Let 'em Cook!

"Make your kitchen a playground!"

A5: Lo-Fi Prototype + Pilot Usability Testing

Mayowa A. **Butch N.** Esaw A. Tina Z.

Outline

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- Recap
- Concept Sketches
- Realizations
- Interface Selection
- Lo-Fi Prototype
- Task Flows
- Usability Testing Methodology
- Usability Testing Results
- Discussion/Recap
- Appendix

Recap:
Problem, Solution, Primary User Base

Problem

People aren't willing to explore and get out of their comfort zone while cooking because it is not ***enjoyable*** enough.

Solution

A Social Cooking App that incentivizes individuals to explore cooking by offering unique challenges, virtual rewards, and opportunities for interactions with other users

Primary Users

Young adults living independently for the first time, who need some extra motivation to start cooking and getting out of their zone in a safe environment.

Concept Sketches

More Details Included in Our Sketch Report

Concept 1:

Audio-based Home App

Let 'em Cook! May I get a challenge?

1. Cook Thai Food
2. Cook Under $10
3. Cook w/ 4 Veggies

Echo Show (or similar technology)

1. Cook Thai Food

Joey

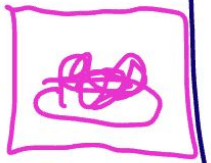
LMCFan20

Inviting you to challenge!

Picture in Progress...

Vote

VS



This?

That?

Custom Challenge

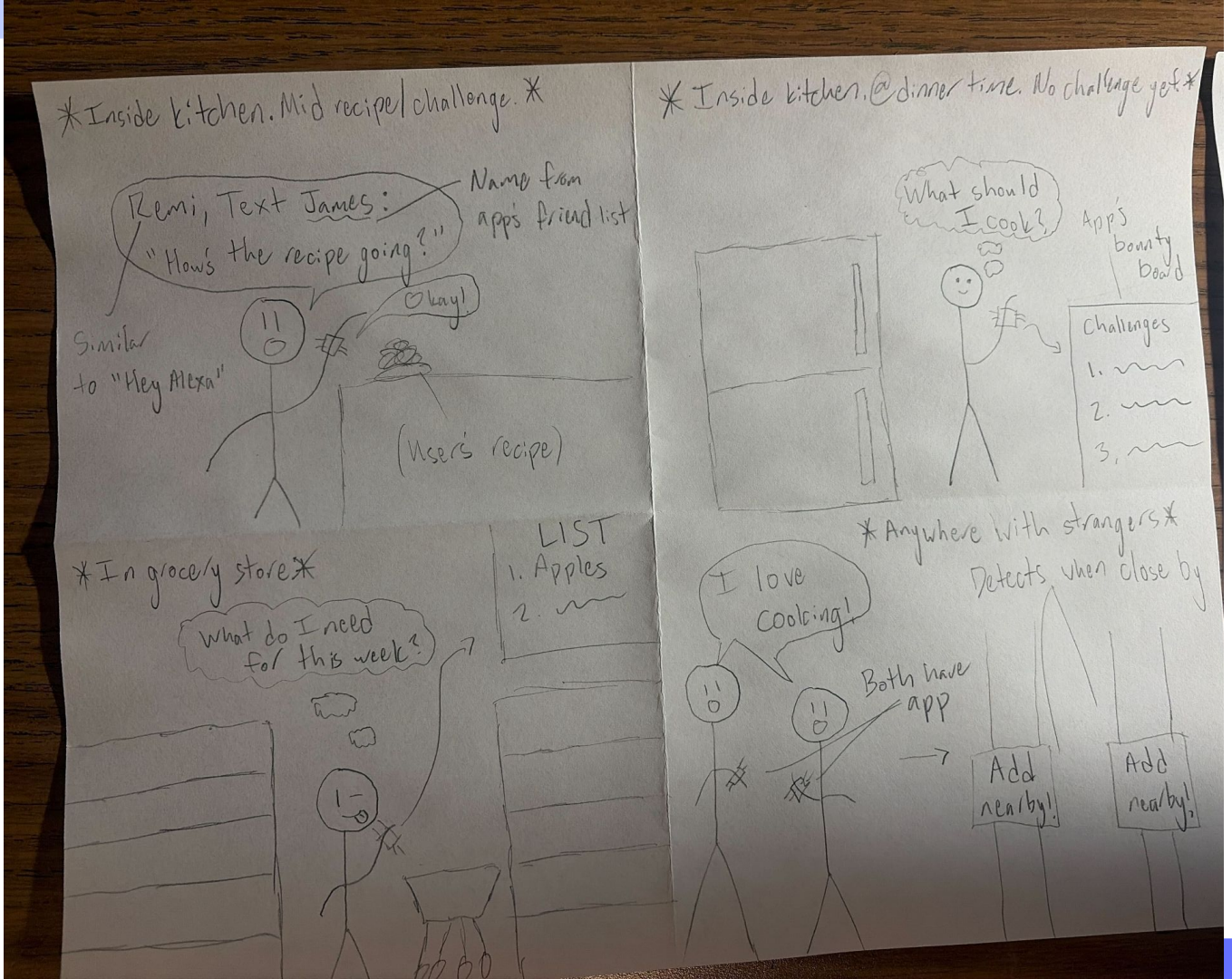
Challenge: Recording...

Ingredients: ___

Time Limit: ___

Concept 2: Mobile App

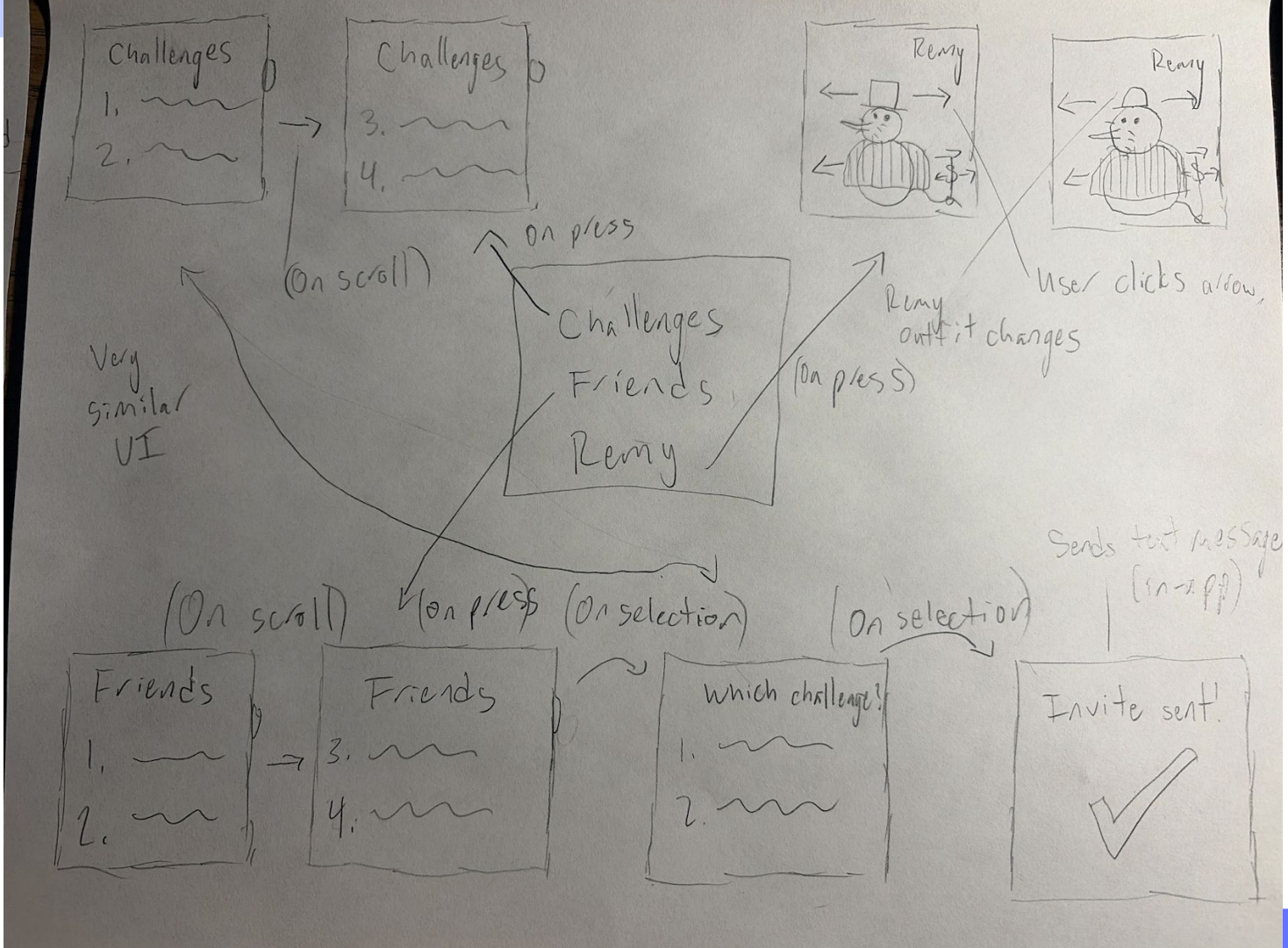
Concept 3: Smart Watch



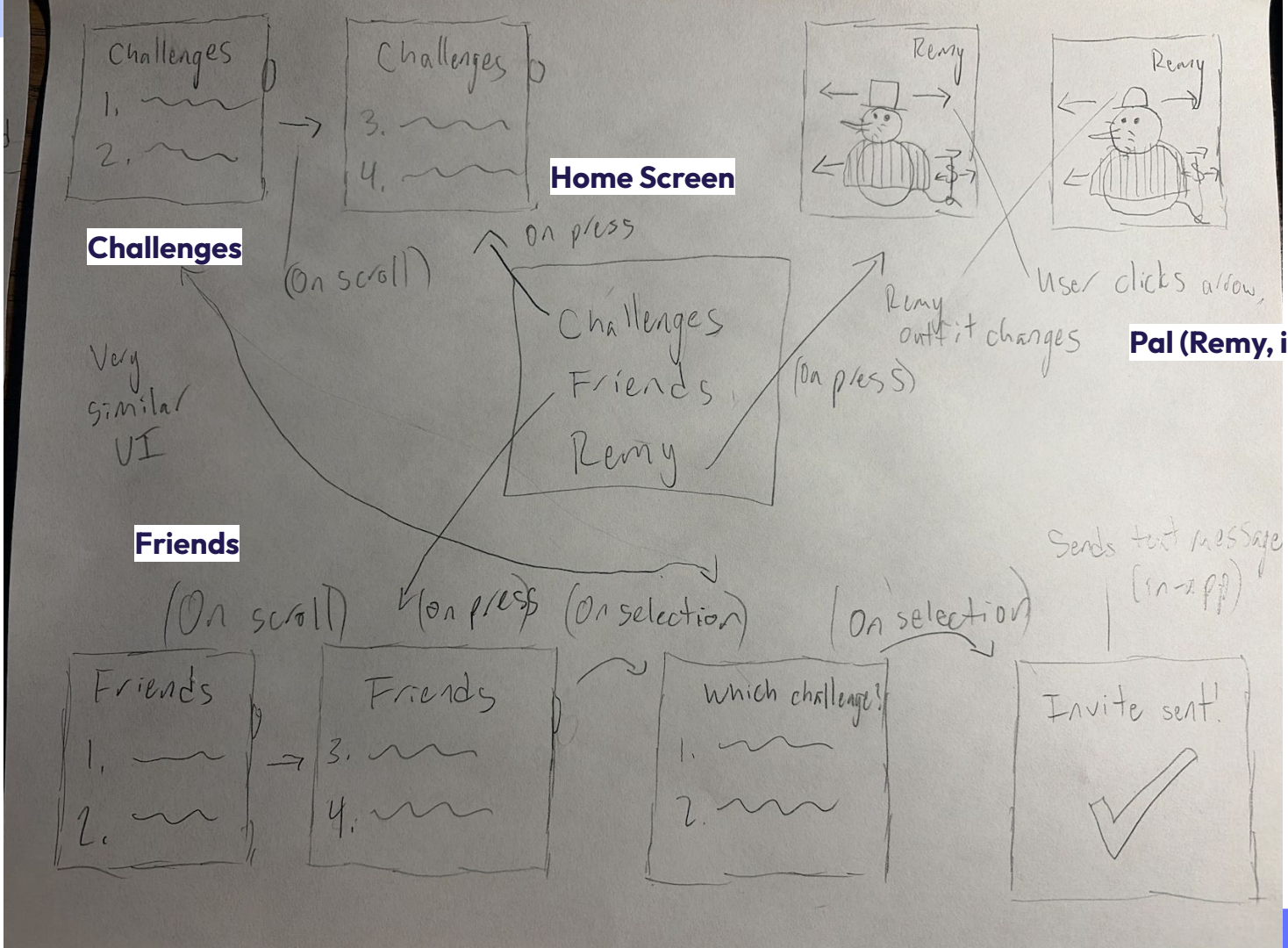
Fleshed Out Realizations

More Detail Included in our Sketch Report

Diverse Realization 1: Smart Watch



Diverse Realization 1: Smart Watch



Realization 1 - Smartwatch App

Pros:

- **Requires less attention**
- Hands-free
- Accessible at moment's notice
- Linking to Apple/Galaxy Watch Health apps

Cons:

- Higher barrier to entry
- **Lot more scrolling**
- **Lists/texts much harder to read**
- **Less forgiveness for "fat fingering"**
- Likely audio-reliant (inaccessible)
- Mediocre camera feature

Pros are pretty minor. App wouldn't be intended to be used much *while* cooking. Watch apps must be *very* simple else difficult to use.

Diverse Realization 2: Mobile App

Diverse Realization 2: Mobile App

Challenges (Landing) Tappable Options

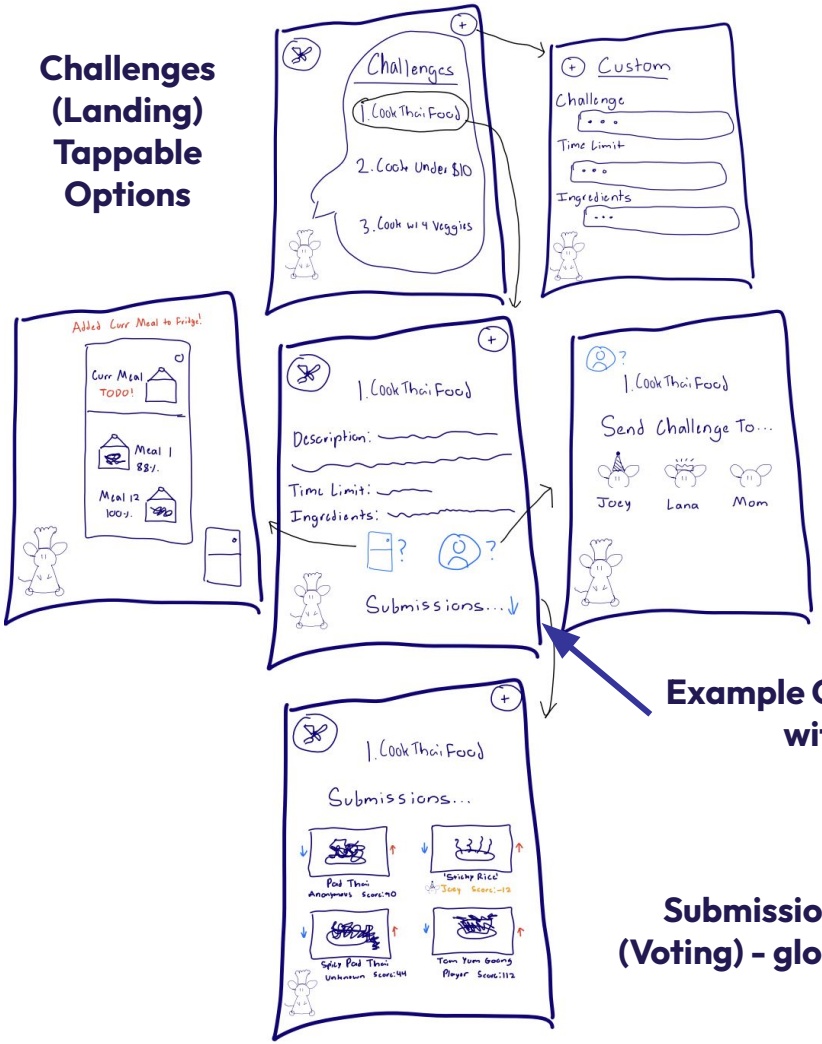
Custom Challenges (Tap into Text entry)

Fridge (stores challenges, memories, current working challenge)

Send Challenge to Friend(s)

Example Challenge Page with Links

Submissions Page (Voting) - global entries



Realization 2 - Smartphone App

Pros:

- **Lower Barrier to Entry (most individuals have smartphones)**
- Familiar UI/Operation Scheme (tap, scroll, etc.)
- Simple cross-platform engineering
- Utilize built-in camera, contact list
- **Large screen for images**
- Lots of permission-accessible utility (location, gyroscopic, voice, etc.)

Cons:

- Hard to use while cooking
- Touch-focused (nearly exclusively)
- **Competes with other uses for phone (not unique relative to other apps on the device)**
- Platform-specific pains (Apple app store requirements)

Cons are similar to watch, but more minor. Pros include lower barrier to entry, reduced buy-in, and less complexity for designers in implementing unique features

Selected Interface: Smartphone App

Why is Smartphone App Superior?

Smartphone

- 92% Americans own
- Touchscreen
- Motion Controls
- Voice
- Location
- Widespread Familiarity with app interfaces/usages
- Larger screen for images + text
- Improved Camera Feature

Watch

- ~30% American own
- Touchscreen
- Motion Controls
- Voice
- Location
- Reduced Familiarity with app interfaces/usages

A smartphone app has similar cons, but wider reach, more familiar to our target audience, similar and has additional affordances over the watch)

Lo-Fi Prototype

Physical, Paper Prototype Simulating UI Layout

Lo-Fi Prototype Construction

Drawn/created **digitally**, then printed out in traditional paper prototype form.

(manual computer used)

New screens removed/placed on top.
Actions: Tap, Scroll, Type

Features This Iteration: Challenges Tab

Lofi Prototype Landing Screen

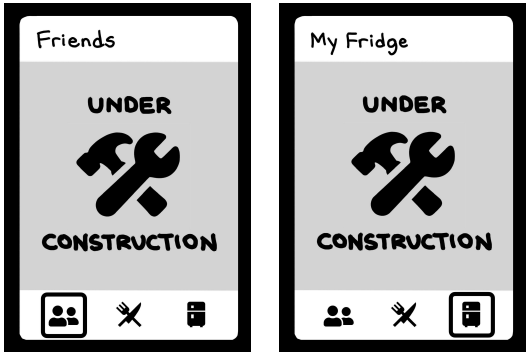
- Simple, Clean Layout
- Minimal Tab Clutter
- Tap to preview more information

Lo-Fi Prototype Screens

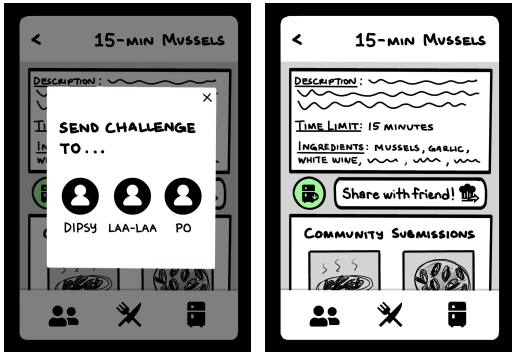
Challenges (Landing)

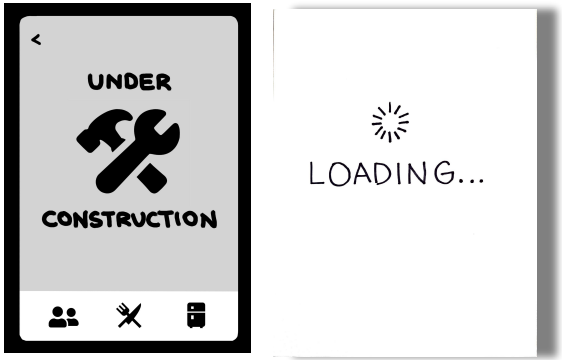
15-Min Mussels Challenge

Challenge Interactions (Task 1/2; simple + moderate) (Pinned vs. Unpinned)



Misc Assistive Lo-Fi Pages

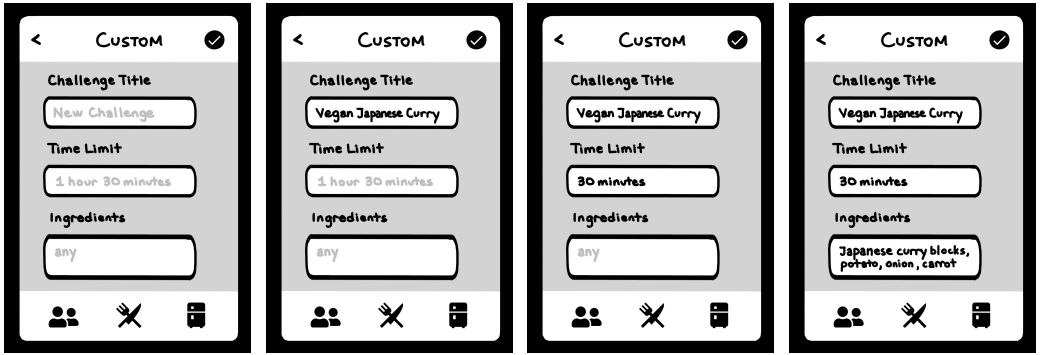


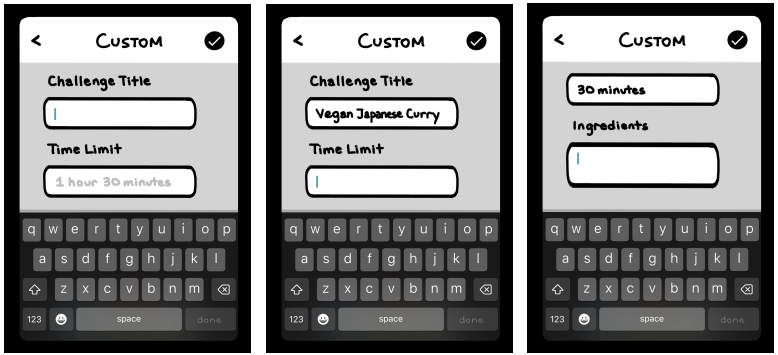


Lo-Fi Prototype Screens

Challenges (Landing)

Custom Challenge Pages (Task 3; complex)





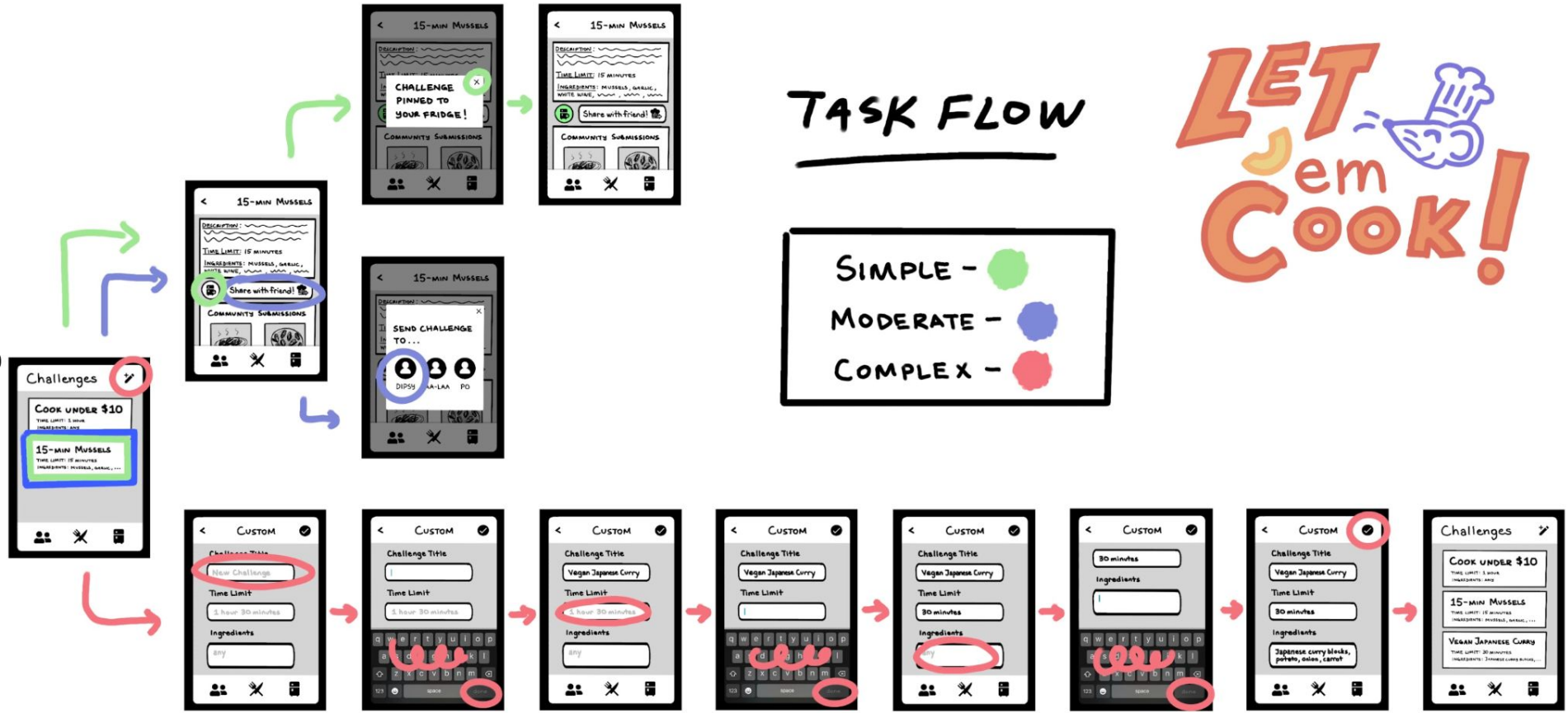
Final Updated Challenges (Landing) Page

Task Flows

Task Flows

1. Simple: Save a Challenge to your fridge
    a. 2 taps from landing page
2. Moderate: Send a Challenge to a specific friend
    a. 3 taps from landing page
        i. 2 taps after simple task to return to landing page
3. Complex: Create a new, custom challenge
    a. 1 tap from landing page
    b. alternate 3x → tap entry box, type
    c. 1 tap (confirm) on the custom challenge page

Overall Task Flow



Task Flow

Simple –

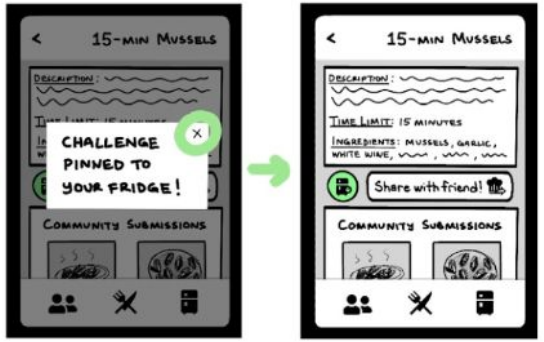
Moderate –

Complex –

Let 'em Cook!

Simple Task

Popup Closer



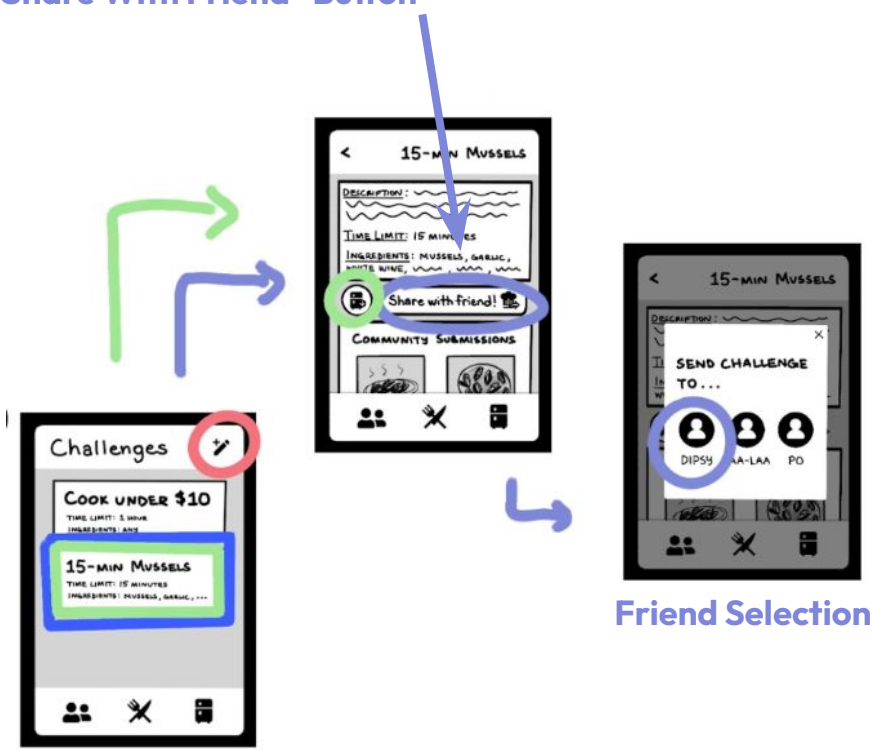
Fridge Button is Green if currently Pinned! (Also appears on Fridge Tab)

"Save to Fridge" Button

(Task Complete By This Point)

Moderate Task

"Share With Friend" Button



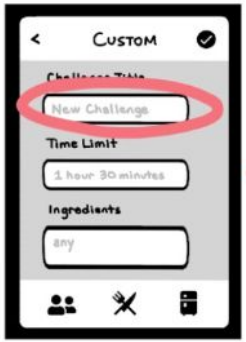
Friend Selection

Complex Task

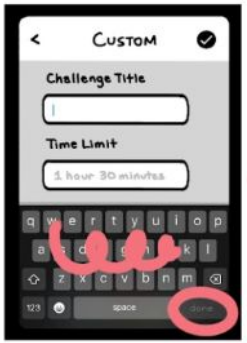
"Create Challenge" Button

Friends, Challenges, and Fridge Tabs

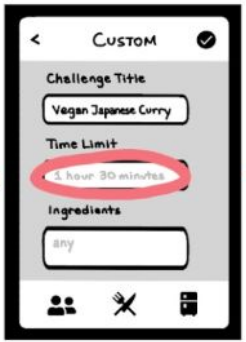
Text Boxes



Keyboard Popup



Confirm Button



Repeat as seen in initial Diagram

Testing Methodology

Testing Methodology – Participants

- 4 participants, SJSU seniors met through mutual friends
- Both were offered drink from Voyager Craft Coffee

  - "Sharon" → female, lives with parents but buys own groceries and cooks own meals

  - "Cary" → female, lives in a studio apartment and cooks for self, but often eats out when "tired or something"

- Both were offered drink from Tootsie's at Cantor

  - "Henry" and
  - "Jordan" → roommates, both male, typically make cold lunches and eat out for dinner

  - (they also perused the gallery afterwards)

Testing Methodology - Environment

- Group 1: Sharon and Cary: at the CoDa Garden Level
- Group 2: Henry and Jordan: outside MacMurtry/Cantor

For Both Groups:

- Paper Prototype used, with computer, notetaker, and script/task reader

Testing Methodology - Procedure

For Both Groups:

- Notetaker: Esaw
- Script Reader / Primary Communicator: Mayowa
- Computer (scheduling conflicts)
  - Group 1: Tina
  - Group 2: Butch

Process:

- Explained Project Scope (Interface), Consent Forms
- Presented Landing Screen
- Read Script
- Took Notes as Participant Interacted
- Refrained from intervention, but answered clarifying questions

Procedure

Script

You are a user of a competitive cooking app. To interact with the app, you may tap or scroll (*like this*), and the interface will update accordingly. Please describe your thought process out loud. We have three tasks for you to complete— are you ready?

Tasks

1. Pin the “15-min Mussels” challenge to your fridge.
2. Send the “15-min Mussels” challenge to your friend Dipsy.
3. Create a new challenge where:
    i. Title – “Vegan Japanese Curry”
    ii. Time Limit – “30 minutes”
    iii. Ingredients – “Japanese curry blocks, potato, onion, carrot”

    and add the new challenge to the public challenges page.

(Tasks covered by paper and revealed one at a time)

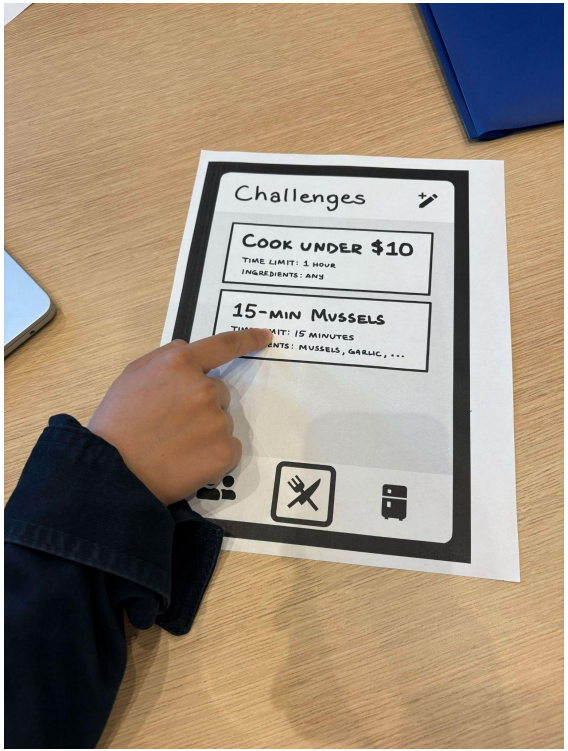
Testing Methodology – Goals + Measurements

Goal 1: Efficiency/Speed

- Time Taken to Achieve Task
- measured in seconds
- Dictates simplicity and relative connection of UI

Goal 2: Clarity/Confusion

- Number of "incorrect moves" towards accomplishing task
- measured in taps
- Dictates confusing elements, balances goal 1 for speedier individuals



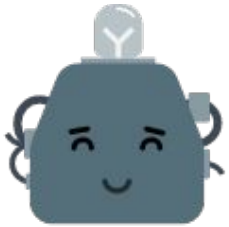
(**Sharon** pointing)

Testing Results

Testing Results - Data

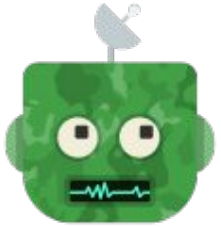
Sharon

- ~30 seconds for task 1
- ~ 1 minute for task 2
- ~ 30 seconds for task 3
- ~2 incorrect moves



Cary

- ~ 1 minute for task 1
- ~ 3 minutes for task 2
- ~ 2 minutes for task 3
- ~ 7 incorrect moves



Henry

- ~ 1:30 minutes task 1
- ~ 2 minute task 2
- ~ 1 minute task 3
- ~ 4 incorrect moves

Jordan

- ~50 seconds for task 1
- 30 seconds for task 2
- 1:10 minutes for task 3
- ~2 incorrect moves

Testing Results - Goals Synthesized

Goal 1: Time Taken to Achieve Task

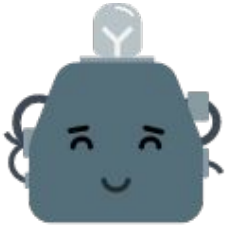
- Most took < 5 minutes to complete all 3 tasks
- Most delays were due to exploring screens unrelated to tasks
    - Users didn't know what each screen mapped to at first
    - Most quickly got out of exploration

Goal 2: Number of "incorrect moves" towards accomplishing task

- "Exploring" counted as an incorrect move
- Higher than desired; noted for discussion

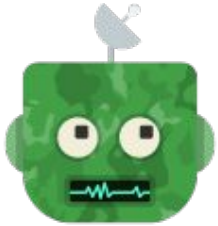
Testing Results - Comments / Observations

Sharon



- "What does fridge do?"
- "Is [challenge page] just for me or..."

Cary



- Looked at main page for long time without inputs
- Didn't see pencil button
- "I can tell what's happening in the app. It's simple."

Henry

- Repeated unsuccessful actions (images)
- "I understand it's meant to be social"
- Confused pin/download in instructions
- Liked "<$10 challenge" : "this is perfect"

Jordan

- "I thought that maybe you go to fridge and then there's an ADD button there"
- Liked green upon adding challenge
- "Competitive cooking app, sounds like a great idea" (noted novelty)

Discussion

Discussion

- Users generally found **simple, clean** UI easy to use BUT
  - some unintuitive icons/locations (fridge icon to pin to fridge)
  - general confusion on each tab until explored
  - general confusion on *purpose* behind some actions until post-explanation

- CHANGES PLANNED:
  - Labels/more text
  - Lean into coloring items
  - Onboarding/usage guide on app startup

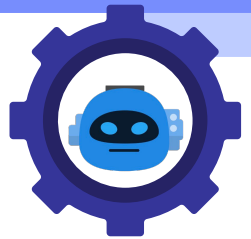
Discussion – Possible Shortcomings

- Doesn't test photo or voting feature/tasks
  - Doesn't reveal any information on those tasks
- No Fridge/Friends tab inclusions
  - What other confusing connections might exist there?
- No limit testing (# pinned ingredients, feed size, etc.)

Thank You

Appendix

“Samantha” Revised POV



WE MET...

Samantha, a 24-year-old full-time software engineer at Pinterest who lives alone in an apartment in San Francisco.

WE WERE SURPRISED TO NOTICE...

that despite her appreciation for food as an experience, she defaults to cooking the same few easy recipes, opting for convenience over variety, even though budgeting and time aren’t a concern for her.

WE WONDER IF THIS MEANS...

that without a clear vision or recipe in mind, she finds it challenging to depart from what she’s culinarily used to, thus ultimately defaulting to one of her “go-tos,” even if they aren’t ideal flavor/complexity-wise.

IT WOULD BE GAME-CHANGING TO...

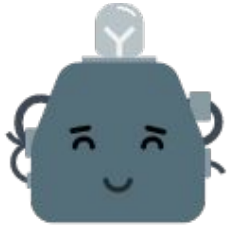
make experimenting with new meals feel engaging and prideful, sparking her sense of curiosity and accomplishment.

Smartphone vs. Smartwatch data

Sources on data:

- Smartphone ownership: https://www.pewresearch.org/internet/fact-sheet/mobile/
- Smartwatch ownership: https://pmc.ncbi.nlm.nih.gov/articles/PMC10883993/

Appendix (cont.) - critical incidents

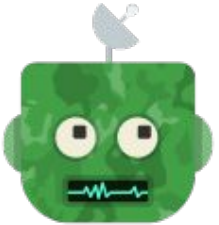


Sharon (2)

- Assumed "pin to fridge" meant go to fridge icon first (incorrect action)
- Attempted to drag and drop recipe to fridge icon to pin

Cary (7)

- Visited friends list
- Visited fridge list
- Pencil button early
- Bounced between already-visited pages instead of visiting landing page



Appendix (cont.) - critical incidents

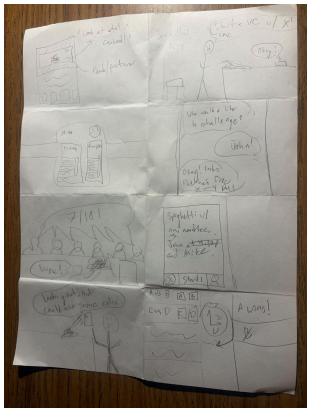
Hunter (4)

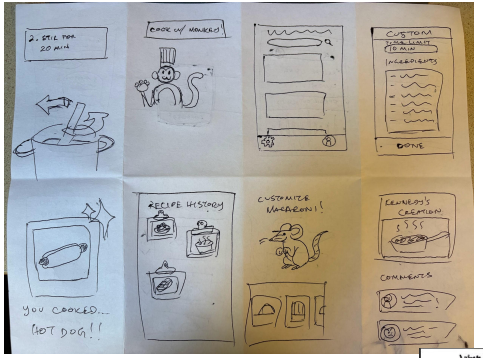
- Tapped on food images (scrolled) for **not** 15-minute mussels
  - Twice
- Visited fridge
- Tapped to "friends" despite saying "Let's go back home"

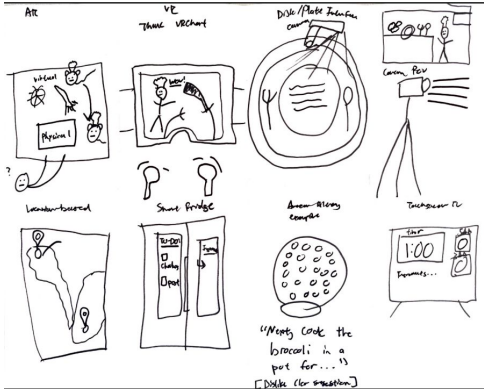
Jordan (2)

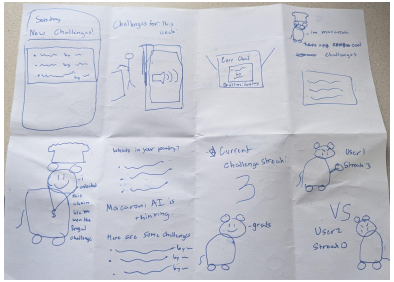
- Immediately visited fridge
- Then visited friends

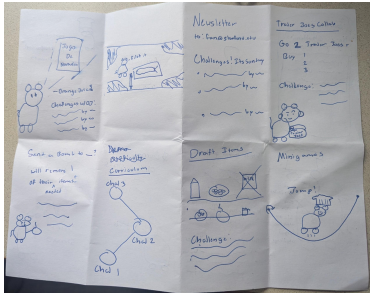
Appendix (cont.) - 20-30 solution idea sketches

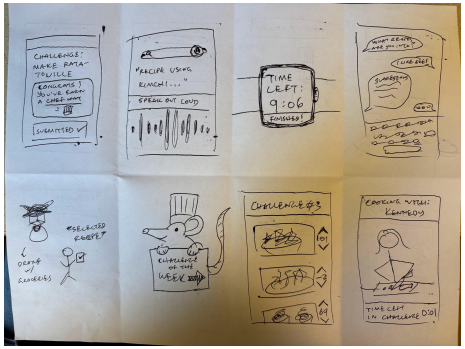


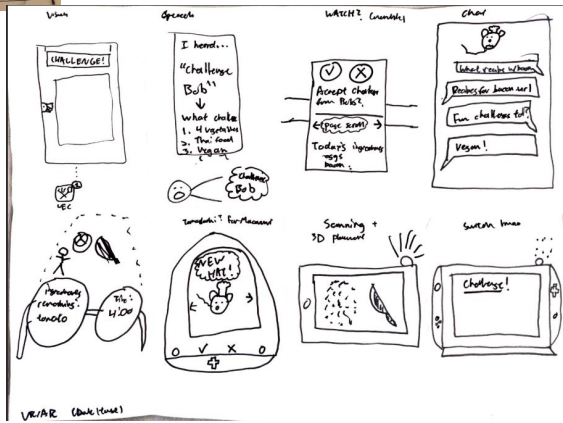








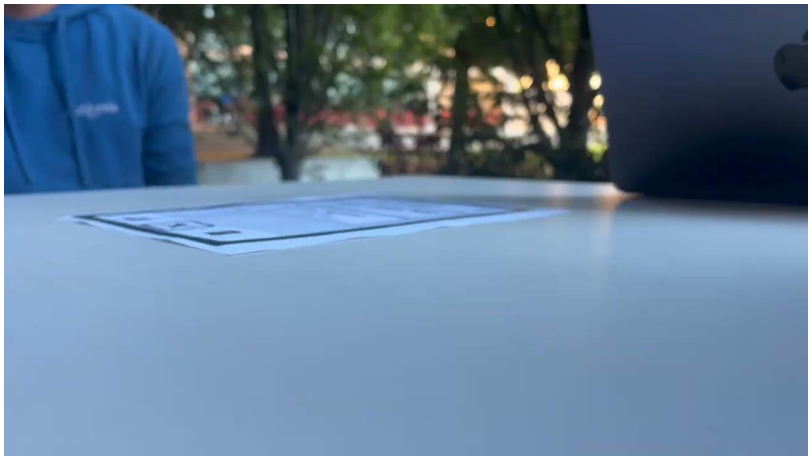




Appendix (cont.) - Video Artifacts

Note: Despite consenting to video, participants requested to not have their face shown. The following participant (Jordan) consented to video/audio, but requested only their hand/arm be physically recorded (and no apparel or face).

Left: Tap into computer placing new screen



Right: Asking about actions and performing a scroll