

# Final Project Milestone

adapt. mobile application

*“Workout smarter”*

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## Summary of analysis:

During our analysis we discovered that some major parts of our design did not adhere to a user-centered design. Specifically, when a new workout is selected, the time immediately starts elapsing even though the user is not engaged in physical activity yet because the workout has no exercises yet. The team hasn't fully addressed how to solve this issue besides knowing that we'll have to add another intermediate screen to allow the user to “set-up” their workout before starting it.

Another design flaw we noticed (this could be due to lack of vertical integration) was active feedback on the workout templates page. The user does not receive any feedback when they click the ‘+’ button on the template cards (shown in appendix *workout template with start button*). They should be able to understand and find which template they chose in an easy to understand/navigate way. Maybe a dialog pop-up showing them the template that they have selected would be a great way for a user to understand what selection they have made and when they will be able to start their workout. We realized that the Start Workout button was placed a screen too early in the action sequence, in our next iteration, we will make these changes.

The navigation through the pages is not always predictable and the user might have to get used to some features such as the history which is in the dashboard and not in the profile tab which could be different for new users. Including text under the icon's names could increase the visibility of the dashboard/history if we highlight the name as “History”. This could aid with learnability and memorability for the user since they could legibly read what the following action sequence is. Additionally, more thought needs to be put into the navigation that proceeds from the back button, where to redirect, which pages must have it, and which pages should not.

The Cancel and Finish buttons on the workout pages do not have error prevention and do not give feedback to the user if the workout is canceled or finished. The team has decided to give user a pop up when they click the cancel button which allows users to cancel the workout or return to the workout if not intending to cancel their workout and when clicking the Finish button instead of going to the home screen, we decided to give a pop-up message to the user that the workout is finished successfully.

Having the profile page completed to highlight some more features, especially achievements, is also something that we plan to address in the next stage of prototyping. Understanding what features need to be included in the profile page will be valuable to know and can be easily implemented in the next iteration.

One thing that we also noticed was the lack of a “log out” function, this will probably be mapped to the profile page in the next iteration.

## Discussion/Rationale for Design Changes

- In our template workout pages, there is a major lack of feedback while selecting specific workouts. When the user selects a workout, they don't know if it has been successfully chosen. Our group will give the user more feedback in the form of an instant popup box after the user taps the “+” button next to their template of choice. We tried to implement this design but realised it resulted in too many taps. Error recovery and feedback already existing.
- When a user leaves any workout that they are currently doing, we have no way to maintain/view/navigate back to the current workout that they are completing. Some of the suggestions were, to create a minimized bar at the bottom that showed a glimpse of the current workout in progress. The “mini saved workout” bar will have minimal information that simply allows the user to identify that the workout is still “active” or paused in the background, as they navigate elsewhere in the app. Another potential solution we came up with was by simply adding a pop-up screen to let user know they are about to cancel the workout by navigating away from it. This design choice is not in favour because it means the user scraps their workout the second, they leave the page. The group ultimately decided to place a play button where the “+” was in order to continue the paused workout.
- The team discussed to add a settings button on the top corner of the profile page instead of having it on all the screens.
- The team discussed to add the logout functionality in the Profile screen and Settings page instead of having it on all the screens.
- It became apparent to the group that some screens had back buttons that weren't required. By removing some of these buttons, it gives the user some constraints on their navigation, allowing them to move more freely through the app, reducing chance of errors and mis-clicks. Overall, this allows for a more pleasant navigation experience.
- To create a streamlined experience, the team decided to maintain a consistent look throughout all the pages by following a similar colour palette and overall theme. Additionally, the placement of prominent buttons could increase the memorability of the user since most functions would be mapped to the same location.
- We discussed the nature in which we want to save template workouts for later use. We plan to prompt the user with a popup after they tap end workout, asking them if they would like to save their completed workout as a template.
- The team realized many pages were missing editable titles. We included the pencil icons to the remaining pages.
- The team decided to add text under the navigation icons to better indicate to the user what each button does. This potentially reduces errors and reduces the guessing/predicting the user must do to understand what an icon means.

- We added the option for the user to minimize/temporarily pause their workout by adding the resume button. This is to prevent loss of progress for a user if they navigate to a different page. We tried different methods but changing the primary/most prominent button to a green “play button” provides the affordance that they can click it to return to their workout. The text at the bottom of the button also changes to “Resume” which further increases the learnability and optimizes navigation.

## **TEST PLAN**

### **Goal and Task Questions**

The goal of this test is to present the adapt to users and get feedback from them to imply any solution for problems that app could have. The usability tests will let us know how the users could navigate through the features in the app

There are five tasks that the users do in this test including:

- Start a workout in workout selection: Empty, Suggested and Saved Workout
- Add new workout from scratch in Empty Workout Selection
- Navigate home and resume your workout
- View your workout history/activities
- View your profit information and achievements

The group will follow up on the HE/CW results to see if there is any improvement after we imply design changes that we discussed in the design rational.

### **Evaluation Methods**

After the usability test, we will ask some questions in the questionnaire post interview to see how satisfaction that users could have. Furthermore, we will use the task performance table for each user to see how users perform the takes as above.

### **Usability Metrics and Data Collection**

The user's task performance and task performance times summary are two usability metric tables that we will use during the test. The first table will collect how long the user takes to finish the task in the scale from 1 to 4 and how many errors the user could make too. This data will be collected when the user tries on the prototype rather than after the test. The next table will calculate the average time for each task from total number of users to let the team know if the tasks take more time to complete.

### **Plan to conduct the evaluation in order from start to finish**

By following the script steps, the group will start by introducing the fitness app to the interviewee and tell them the purpose of the test. We will then ask them about their experience with fitness

apps. Throughout the usability test, the team member will collect the task performance data as the interviewee completes the tasks. After doing the test, there will be a post interview questionnaire to collect information about user satisfaction.

## **SCRIPT**

### **Introduction**

Introduce yourself to the user.

Ask the user questions to understand their background, what they do, how they found the trip to the interview place.

Explain to the user that the interview is recorded, there are no “wrong answers” and that it will not be seen by the public, but only members of the development team for analysis purposes.

The video is recorded for analysis that will be used to improve the experience of the app.

I'd also like to remind you that we are testing the app's design, and not you, so do your best to not focus on your own performance during the test.

Also state that the app is still in its preliminary stages and some features are not fully complete, so there might be some spots where there will be no interaction.

We want you to think out loud as you navigate through the different tasks. We ask of this to allow us to better understand how we can improve the app in the future iterations.

Reiterate that the app is designed for a person like the interviewee and that if they find some features or things that are awful or annoying, they should let the interviewer know as well as things they like and really like.

Fitness app related questions (experience/use etc.) ->

- How much time do you usually spend at the gym per week or day?
- Have you ever used a fitness app before? If so, how was that experience for you?
- What were some of the things/ kept you from continuing to use those fitness apps?
- And what were some things you really liked about those apps?

### **Task related questions**

**\*\*gives control of prototype to interviewee**

What are your initial impressions of the app when you log in?

I'd like you to complete a few of tasks with this interface, just continue to narrate your thoughts as you go through the tasks. Just a reminder that this isn't about your performance but rather about the design of our app.

**\*\*make sure to ask why they clicked or did a certain action**

\*Read tasks one at a time

1. Start a workout - "It's a cold snowy day in Winnipeg, you've finally made it to the gym, and you want to start one of your Push workouts that you saved as a template with adapt. How would you do so?"
2. You've arrived at the gym and suddenly decided to change it up by starting a new workout from scratch. You know for sure you want to "deadlift" during your workout. How would you do so?
3. While in your workout, check the battery percentage of your headphones, then resume your workout.
4. View your workout history - Locate and view your "Steps" daily and weekly workout history.
5. View your achievements - You noticed you earned an achievement on your previous workout. Navigate to your achievements page to check it out.

When they have appeared to finish each task ask:

Did you feel that you completed the task successfully?

Was there anything you felt was misleading or made it hard to find what you were looking for?

### **Conclusion questions / final remarks**

Can you summarize your experience with the system? What did you like and dislike about it?

Could you see yourself using the app in the future?

Do you have any final questions?

Thanks for taking part in this test. Your cooperation is greatly appreciated.

### **QUESTIONNAIRE POST INTERVIEW (scale of 1-4 where 1: very difficult, 4: extremely easy)**

1. How quickly were you able to start a workout?
2. How difficult was it for you to navigate using the navigation bar?
3. How difficult did you find it to start an empty workout?
4. How do you feel about the layout of the app? Do you feel the consistency of design elements for each screen? Rate the layout, consistency,
5. How quickly were you able to identify that your workout was still in progress when navigating away from it?

**Usability Testing Rubric** – find in Appendix page 8.

**Usability Testing Results** – find in Appendix page 8-10

## **ANALYZING OUR FINDINGS**

## **Qualitative analysis:**

One interviewee mentioned the lack of need of empty workout screen 1. It was suggested that the information that is present on Empty workout screen 1 would make sense to have on empty workout screen 2. The instant feedback a user would receive would improve the efficiency of the task by letting them see what they are adding instantly without leaving the page.

Lack of recognition and recall for saved workouts. It would be good to have sort functionality to improve this. One respondent suggested that having a way to search through saved workouts would improve the use of efficacy of the task. Being able to sort through the saved workouts could also be another way to promote recognition rather than recall.

Another common comment by some respondents was that they felt the achievements should be placed on the social page rather than on profile page. This is a valid concern as you could argue that achievements could be of two types (individual based and social based). Furthermore, one's own achievements could be kept just for the user to see in their profile as well as shared with others in the social tab for the purpose of competition. One of the interviewees also had a tough time finding the achievements page, she thought that the achievements would logically be under the activity.

It was noted by many that the design of the logout and home screen looked bland (too much white space and boring home screen). Our goal of minimalistic design was not appreciated in all our usability tests. One user really liked the plus button and the orange coloring since it stands out from the rest and got their attention at the first glance.

One user mentioned that they were expecting to see back buttons on more screens throughout the app. This suggests that the user's mental model was quite different from ours as designer's mental models, since we thought that by mapping the buttons on the navbar it would avoid the need for the back buttons.

When some users arrived at the workout history page when completing that task, a common thing said was that the graph text is not consistent with the rest of the rest of the screens, and that the graphs were hard to read.

Most of the interviewees like the navigation bar which is located at the bottom of each screen. Many interviewers especially said that they appreciated having text under the icons.

Most of the interviewees loved the fact of having a social aspect to the app and making friends at their gym and even viewing their progress.

All the interviewees liked the card design on each screen and were satisfied with all the available features provided by the team. It was cited that the by a few users that the design was kept very minimalistic and that it made using the prototype very straightforward and effective.

Most of the interviewees liked the idea of viewing their history through the dashboard.

Many of the users said that they liked the color scheme, animations and the consistency of the layout. This was good to hear because it meant that we were able to distill some of the user experience goals we had at the outset of the project which included designing a satisfying, enjoyable and aesthetically pleasing experience.

The interviewee completes the required tasks successfully with minor errors for the first two tasks, other than that the interviewee could navigate the app well without any issues. The empty workout screen 2 gives some misunderstanding to press which button to add the workout. This is due to the prototype that we only imply a few pressing buttons for that feature.

The interviewees gave some comments that the layout of the app looks clear and easy to navigate for the tasks. The app also runs quickly in his feeling that he thinks that he would like to use this app if it would become a finished app in the future.

All the interviewees wanted to have a Dark mode. One of the interviewees did not like white background at all in the app and commented that it did not look like an app which uses AI technology. They said that they would want something that looks a bit futuristic with a dark theme and neon blues (something Tron looking).

Interviewees the gamification of the app provided by achievements which most stated would encourage them to use the app in the future and log in more.

### **Quantitative analysis:**

#### **Performance Usability tests**

For tasks 2 Start Saved workout and task 4 View History, users found success in terms of time for achieving these two tasks which resulted in perfect scores of 4.0. It was nice to see that the users all had no issues with regards to task 2, as this is one of the key functions of the app. Regarding task 3 Navigate home and resume your workout, results suggest that the design of this task was also done very well, only resulting in 1/5 scores not being a perfect 4. Locating the Achievements for task 5 had few errors as most of the interviewees were unsure about the location of the achievements. This finding suggests that even among our 5 users they appeared to have varying mental models for where achievements should be placed within the app when considering the errors across the results. Similarly, to task 5, task 1 where users were asked to start at empty workout, again we observed slightly varying times regarding time to complete the task with an average of 3.4.

**Post interview questionnaire** – *See appendix page 13*

## **PROJECT CONCLUSION & FUTURE CONSIDERATION**

### **Project conclusion**

Initially, it was interesting to note the differences between each of the team members mental models. Each member had a different design approach for each screen and trying to mesh our mental models was quite difficult. This observation showed up again in the usability testing interviews when some of the users mentioned what their ideas were for the app and what they expected from some of the features (a user mentioned that the lack of back buttons was frustrating and something they would have expected the app to have on most pages).

The usability test for the app ran well for most of the interviewees as they completed the required task quickly with only a few minor issues. As the user continued to familiarize themselves with the app, it can be deduced that their memorability increased as their user model changed to adapt to the app. It can be noted that most users did not need to make drastic changes to their user models since our design already reflected what they believed the correct action in the given tasks. It is good to see how the interviewees process through the task by our navigation bar compared to the quick and dirty testing. By adding the text below each button in the navigation bar, we could let testers know how to do the task more smoothly than before. The usability test is a great experience to hear from interviewees as they give more changes and ideas that we will consider in the future too.

Additionally, many interviewees found it slightly challenging to find the achievements page due to the nature of the question. Many interviewees that ran into this problem noted that if the question had mentioned "personal achievements" they would have navigated to the correct page instantly.

One aspect of completing the test was that it was trying to be as objective as possible to attain the best information for the sake of our project. It was challenging to try not to lead the user to what you want them to do. One strategy we found helpful was to mute our microphones during the test.

The experience of working alongside a group gave us the experience we'll need in the future. This project allowed us to experience the SDLC in practical terms. Our group learned how to develop a medium to hi-Fi prototype that highlighted the functional requirements that we set out to achieve. It was an extremely rewarding process that allowed us a group to experience what developers do in the industry.

The group also experienced user-centered design and the attributes that go with it. We experienced how to deal with criticism, and how to turn it into a better design that coincides with what the user wants. As a group, we began to understand the importance of the information we discovered during the initial stages of the project. This helped us to have a design that is more centered around the user rather than design centered.

Team Mew Two understood more and more as the project progressed that there are decisions to be made with regards to trade-offs regarding functional requirements of the system. We learnt that often when we wanted to make a design change in one aspect, it meant sacrificing on another aspect. In other words, you cannot have it all.

How did we decide what to ignore and what not to ignore? As far as what we have learnt in the test. We analyzed the user's response and chose noteworthy features that we believed could



further improve the user experience of the app. This included a focus on bridging the gulfs of evaluation and execution between the user and the app itself.

## **Future Considerations**

- We would love to give the users a way to activate Dark Mode.
- We will try to remove the cancel button and make the start workout button turn into a cancel 'X' button which could increase the affordance.
- We will work on minimizing the task navigations so the users can achieve their goal in fewer steps.
- We would like to implement more template workouts based on what the user wants. Sport specific workouts would be something that we considered, since each sport requires a different rep scheme, exercise etc. Having the ability to sort between weightlifting, Powerlifting, Bodybuilding, and any other barbell/functional sport would be in the works for the future.
- We would like the ability to edit the saved workouts since a user might want to use the saved workout but take out or add in more movements.
- We would like to implement a sorting mechanism for the saved workouts page so the user could easily find their desired workout.
- We will implement the friends screen and the ability to add a new friend.
- It will be considered that separates the individual and social based achievements. Additionally, by including a shared button right on the achievements page, which would allow users to communicate their successes more easily with friends.
- We would like to improve the readability of the graphs in the workout history page. This would require some brainstorming from the team to identify a more efficient way to display the information. Something like having an explanation of the graphs underneath the graph would be considered in the future.
- The achievement sharing is also the consideration that we hear from the interviewee as users could share them on the social side by just clicking some button such as the share button. This could be applied in the social feature as the simple share button to let users take their achievements screen shot and upload it online.
- One thing we noticed was a good functional feature to include is a search bar in the saved workouts page. This is if a user has multiple saved workouts and needs to quickly find/sort through their saved workouts aiding with recognition and recall.
- High priority notifications indicate important metrics and values to the user.



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### Usability Testing Rubric

Task	Number of Errors	Time to complete
Key	Number of Errors	<ul style="list-style-type: none"> <li>- 1 – fail</li> <li>- 2 – succeed but very slowly in a roundabout way</li> <li>- 3 – succeed a little slowly</li> <li>- 4 – succeed quickly</li> </ul>
1. Start Empty workout	-	-
2. Start Saved workout	-	-
3. Navigate home and resume your workout	-	-
4. View History	-	-
5. View Achievements	-	-

## Usability Testing Results

### Summary of Findings

Task	Aashirwad	Van	Asjad	Brendin	Navkaran	Average
1. Start Empty workout	4	4	3	3	4	3.6
2. Start Saved workout	4	4	4	4	2	3.6
3. Navigate home and resume your workout	4	3	4	4	4	3.8
4. View History	4	4	4	4	4	4
5 View Achievements	3	4	4	4	3	3.6

### Brendin's Usability Test: Task Performance

Task	Number of Errors	Time to complete
Key	Number of Errors	<ul style="list-style-type: none"><li>• 1 – fail</li><li>• 2 – succeed but very slowly in a roundabout way</li><li>• 3 – succeed a little slowly</li><li>• 4 – succeed quickly</li></ul>
1. Start Empty workout	1	3
2. Start Saved workout	1	4
3. Navigate home and resume your workout	1	4
4. View History	1	4
5. View Achievements	0	4

### Asjad's Usability Test: Task Performance

Task	Number of Errors	Time to complete
Key	Number of Errors	<ul style="list-style-type: none"><li>• 1 – fail</li><li>• 2 – succeed but very slowly in a roundabout way</li><li>• 3 – succeed a little slowly</li><li>• 4 – succeed quickly</li></ul>
1. Start Empty workout	1	3
2. Start Saved workout	0	4

3. Navigate home and resume your workout	0	4
4. View History	1	4
5. View Achievements	0	4

### Van's Usability Test: Task Performance

Task	Number of Errors	Time to complete
Key	Number of Errors	1. 1 – fail 2. 2 – succeed but very slowly in a roundabout way 3. 3 – succeed a little slowly 4. 4 – succeed quickly
1. Start Empty workout	1	4
2. Start Saved workout	1	4
3. Navigate home and resume your workout	0	3
4. View History	0	4
5. View Achievements	0	4

### Aashirwad's Usability Test: Task Performance

Task	Number of Errors	Time to complete
Key	Number of Errors	1 – fail 2 – succeed but very slowly in a roundabout way 3– succeed a little slowly 4 – succeed quickly
1. Start Empty workout	0	4
2. Start Saved workout	0	4
3. Navigate home and resume your workout	0	4
4. View History	0	4
5. View Achievements	1	3

### Navkaran's Usability Test: Task Performance

Task	Number of Errors	Time to complete
Key	Number of Errors	- 1 – fail - 2 – succeed but very slowly in a roundabout way

		<ul style="list-style-type: none"> <li>- 3 – succeed a little slowly</li> <li>- 4 – succeed quickly</li> </ul>
1. Start Empty workout	0	4
2. Start Saved workout	2	2
3. Navigate home and resume your workout	0	4
4. View History	0	4
5. View Achievements	2	3

## Post Interview Questionnaire

Question	Aashirwad	Van	Asjad	Brendin	Navkaran	Average
How quickly was it for you to start a workout?	4	4	2	4	3	3.4
Did you find it difficult to navigate through the navigation bar?	4	4	4	4	4	4
How difficult did you find it to start an empty workout?	4	4	4	3	4	3.8
How do you feel about the layout of the app? Do you feel the consistency of design elements for each screen?	3	4	3	3	2	3
How quickly were you able to identify that your workout was still in progress when navigating away from it?	4	4	3	4	4	3.8

## Self-Evaluation Responses

## **Aashirwad's Kataria**

- Worked alongside the team to develop the medium to hi-Fi prototype
- Edited grammar and organized the document
- Aided the team with writing the script and planning out tasks
- Helped to narrow down important tasks required for usability testing and questions for the post interview questionnaire
- Conducted a usability test
- Analyzed and summarized my experience of the usability test and how it tied into the shared experiences with the group members
- Organized and created appendix

## **Brendin's Self-Evaluation**

- Brainstormed with rest of team regarding recommendations from our cognitive walkthrough from previous milestone
- Discussed with rest of team the ways in which we would implement our design ideas into our final iteration of our prototype
- Helped plan usability test with rest of group, including the evaluation methods we planned to use, what metrics we'd use to analysis our data quantitatively and create the test script (which included brainstorming tasks we wanted the user to do to test our design).
- Worked with the rest of the team to implement design elements discussed in the last iteration of our prototype. This included the further vertical implementation of our functional and secondary requirements.
- Conducted one usability test
- Analyzed the results of our usability tests as a team, considering the quantitative and quantitative data that was retrieved during.
- Involved in group discussion about our experience working on the project as a whole.



## **Asjad's Self-Evaluation**

- Worked with the team to develop a Medium-Fi prototype.
- Brainstormed design and feature recommendation from our cognitive walkthrough with the team.
- Helped planned usability test with the team.
- Helped create a script for the interview with the team.
- Helped finalize the tasks for the usability test.
- Conducted a usability test.
- Helped analyze the results of our usability test and recognize the quantitative and qualitative data that was gathered.
- Discussed the experience working on the project with the team.

## **Van's Self-Evaluation**

- Helped brainstorm and discussed about the test plan.
- Contributed to finalize the prototype with group and fix problems with app transition
- Participate on the usability test
- Worked alongside group members to update and add some design implement after doing discussion/ design rationale.
- Take notes during interview and collect data for task performance, average performance.
- Worked alongside group members to analyze the qualitative metrics
- Worked alongside group members to indicate the project conclusion and future consideration.

### **Navkaran's Self-Evaluation**

- Worked with the team to develop a Medium-fi prototype
- Brainstormed and discussed about the design and what more to add and what to take out of the app for the final design.
- Helped plan the usability test.
- Conducted the usability test.
- Helped analyze the results of the test and average out the quantitative data and research the qualitative data.
- Reviewed and edited the final project proposal.
- Discussed the future of the app
- Discussed the experience of working together as a team for the project.

### **Van's Usability Testing Note**

02/12/21

## Van's Note

### Intro

After the introduction about the app and the goal of this test

I let user/ interviewer take (1-2) mins to play around the app

This action to let user get first impression and avoid surprise or confusion when I ask the tasks immediately

### Tasks

#### Start Suggested Work out

[ 1 error 4 ]

→ The interviewer confused on the checkbox button when it moving down after stick on it

⇒ Will fix it later for prototype

overall the task complete quickly after this errors

#### Start Empty Work out

[ 1 error 4 ]

User got confused on the search database screen when try to add work out option

→ Because we did not add the click animation for the first work out

⇒ Will be considered in the future

#### Navigate to Home page & resume Work out

[ 0 error 3 ]

△ check database dashboard/activities

#### View profile

[ 0 error 4 ]

#### View achievement

[ 0 error 4 ]

### Questionnaire after Review:

Scale 1 - 4

All the questions give the 4 mark which is good to hear from this interview.

⇒ Interviewer feel satisfied as app is the playground & think to use it  
+ Overall thinking from testers: the layout is clear & <sup>after</sup> complete easy to navigate. The text below each button help him <sup>to</sup> well in knowing which button to press & follow the required task. Green button is good touch to as it is similar ~~as~~ in the resume in other common play maker app → he could know it easily. Beside some confusing on the search workout screen & check box in suggested workout screen.

⇒ Suggestion from user: "Could use ~~the~~ or add share button in the social side to upload the achievements"

After the test & required task, I ask the users to do some alternative tasks such as check battery % from devices.

⇒ check exercise book & run video guiding!