CS 147 - Introduction to Human Computer Interaction Design
Assignment 5 - Low-fi Prototyping & Pilot Usability Testing

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Studio Theme: Art and Culture
Problem Domain: Music as a Social Activity

1. **Introduction**

   We are Impromptu ("Share Music. Share Surprises.").

   Problem/Solution Overview

   Musicians generally acknowledge that going out of one's comfort zone is an important way to improve as an artist. In particular, they believe that performing unfamiliar music, or performing music in unfamiliar ways, provides them with useful creative energy. Despite this belief, however, musicians find it difficult to deviate from routine and push their boundaries in their practice and performance.

   Our application motivates musicians to go out of their comfort zone in a fun and social way by providing them with musical challenges for them to complete. Users can complete these challenges while recording video through the app; such videos are called *Impromptus*. Users can also view Impromptus others have posted and send challenges to other users.

2. **Three Concept Sketches**
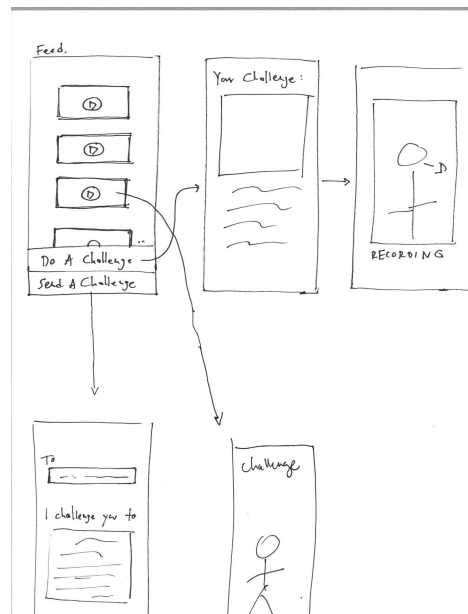   a. Public feed and sharing

Figure 1. Concept Sketch 1
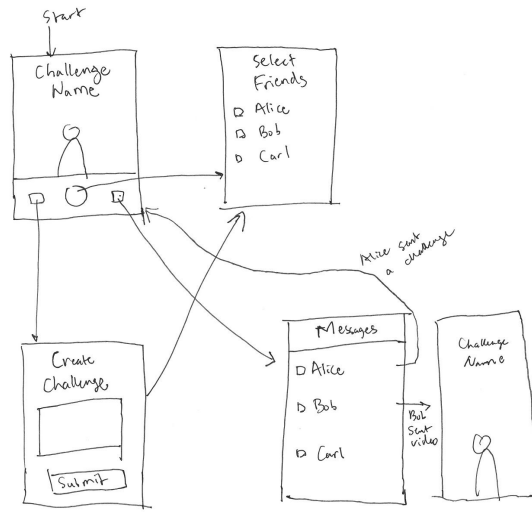
b. Instant sharing

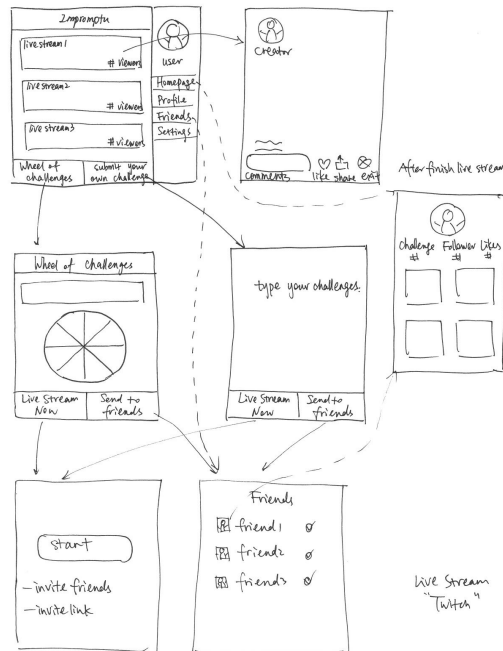
Figure 2 Concept Sketch 2

c. Live streaming

Figure 3. Concept Sketch 3

3. **Top Two Detailed UI Design**
   a. UI Design 1

   The main screen of our first UI design features the public feed with publicly uploaded Impromptus by users. The three buttons at the bottom provides three functionalities. The middle button "Record an Impromptu" prompts the user with a challenge the app has assigned them to perform and the user is then brought to the camera screen for

recording. The left button "Inbox" stores challenge history including Impromptu videos and challenge requests sent by friends. And the right button "Challenge a Friend" brings the user to a page that contains a challenge selector for premade challenges in the system and a text message field for them to type in a customize challenge.
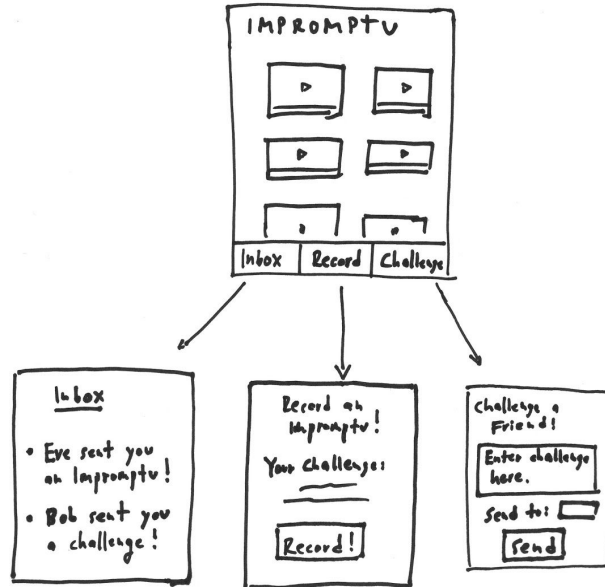

Figure 4. Detailed UI Design 1

b. UI Design 2

In our second UI design, the main screen starts with the camera and a system generated challenge on the top. Swiping to the left takes a user to view the inbox which stores the video challenge histories between you and your friends. By swiping to the left, a user can create a customized challenge and send it to your friends.
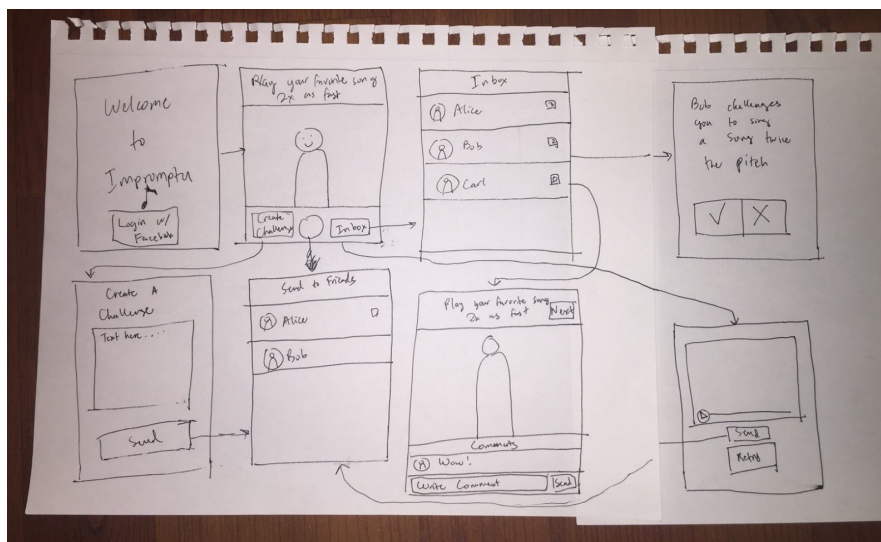

Figure 5. Detailed UI Design 2

4. Selected Interface Design
   a. <u>Three tasks</u>

We decided to pursue the first UI design. Figures 6-10 are UI storyboards illustrating the steps to be executed each of the three tasks:

    i.   Viewing an Impromptu

The app presents the collection of Impromptu videos in a grid style. The user can browse the videos by scrolling down the feed and click to view each video.

    ii.   Recording yourself doing a challenge

The users is prompted with a challenge and directed to the camera screen.

    iii.   Creating and sharing challenges

The users can send a challenge request to friends. The challenge requests and the Impromptu videos from friends will be stored in the Inbox. They should be able to receive the notification in the inbox. They can view the challenge and watch the Impromptu video sent by friends after clicking on that notification message.
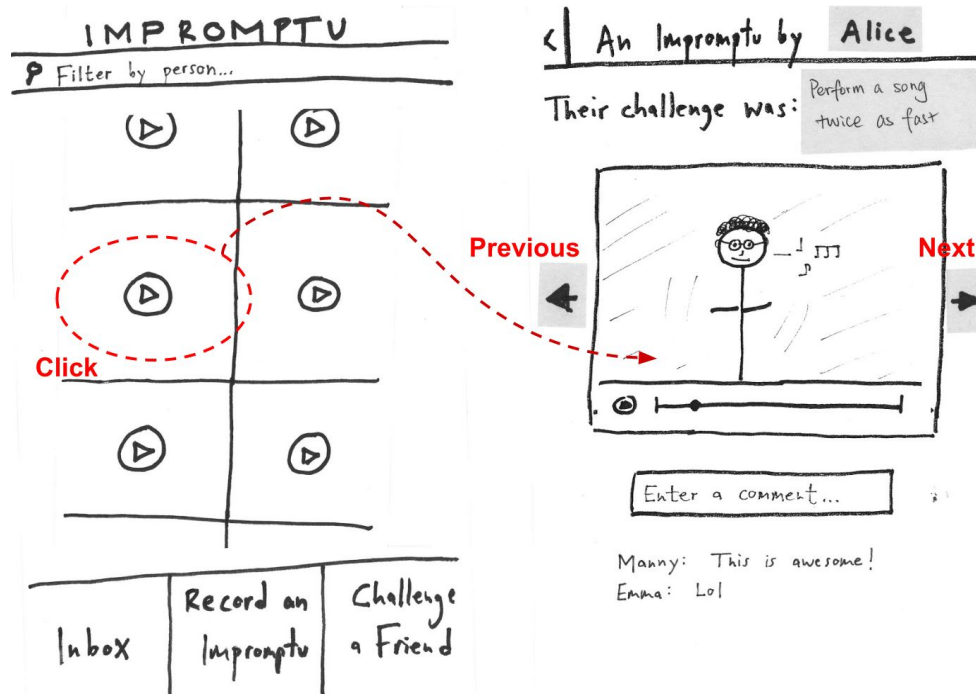
Figure 6. Task Flow 1: Viewing an Impromptu

IMPROMPTU

Filter by person...

< Your Challenge

Find a complete stranger and perform for them

Click   Click

Record an Impromptu   Challenge a Friend   I'm Ready to Record !

Inbox

< Recording your Impromptu

< Share your Impromptu

Playback

Check

Save to My Album   done
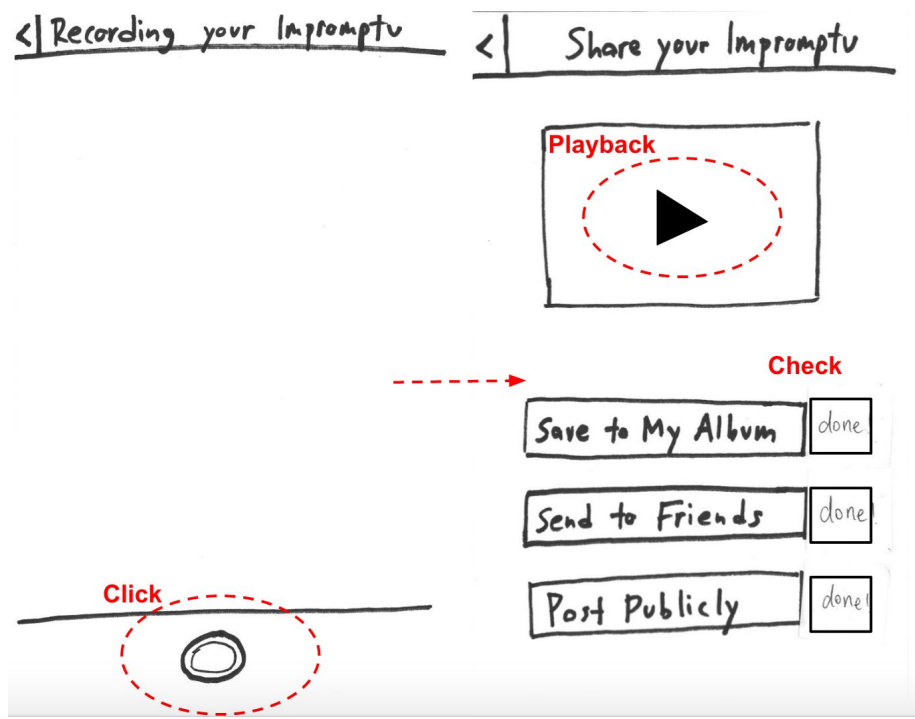
Send to Friends   done
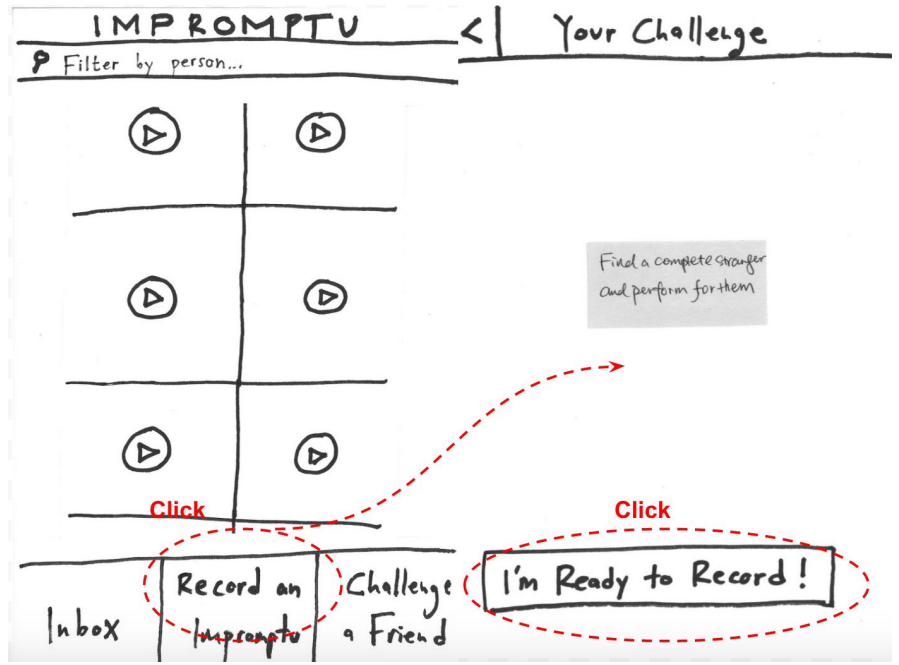
Click

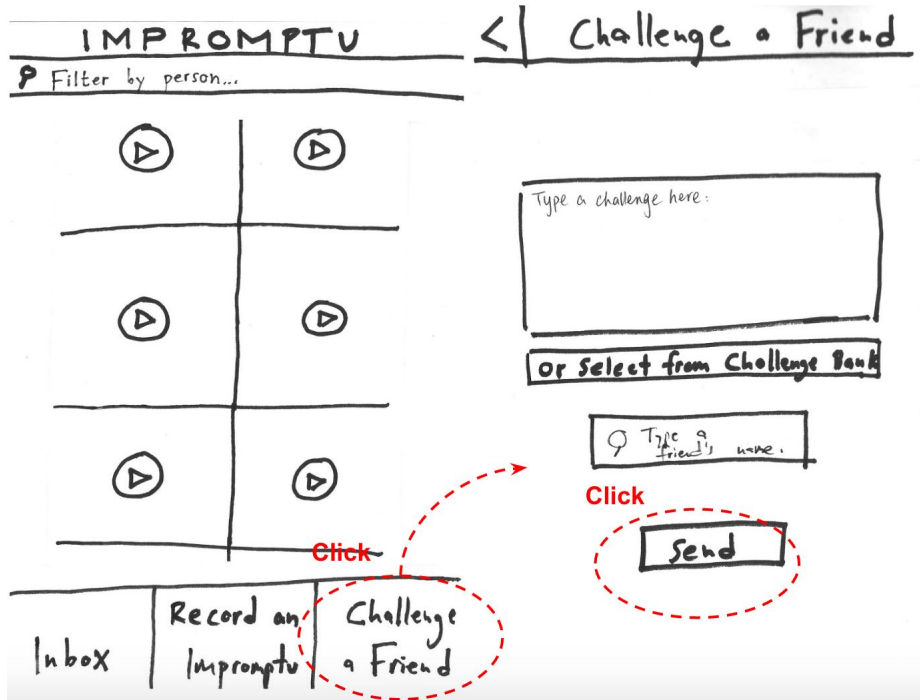Post Publicly   done

Figure 7. Task flow 2: Recording yourself doing a challenge

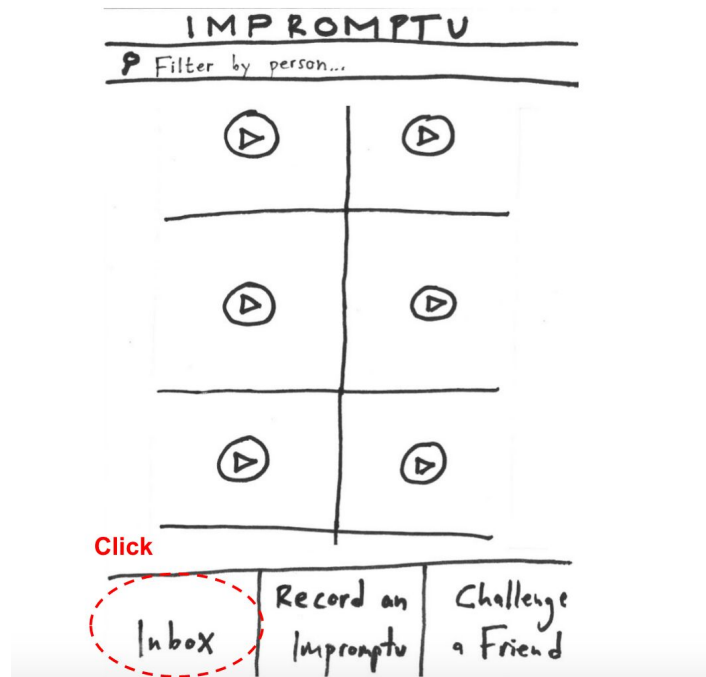Figure 8. Task flow 3.1: Send a challenge request to friends

< | Inbox   < | Your Challenge from Bob

Bob sent you a challenge request.

Click

Perform as if you are underwater.

Click

Impromptus | Challenge Requests   I'm Ready to Record !

< | Inbox   < | An Impromptu by Alice

Alice sent you an Impromptu.   Their challenge was: Perform a song twice as fast

Click

Previous   **Next**

Enter a comment...

Manny: This is awesome!
Emma: Lol

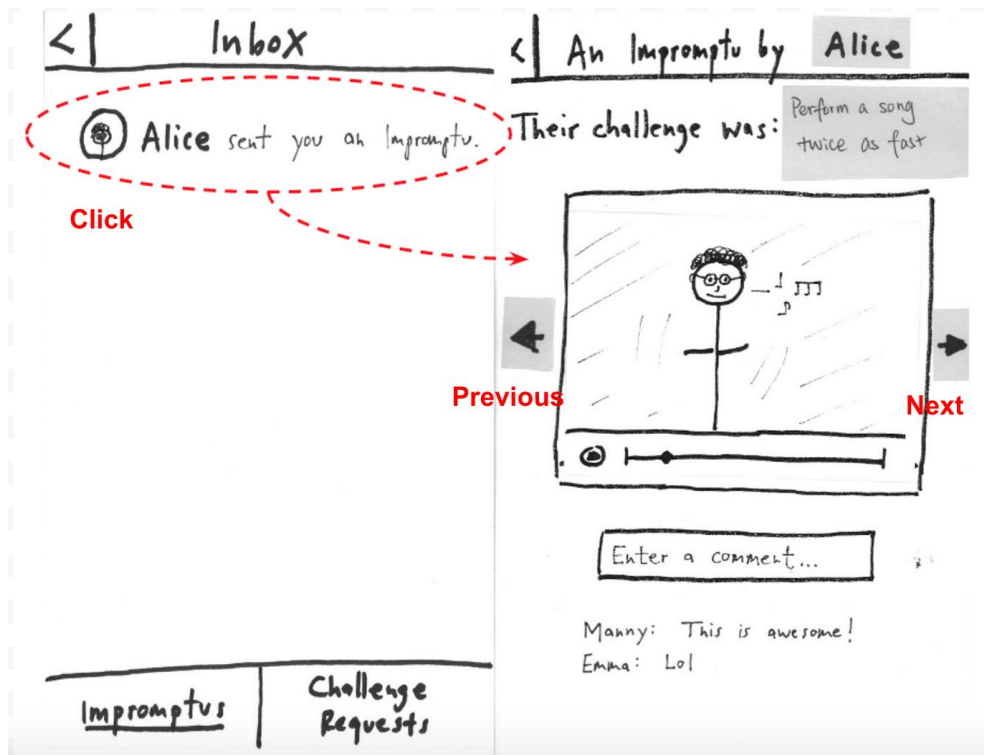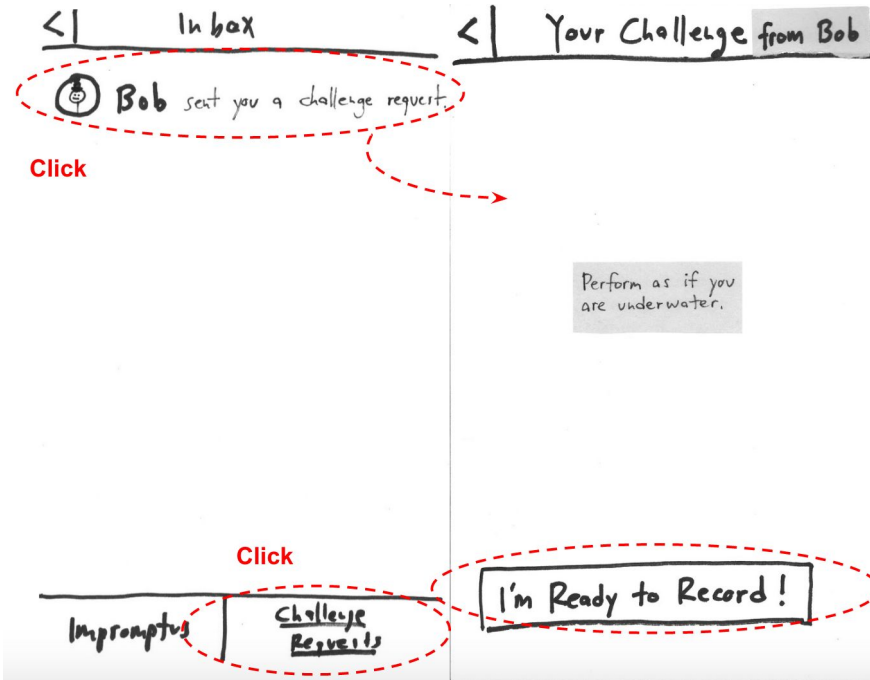Impromptus | Challenge Requests

Figure 9. Task flow 3.2: Inbox

<u>b. Reasons for choosing selected UI Design</u>
- We picked UI design 1 because we take into consideration most users will focus on content consumption e.g. watching Impromptus rather than content creation e.g. recording Impromptus. The public feed presenting different Impromptus from the community could provide incentives for users to try challenges themselves. It also helps users to understand what they should expected by viewing the Impromptus from others. Also, from our experience prototype testing, our test subjects mentioned that they enjoy watching others doing challenges and they would like to see what challenges are out there.
- The three buttons at the bottom present three functionality in a more obvious way than swiping left and right.
- Leveraging existing connections on Facebook for login and finding friends creates trust and also provides a more streamlined signup process.
- Completing a challenge is something the user should be proud of and something we indeed encourage. So it is worth saving the videos or even share in a global community compared with ephemeral instant videos.

Although we preferred UI design 1, we chose to incorporate a few aspects of UI design 2 in our final prototype description (e.g., the option to share an Impromptu with a specific friend).

5. **Prototype description**
   We used white cardstock, Post-Its, tape, Sharpies, and glue to create our prototype.
   a. As shown in Figure 10, the user starts at a sign in page. Signing into Facebook allows users to send and receive Impromptus with their Facebook friends, leveraging the user's existing social connections. A brief introduction follows for purpose of getting new users on board.
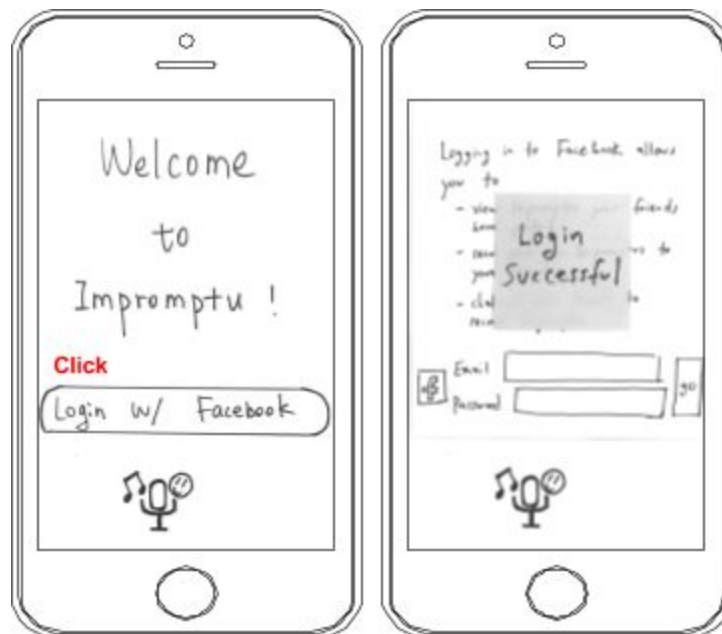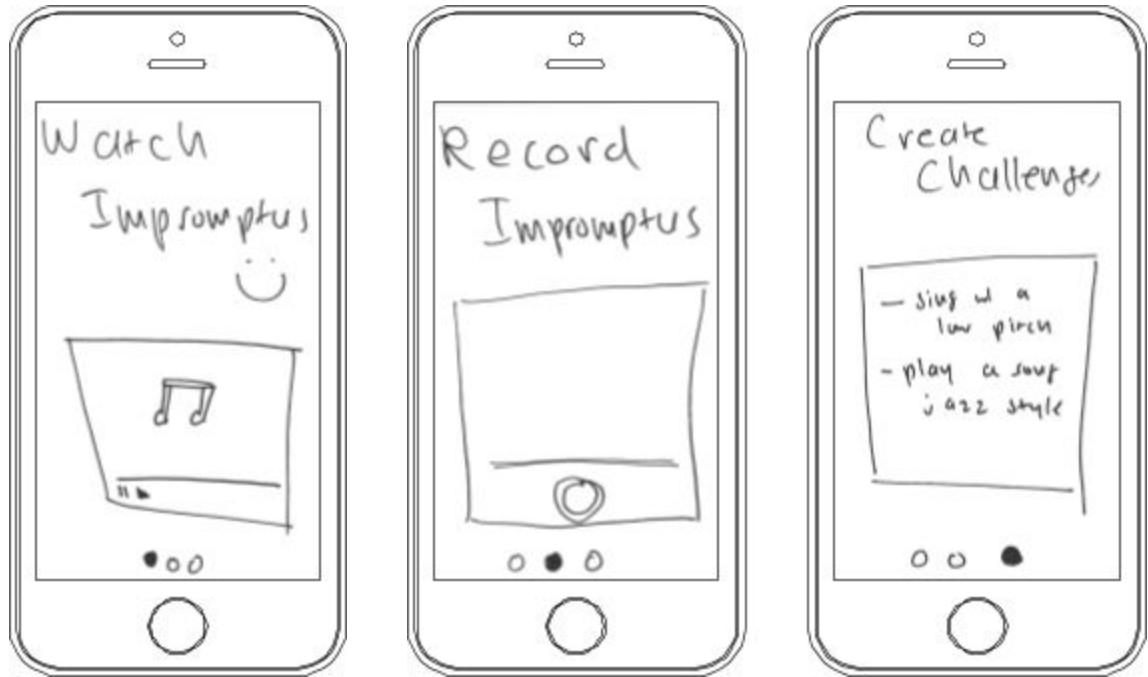
Figure 10. Login and Onboarding

b. We did a paper scrolling prototype for the main screen as shown in Figure 11. The *Impromptu Feed* displays Impromptus that users have posted publicly. As shown in Figure 6, tapping on a video icon brings the user to the video for playback as well as a comment thread. Each video contains information of the person who takes the challenge and the description of the challenge. The users should be able to navigate to the previous video or the next one by clicking on the arrows. The video is not autoplayed and requires the user to touch the play button.

From the Impromptu Feed, the user can choose to go to the *Inbox*, to *Record an Impromptu*, or to *Challenge a Friend*. (Figure 7-10 shown in the Section 4.a Three Task Flows)

i) From Figure 7, clicking on the "Record an Impromptu" button in the Impromptu Feed brings the user to a page that displays the challenge that the app has assigned them to perform. When the record button, a large red button in the bottom middle of the display, is pressed, it switched to a camera view and recording begins.

After recording their Impromptu, the user has the option to share it with Facebook friends of their choice, post it publicly to the Impromptu Feed, and/or save it to their Impromptu Album. When the user clicks on one of the three buttons, a "done!' notification shows up next to the button.

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ii) Clicking on the "Challenge a Friend" button in the Impromptu Feed brings the user to a page that contains a text field for them to type in a challenge . They may also select a premade challenge from the Challenge Bank. Upon clicking "Send," a Post-It popup prompts them to specify a friend to receive the challenge. (See Figure 8)

iii) The *Inbox* page displays two kinds of messages: 1) Impromptus that the user's Facebook friends have sent to the user for view/comment, and 2) *Challenge Requests* which consists of challenges for the user to complete and create an Impromptu. Tapping the "Impromptu" or "Challenge Request" buttons at the bottom of the *Inbox* screen causes the corresponding messages to be displayed. Clicking on each message in the *Inbox* displays your friend's Impromptu or challenge request. (See Figure 9 and 10)
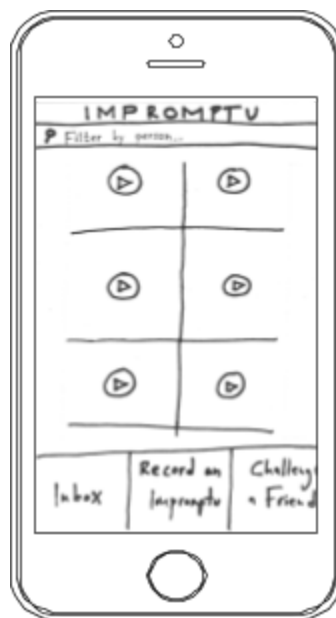

Figure 11. Main screen

c. As shown in Figure 12 below, swiping right from the Impromptu Feed brings the user to their Impromptu Album, which is a user-curated collection of their own videos.
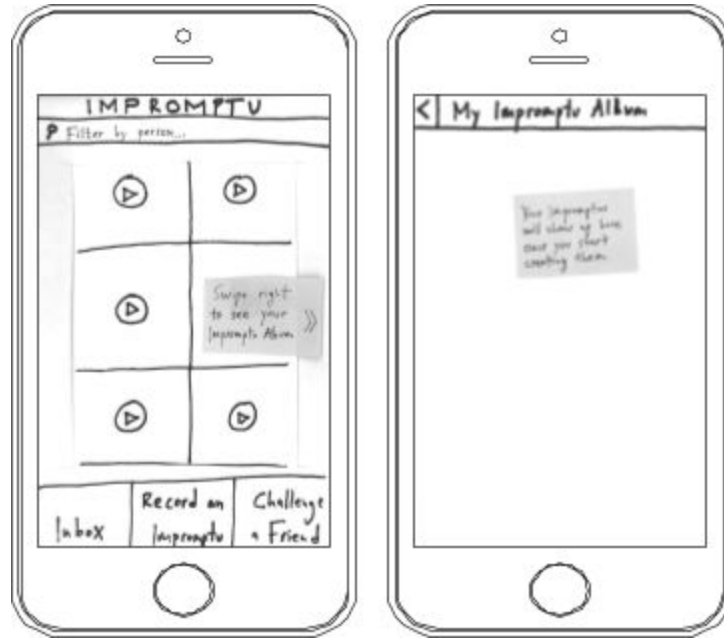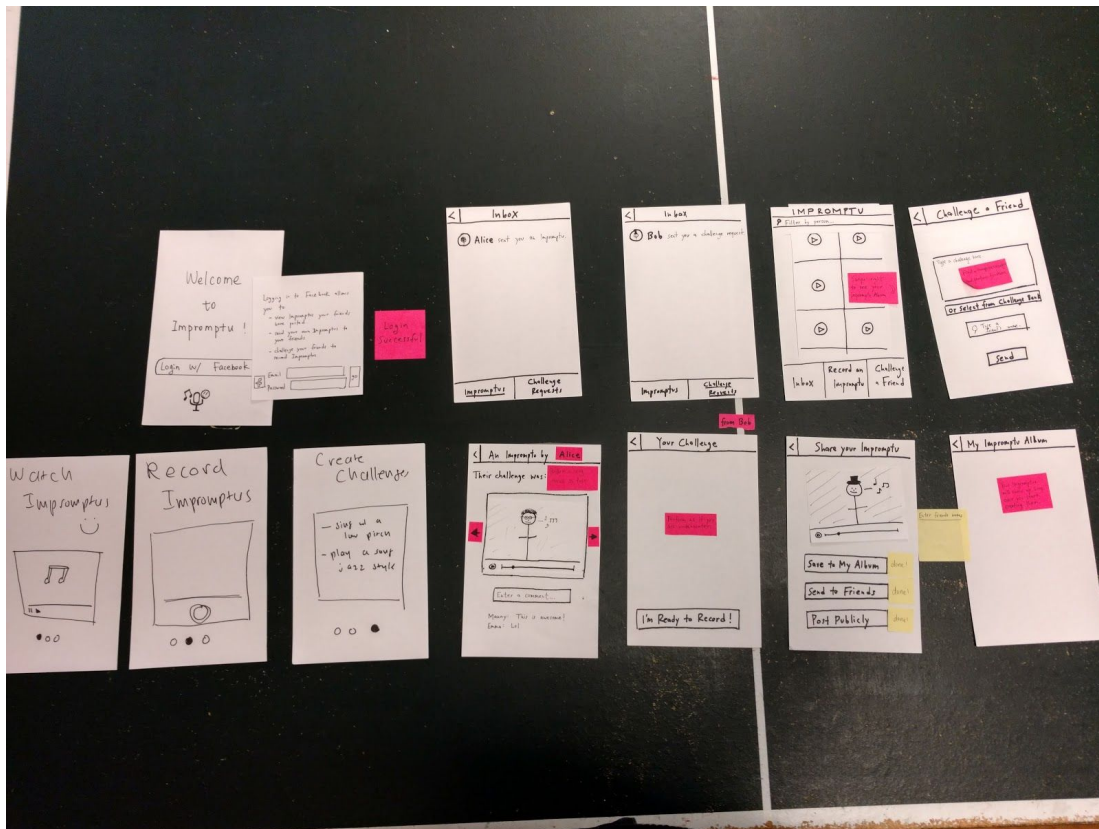
Figure 12. Personal Impromptu Album

Figure 13. Entire Prototype System

6. Methods

   a. <u>Participants</u>

Since our app is targeted towards musicians we decided to test our prototype with three musicians. Participant 1 is a friend of John Carlo and a singer. We compensated them with a free boba drink. Participant 2 is also a singer. They were compensated with a promise by Diego to perform a musical piece at a later event. Participant 3 is an employee at the Haas Center. We compensated them with a free boba drink as well.

   b. <u>Environment</u>

We interviewed Participant 1 and 2 at Muwekma-Tah-Ruk, a student residence on campus. We interviewed Participant 3 at the Haas Center. We chose to interview them in a quiet room suitable for singing as all three were capable singers.

Member Roles: Chen - Facilitator/Computer
                    John Carlo - Recorder/Facilitator
                    Diego - Facilitator/Computer

   c. <u>Tasks</u>

We primarily focused on the following three tasks
- Viewing an Impromptu. This includes viewing the main feed of publicly shared videos, as well as viewing videos that were sent by other users directly. (simple)
- Creating an Impromptu. This includes creating a new video from a task selected from the app's internal task bank as well as creating a new video from a task sent by another user. (moderate)
- Sending a challenge. We wished to test the flow for creating a new challenge and sending it to other users. (complex)

   d. <u>Procedure</u>

For all three experiments, we tested with a paper prototype. We had one person hold a camera while another person conducted the interview and walked the user through using the paper prototype.

Since we interviewed Participant 1 and 2 on the same day while the Participant 3 was on a different day, we had time to modify our paper prototype to incorporate the feedback from the first two before testing on Participant 3.

   e. <u>Test Measures</u>

We generally looked for confusion in the user. This includes when the user wanted to perform a task but was unclear how to do it, or when the user chose the wrong option to perform the task. We looked at how often this occurred, as well as when and in what context this confusion occurred. We also paid attention to potential features users wished the app had. In addition, we kept track of how many functionality related questions they asked ("how do I…").

7. **Results**

Overall, all participants found the functionality of the three buttons in the main screen to be clear. They completed the simple task flow of watching an Impromptu in the feed or sent by friend. In the moderate task (recording an Impromptu of themselves doing the challenge), they had confusion about two different ways of sharing: to friends and to public feed. In the complex task (sending challenges to friends), they were unsure how they would be notified if their friend completed the challenge. They raised questions about the Impromptu videos and requests in the Inbox.

a. Participant 1 had difficulties with the original language and the feed screen. Some action words were ambiguous such as the instructions during onboarding, sharing to friends versus public posting, and sending a challenge versus submitting a challenge to the challenge bank. They also had trouble distinguishing between the Inbox and the Album as well as their purposes. It was unclear to them what the words "submit" and "share" meant on the *Create Your Challenge Screen* -- do I submit challenges to friends or share them to the *Challenge Bank*? She would have liked better onboarding in describing what each button does on the *Impromptu Feed*.

b. Participant 2 also had trouble understanding the language choices for user actions, similar to Participant 1. There was some confusion on how to navigate back and forth within the app, as well as difficulty understanding the wording for challenges. Participant 2 thought that the challenge "Play a song 2x as fast" meant to pull up a song on iTunes and have the playback be 2x as fast, rather than performing or singing a song 2x as fast. One difficulty they foresaw was the amount of time it would take to record a "perfect" Impromptu, which may require lighting, makeup, and props and would impede on the fun of the app. Participant 2 was unclear about whether upload or share meant sharing with friends, or posting to the Impromptu Feed. They were curious about how messages and challenge requests were stored, and if there was a simple way to ignore challenge requests from friends. They were also confused when first viewing an Impromptu, and thought that it was a challenge request.

c. Participant 3 found our final revised prototype to be easier to interact with, but language choices for interactions could still use some tweaking. Participant 3 was mostly confused about the lack of interactivity in the onboarding screens, which may mean the onboarding screens were not intuitive enough or may require more textual instructions. Participant 3 wanted to see their "challenge history," i.e., who challenged them and whom they challenged; they were unable to do so since that feature was not implemented. There was also ambiguity between the option to post to the Impromptu Feed and also to the participant's actual Facebook timeline since the button was labeled "Post Publicly."

8. **Discussion**
   a. What did you learn from the experiment?
   Our low-fi prototype did convey our value proposition, as all the testing participants understood our concept as well as how to complete the three tasks. Our interviewees understood the video self-recording option, and the functionality of sharing Impromptu videos with friends. Most importantly, they enjoyed the end goal of completing musical challenges in a fun way as they suggested they would use/watch the videos or suggest other targeted users for our app. Our participants were curious to each action that we provided them and overall they understood the Impromptu experience.

   We learned the importance of on-boarding process because that helps users to get up to speed when they were exposed to a new social platform. We could improve our onboarding by including more interactive processes, perhaps a introduction video, or defining terms such as challenges, impromptus, and the Impromptu Feed.

   We learned that the textual content in an interface can make sure we convey clear instructions, rather than muddy, ambiguous commands. For example, we need to make sure we elucidate the differences between sharing an Impromptu versus sending a challenge request. We can do that by having more detailed and differing action verbs or providing more instruction with the action e.g. "Share to friends" vs "submit". The second action is ambiguous whereas the the first action provides context.

   b. How will the results change the design of your interface?
   On further iterations, we will focus on refining our word choices for user navigation and actions, putting extra detail and instructions during the onboarding process, and clearly define ways to send both custom and curated challenges. During usability testing, our participants had trouble understanding the purpose of several user actions. For example, the two buttons that said "submit" and "share" on the *Challenge Request Screen* made it unclear to our users what the 'submission' was about and to whom the 'sharing' was done.

   c. Was there anything that the experiment could not reveal?
   For our prototype, we were unable to test how usable the app would be while recording Impromptus. All of our participants, when presented with the challenge prompt, simply dismissed it or did a fake, 1 second interpretation of the challenge. Furthermore, since none of our participants actually completed any challenges, we weren't able to see how users would be able to record Impromptus if they needed an instrument or props. We also wanted to know if categorizing challenges into different musical genres, solo versus group effort, or silly versus educational would have been helpful, but our participants did not mention any of the above.
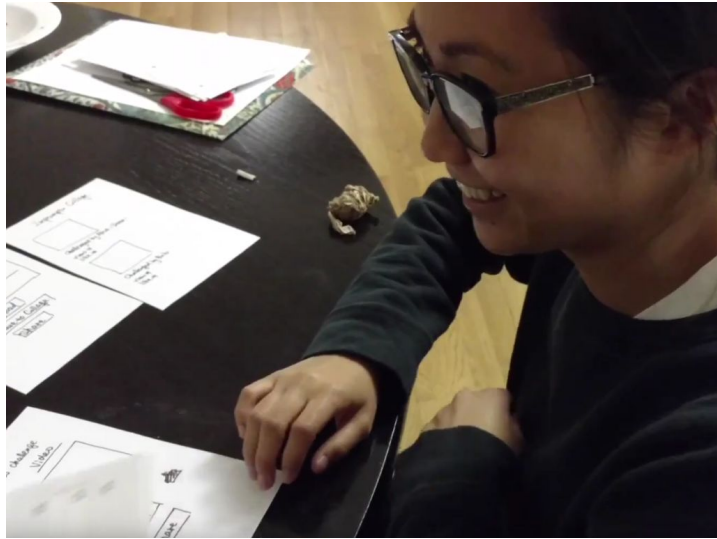
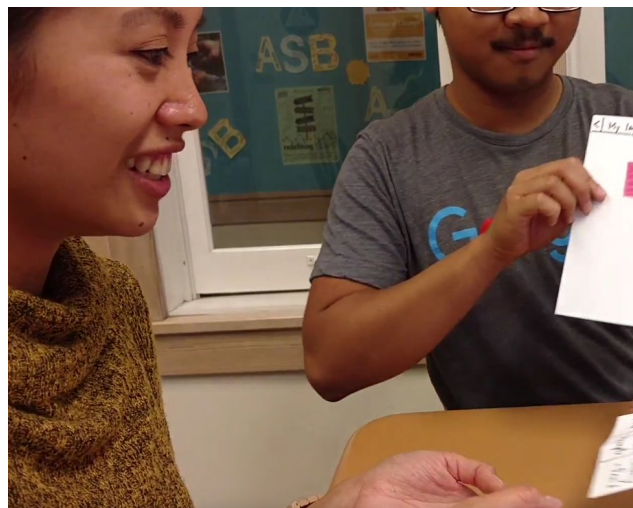## 9. Appendix

Figure 14. Participant 1 in Testing

Figure 15. Participant 2 in Testing

Figure 16. Participant 3 in Testing