# Low-fi Prototyping and Pilot Usability Testing

## CareShare

Pablo Ocampo. Angelica Sun. Thunder Keck.

## Mission Statement

Motivate people to

- Find new hobbies
- Focus on existing ones
- Track progress
- Share hobbies with friends

## Value Proposition

With ones you care, share what you care

## Problem

In hectic and difficult times, it's easy to get caught engaging in activities you don't want to do, or struggling to find time for the activities that you do.

## Solution Overview

Provide a platform for people to track and share their self-care hobbies and habits in order to motivate them to continue doing them and help keep friends accountable with their own hobbies.

# Sketches

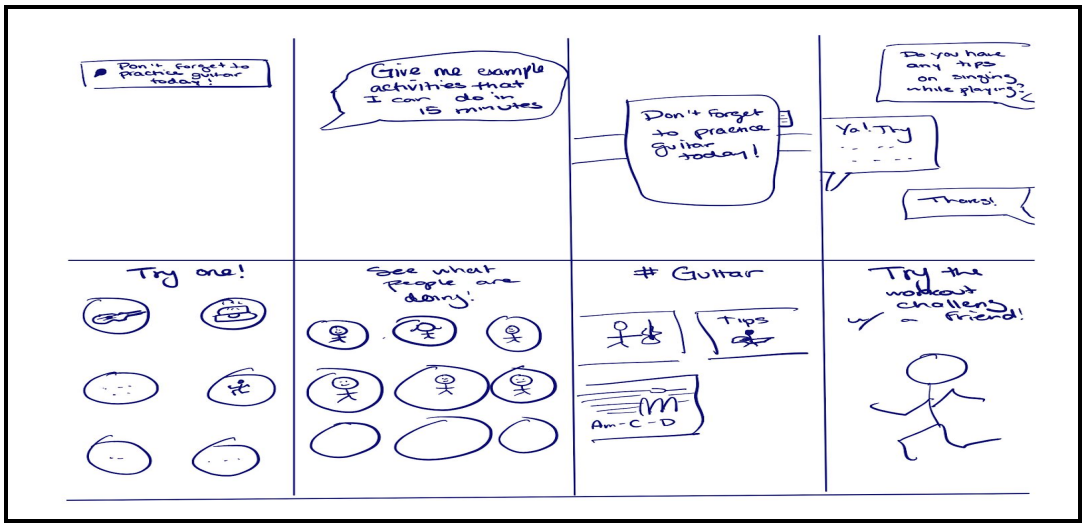


Fig1.1 Various interface application sketches.

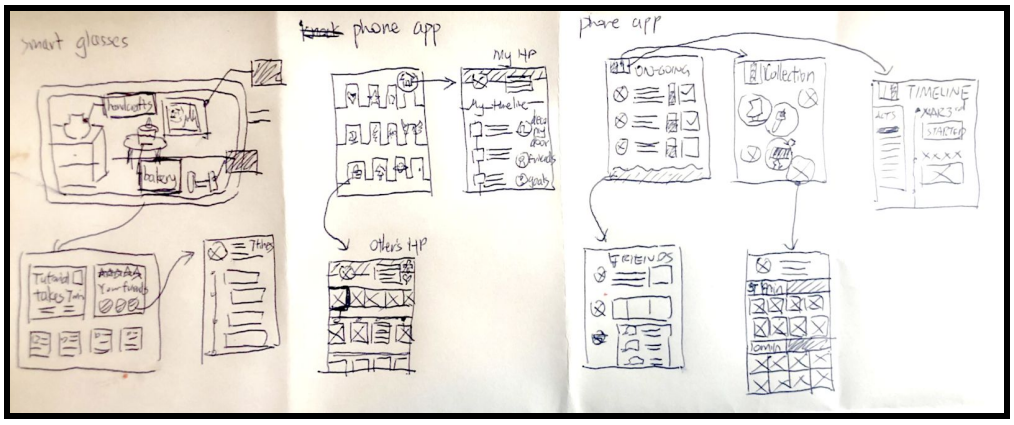


Fig1.2 Smart glasses and two phone app design sketches.

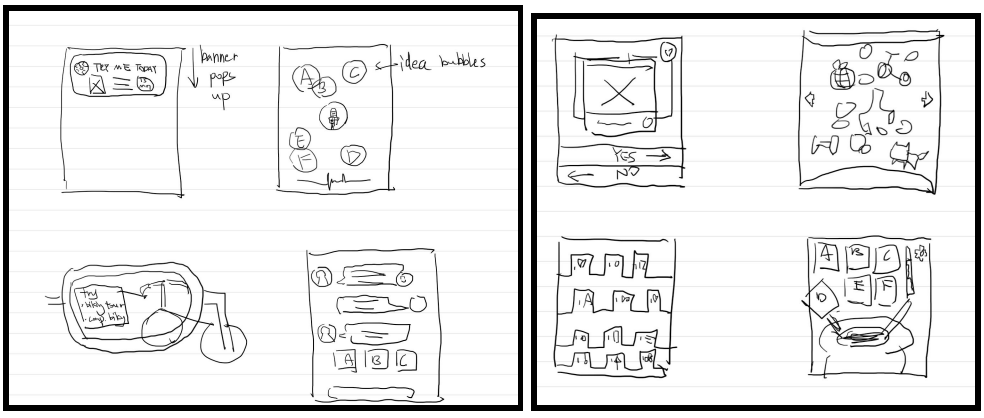


Fig1.3 Various interface application sketches.

# Selected interface design

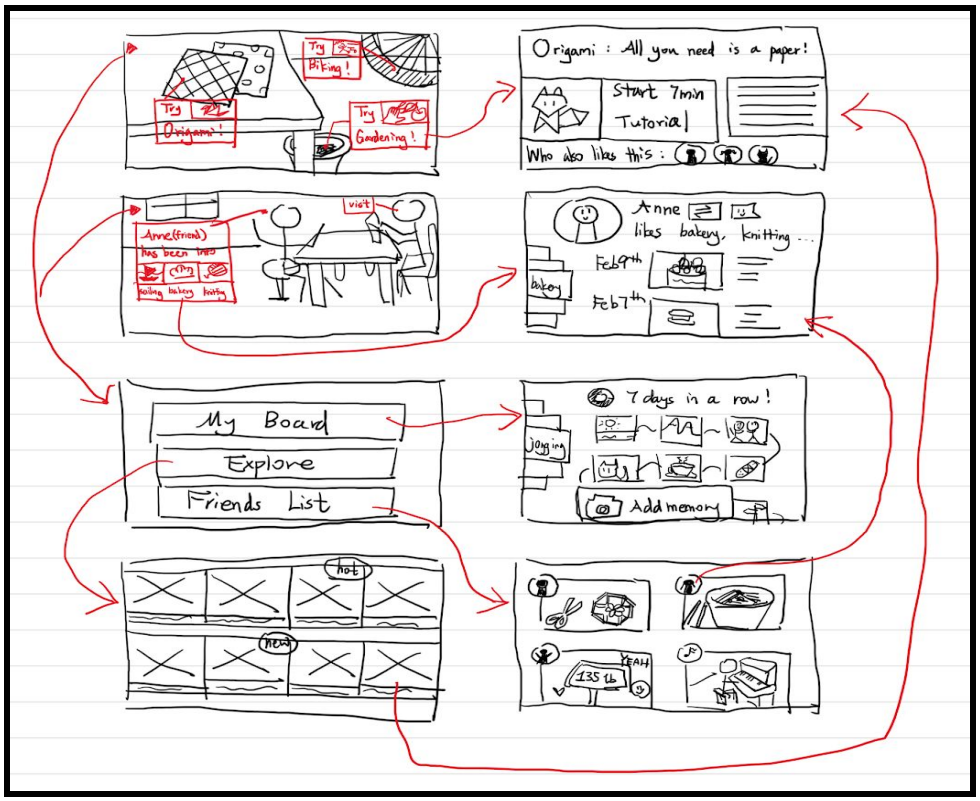


Fig2 Smart Glasses App Storyboard

The first is a smart glasses activity finding interface. When you look around, it shows you what sort of activities you could do with the things around you. Once you decide on an activity you can choose to watch a tutorial and also keep track of times where you've done it. You can view other's updates.

| PROS | CONS |
|---|---|
| • Situated in real life scenarios and circumstances<br>• Interactive with the environment<br>• Novel and sophisticated<br>• Integrated into daily living | • Difficult to implement high-quality augmented reality interface.<br>• Restricted to users who own smart glasses<br>• May be cumbersome to do many things through a glasses interface, limiting extensibility. |

Table1 Smart Glasses App Evaluation

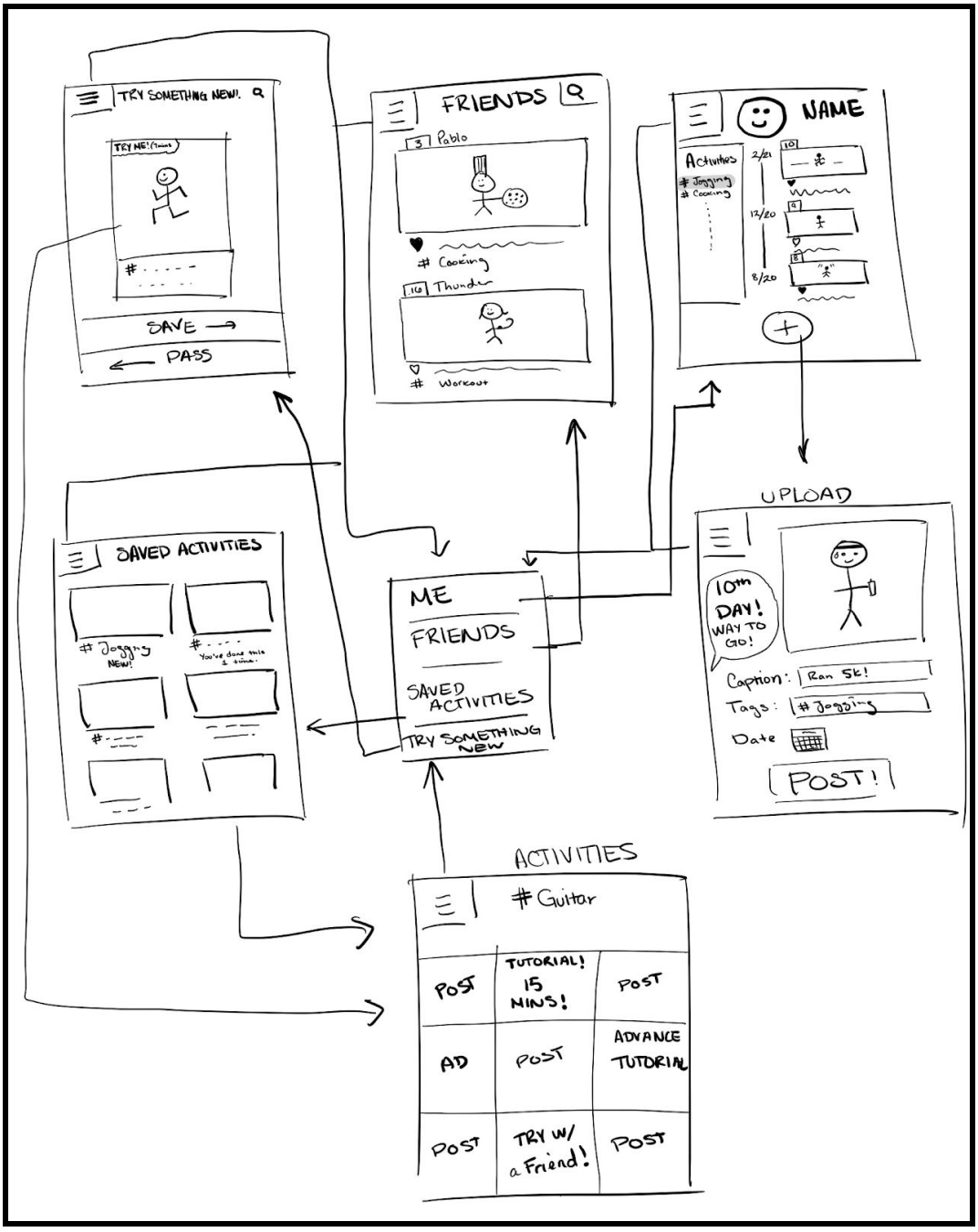


Fig3 Smartphone App Storyboard

The second interface we chose is a phone app. Like social media you can share updates of activities you've done with your friends. Unlike existing social media, however, this app focuses on hobbies and functions as a sort of journaling app, where you can share your "entries" for particular activities in a sort of thread to track progress. You can also explore new activities through a Tinder-like swiping interface, save them, and get tutorials for it or try it out with friends.

| PROS | CONS |
| --- | --- |
| • Conventional means intuitive to use<br>• Easily extensible<br>• The swiping design for finding new activities is novel and fun | • Might be difficult to truly set it apart from existing social media<br>• Too many features could lead to too little focus |

Table2 Smartphone App Evaluation

Selected design

We decided that the phone app interface would be the best for our purposes. It's conventionality provides a familiarity that makes use much more intuitive to new users than smart glasses. Also, most people already own a smartphone, which means this design would be more accessible to more people. The swiping interface for activities could also prove to be a fun way of finding new hobbies. Lastly because it is a phone app, it can be easily extended or redesigned.

## Prototype and Storyboards

For our prototype we decided to use Marvel POP to give the participants in our experiments the feelings that they are actually using a real app while interacting with our prototype, which mimics the social interactions of finding new activities, seeing what friends are up to, and sharing one's own hobby updates. Marvel POP also gave us the opportunity to easily conduct virtual interviews.

UI Storyboards

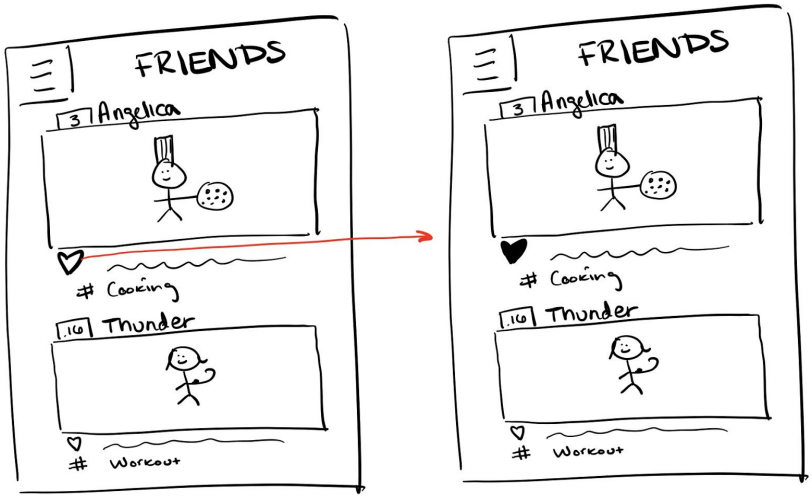


Fig4.1 **Trivial Task**: Like Angelica's picture.

Click the empty heart under Angelica's post.

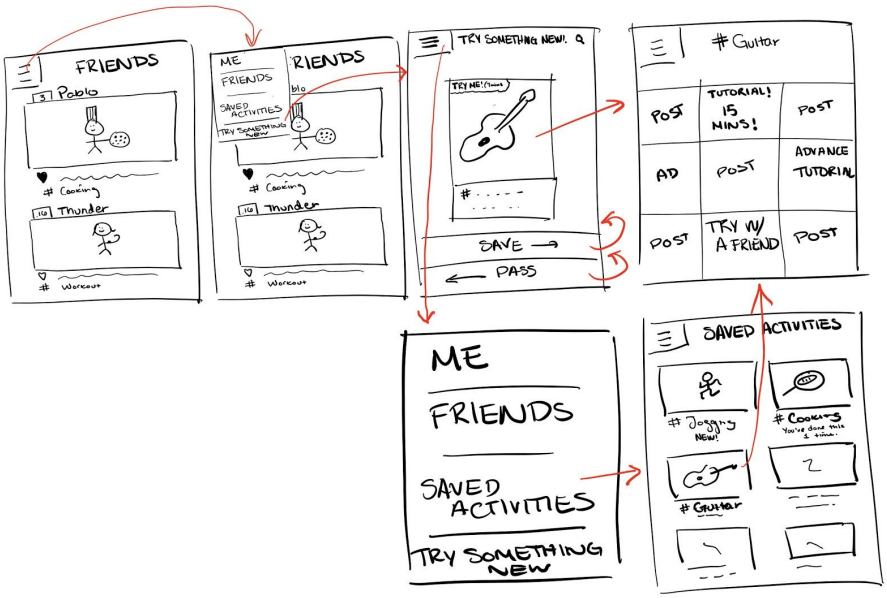


Fig4.2 **Simple Task**: Explore a new activity

On the friends feed, pull down the drop down menu. Click on Try Something New to go to the explore activities screen. Save a few of them with the bottom buttons. Either click the activity itself to go to that activity's screen. Or, pull down the drop down menu, and click saved activities. From there go to the desired activity's screen.

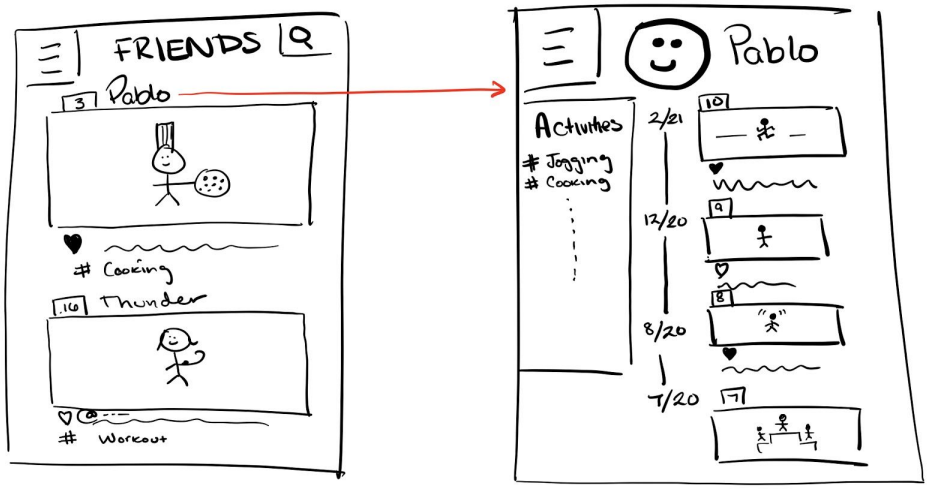


Fig4.3 **Medium Task**: Check what your friend has been up to
Scroll through the feed and find the desired friend. Tap on their name to view their profile page with their activity updates.

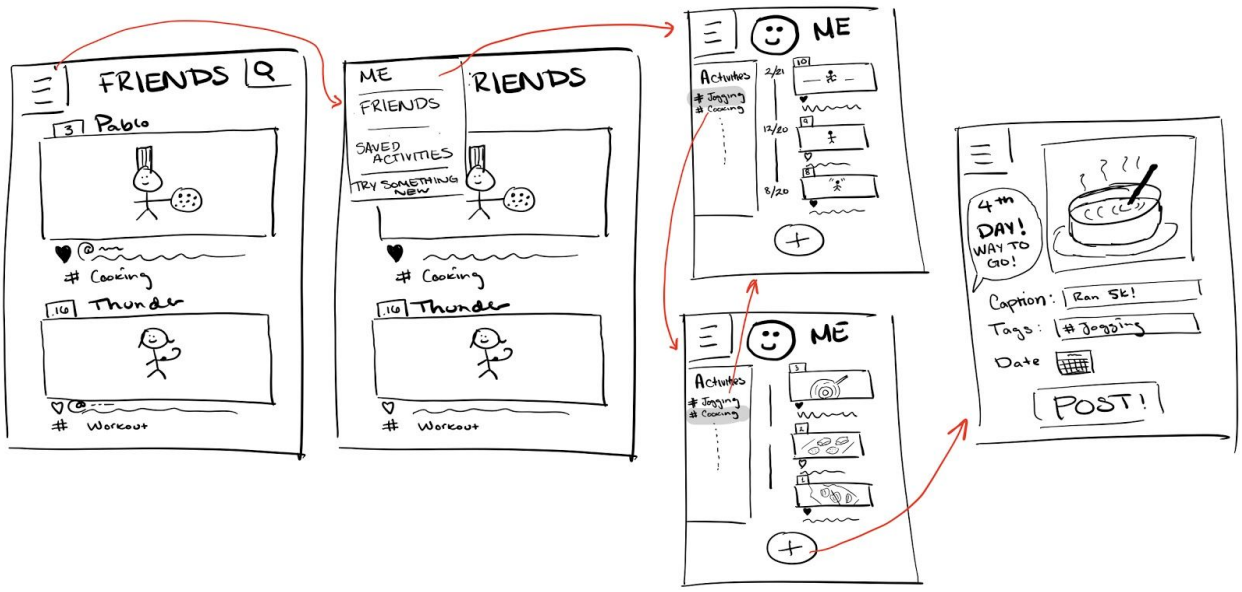


Fig4.4 Complex Task: Track and share your activities with friends
Pull down the drop down menu, and click on Me. There filter your posts by activity, and click the (+) button to create a new post.

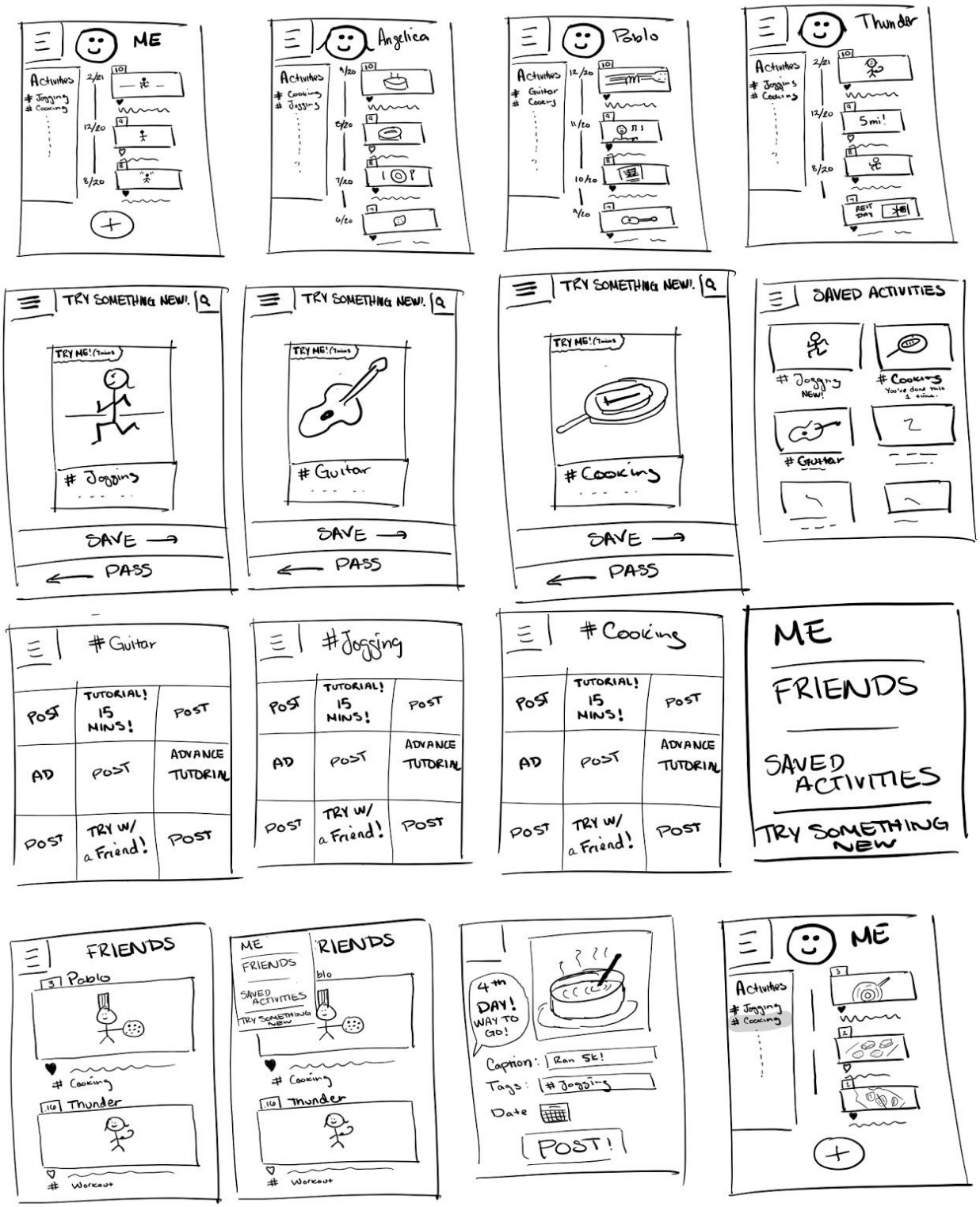


Fig5 All screens in demo.

# Method

## Environment

Due to the extenuating circumstances posed by the pandemic, we conducted interviews virtually through Zoom. We used Marvel POP to mimic the interactive mobile app experience. The link (https://marvelapp.com/prototype/57055c7) to this prototype can simply be sent to the participant and loaded on their own browser.

## Participants

Participants were chosen to be people that had not previously been exposed to the project and were not friends, family, or Stanford students. These were compensated with small amounts of food. Participants were:

- Female data scientist in their 20s; tester's neighbor.
- Mother of 2 in their late 20s; avid social media user; met tester on Tinder.
- Female medical student in their 20s; tester's friend's friend.

## Tasks

0. Like Angelica's picture (as demo)
1. Find and save two activities and find instructions on them.
2. Check out what Pablo has been up to lately.
3. Look at your cooking progress and upload a new cooking post.

## Procedure

1. Find participants, meet them virtually, and send them prototype link.
2. Explain the purpose of app and experiment.
3. Ask for and receive consent.
4. Asking the participant to open the prototype link, and share their screen. Demo the system by asking the participant to perform Task 0.
5. Ask the participant to perform each of the three tasks sequentially. If the task is performed incorrectly ask them for reasoning and point them in the right direction.
6. Debrief and hear feedback.

## Test Measures

Success:

- Easily performing requested task
- Easily understanding functionality of features
- Positive feedback

Error:

- Not knowing where to go to perform a task

- Not knowing what a feature or screen means
- Negative feedback

Roles:

- Pablo: Facilitator
- Angelica: Note-taker
- Thunder: Computer/Observer

# Results and Discussion

1. Task completion

| | Task1 - Save new activities and find instructions | Task2 - Check out Pablo's recent activities | Task3 - Look back at cooking progress and make new post |
|---|---|---|---|
| Participant #1 | Tried everything in the app. Was only able to find the "Try something new" button with facilitator's instruction. Got annoyed at the end. | No issues | No issues |
| Participant #2 | Tried to go to the "me" tab first before finding the "try something new" button. | No issues | No issues |
| Participant #3 | Drop down menu was not immediately obvious to be able to find a new activity. | No issues | No issues |
| Summary | Some flaws in UI design impeded participants to accomplish this task. | Task2 appears simple and intuitive to every participant. | Task3 appears simple and intuitive to every participant. |

Table3 Experiment Results

It is apparent that Task 1, which we originally designed as "simple task", caused the most trouble for participants. The experiment effectively revealed flaws in our existing UI design.
We further notice that all three participants have fully explored the app to accomplish task 1, so their successful performance of tasks 2 and 3 could be a result of retrieving the location of those functions from memory. This does not indicate the UIs themself are intuitive to use.

2. Sorted feedback

The feedback we received is three-fold. Here, we sort our valued feedback by categories and also tag each problem as “high”, “medium”, or “low” severity.

(1) Concept
- (a) [HIGH] “The app should focus more on the activity discovery and social aspects. One can use Youtube for tutorials.”

(2) Function
- (a) [HIGH] Activities list
  - (i) “The app should have a list of all activities”
  - (ii) “The “Explore New Activities page” should make it easier to see a lot of activities at once instead of one-at-a-time.”
- (b) [HIGH] “The user should be able to make new posts on the main screen without going through so many clicks”
- (c) [HIGH] “The user should be able to remove hobbies”

(3) UI
- (a) [MEDIUM] Tab naming
  - (i) “The “try something new” button is very confusing”
  - (ii) “The main screen should not be called “friends””
  - (iii) “The “saved activities” page could be called “my hobbies””
- (b) [MEDIUM] Tinder swiping
  - (i) The user should swipe to try activities instead of save them
  - (ii) The swiping interface for activities is cute but cumbersome
- (c) [LOW] It should be more obvious about what items on the screen lead you to other screens

We rate the feedback 1(a) regarding our app’s goal as the most urging. During testing and class discussions, we realized the current app lacks a main focus. In the next step, we will aim at developing and polishing one central function. What that function will be requires further investigation. While some prefer the discovery aspect, others would like a larger emphasis on sharing.

Part (2) lists essential functionalities we missed to consider. We will incorporate them in the medium-fi prototype and pay special attention not to repeat the mistake. Some suggestions here are open to discussion. Taking (2)(a)(ii) for instance, while this participant suggests against the one-activity-at-a-time exploration mode, another feedback we obtained from Friday’s section favored this design because it allows for focus.

Part (3) caters to design details. We find these results most educational, because we did not expect tab naming or saliency of clickable buttons to affect user experience. At the next step, we will have more user tests on the operable buttons and their labels to make sure functions get communicated to users.

Appendix. Consent Form

## Blank Consent Form

This student team is interviewing and observing as part of the coursework for Computer Science course CS 147 at Stanford University. Participants provide data that is used to understand the possible opportunities of the design. 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 (Angelica Sun, Pablo Ocampo, and Thunder Keck) or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.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 research. I also give permission for images or audio/video recordings of me being interviewed to be used in presentations or publications, as long as I am not personally identifiable in the images/video. I understand that I may withdraw my permission at any time.

Name _____

Participant Number _____

Date _____

Signature_____

Witness name _____

Witness signature_____