' button with a save icon (green).

Now, by going back the user will be able to see their breakdown of nutritional elements.



Activity Schedule/ Calendar

Users can access the schedule page by selecting any of the days of the week button (1). A list of events and their times will appear for the day of the week that the user selected (2). Users can then remove an event by selecting the trash can icon. The calendar will then be updated to reflect this change (Note: users will need to manually refresh the page by selecting any of the day of the week buttons again, this is necessary only during our implementation since we can't actually reload the website without clearing all the data). As well, users can add an event to the calendar by filling out the form in the Add an Event section (3). Upon selecting the Save button, users will be returned to the homepage and the calendar will be updated to reflect the change. Selecting the Cancel button in the Add an Event form will simply return users to the homepage without any changes.

The screenshot displays a web application for an activity schedule. At the top, a 'Calendar' section shows a grid of days from Sunday to Saturday. Each day column contains event cards with details like 'Jogging 09:00 - 10:00' or 'Dance Class 12:00 - 12:30'. A circled '1' points to the right side of the calendar grid. Below the calendar, a text prompt reads 'To refresh the page, select a day of the week:'. The next section, 'Events for Thursday', is highlighted with a purple border and contains a single event card for 'Jogging 09:00 - 10:00' with a trash can icon; a circled '2' points to this section. Below that is the 'Add an Event' form, which includes an 'Event Name' input field, a 'Time' range selector (From To), and 'Save' and 'Cancel' buttons. A circled '3' points to the 'Add an Event' section. A 'Home' button is located at the bottom of the page.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jogging 09:00 - 10:00	Jogging 09:00 - 10:00		Dance Class 12:00 - 12:30	Jogging 09:00 - 10:00	Dance Class 12:00 - 12:30	Jogging 09:00 - 10:00
Yoga 10:00 - 10:30	Dance Class 12:00 - 12:30					
Dance Class 12:00 - 13:00						

To refresh the page, select a day of the week:

Events for Thursday

Jogging 09:00 - 10:00	
--------------------------	--

Add an Event

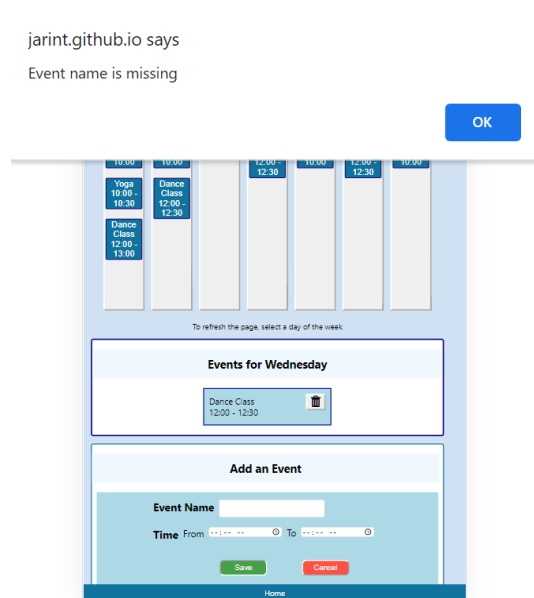
Event Name

Time From To

Home

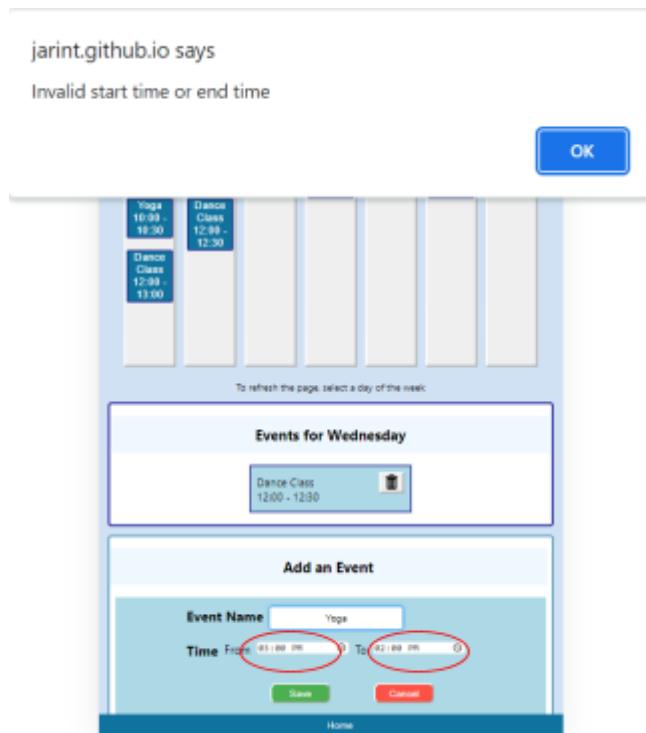
Add an Event - Error Handling

The project is intended to be a mobile app, which would have popup messages to warn users if there was any invalid or missing data. For implementation purposes, to replicate a popup message, we used an Alert message for error handling. If the user selects the Save button in the Add an Event form without filling out all the details, a message will appear and the user can re-enter the form (ex. The missing Event Name in the image below).



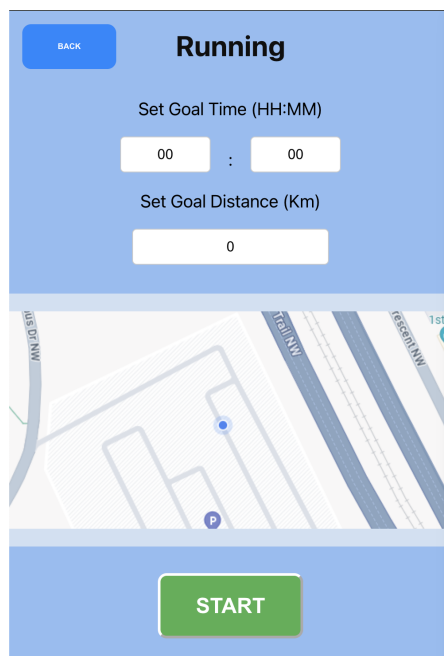
Add an Event - Invalid Data

Another error that's checked is for invalid times. It wouldn't logically make sense if the start time for an event was later than the end time (ex. Start time is 10:00 AM but end time is 9:00AM). If this mistake does occur, a message will alert users when they select the Save button.



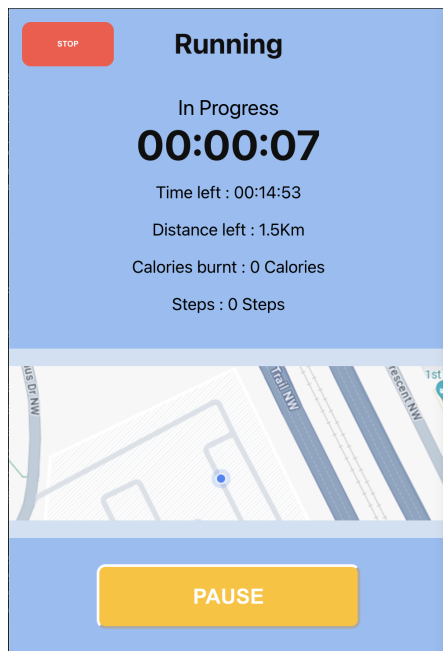
Time Active/ Steps Tracker

By clicking the Time Active button, users can see how much time they have walked/ran so far.

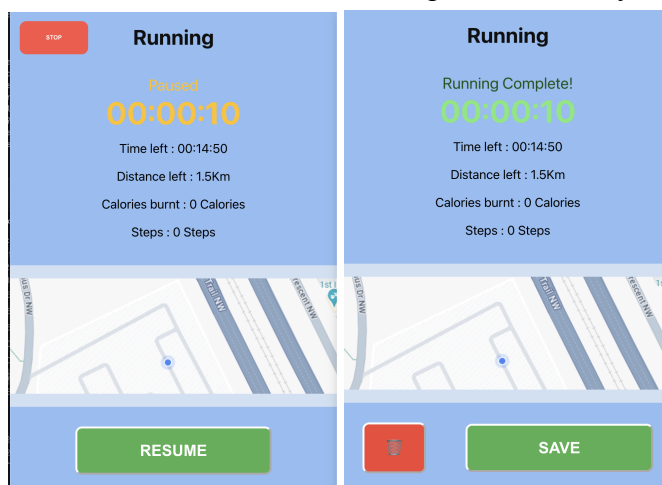


The user can start from 00:00 by default or if they want they can set goal time and goal

distance as they prefer. So, by clicking START the timer gets rolled.



The user can either resume or stop the run if they wish to take a break.



By clicking Save, the user can save their activity. Currently, we haven't engaged any database to save progress and that's for the future. Also, by clicking the trash bin icon (red beside the save button), the user can discard the activity as well.

The map in the middle of the page visualizes the routes the user has taken for running. In the future, we might implement GoogleAPI for this, for now it's a static image.

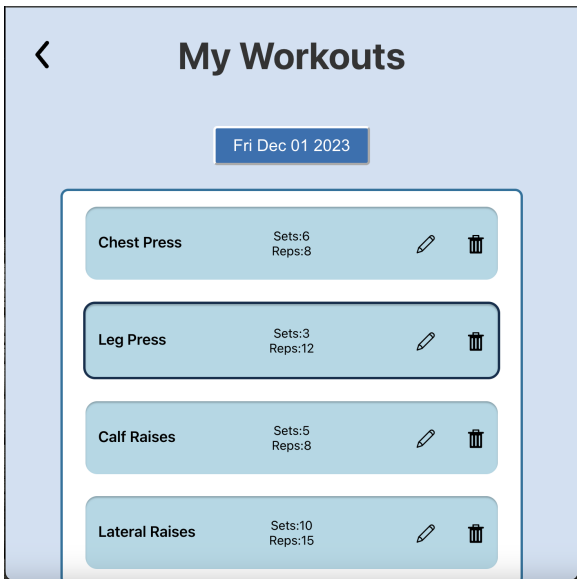
Workout Tracker

Workouts Landing Page

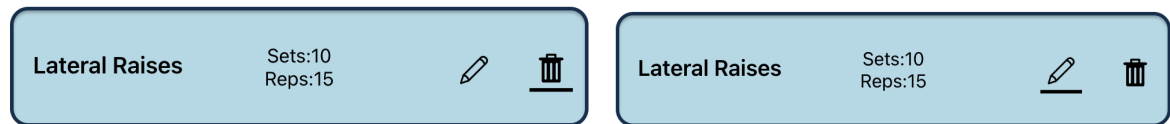
Date selector is default set to the current day, but can be changed at any point in time, the exercises below will display the corresponding data for that day.



Date selected is displayed as a button that the user can click in order to open up the date picker.



When the user wants to rename or delete there is an indicator for that action.



Add Exercise

The user can create a new exercise on any given date, with the statistics of how they performed on that day.

The screenshot shows a modal window titled "Add An Exercise!" with a date "Fri Dec 01 2023" at the top. It contains three input fields: "Exercise:" with a placeholder "Exercise..", "Sets:" with the value "0", and "Reps:" with the value "0". At the bottom are "Cancel" and "Add" buttons. The background shows a list of exercises, with "Lateral Raises" (Sets: 0, Reps: 15) visible.

There is minor error checking that ensures the user inputs both a name for their exercise, and that the name they put in is not a duplicate to one that already exists.

This screenshot shows the "Add An Exercise!" modal with the "Exercise:" field empty. A red error message "Please name your exercise." is displayed below the field. The "Sets:" and "Reps:" fields are both set to "0".

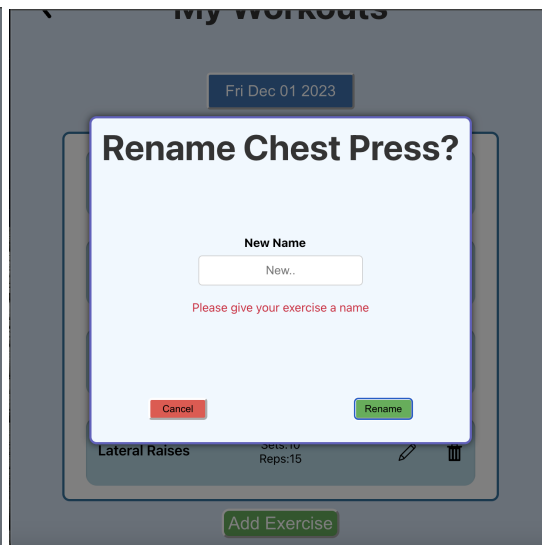
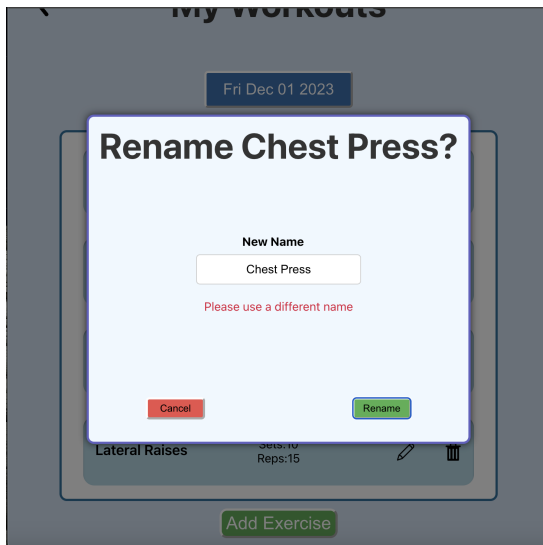
This screenshot shows the "Add An Exercise!" modal with the "Exercise:" field containing the text "Chest Press". A red error message "That name already exists." is displayed below the field. The "Sets:" field is set to "3" and the "Reps:" field is set to "5".

Rename Exercise

The user can also choose to rename an exercise after they've created it.

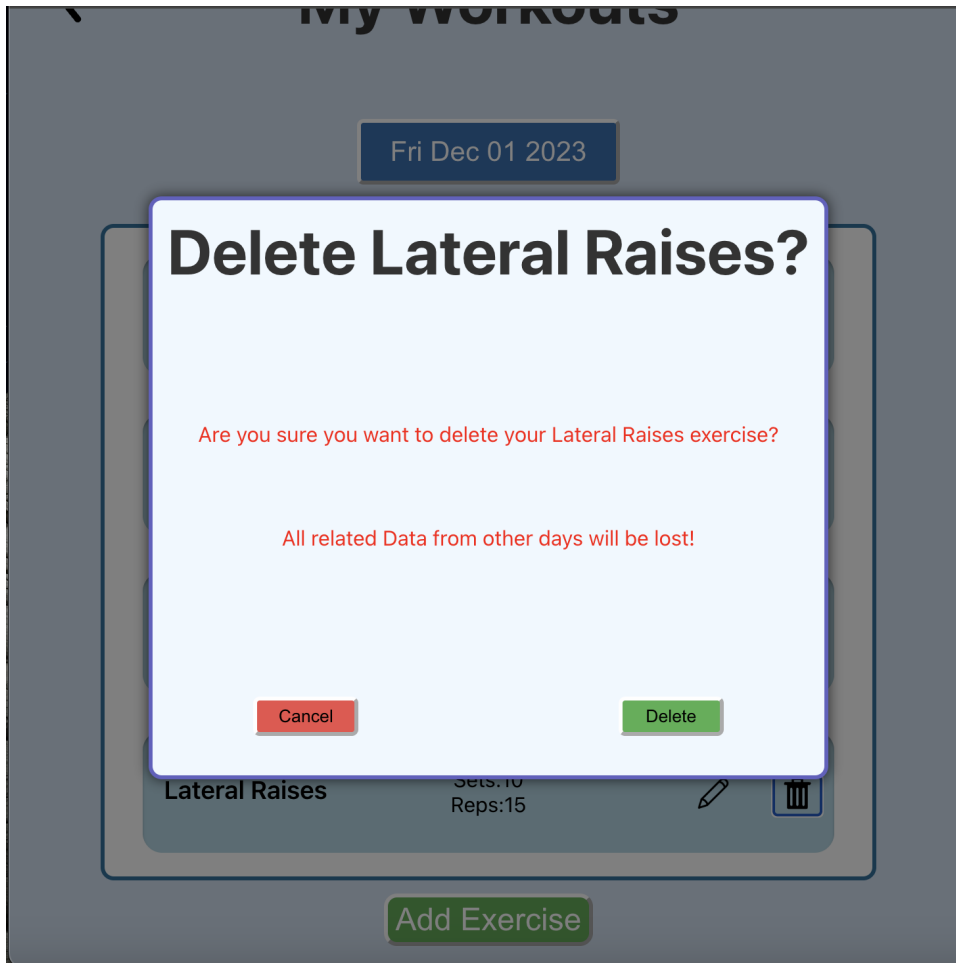


There is also some minor error checking here that ensures the user inputs both a name for their exercise, and that the name they put in is not a duplicate to one that already exists.



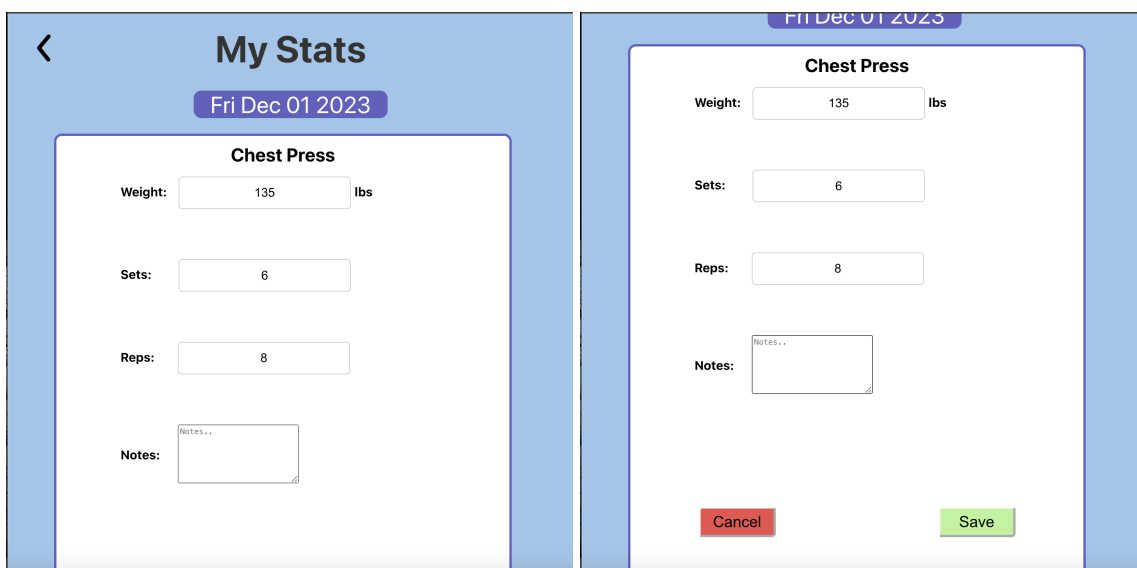
Delete Exercise

The user is prompted with a warning, to ensure that the delete action is an action they want to take just in case they happen to have clicked delete by accident.



Stats Page

The Stats page contains the information for every exercise and is where a user can edit the information for that exercise as well. The input fields are auto filled with the last saved stat data for the selected exercise. When the user makes changes, they will need to



The notes input can also be expanded to allow the user more space for lengthy notes.

Fit Dec 01 2023

Chest Press

Weight:

135

lbs

Sets:

6

Reps:

8

Notes:

Notes...

Cancel

Save

Heuristic Evaluation

Heuristic Violation	Description	Location	Suggested Fix	Severity
4	Back button styles are inconsistent and the navigation bar is there only on some pages but not on others	All	Have a consistent style, size, and location for the back button and add a navigation bar throughout the app	2
1	Before any hydration or nutrition data is entered, the goals display NaN%, the user is unlikely to understand what that means	HomePage	When there's no nutritional or hydration data, put 0% instead.	1
6	For nutritional info, when 'remove item' is clicked, the user is not allowed to choose which item is removed, it just removes the one at the top of the list.	Nutritional Info page, after clicking the nutrition bar	Perhaps place a delete icon beside each item so the user can click on them to selectively remove an item.	1
4	In the Scheduling page, if the user wants to delete any task, the user can't know if the task is deleted or not	Scheduling page	Create a popup that gives a confirmation that the task has been deleted.	2
?	The saved run data is inaccessible	Time active page	Make a page with the saved runs.	3

4	On the run page the instructions are a bit unclear. The format for the Goal time (HH:MM) is confusing, some users might think that it is a specific time of day that they want to stop running, rather than the duration.	Time active page	Instead of (HH:MM), but use a scroll through, so they can choose the Hours, the minutes and the seconds, and instead of “set goal time”, use “set run duration”, so that it is clear that is the duration of the run and not the stop time of the run.	2
4	In the run page, when a user clicks Start, the Back button shifts its functionality to STOP, so the user can’t go back while he is starting the timer.	Time Active page	Create separate buttons for Back and STOP so that the user can use other functions of the app while keeping the timer on.	3
7	When a new workout is being added, the user can set the reps and sets for that day but not the weight, meaning they still have to set the weight afterward	Workouts page	Allow the user to also enter the weight done for an added exercise for that day once and for all.	1

A heuristic evaluation was performed as we completed our prototype. From the heuristic evaluation, we found several areas that could be improved for the appearance and the workflow. The style of the Back button was inconsistent throughout the various pages with some of them being blue while other buttons were black with an arrow. This can be confusing and misleading for users. As well, we noticed some minor appearance related issues such as labels providing confusing data or font sizes possibly being too small. Some of the workflows were tedious, they had a lot of buttons that needed to be clicked and forms to fill out. This can cause confusion or be demotivating for users to use. One way we can improve the workflow is by displaying forms or other important information on the main page. As well, users would likely benefit from a more informative layout for the Nutrition main page. Rather than only having bar graphs of the goals and a caloric breakdown, the Add Food/Drinks feature could be added directly to that page. This would reduce the need for users to navigate between multiple pages.

Final Designs

Overall, our final design had some variation compared to our horizontal prototypes and earlier designs. Based on feedback from the presentations, we simplified some of the workflows for many of our features. One particularly notable change was for the Workout Tracker's workflow which initially had users filling out a long form with several unnecessary inputs for each exercise that they completed. This can be frustrating or tedious for users. As such, we simplified the workflow so that users only need to fill in the number of reps (times an exercise is repeated) and sets (groups of reps done before taking a break). Users can then have the option to further edit their exercise details but it's no longer a required process.

In addition, we made some changes to the overall layout and appearance based on feedback from walkthroughs and heuristic evaluations. In our horizontal prototype, we included arrows on the information buttons of the home page. It was noted that it would look more aesthetically pleasing if we removed them. As well, we color-coded many of our buttons to make them more noticeable to users. Many Save buttons on forms are now green, and many Cancel or Delete buttons are now red. This appeals to the user's intuitive expectations and helps make the interface more user-friendly.

Discussion

We were able to implement most of the features and pages that were mentioned in the horizontal prototype. Our main set of users were fitness-oriented people who wanted to have an “all-in-one” fitness application where they can track their workouts and their calories in the same place. Our app met most of these requirements with our main features of Workout Tracking, Nutrition/Hydration Tracking, Activity Time Tracking, and Activity Scheduling. However, the app could benefit from having more error-handling, and an improved appearance.

Time Active Page

The scope of the Time Active page was slightly reduced in order to make this project manageable within the time we were given. Initially, the intention of the Time Active page was to keep track of how active users are across multiple activities as well as statistics for how much walking they did (distance and steps tracker). However, we realized that many activities could be considered as part of a workout (which can be included in the Workout Tracker page) or considered a walking-related activity. It would've been redundant to have multiple timers listed. We decided to simplify the Time Active page into a timer page that allowed users to (optionally) set goals for distance and time. As well, it measures the standard metrics of walking-related activities such as number of steps, distance travelled, duration of walk, and an estimated number of calories burned. Currently, the page still meets the requirements for users wanting to track their steps and time being active.

An area for further improvement would be the development of a page for allowing users to access the saved metrics. This feature would allow users to track the time they spent being active and allow users to change the name of their saved metric instead of having it just labelled as “Running” or “Walking”.

Hydration/ Nutrition Tracking: The Hydration/Nutrition Tracking section satisfies the requirement of the user who wants to keep a track of how much food or drink they're consuming compared to the goal they've set. We initially planned to visualize the progress of Nutrition using a pie. However, that was complex and given the time constraint, we decided to proceed to visualize the progress using a bar the same way we visualized the hydration progress.

For further improvement, we plan to polish the overall interface of the page in order to reduce steps to perform a specific task. Moreover, for the breakdown of nutritional elements we plan to integrate an API so that the user can input foods/drinks even if it's not on the dropdown.

Activity Scheduler/ Calendar

The intention of this feature was to help users plan and track their activities. Ideally, it would've been connected to the Workout Tracker so that users can get reminders on when their next workout is. Realistically speaking, this would've been quite complicated to implement so we simplified its functionality for now. Currently, users can view any activities

they have scheduled for the upcoming week and add more events to those dates. As well, users can remove any events by selecting the trash icon next to that particular event. In the future, this feature can be further improved by connecting to the Workout Tracker so that users can preset any exercises they want to do. As well, it would be nice to provide users with notifications or reminders when their scheduled activity event is about to begin.

Workout Tracker Page

Our system satisfies the requirements of users who seek to be able to track their workout information on a daily basis in order to improve their fitness experience. Their data is organized by date, and the interface is easy to use. It's quick and easy to use as users will have the same sets of exercises appear each day so they can just tap and edit, rather than having to add the same exercise everyday that they perform. A user can now perform the task of updating their workout for the day and leave notes of how they performed for each exercise. The workout tracking functionality works well for all intents and purposes but can definitely be improved. We planned to add a functionality in which we would be able to show progress over time or from day to day, and so how much better or worse a user's performance has been. This functionality would motivate the user more to improve their performance and the results they would see in turn would make our application worthwhile. However with time restraints and the complexity of the function, we were unable to implement that.