

Public link to prototype testing (Software: Adobe XD):
<https://xd.adobe.com/view/845b8313-e13c-4d13-4ebe-d87f6dcd0655-f26a/?fullscreen&hints=off>

Heuristic Evaluation

Evaluation Methods

Conducting this evaluation consists of 3 phases, which are the briefing phase, evaluation phase, and debriefing phase. The briefing phase consists of informing the participant about what our product is, the device that testing will be conducted, and the tasks to be completed. The evaluation phase consists of the participant doing a walkthrough of the list of benchmark tasks and using the 10 heuristic principles to evaluate whether or not the user interface conforms to the principles. Levels of severity are assigned on tasks and we note any usability problems. Lastly, the debriefing phase consist of prioritizing usability issues found and decide what are problems or not. The materials used for this evaluation are an audio recorder for retrospective testing, word doc for the participant to read off the tasks, and a laptop or mobile device for the prototype testing. The audio recorder helps with post interview reviewing to see what areas of our application needs improvement.

Demographic

Name: Kevin

Gender: Male

Age: 25

Computer Experience: Casual

Benchmark Tasks

- 1. Log a Meal
- 2. View Total Calories consumed for the day
- 3. Log a workout
- 4. View Activity Tracker
- 5. View profile
- 6. Edit Profile Information
- 7. View and Edit Goals
- 8. Communicate with other users to discuss fitness goals

These tasks were selected by the team because they indicated the most essential parts of the application that the user would use on a daily basis. Audio recording was used to help with post interview reviewing to see what areas of the application needed improvement.

Severity ranks:

- 0:** Don't agree that this is a usability problem at all
- 1:** Needs to be fixed unless extra time is available on project
- 2:** Fixing this should be given low priority
- 3:** Important to fix, so should be given high priority
- 4:** Imperative to fix this before product can be released

Visibility and System Status

- Task: Log a meal
- Issue(s) found:
 - When Kevin was asked to add a meal, I noticed that he was able to identify that there was a nutrition section and a meal planner section where he can then add a meal. However, he didn't click on the right button to add a meal. What I was expecting him to click the "+" of the app, but he ended up clicking the whole card for "Breakfast" which displayed the total carbs, protein, and fat. Not what I was expecting initially, however, he was able to find how to add a meal.
- Severity: 3

Familiar Metaphors and Languages

- Task: View total calories
- Issue(s) found:
 - Maybe saying "Calorie calculator" instead of "Calorie counter" would make more sense.
- Severity: 0

User Control and Freedom

- Task: Log a workout plan
- Issue(s) found:
 - Kevin was having a hard time finding where logging a workout plan from the current screen he was in, which was the calorie calculator screen. He was clicking the "Back" button to try and go back to the main portal. It took him awhile to find the home button to take him back to the main portal where he can then use the workout features.

- Was having issues finding where to add a workout or exercise. Initially he clicked the widget of the history of a specific part of the body that a user worked out on.
- Severity: 3

Consistency and Standards

- Task: View Activity Tracker
- Issue(s) found:
 - Kevin was expecting to see the number of steps taken for a particular day of the week, but the application doesn't have an overlay of the number of steps on the graph of our app for a particular day like it does at the highlights section. He was estimating the number of steps for a particular day by looking at the graph.
- Severity: 2

Error Prevention

- Task: View Profile
- Issue(s) found:
 - None
- Severity: 0

Recognition rather than recall

- Task: Edit profile information
- Issue(s) found:
 - None
- Severity: 0

Flexibility and efficiency of use

- Task: Edit goals
- Issue(s) found:
 - None
- Severity: 0

Aesthetic and minimalist design

- Task: Communicate with other users
- Issue(s) found:
 - User clicked on the profile tab and clicked on friends. This is an issue because it tells me that our system is not well grouped with related objects.

- Did not see the community's tab at the bottom. I'm assuming that it's because of the transparency.
- Severity: 4

Help users recognize, diagnose, and recover from errors

- Task: N/A
- Issue(s) found: N/A
- Severity: N/A

Help and documentation

- Task: N/A
- Issue(s) found: N/A
- Severity: N/A

Organization and Debriefing of problems

1. Adding a meal
2. Viewing total calories
3. Log a workout plan
4. Communicate with other users

Evaluation Results and Decision

In conclusion, we learned that key features such as adding a meal, viewing the total calories, logging a workout, and communicating with other users were issues that the participants encountered. Our participant noted issues such as “icons were vague”, “labeling does not match feature”, and “too much navigating to access features”. More of our participant's insight can be found on this audio link: [Heuristic Review.m4a](#)

Cognitive Walkthrough

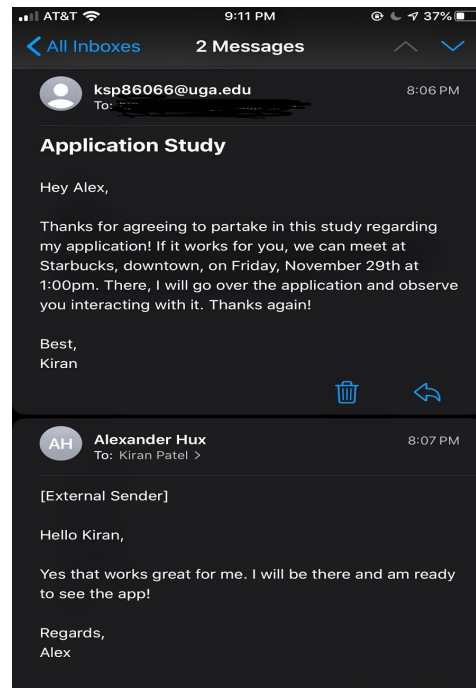
- **Demographic:** 25 y/o Male, Intermediate
- **Materials Used:** Email, Microsoft Word, the following prototype link:
<https://xd.adobe.com/view/845b8313-e13c-4d13-4ebe-d87f6dcd0655-f26a/?fullscreen&hints=off>

Evaluation Methods

This study was conducted first by emailing the participant and scheduling a time that was convenient for them to use the prototype and what they would be doing. Second,

we met at a mutual destination and I, as the conductor of these studies, gave the user a brief introduction of the prototype followed by some tasks to perform as I observed them interacting with the application. Below is the email used and the introduction script of when we met up to conduct the walkthrough.

- Email Snippet:



- Introduction Script

- “Thank you for meeting up today. Basically, my team and I have created this prototype that will hopefully help users in their fitness and nutrition goals by making an application to better log your workouts, help meal plan, and become more involved with other users like you wanting to maintain a healthy regime. Here is a piece of paper that includes some tasks that you will perform and afterwards I have some follow up questions. Before we begin, I will not be able to help you navigate through the application, I would also like for you to talk aloud of what you are thinking as you try and achieve these different tasks. If I notice you are not talking aloud, I will kindly ask that you tell me what you are thinking. Do you have any questions? We can begin with the first task on the list. (user did not have any questions)”

Benchmark Tasks

Tasks to be performed: (given to the user during the introduction)

- 1. Log a Meal

- 2. View Total Calories consumed for the day
- 3. Log a workout
- 4. View Activity Tracker
- 5. View profile
- 6. Edit Profile Information
- 7. View and Edit Goals
- 8. Communicate with other users to discuss fitness goals

-These tasks were selected by the team because they indicated the most essential parts of the application that the user would use on a daily basis.

-Notes of what the user did with each tasks are listed below. Notes were taken using Microsoft Word on my laptop. After all the tasks were completed, I asked the user follow up questions listed below with their responses.

○ Post Study

■ **Tasks Results**

■ **1. Log a meal**

- a. Clicked 'Nutrition' button
- b. Clicked 'Meal Planner'
- c. Clicked on plus button (+) shown for Breakfast
- d. Clicked on 'Add Meal Item'

Successfully completed with no complications

1. *Do the user recognize that this action is necessary to achieve the desired goal? yes*
2. *Can the user locate the control (link, button, etc) that triggers the action? yes*
3. *Once the control is activated, do users recognize that it relates to the desired effect? yes*
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made? yes*

■ **2. View Total Calories consumed for the day**

- a. Clicked 'Home' button on nav bar
- b. Clicked 'Nutrition' button
- c. Clicked 'Calorie Counter'

Successfully completed with no complications

1. *Do the user recognize that this action is necessary to achieve the desired goal? Yes*
2. *Can the user locate the control (link, button, etc) that triggers the action? Yes*
3. *Once the control is activated, do users recognize that it relates to the desired effect? Yes*
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made? yes*

■ **3. Log a workout**

- a. Clicked 'Home' button on nav bar
- b. Clicked 'Workout' button
- c. Clicked 'Activity Tracker'
- d. Clicked on the back arrow on top right corner
- e. Clicked 'Logbook' button
- f. Click add an exercise plus button (+)
- g. Click on hamstring muscle group
 - i. Clicked on 'duration'
 1. User was confused because nothing popped up
 2. User clicked 'Submit', was confused again because nothing happened

Tasks were performed successfully until the end when clicking on duration the user had confusion as to why the button was not working or why no keyboard was present. Also, when the user tried to press submit button nothing had happened causing the user to feel as though he could not successfully complete the task at hand.

1. *Do the user recognize that this action is necessary to achieve the desired goal? yes*
2. *Can the user locate the control (link, button, etc) that triggers the action? yes*
3. *Once the control is activated, do users recognize that it relates to the desired effect? Yes, although there was confusion when the participant clicked on 'duration' to have a keyboard pop up but it did not result in that desired effect*
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made? Yes, except when they clicked 'Submit' button they were directed to the same page without any messages resulting in confusion if they had successfully logged their workout.*

■ **4. View Activity Tracker**

- a. Clicked 'Home' button on nav bar
- b. Clicked 'Workout' button
- c. Clicked 'Activity Tracker'

Successfully completed with no complications

- 1. *Do the user recognize that this action is necessary to achieve the desired goal? Yes*
- 2. *Can the user locate the control (link, button, etc) that triggers the action? Yes*
- 3. *Once the control is activated, do users recognize that it relates to the desired effect? Yes*
- 4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made? yes*

■ **5. View profile**

- a. Click the 'Profile' button on the navigation bar on bottom of screen

Successfully completed with no complications

- 1. *Do the user recognize that this action is necessary to achieve the desired goal? yes*
- 2. *Can the user locate the control (link, button, etc) that triggers the action? yes*
- 3. *Once the control is activated, do users recognize that it relates to the desired effect? yes*
- 4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made? yes*

■ **6. Edit Profile Information**

- a. Clicked the 'Profile' button on the navigation bar on the bottom of the screen
- b. Clicked 'Profile Info'
- c. Clicked 'Edit' on top right corner

Successfully completed with no complications

- 1. *Do the user recognize that this action is necessary to achieve the desired goal? yes*

2. *Can the user locate the control (link, button, etc) that triggers the action?*
yes
3. *Once the control is activated, do users recognize that it relates to the desired effect?* yes
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made?* yes

■ **7. View and Edit Goals**

- a. Clicked back button from 'Profile Info'
- b. Clicked 'Goals'
- c. Click on 'Weekly Goal' to edit that particular field

Successfully completed with no complications

1. *Do the user recognize that this action is necessary to achieve the desired goal?* yes
2. *Can the user locate the control (link, button, etc) that triggers the action?*
yes
3. *Once the control is activated, do users recognize that it relates to the desired effect?* yes
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made?* yes

■ **8. Communicate with other users to discuss fitness goals**

- a. Clicked on the 'Community' button on the navigation bar located at the bottom of the screen

Successfully completed with no complications

1. *Do the user recognize that this action is necessary to achieve the desired goal?* yes
2. *Can the user locate the control (link, button, etc) that triggers the action?*
yes
3. *Once the control is activated, do users recognize that it relates to the desired effect?* yes
4. *After the action is taken do the users understand the feedback they get, so they perceive progress is being made?* yes

○ **Follow Up Questions and Answers**

"Thank you for your participation, I have a few questions for you:"

- Was the application easy to use? "Yes"

- Did all the options in the application provide you with what you wanted to do? “Yes”
- Would you use this application again in the future? “Yes”
- Is there anything you would like to see in the next iteration? “*I would like to be able to edit the fields correctly.*”

“Again, thank you so much and hope you have a great rest of your day!”

- I asked the specific follow up questions to better understand the user experience and if there were any pain points. The answers given to those questions will help with the next iteration and enhance the user experience. Using the answers given, I would not change the user interface as it is easy to navigate and understand. However, I would ensure that users are able to enter values in any field where they can select “Edit”.

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Evaluation Results

I noticed it was easy for the participant to navigate through the application so it tells me that our design is simplistic and is easy to use. Although during the ‘log a workout’ task the user was confused because the keyboard was not appearing upon selection, this tells me that we can improve this prototype in the next iteration by making keyboard appear on selection of when someone is trying to type in a field. Same with the submit button, the user should be directed back to the home page or given a notification that the user successfully logged their workout.

In conclusion, the design works but there are small user interface enhancements to make. The keyboard not appearing did not meet our specifications.

Predictive Evaluation

Evaluation Methods

Using KSLM, we will be able to measure every keystroke a user will perform to complete a wide range of tasks.

Benchmark Tasks

1. Log a meal

-H (Home on device) : 0.4s

-K (Clicking on Nutrition button) : 0.35s

-K (Clicking on Meal Planner button) : 0.35s

- K (Clicking on the Plus button for breakfast, lunch, or dinner) : 0.35s
- K (Clicking on Add Meal Item button) : 0.35s
- K (Clicking on what food) : 0.35s

Total estimated time: 2.15s

2. View Total Calories consumed for the day

a. From Home screen:

- H (Home on device) : 0.4s
- K (Clicking on Nutrition button) : 0.35s
- K (Clicking on Calorie Counter button) : 0.35s

Total time: 1.1s

b. Within meal planner:

- K (Clicking on top right icon with calculator on fire) : 0.35s

Total time: 0.35s

3. Log a workout

- H (Home on device) : 0.4s
- K (Clicking on Workout button) : 0.35s
- K (Clicking on Logbook button) : 0.35s
- K (Clicking on Add an Exercise button) : 0.35s
- K (Clicking on muscle group/cardio/other icon) : 0.35s
- K (Clicking on Duration) : 0.35s
- K (Typing in duration) : 0.28s
- H (Home on keyboard) : 0.4s
- K (Clicking on weight): 0.35s
- K (Typing in weight) : 0.28s
- K (Clicking on reps): 0.35s
- K (Typing in reps) : 0.28s
- K (Clicking on Submit) : 0.35s

Total time: 4.44s

4. View Activity Tracker

- H (Home on device) : 0.4s
- K (Clicking on Workout button) : 0.35s
- K (Clicking on Activity Tracker button) : 0.35s

Total time: 1.1s

5. View profile

- H (Home on device) : 0.4s
- K (Clicking on Profile button from navigation) : 0.35s

Total time: 0.75s

6. Edit Profile Information

- H (Home on device) : 0.4s
- K (Clicking on Profile button from navigation) : 0.35s
- K (Click Profile Info button) : 0.35s
- K (Click Edit button) : 0.35s

Total time: 1.45s

7. View and Edit Goals

- H (Home on device) : 0.4s
- K (Clicking on Profile button from navigation) : 0.35s
- K (Click Goals button) : 0.35s
- K (Click on desired field to edit) : 0.35s

Total time: 1.45s

8. Communicate with other users to discuss fitness goals

- H (Home on device) : 0.4s
- K (Clicking on Community button from navigation) : 0.35s

Total time: 0.75s

Performance measures

- Predicting the tasks complete
 - Based on the KSLM, we predict that any user should be able to complete all benchmark tasks around the time frame we gave. There are tasks that require additional key presses such as typing, but that is something we cannot measure since it varies per user.
- Predicting errors made
 - We predict that the average user will make an error where they can add a meal onto their meal planner. There are 3 different options (Add Meal Item, Scan Barcode, and Quick Add). A first time user might be confused as to what to choose, which may delay KSLM time for that particular task.
- Predicting the times each participant may need help
 - A user may ask questions regarding how to add an exercise on the workout log book page. The button is kind of small and hard to find since it does match up with the data already presented.

-A user might ask what other options are there regarding the total number of steps on the activity tracker. There is a lot of design going on for the graph with a bunch of options, and they might ask if the functionality is operational or not.

Retrospective Testing Interview

Heuristic evaluation audio recording file: [Heuristic Review.m4a](#)

Person 1 (Tiffany) Questionnaire audio recording: [Tiffany Questionare.m4a](#)

Person 2 (Kristy) Questionnaire:

1. What can be done to improve the interface?

"I think that the 2 big icons for the start page can be combined with the icons of the navigation bar. I also think that maybe actually having functionality to edit the profile and goals within your prototype."

2. Did the application make it easier to plan meals and workouts?

"I think it mimics the functionality of other fitness apps, so I do think it does make it easier since I use MyFitnessPal and assume that it is like the same thing."

3. On a scale of 1-10 what would you give to the overall application in accomplishing your health needs?

7

4. What could be improved on?

- "I do not think the community page is necessary because users do not want to have to use another social media platform, so I would take that out."

- "Also the profile page does not need those individual tabs for profile information, goals, etc. I expect the profile page to have all of that already laid out, and I can just scroll through to get to where I need, but maybe I am just being nit-picky."

- "I am still confused about the activity tracker and the logbook. It almost seems like they should be working together rather than 2 individual functionalities."

5. What would you rank 1-5 where 1 is the most and 5 is the least important feature if you were to use this app (Logging a workout, Logging a meal, Sharing status updates with other users of the app, Viewing number of steps in activity tracker, and setting goals)?

Logging a workout: 2

Logging a meal: 1

Sharing status updates: 5

Viewing # of steps: 3

Setting goals: 4

Person 3 (Chris) Questionnaire:



1. What can be done to improve the interface?

"I think the color should be changed, make it more lively. I definitely think the Meal Planner logo is not intuitive of what it means, I think you should change the name to Meal Logger instead. Make it more interactive to the user."

2. Did the application makes it easier to plan meals and workouts?

"Yes, it was easy to navigate"

3. On a scale of 1-10 what would you give to the overall application in accomplishing your health needs?

8/10

4. What could be improved on?

Logging nutrition

Logging workouts

Community page

Profile

"Everything can be improved"

5. What would you rank 1-5 where 1 is the most and 5 is the least important feature if you were to use this app (Logging a workout, Logging a meal, Sharing status updates with other users of the app, Viewing number of steps in activity tracker, and setting goals)?

Logging a workout: 2

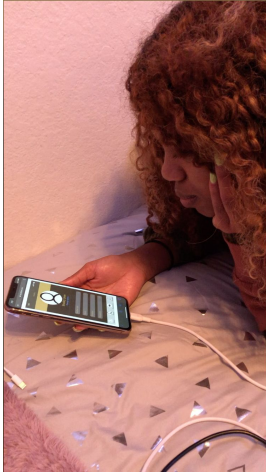
Logging a meal: 1

Sharing status updates: 3

Viewing # of steps: 5

Setting goals: 4

Person 4 (Zaria) Questionnaire:



- 1. What can be done to improve the interface?**
 - “I don’t like the brown color, it seems to serious, they would prefer maybe a more vibrant or positive color“
- 2. Did the application make it easier to plan meals and workouts?**
 - Yes
- 3. On a scale of 1-10 what would you give to the overall application in accomplishing your health needs?**
 - 8 - “It doesn’t recommend meals or places to eat, maybe have that as it’s own section in community page”
- 4. What could be improved on?**
 - “Logging nutrition”
- 5. What would you rank 1-5 where 1 is the most and 5 is the least important feature if you were to use this app**
 - 1 Logging a workout
 - 4 Logging a meal
 - 5 Sharing status updates with other users of the app
 - 2 Viewing number of steps in activity tracker
 - 3 setting goals

Person 5 (Danielle) Questionnaire:



1. **What can be done to improve the interface?**
 - a. “It seems pretty straightforward, I wouldn’t say anything”
2. **Did the application make it easier to plan meals and workouts?**
 - a. Yes
3. **On a scale of 1-10 what would you give to the overall application in accomplishing your health needs?**
 - a. An 8, I don’t use apps to track my meals or workouts
4. **What could be improved on?**
 - a. Logging nutrition
 - i. The breakfast, lunch, dinner, snack division is confusing
 - b. Logging workouts
 - c. Community page
 - d. Profile
5. **What would you rank 1-5 where 1 is the most and 5 is the least important feature if you were to use this app (Logging a workout, Logging a meal, Sharing status updates with other users of the app, Viewing number of steps in activity tracker, and setting goals)?**
 - 1 setting goals
 - 2 logging a meal
 - 3 viewing steps
 - 4 logging a workout
 - 5 sharing status

Think Aloud Evaluation

Evaluation Methods

This evaluation starts by gathering our participants before the think aloud usability testing. Our participants are family members, friends, or random university students. The materials used are laptops or mobile devices to test the prototype via

Adobe Xd link, microsoft word to read the task, and an audio recorder for retrospective testing. The think aloud procedure consist of getting our participants to continuously verbalize their thoughts and evaluate them as such. The goal is to find out why our users do certain things, what thoughts would happen, and why they were stuck or frustrated. We encourage our participants by coaching them to keep talking on redirect them if their lost. The setting is in a quiet room with no interfering noise

Benchmark Tasks

- 1. Log a Meal
- 2. View Total Calories consumed for the day
- 3. Log a workout
- 4. View Activity Tracker
- 5. View profile
- 6. Edit Profile Information
- 7. View and Edit Goals
- 8. Communicate with other users to discuss fitness goals

These tasks were selected by the team because they indicated the most essential parts of the application that the user would use on a daily basis. Audio recording was used to help with post interview reviewing to see what areas of the application needed improvement.

- Person 1: Tiffany, 21, Female, casual

Task 1: Log a meal

- Evaluate participant:
 - From the main hub, Tiffany was able to identify that to accomplish the task, she needs to enter the nutrition portal. From there, she was able to navigate to the meal planner and the breakdown of breakfast, lunch, dinner, and snacks. Initially she clicked the whole card and thought that the add meal UI would pop up, however, it only displaced the total carbs, proteins, and fats. She eventually clicked the “+” but did not click the quick add widget and go through the process of adding a meal until I had told her that's where you add a meal.

Task 2: View Total Calories consumed for the day

- Evaluate participant

- From the current screen (Meal Planner), she clicked the home button from the bottom navigation bar and clicked on nutrition then clicked on “Calorie Counter”. The task was accomplished without any issues.

Task 3: Log a workout

- Evaluate participant
 - From the current screen (Calorie Counter), she clicked the home button from the bottom navigation bar back to the main hub. From the main hub, she identified that “workout” is the portal that she needs to go to in order to accomplish the task. She was then able to accomplish the task successfully without much coaching.

Task 4: View Activity Tracker

- Evaluate participant
 - From the current screen (Logbook), she clicked the back arrow at the top of the screen to the workout apps page and successfully completed the task.

Task 5: View profile

- Evaluate participant
 - From the current screen (Workout Apps), she identified a profile icon at the navigation bar at the bottom and navigate to the profile page. From there the task was complete. She went ahead and viewed the profile info of our persona.

Task 6: Edit Profile Information

- Evaluate participant
 - Task was completed flawlessly

Task 7: View and Edit Goals

- Evaluate participant
 - From the profile info page, she clicked back to the profile page and was able to identify the “Goals” widget. She forgot this was a prototype and attempted a couple of times trying to enter in actual information and was a little frustrated. I simply reminded her that this was just a prototype and after that the task was complete.

Task 8: Communicate with other users to discuss fitness goals

- Evaluate participant

- From the profile page, she initially thought messages was where you get to communicate and discuss fitness goals.
- Person 2: Kristy, 53, Female, Casual

Task 1: Log a meal

- Evaluate participant
 - The very first thing person 2 did was assume logging a meal would be under “Nutrition”, which is good. After clicking on that, I noticed that they were confused as to what option to click next. They said that Meal Planner does not mean that logging a meal would be in there, but they went ahead and assumed it was. Then she saw there were plus buttons on Breakfast, lunch, and dinner. She successfully saw the options and did not need any help.

Task 2: View Total Calories consumed for the day

- Evaluate participant
 - After coming back to the homepage, she clicked on Nutrition automatically because she remembered that calorie counter was an option under there. She successfully completed the benchmark test very quickly

Task 3: Log a workout

- Evaluate participant
 - From the homepage, she went ahead and clicked the Workout button with no hesitation. She then figured logging a workout would be in the Logbook. After that, she was confused as to where exactly “logging a workout” would be because she was not sure at first if “Add an exercise” was another functionality. I had to explain to her that adding an exercise was correct. From there, she chose a muscle category at random and said she loved how organized it was. When she went to type in random data for duration, weight, reps, and notes, she noticed that the keyboard does not come up and wondered why that did not happen. She then tried clicking submit and thought she was missing something.

Task 4: View Activity Tracker

- Evaluate participant
 - From the homepage, she clicked Workout button followed by the activity tracker with no hesitation. She successfully completed the benchmark task.

Task 5: View profile

- Evaluate participant
 - From the homepage, she already had seen previously that the profile button was located on the navigation bar on the bottom. She commented that she liked how convenient it was to get access to the profile from anywhere on the app.

Task 6: Edit Profile Information

- Evaluate participant
 - From the homepage, she clicked on profile from the navigation bar again. She did not know if profile information also meant changing the photo. So at first, she clicked on “Change photo” until later when I had to clarify the she needed to edit profile information, not the photo. She then quickly saw that “Profile Information” was an option below the image. She found the Edit really quick because of how vibrant and blue the button was. She was confused as to why nothing was happening when she clicked Edit.

Task 7: View and Edit Goals

- Evaluate participant
 - From the homepage, she clicked on the profile button again. She clicked the “Goals” option and successfully completed the benchmark test in a quick manner.

Task 8: Communicate with other users to discuss fitness goals

- Evaluate participant
 - From the homepage, she clicked on the Community button because she assumed that community meant some sort of social aspect of the app. She successfully completed the benchmark quickly.

○ **Person 3: Chris (Intermediate)**

Task 1: Log a meal

- Evaluate participant

- From the main hub, the participant was able to identify that to accomplish the task, first, he needs to enter the nutrition portal. From there, he was able to navigate to the meal planner and the breakdown of breakfast, lunch, dinner, and snacks. Initially he clicked the whole card and thought that the add meal UI would pop up, however, it only displayed the total carbs, proteins, and fats. He was confused and did not know what to do, eventually he went back and clicked the “+”. Then he clicked the add a meal button but showed confusion because it did not go anywhere so he tried it again and pressed scan a barcode again nothing happened, then eventually clicked quick add. He showed concern as to what the difference was between ‘add a meal’ and ‘quick add’. He was able to go through the process of adding a meal through quick add.

Task 2: View Total Calories consumed for the day

- Evaluate participant
 - From the meal planner, the participant was able to click the top right button to go to total calories consumed for the day successfully.

Task 3: Log a workout

- Evaluate participant
 - User clicked home then workout and then logbook. Participant then clicked the + button by ‘add an exercise’ and then clicked ‘upper back’. Participant showed confusion about not being able to change duration, weight and reps when clicked on. Also, the participant was confused when nothing happened when they pressed submit.

Task 4: View Activity Tracker

- Evaluate participant
 - From the Logbook, the user pressed the back button and then pressed ‘activity tracker’. Participant was not confused and was able to easily navigate through the application.

Task 5: View profile

- Evaluate participant

- User clicked Profile on the navigation bar, was done successfully.

Task 6: Edit Profile Information

- Evaluate participant
 - From the Profile page the user successfully clicked 'Profile information' and when the participant clicked the 'Edit' button on the top right they were confused because nothing had happened.

Task 7: View and Edit Goals

- Evaluate participant
 - User pressed the back button from the 'profile information' page and then pressed goals, user felt confused because there was no edit button but then eventually was able to click the field to edit and a keyboard popped up.

Task 8: Communicate with other users to discuss fitness goals

- Evaluate participant
 - User pressed community and then clicked the text field but showed confusion because he was not able to type anything in the text field.

○ **Person 4: Zaria, 20 F (casual)**

Task 1: Log a meal

- Evaluate participant
 - was able to easily navigate to the meal planner, but had difficulty pressing the '+' as it was on top of another button

Task 2: View Total Calories consumed for the day

- Evaluate participant
 - used back button to view calorie counter instead of using shortcut icon, said she noticed the shortcut but preferred to just do the long way rather than risk pressing the shortcut button as it was unclear 100% what it would do

Task 3: Log a workout

- Evaluate participant
 - easily navigated to the workout planner via pressing the home screen and the logbook, and waited momentarily before selecting the calf workout

Task 4: View Activity Tracker

- Evaluate participant
 - pressed the back button 3 times to successfully be able to click the activity taker

Task 5: View profile

- Evaluate participant
 - user clicked profile shortcut button

Task 6: Edit Profile Information

- Evaluate participant
 - user pressed settings to search for profile settings there, then said there's only a change photo button, then realized the arrow on the profile info section showing there were more settings underneath

Task 7: View and Edit Goals

- Evaluate participant
 - used pressed the back arrow and instantly noticed the goals option under profile info, user scrolled looking for an edit button, tried to press the goal name, then eventually noticed after some struggle they needed to press the existing goal to bring up the keyboard

Task 8: Communicate with other users to discuss fitness goals

- Evaluate participant
 - user pressed the community button, and noticed they needed could type directly into the "What's in your mind" box, but was confused about what the speech bubble with ellipses was for

○ **Person 5: Danielle 19 N, casual**

Task 1: Log a meal

- Evaluate participant
 - navigated to meal planner and scrolled on existing items before pressing top + button

Task 2: View Total Calories consumed for the day

- Evaluate participant
 - pressed back arrow and navigated to calorie counter

Task 3: Log a workout

- Evaluate participant
 - home > workout > logbook > and pressed the + next to "add an exercise" and selected calves

Task 4: View Activity Tracker

- Evaluate participant
 - pressed back arrow and navigated to activity tracker

Task 5: View profile

- Evaluate participant
 - pressed profile shortcut instantly

Task 6: Edit Profile Information

- Evaluate participant
 - immediately went to profile info and edit button

Task 7: View and Edit Goals

- Evaluate participant
 - pressed back arrow, looked for a moment to find Goals, and clicked on Fitness Goals and goal names before realizing she needed to press the existing entered goal

Task 8: Communicate with other users to discuss fitness goals

- Evaluate participant
 - pressed community button and started reading the existing posts

Evaluation Results and Decisions

Based on the results gathered by our varying participants, we see that our application lacks clarity.

Questionnaire Questions

- At least one open-ended question
What can be done to improve the interface?
- At least one closed question
Did the application make it easier to plan meals and workouts?
- At least one scalar question
On a scale of 1-10 what would you give to the overall application in accomplishing your health needs?
- At least one multi-choice question
What could be improved on?
 - Logging nutrition
 - Logging workouts
 - Community page
 - Profile

- At least one ranked question

What would you rank 1-5 where 1 is the most and 5 is the least important feature if you were to use this app (Logging a workout, Logging a meal, Sharing status updates with other users of the app, Viewing number of steps in activity tracker, and setting goals)?

Future Roadmap

With all the information gathered within these study protocols, if there was another semester to work on the project, the three things we would change and improve upon would be how features of the application are displayed, adding an error prevention feature, and how clear use of feature context. The main hub of our application gives the user the choice to pick which task they want to focus. Some of our participants stressed that it was tedious going back and forth between nutrition and workout just to use their specific features. Based on their feedback, we aim to focus on collectively adding all the features into one page in rows and columns. This will cut latency and improve efficiency of application use. Next phase of change would be to add error messages that help users understand a problem that may arise and to provide information that constructively teaches users how to recover from the error. Lastly, we plan to improve how information is conveyed. Some of our participants didn't know that an icon or text in the application was also a feature part of accomplishing their task. It may be intuitive to intermediate users or experts but we'll need to consider all ranges of computer experiences. Aside from these changes and improvements, we plan to also add a wearable device feature and fully develop the application with backend implementation. We would also like our application to be tested by more people and gather significant amounts of data to further improve our application as new features are implemented and tested.