1. Problem being solved with our program

As university students, we recognize the significance of maintaining both a healthy and active lifestyle and excelling academically. However, many of us often struggle to organize our busy schedules to maintain a balance between allocating time for academic work and staying on track with our fitness goals. As a group, we observed that the various fitness applications either lacked some user-friendly features or included excessive features which resulted in a clustered interface. Additionally, we noticed many fitness apps tend to focus on a limited scope of the user's fitness. For example, an application that simply tracks the user's calories, or an application that only guides the user through a workout.

This observation encouraged us to develop our version of an efficient fitness application that incorporates all the ideal functionalities of a fitness app . Our goal was to create an application that not only allows our users to calculate the calories they burn in a workout but also incorporate a seamless process of keeping track of their daily activities as well as getting recommendations and feedback on their activities based on our fitness goals. We also wanted our app to cater to the various user groups through a login or guest interface.
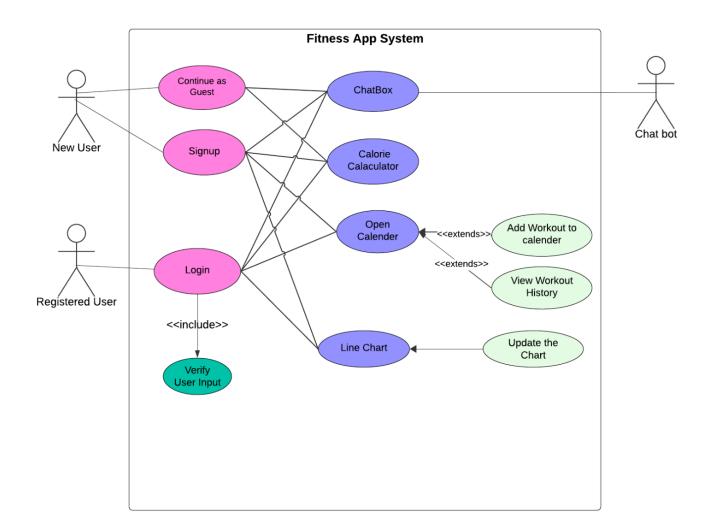
FIrstly, our application allows users to calculate their calories, based on the figures they enter such as the type of activity they did, how long they did it for, as well as their current weight and height. When calculating calories, we acknowledged that our user's often struggle with gaining accurately calculated calories due to the dynamic nature of their weight measurements. Therefore, for an accurate calculation, we allowed the user to re-enter their weight. This helps users such as gym trainers that value accurate calorie calculations to ensure they have an accurate representation of their trainees' fitness levels.

From our research, we were able to conclude that high interactivity with fitness applications correlates with the user's motivation to exercise. Taking this into consideration, we decided to incorporate a chatbox that can take in the user's goals as input and recommend an appropriate workout activity or fitness advice. This feature is extremely useful for student users who lack the time to plan workouts that vary throughout the week.

Additionally, we incorporated an interactive line chart for member users to track and visualize the calories they burn over time as well as update the chart at their convenience. This is highly beneficial for users such as fitness influencers who want an app that has visual representations of their workouts and progress that can be shown to their followers.

When faced with the question of how to help our users organize the display of their activities overtime, we agreed on the use of a calendar view where the user can see their workout history and activities to gain a better idea of their activity pattern. This feature specifically helps users who value planning ahead as well as being able to view their progress on a monthly and weekly basis such as professional athletes.

Our aim in developing this application is to create a user-friendly interface that encompasses all the essential functions of a fitness app and empowers users to seamlessly integrate their fitness goals into their lifestyles.
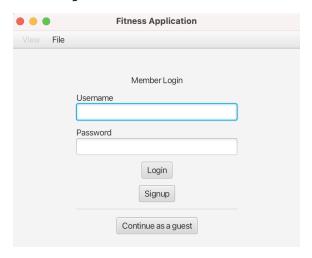

Use case diagram illustrating interacting entities in the app and their potential actions

2. How to Use

Although our application offers various features, what you can use depends on whether you are a registered user or a guest. If you decide to use our application as a guest, you will have access to only calorie calculator and chatBot features. However, if you already have an account or decide to sign up, you will have full access to all the features including those mentioned above as well as an additional calendar and chart features.
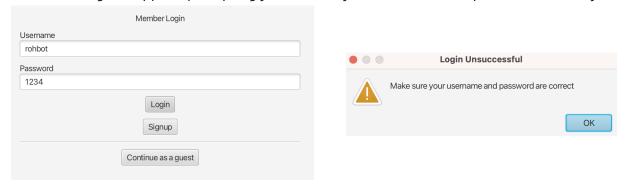
2.1 First step

When running our fitness application, the login page will first appear. The "View" menu in the top menubar is initially disabled to ensure that access to different features is allowed only after you login, signup, or continue as a guest.
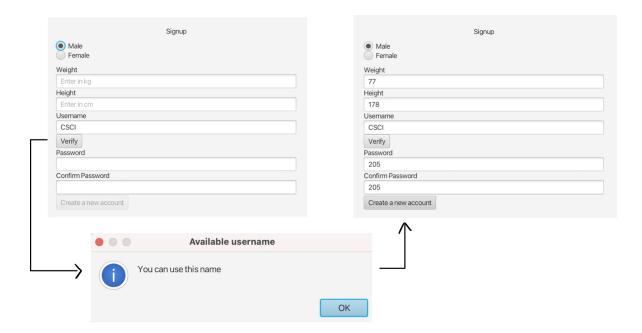

Login

If you already have an account, simply enter your username and password and click "login". If your login credentials are verified, you will be directed to a calorie calculator page. Otherwise, an alert dialog will appear, prompting you to enter your username and password correctly.
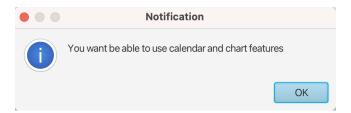

Signup

If you want to sign up, click the signup button on the login page, which will direct you to a signup page. Fill in necessary details, check username availability, and confirm your password. The account creation button is disabled until you verify your username. If your account creation is successful, you will be directed to the calorie calculator page. Otherwise, an alert dialog will appear to inform what input fields are missing.
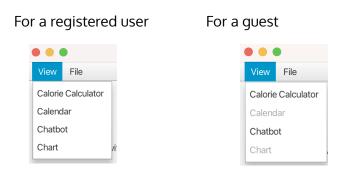
Continue as a guest

If you do not want to create a new account yet but just want to explore the fitness app, you can click on the "Continue as a guest" button in the login page. You will be directed to the calorie calculator page and will be notified that you won't have access to the calendar and chart features.
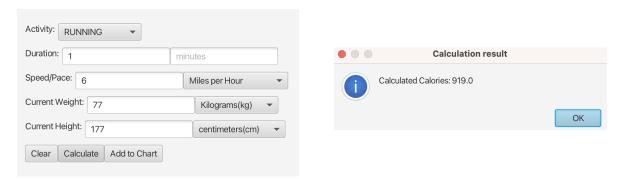

2.2 Using different features

After you login, signup or proceed as a guest, the "View" menu in the top menubar is now enabled so that you can navigate to different pages and use different features. However, for a guest, the Calendar and Chart menuItems are still disabled.
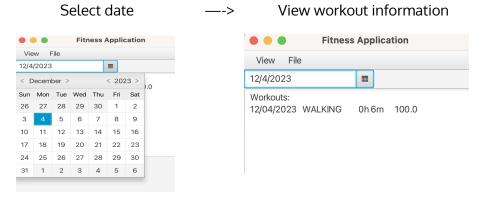
For a registered user   For a guest

Calorie Calculator

Enter required fields to calculate how many calories you burn (You can select units that you prefer). The result will be displayed if you entered all the necessary information. You can click the "Clear" button to clear all the input fields. However, the "Add to Chart" button is not implemented yet.
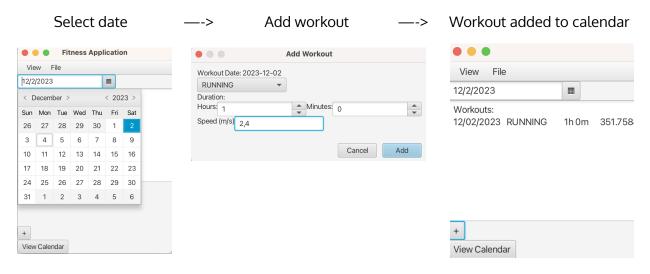

Calendar

1) If you are a registered user, you have access to the calendar to view your past workouts. For any selected date, workout information will be displayed if there is any data available. Otherwise, no workout information will be displayed.

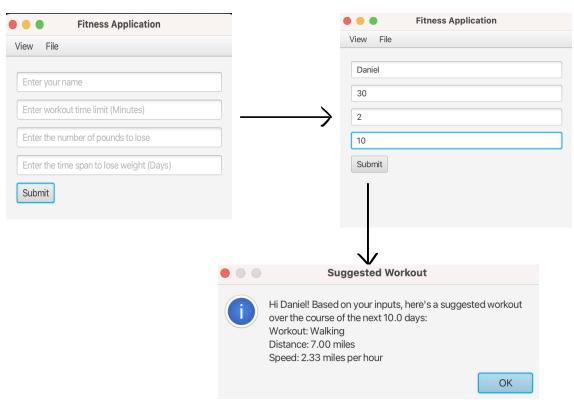Select date   —->   View workout information

2) You can also use the calendar feature to add workout. Simply select a date and click the "+" button to add a new workout and fill in required information.

Select date   —->   Add workout   —->   Workout added to calendar
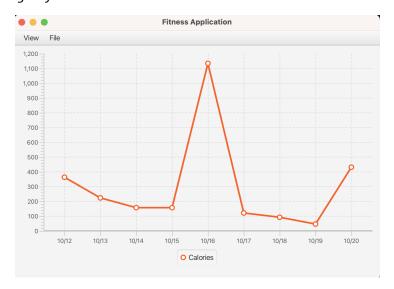
ChatBot

You can use chatBot to get suggestions for your workout based on your goal. Enter your name, workout time limit, number of pounds to lose, and the time span to lose weight.

Chart

If you are a registered user, you will have access to this chart feature that gives you a visual representation of how many calories you burned over the past. Using this chart, you can get a better understanding of your workouts.
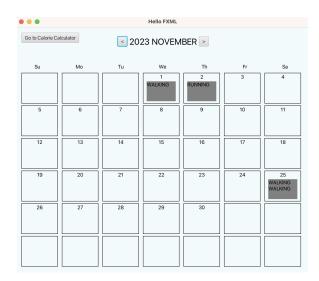
2.3 Exit

After you are done using the fitness application you can close the app. Again, if you are a registered user, all the workout information you updated using the calendar will be saved so that when you use the application in the future, you will still be able to view all your workouts using the calendar.

3. Unfinished aspects of the Fitness Application

3.1 Improving the calendar

Because the current calendar doesn't mark the days you did workout, we were working on a different calendar view that marks the days you did workout to improve user experience when tracking past workout. It is not fully integrated into our fitness application as it currently displays sample workouts instead of actual past workouts of the registered user using the app.

3.2 Fully integrating the chart feature

While the graph illustrates the calories burned over time, the data being used to generate the chart is just some sample data, not from user information.