

# Low-fi Prototype and Test

Team Movement - Hawi, Linda, Devorah, Ethan



Hawi  
any/all



Linda  
they/she



Devorah  
she/her



Ethan  
he/him

## Meet Team Movement

# Project eMotion

## Problem

Focus on numeric metrics



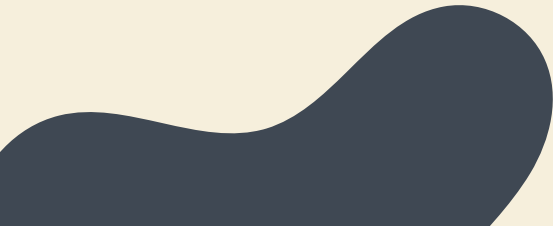
Mental and physical discomfort

## Solution

Workouts based on **feeling**



Awareness and reflection



# Roadmap

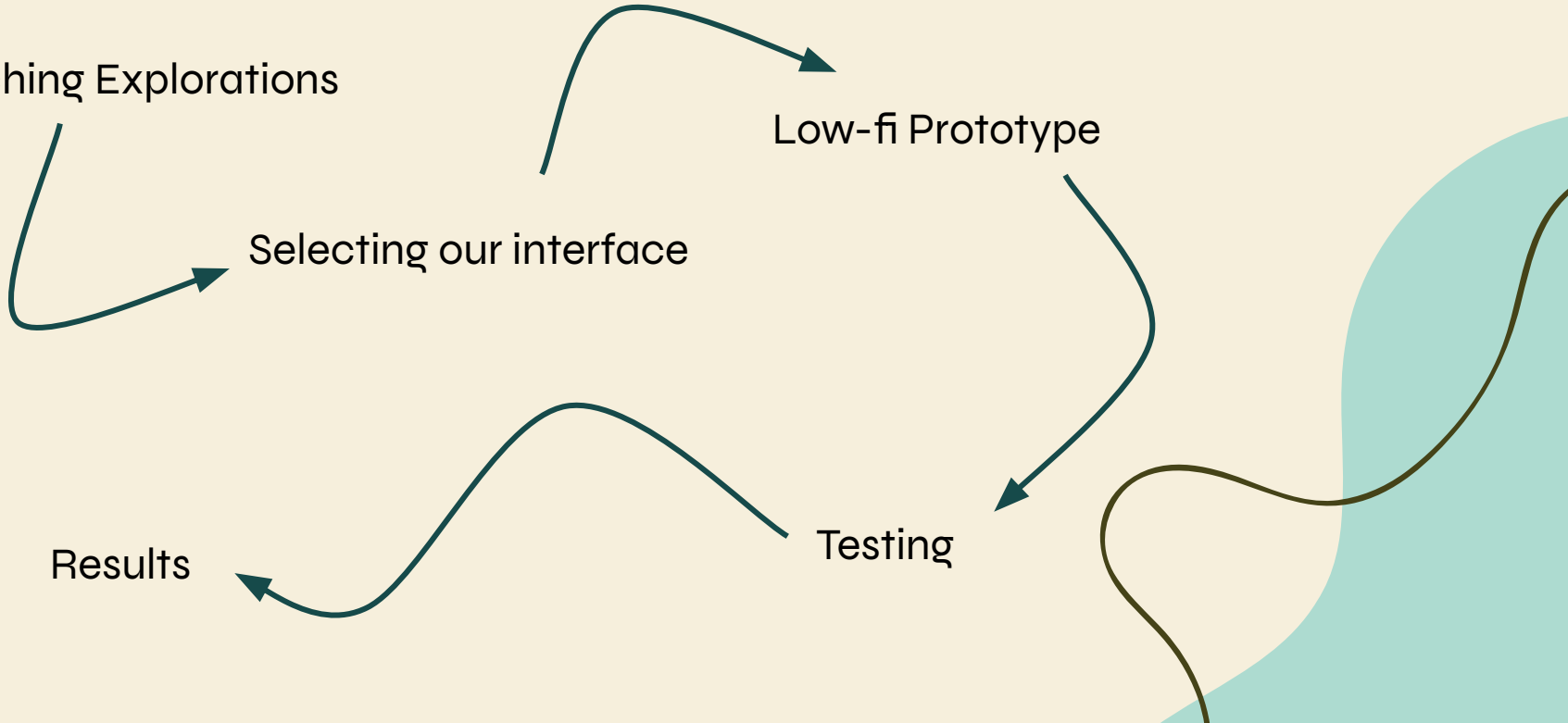
Sketching Explorations

Low-fi Prototype

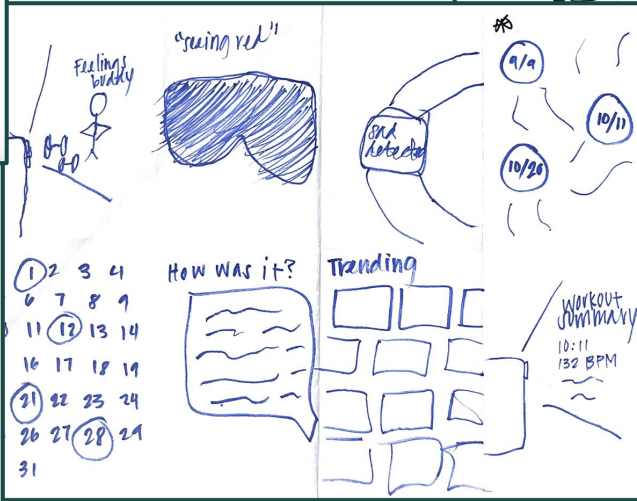
Selecting our interface


Testing

Results



# Concept Sketches



Name 


Feeling notes

color changing outfit

Paint your face!

record!

Pics throughout



Your Playlists

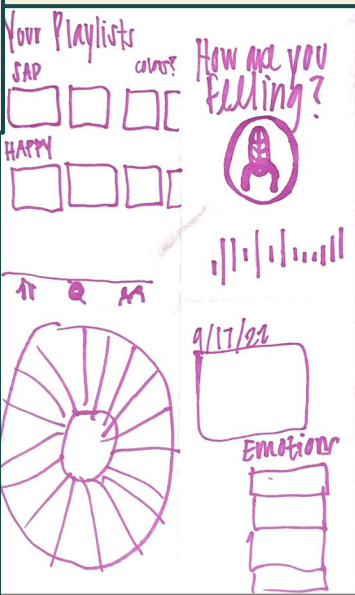
SAP

HAPPY

How are you feeling?

9/17/22

Emotions

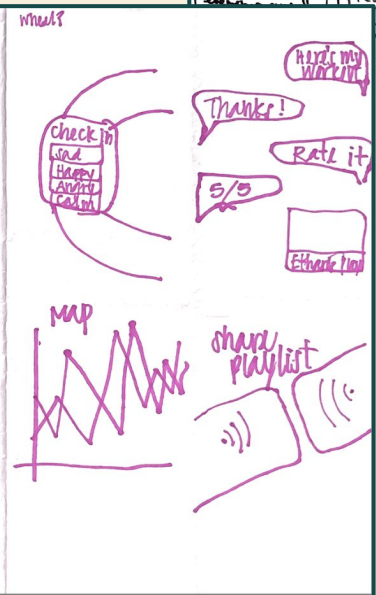


Check in

How are you feeling?

map

share playlist



Public eMotions

add +

ready to begin! what's your current state of mind?

Post-class

pre-dinner

tired

don't wanna work out

delete eMotion?

are you sure? you may want to look back sometime!

DELETE "we're better up and..."

you ~~just~~ updated an eMotion yesterday:

do you want to add a current feeling today?

YES NO

It's been 10 minutes since your last update - time for some introspection!

UPDATE SKIP


new user 28 is public eMotion

happy!

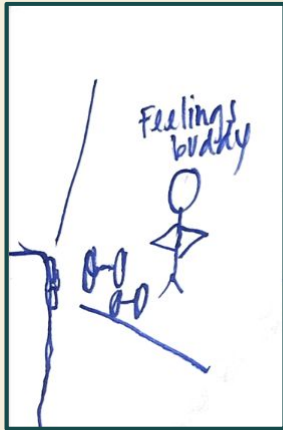
I hate class

good vibes only

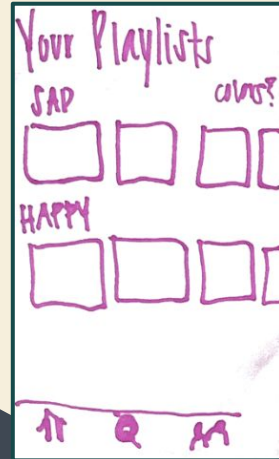
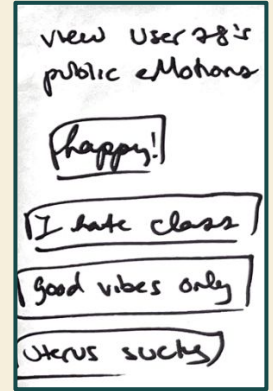
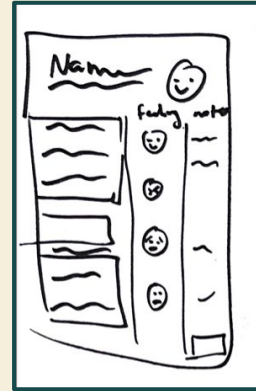
status sucks



# Augmented Reality

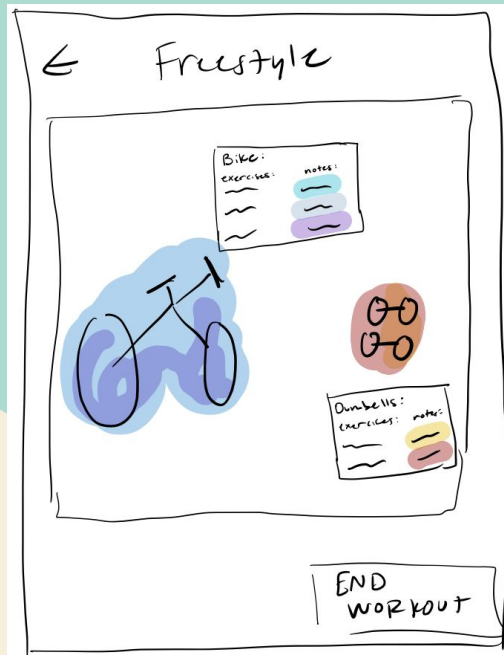
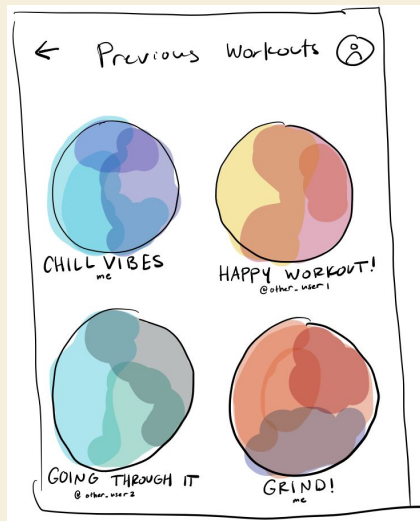


# Mobile App



# Realization #1: AR

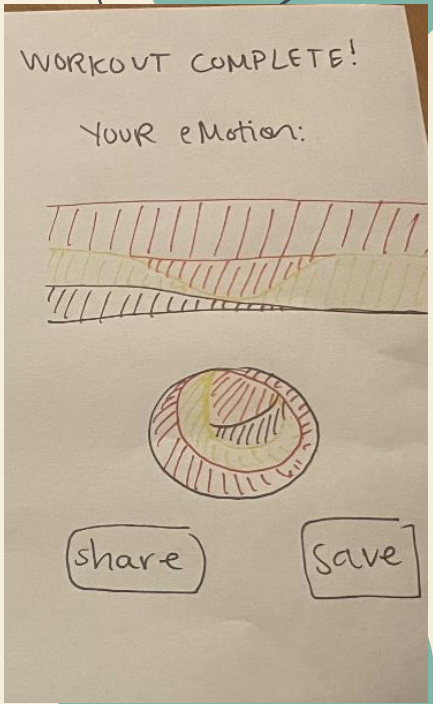
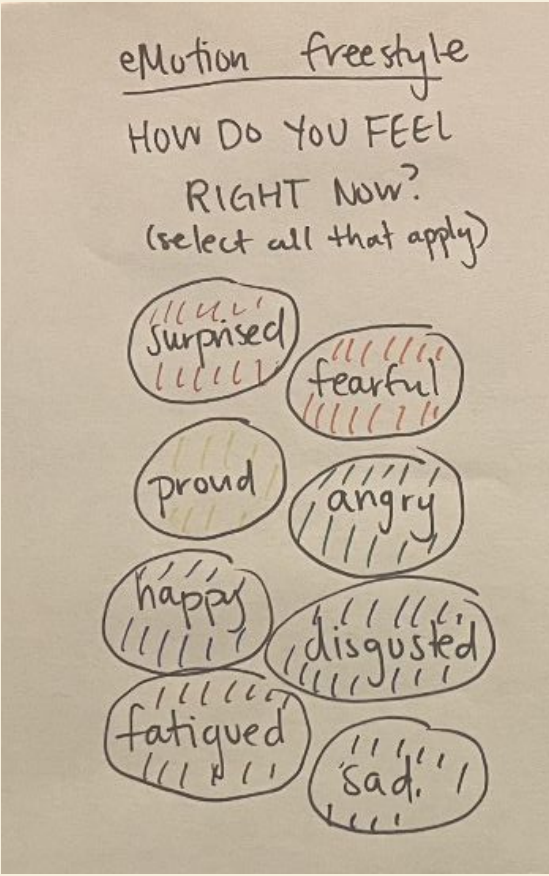
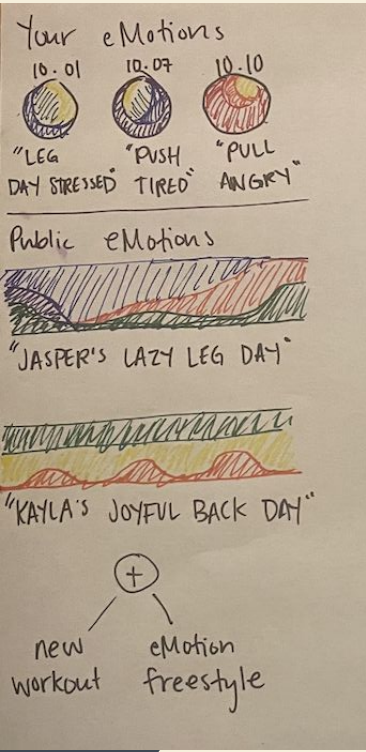
Concept: being able to see and interact with “auras” throughout exercise





# Realization #2: Mobile App

Concept: being able to track and visualize feelings throughout workouts



## AR

### PROS

- Physical “exploration” of feelings
- Help guide users throughout exercise
- Reflection is encouraged through visuals

### CONS

- Suggesting that a user “should” feel something
- Camera on other gym-goers
- Interrupts after each workout to check phone

## Mobile App

### PROS

- More digestible data visualization of current emotions and emotion journey
- Allows users to browse public workouts easier

### CONS

- Potentially less engaging UI
- Mode of use potentially disrupts the natural flow of workout



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- 
- 

# Simple Task

Find and complete another's shared workout


← 

New eMotion

freestyle eMotion

discover eMotion

plan eMotion

← 

Discover eMotion

how are you feeling?

surprised angry excited  
proud strong + red  
scary sad  
happy energetic  
+ add

← 

Discover eMotion

current feelings:


energetic strong proud

Suggested eMotions:

Kayla's strong baeh day

Jasper's powerful leg day

Michelle's love and day

← 

Jasper's powerful leg day

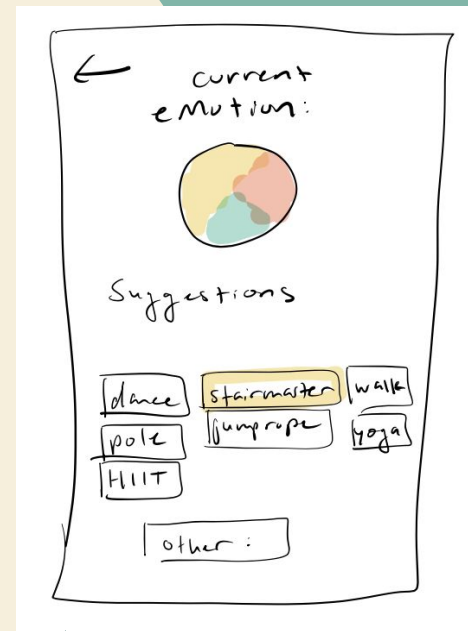
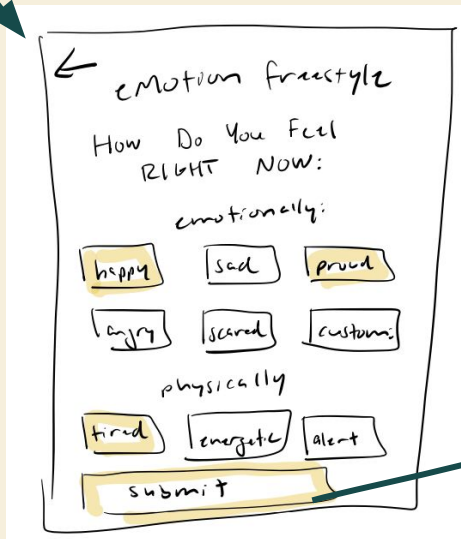
Overview:

- back squat
- front squat
- walking lunges
- reverse lunges
- steps

START

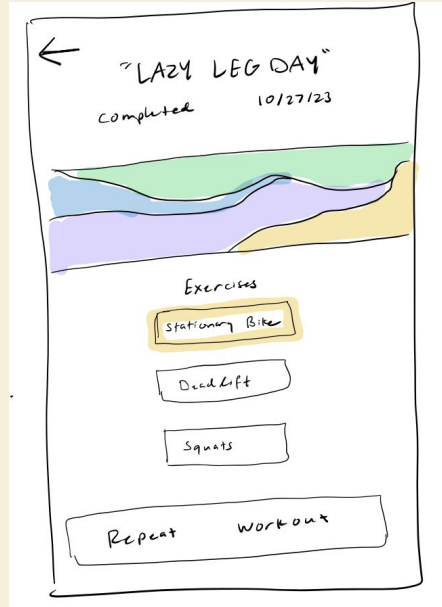
# Moderate Task

Complete a "Freestyle" workout based on how you feel



# Complex Task

View and reflect on previously completed workouts



# Lo-Fi Prototype

Paper



Miro



Paper



# Testing Methodology

**Location:** Verve Coffee, Downtown Palo Alto

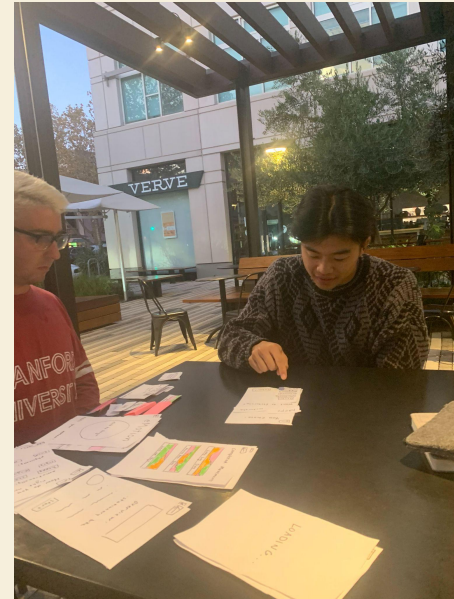
## Usability Goals/Questions to Test:

- Is the task flow intuitive/easy to use?
- Does the current prototype directly achieve the goal of helping users reflect on their emotions?
- Will users find the repeated prompting annoying/disruptive?

## Method:

While Devorah observed and Hawi facilitated, Ethan acted as the “computer.”

Given one task at a time, participants were asked to find and complete a shared workout, complete a “freestyle” workout, and explore/reflect on a past recorded workout, navigating using only the screen in front of them.





# Participants

## Grant

Asian male Stanford senior

## Ahmed

Male research engineer at Meta,  
seemed to be in his 40s or 50s

## Robert

Black man from Tennessee in  
between jobs, seemed to be in  
his late 20s/early 30s

## Fan

Man in his 20s working in  
finance

# Process Data

- Participants able to treat prototype like screen
- Participants found testing engaging
- Confusion over pre-set aspects of the prototype

# Bottom-line Data

- Able to follow 2 of the 3 tasks pretty easily
- Testers assumptions did not always align with our planned functionality
- Visual representations of feeling caused some confusion
- Tester's reflected on their emotions, some more in depth than others

# Discussion

## Implications:

- Flow of navigation makes sense
- The colors in visualizations don't have clear meanings to users
- 6 basic emotions model not sufficient for reflection

## Changes in UI:

- Make main / pressable elements more clear
- Provide a key for mapping emotion to color
- Find a feeling model that better allows users to express / reflect

## Unknowns:

- How might we best map emotions to colors?
- How do reflection prompts integrate with / disrupt a workout?

# Next Steps

- Implement design modifications
- Design moodboards and compile inspiration for our med-fi prototype
- Begin to build a visually engaging wireframe/med-fi prototype



# Appendix

# Augmented Reality - Full Pros/Cons List

## Pros

- Physical “exploration” of feelings
- Help guide users throughout exercise
- Reflection is encouraged through visuals
- Novel workout format
- UI can adapt to surroundings / available equipment
- A new experience for many gym-goers

## Cons

- Suggesting that a user “should” feel something
- Camera on other gym-goers
- Increased phone time
- Potentially prolonged break between exercises
- Unfamiliar workout medium
- May be harder to navigate for users

# Mobile App - Full Pros/Cons List

## Pros

- More digestible data visualization of current emotions and emotion journey
- Allows users to browse public workouts easier
- Easier/more familiar interactions
- Interviewees indicated they use mobile apps for note taking/timers when working out already
- Accessible to most people

## Cons

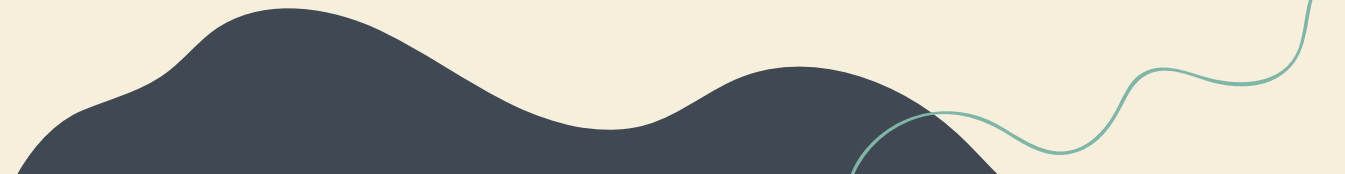
- Potentially less engaging UI
- Mode of use potentially disrupts the natural flow of workout
- Requires repetitive, consistent interaction by user
- There are already many mobile workout apps – must make sure ours is unique





# Link to Lo-Fi Prototype

We used Miro to arrange our lo-fi prototype.



# Script for Prototype Testing: Part 1

Hello, my name is Hawi, and these are my team members Ethan and Devorah. For a computer science class, my group and I have been tasked with identifying a problem, and providing a solution. Through previous interviews, we've learned that the numeric metrics and goals that exercise revolves around leads some people to mental and physical distress. Our project, named eMotion, creates a way for these individuals to workout based on feeling, both mental and physical. User's are able to create their own workouts and share them with other users, or complete other user's uploaded workouts, with reflection encouraged in every step.

We have created a paper, low-fidelity prototype of how this app might work in the future. As you'll see, small, precise details have been removed to focus on the general flow of the app.

Our solution has a couple main components that are important to keep in mind throughout this test. We visualize a user's feeling with an aura-like circle that we call an eMotion. In this prototype we leave it colorless, but in a higher-fidelity prototype it would change color depending on the user's responses to prompts. We visualize a workout with a colored rectangle that shows emotion over the duration of the workout, and we call these workouts Movements.

# Script for Prototype Testing: Part 2

While our prototype is paper, we ask that you interact with it the way that you would a mobile device. Press on the buttons with your finger the way you would if it were a real app. Ethan will switch out the paper screens as you navigate the app, and Devorah will take note of any observation she makes while you navigate. This app is centered around exercises, so it may prompt you to complete an exercise. You do not need to actually do this. Just proceed through the prototype as if you had.

We will ask you to complete three tasks, one at a time. Please try and think aloud and narrate what you are doing as you attempt to complete a task. During your task, we will only step in and help if we deem it absolutely necessary, as we are trying to identify the pitfalls of our current prototype, and how severe these are. When each task is complete, we will let you know the next.

Are there any questions before we begin the first task?

**Task 1:** We call a workout that another user has shared a “Discovered Movement”. The first task is to find a Discovered Movement and complete it.

**Task 2:** We call a create-as-you go workout a “Freestyle Movement”. Your second task is to complete a Freestyle Movement.

**Task 3:** Your last task is to look through the records of a previous workout.

Thank you so much for your participation in our project!

# Critical Incident Log: Grant

Incident	Rank
When prompted to click on emotions, thought he could only choose 1	2.5
Submitted his emotion but wasn't sure why he was doing this	2
Successfully found discover movement button	0
Didn't hit select, just tapped chosen workout	1
Didn't know where to click when workout was completed	3
Was confused by "click to complete" again	3
Clicked on an option that wasn't added yet, brought to "page under construction"	1
Found the options to name his workout and save/share it	0

## Before Test:

- Wrote script for testing
- Practiced "computing" the screens with a roommate

## Learnings:

- Need way of letting user know they can select multiple emotions
- Make "workout complete" button clearer
- Should make users more aware of WHY they are even reflecting in first place

# Critical Incident Log: Ahmed

Incident	Rank
Thought he could only click on one emotional and one physical feeling	2.5
Asked to rate degree of feeling, but both emotional and physical at once	3
Easy found “Discovery Movement” button to find a shared workout	0
Was unable to interpret the visuals for the workout, and felt stuck when asked to choose one	3
Got lost while navigating, given the repetitive structure, he got stuck in a kind of “loop”. Was able to leave when he saw the “End Workout” button	2
Thought our “Completed Movements” button was a way to end the workout, not look at previous workouts	2.5
Felt confused by the bottom left orb “aura”	2

Before test:

- Changed feeling reflection to a degree-based model rather than

Learnings:

- Need to separate degree of feeling for each individual feeling
- Provide a key for how user can interpret eMotion and Movement visualization
- Make “end workout” option more clear
- Clarify what the eMotion orb represents conceptually

# Critical Incident Log: Robert

Incident	Rank
Successfully picked an emotion with no trouble	0
Didn't realize he could change duration / number or reps in an exercise	2
Understood the concept and selected an appropriate new emotion after	0
Didn't pick up on the concept of our "Freestyle Movement" (create-as-you-go), had to be explained	3
Once started the "Freestyle Movement", was able to navigate through and select 2 exercises and reflect on them	0
Could not find the previous workouts in the "Completed Movements" tab	4
Once he found his previous workout, was able to navigate through the past exercises	0
Was confused with the pre-set notes in this "previous workout"	1

## Before test:

- Made the "click to complete exercise" button clearer
- Swapped feeling selection to a wheel

## Learnings:

- Include small description of our terms eMotion and Movements in our UI
- Make "Completed Movements" clearer

# Critical Incident Log: Fan

Incident	Rank
Successfully and quickly navigated through home screen, to “Discover Movement” and selected his emotions	0
Selected multiple emotions rather than just 1	0
Verbalized that he wasn’t sure, but thought that the colors visualized in the workout signify feeling (correct in his assumption)	1
Appropriately changed his feelings to what he thought he’d feel after the workout	0
Successfully navigated through the “Freestyle Movement” without trouble	0
Navigates to the “Completed Movements” section to access previous workout, but this takes him slightly longer	1
Once looking at previous workouts, he selects “back” before realizing he can select a workout to look at it in more detail	2

## Before Test:

- Made several buttons larger and clearer

## Learnings:

- Need to explain the meaning of the colors in feeling visualizations
- Need to add a select button to “completed movements” screen for clarity

# Interview Consent Forms

## Consent Form

Undominate Team 3's prototype is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in the experimental evaluation of this prototype provide data that is used to evaluate and modify the interface of Undominate Team 3. Data may be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Hawi Abraham, Linda Denson, Devorah Simon, and Ethan Foster) or with Professor James Landay, the instructor of CS 147:

James A. Landay  
CS Department  
Stanford University  
650-498-8215  
landay at stanford dot edu

Participant anonymity will be maintained by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the research and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the Undominate Team 3's research. I understand that I may withdraw my permission at any time.

I give consent to be videotaped during this study:

Yes  No

I give consent to be audiotaped during this study:

Yes  No

I give consent for video or audio recordings from this study to be shown to people not directly involved with this research during/in class, seminars, reports, or scientific presentations.

Yes  No

Name Rachel Suddeth

Participant Number \_\_\_\_\_

Date \_\_\_\_\_

Signature Rachel Suddeth

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Name Grant Sheer

Participant Number \_\_\_\_\_

Date \_\_\_\_\_

Signature Grant Sheer



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Name Hadi Mollat

Participant Number \_\_\_\_\_

Date \_\_\_\_\_

Signature [Signature]

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 Yes  No

Name Fan Bai

Participant Number \_\_\_\_\_

Date 2022/10/27

Signature [Signature]

