

CS 147 - Introduction to Human Computer Interaction Design

Assignment 8 - High-fi Prototyping

1. Introduction

Project name: Impromptu

Team members and roles:

Design and Product Management: Chen L.

Design and User Testing: Diego H.

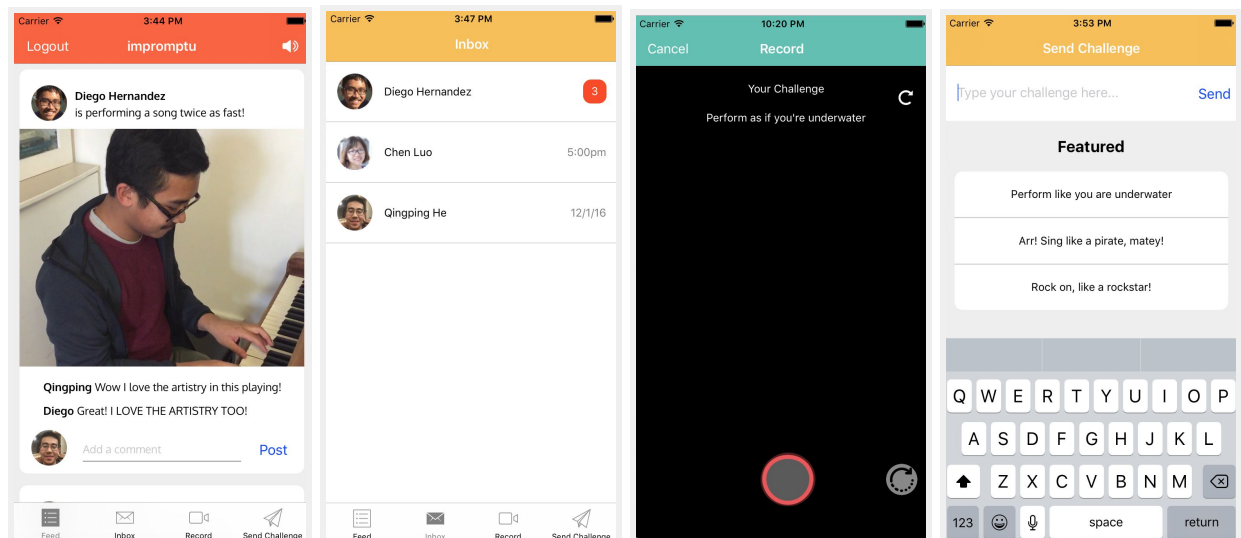
Development and User Testing: John Carlo B.

Development and Product Management: Qingping H.

Value Proposition: Share Music. Share Surprises.

2. Problem and 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 break out from routine and push their performative boundaries. Impromptu's mission is to provide musicians a fun, social way to accomplish this and harness the creativity. Impromptu incorporates an element of supportive social interaction which, according to our needfinding, plays a major role in encouraging musicians to break out of their comfort zone. As a result, we designed Impromptu to be challenge-based: that is, users record themselves completing musical challenges (e.g. "Perform like a pirate") and also send challenges to their friends. Fun ensues!



Design Images for Major Tabs: Feed, Inbox, Record, Send Challenge

3. Tasks and Final Interface Scenarios

a. Task #1: Viewing challenge videos in the feed (simple)

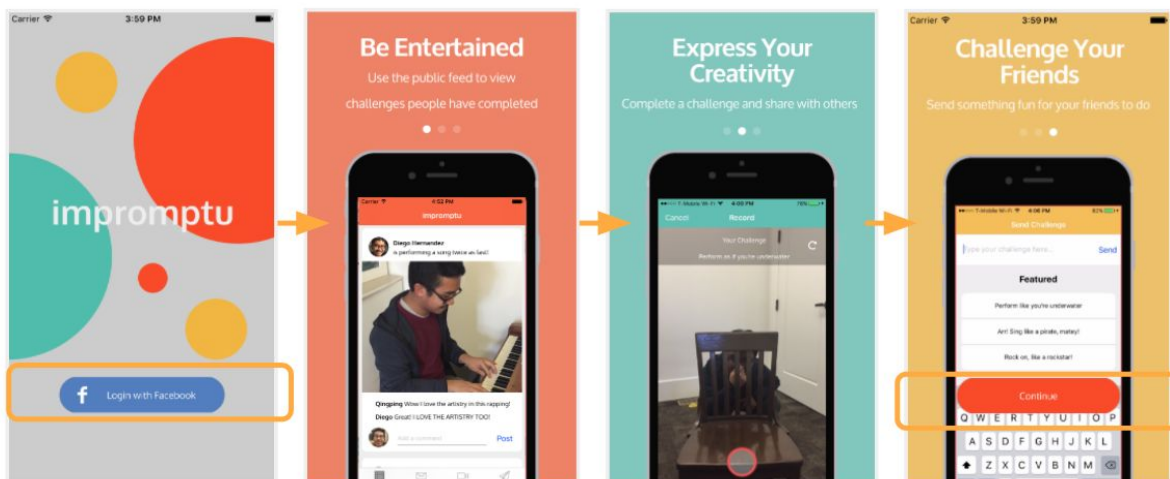
The user can browse videos by scrolling down the feed. Videos are auto-played. We chose this as our simple task because most users will focus on content consumption (e.g. watching videos) over content creation (e.g. recording videos). Content consumption plays a crucial role in the user experience, due to our basic premise that social interaction facilitates musical risk-taking.

b. Task #2: Recording yourself doing a challenge (moderate)

The user is prompted with a randomly generated challenge at the top of the recording screen, and then records themselves doing the challenge. After recording, the user is able to preview the video and share it with friends (private) or by posting it to the feed (public). We chose this as our moderate task because challenges constitute the vast majority of the communication that occurs in the app.

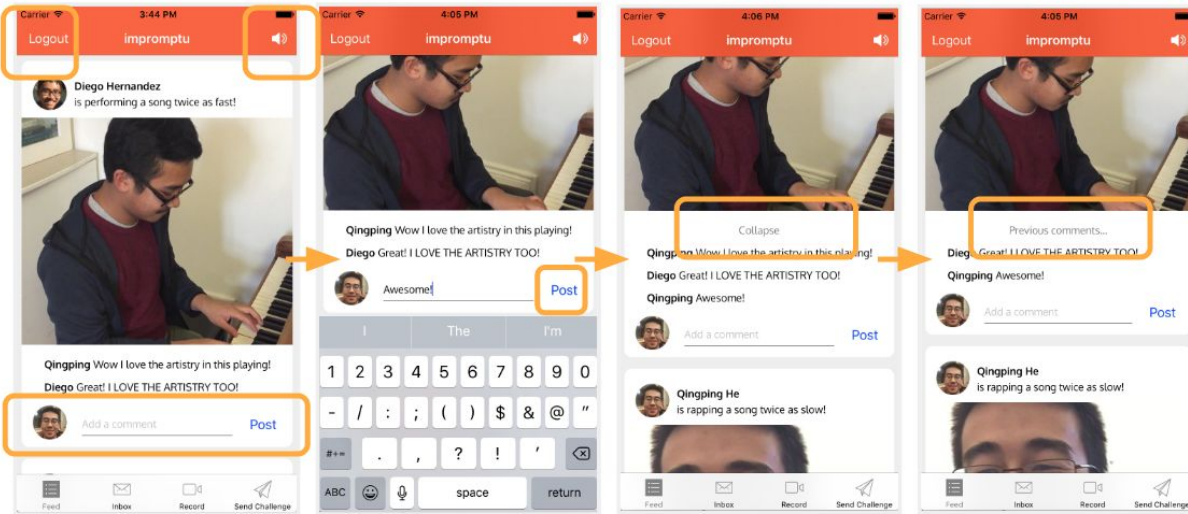
c. Task #3: Sending a challenge to a friend (complex)

The user can challenge a friend by going to the “Send Challenge” screen and either choosing a featured challenge from the list or by typing in a challenge of their own. The user then selects which friend(s) they want to receive the challenge. Challenges exchanged between friends show up as cards in their respective conversations in the Inbox. When a user completes a challenge that has been sent to them, the video then appears in its respective card. This task enhances friend-to-friend interactions within the app by providing a more customizable creative and social element. We chose this as our complex task because users can simply complete randomly generated challenges (Task #2) without having to receive challenges from their friends.

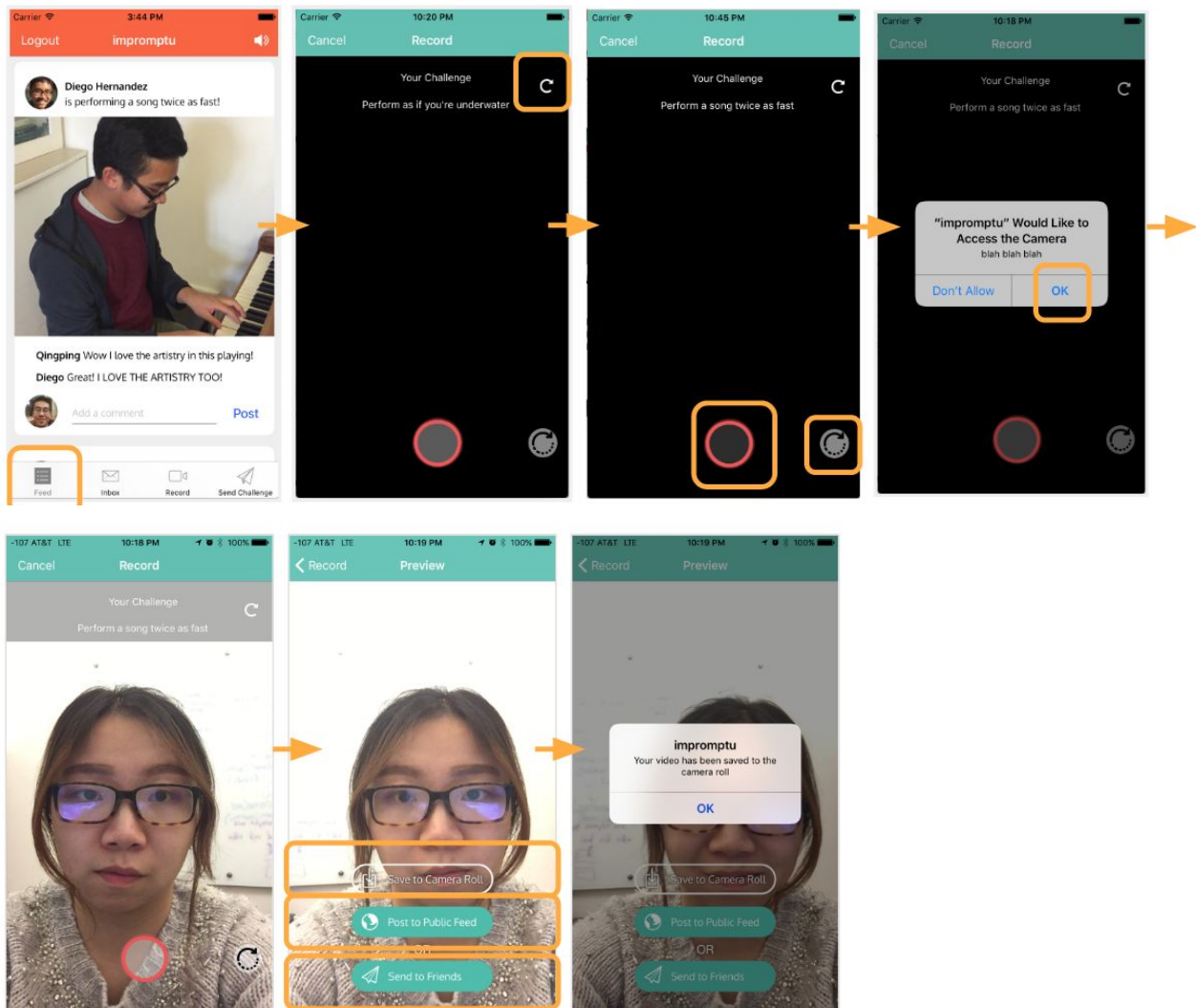


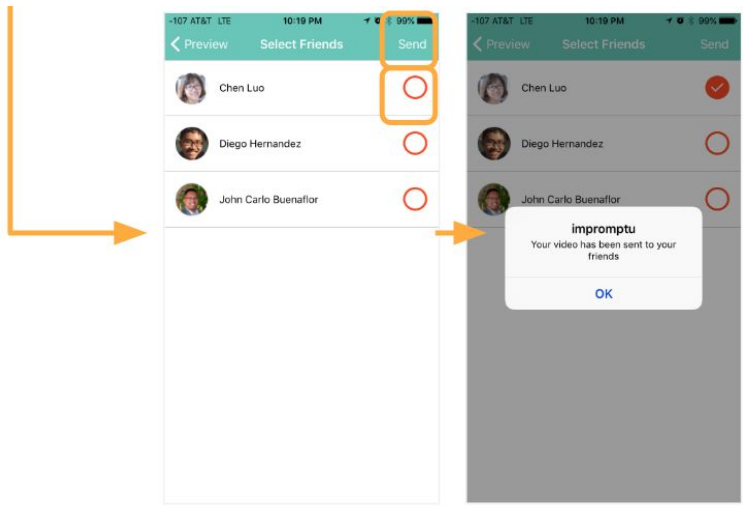
Login and Onboarding

Task 1:

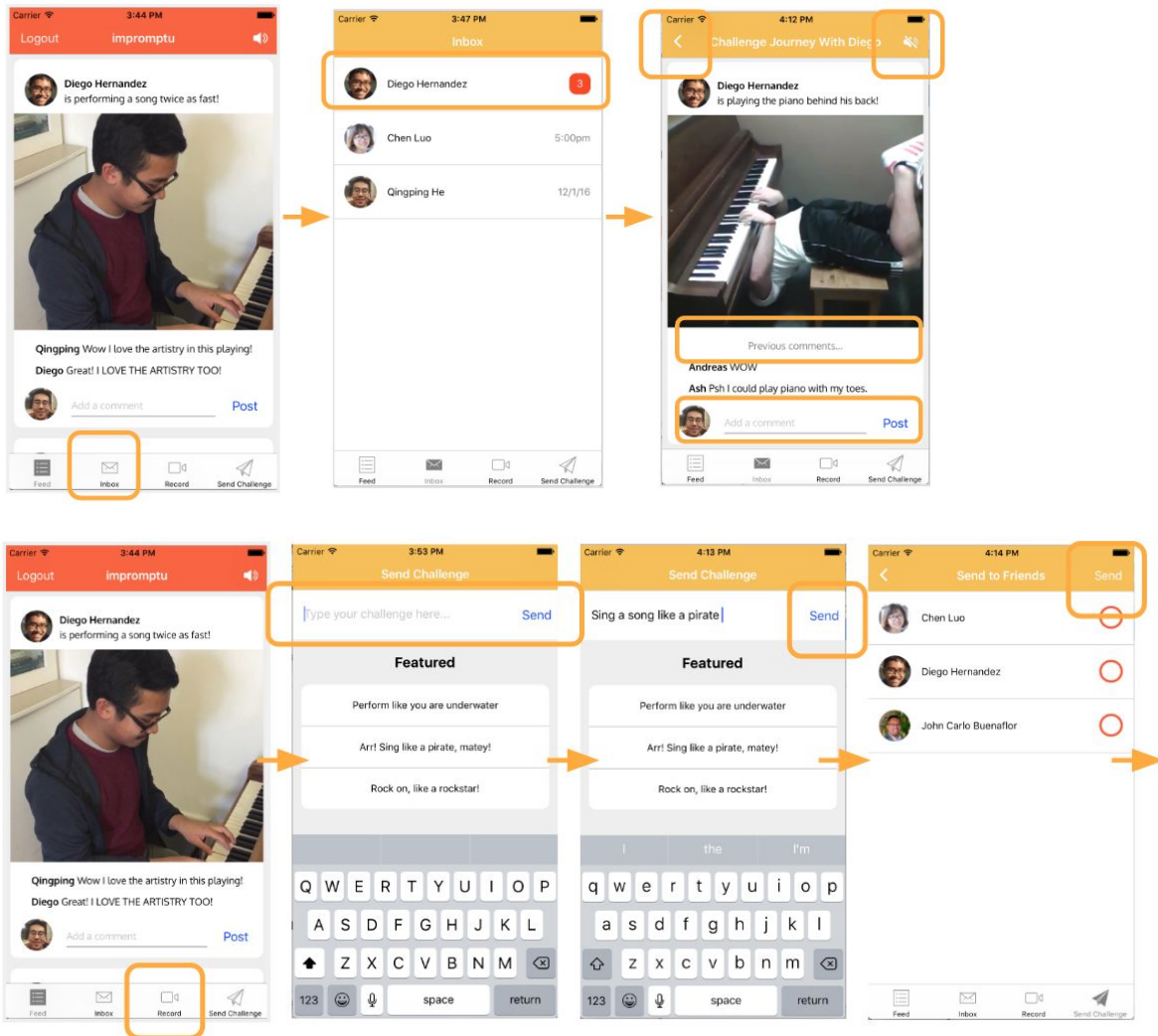


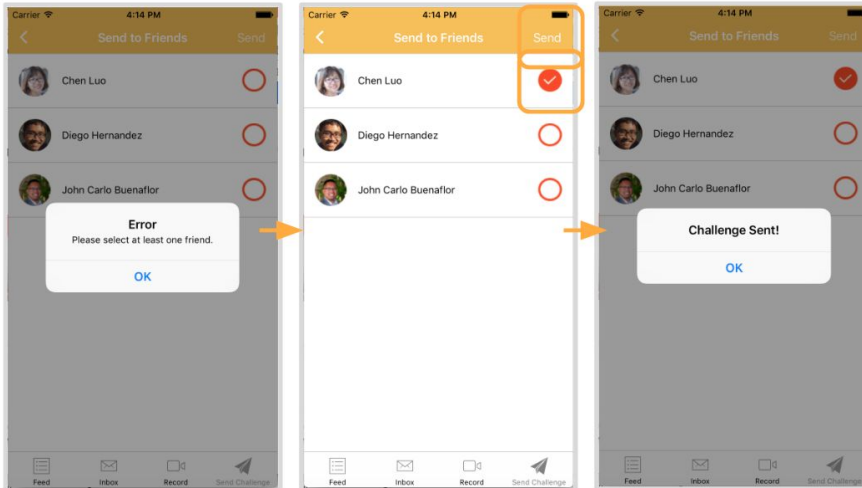
Task 2:





Task 3:

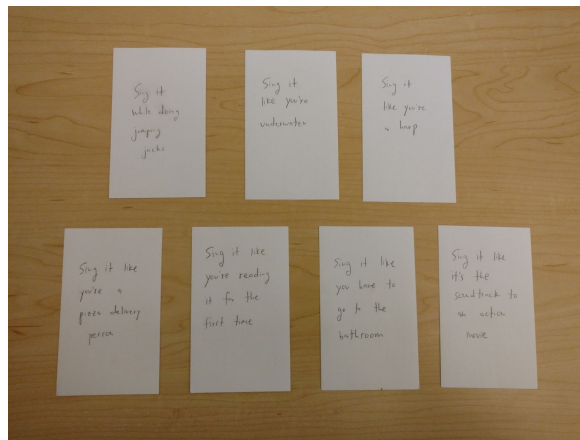




Storyboard for Task 1, 2 and 3

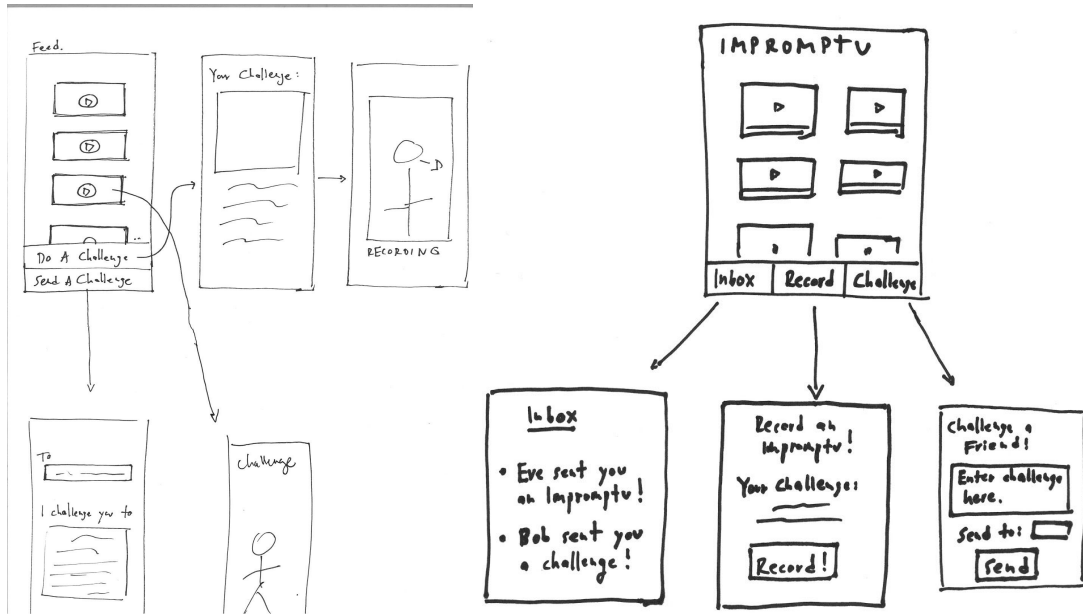
4. Design Evolution

Our design evolution followed the philosophy of “flare and focus.” Out of our three experience prototypes, we chose to pursue the one shown below: a set of index cards with different challenges on them.



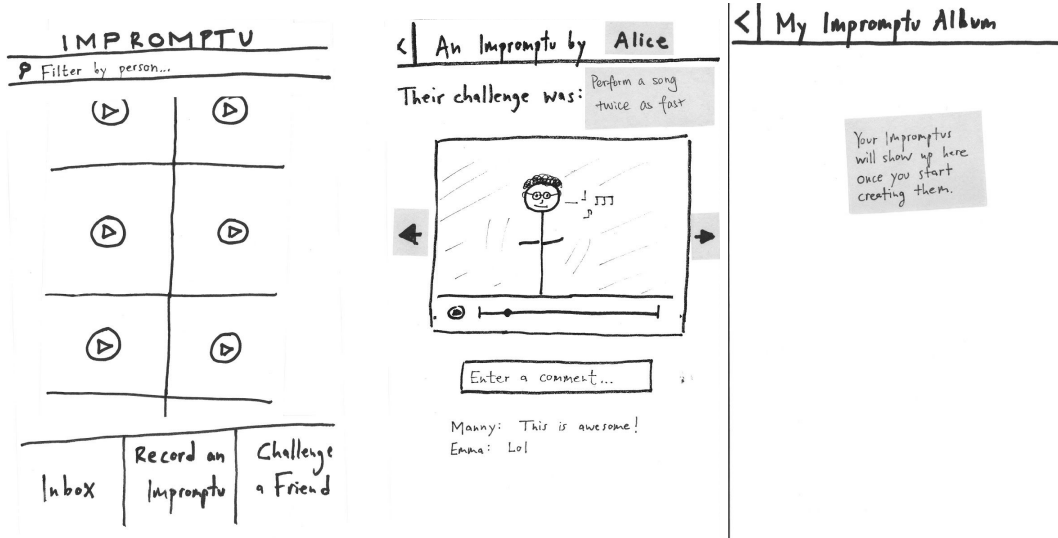
Experience Prototype

We formulated three concept sketches and then started the detailed UI design on the top choice.

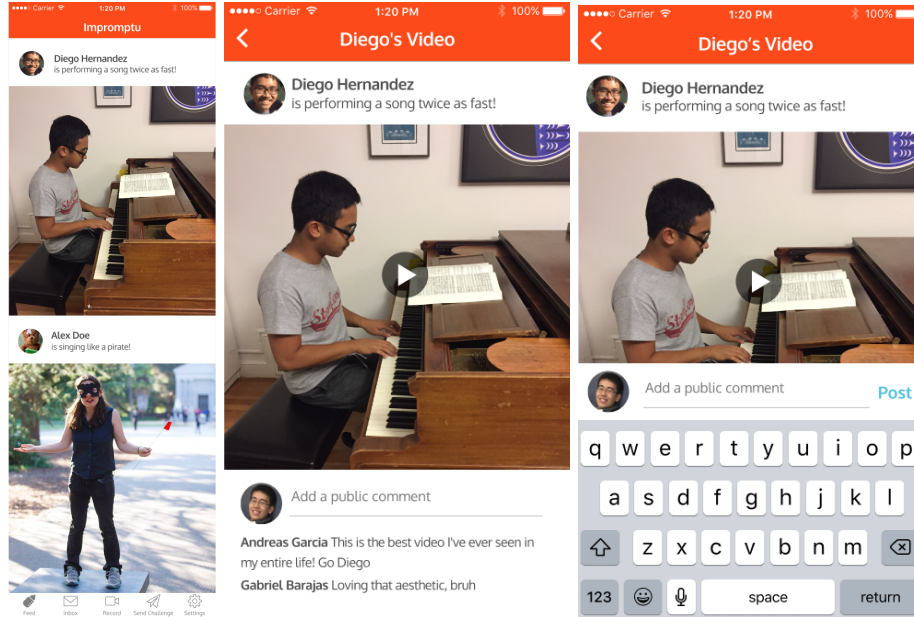


Concept sketch and 1st detailed UI design

Task 1:



Task 1: Low-fi



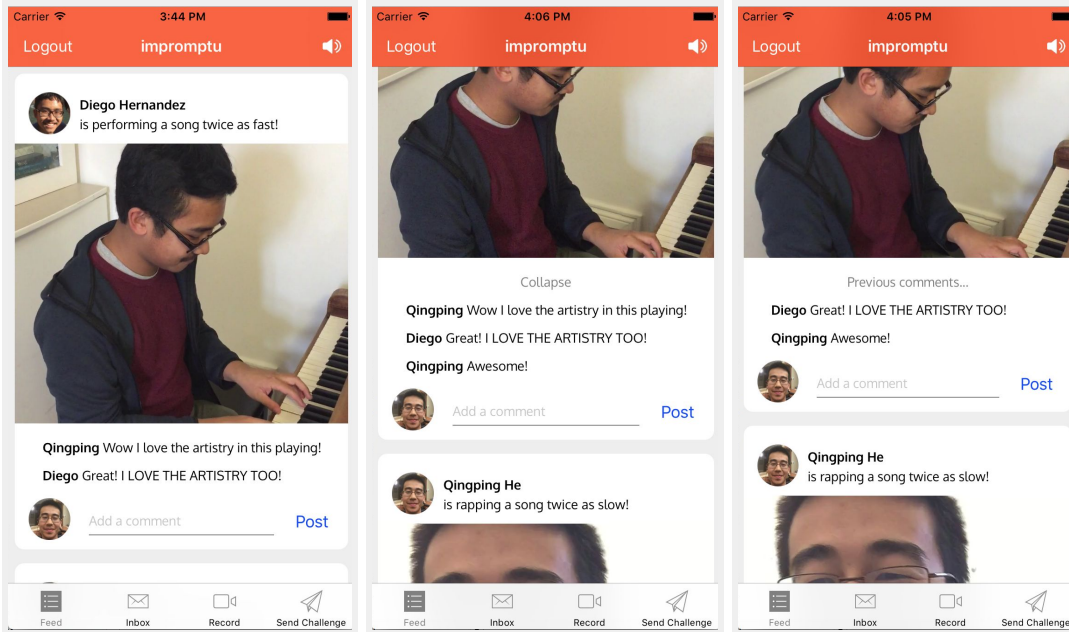
Task 1: Medium-fi

Reasoning for design changes:

From pilot usability testing:

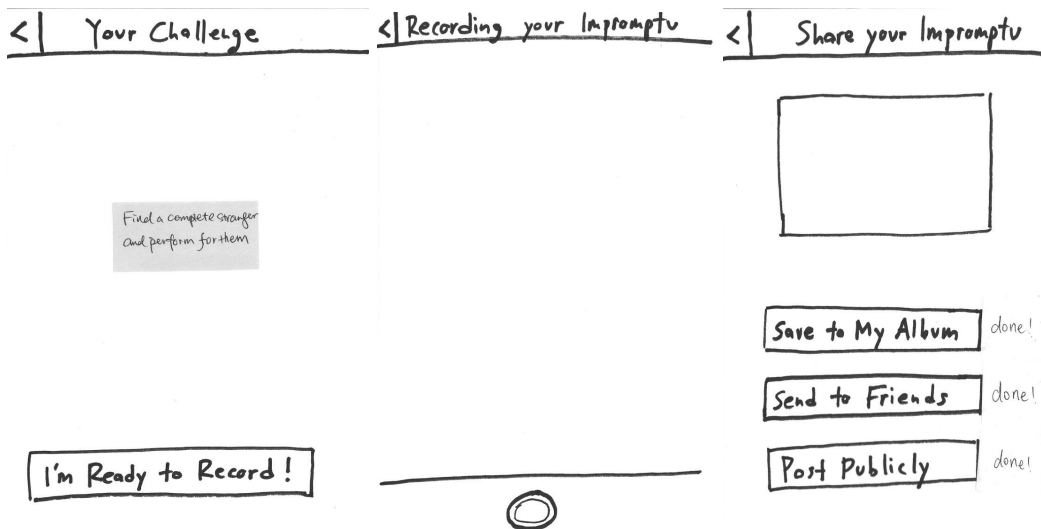
In the original prototype, the tab bar only shows up in the feed screen with three buttons: inbox, record and send a challenge. To make sure user can have access to each activity from any point when using the app, we have added 2 more buttons for Feed and Settings and keep the tab bar static in all necessary screens. Now User can have a shortcut to any activity when viewing the messages without clicking back button too many times.

We also removed the Impromptu Album because it was a redundant and less-usable feature.

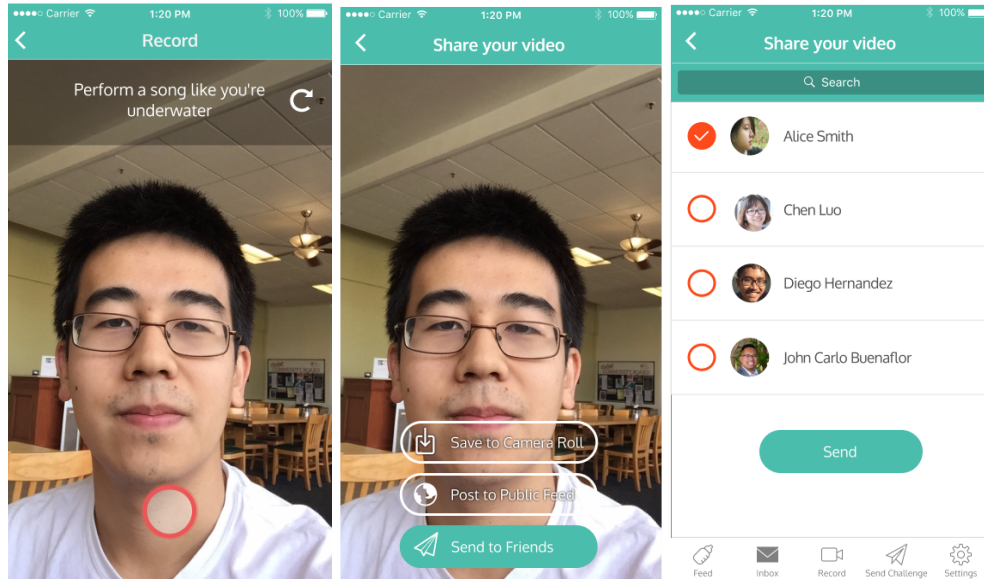


Task 1: Final design

Task 2:



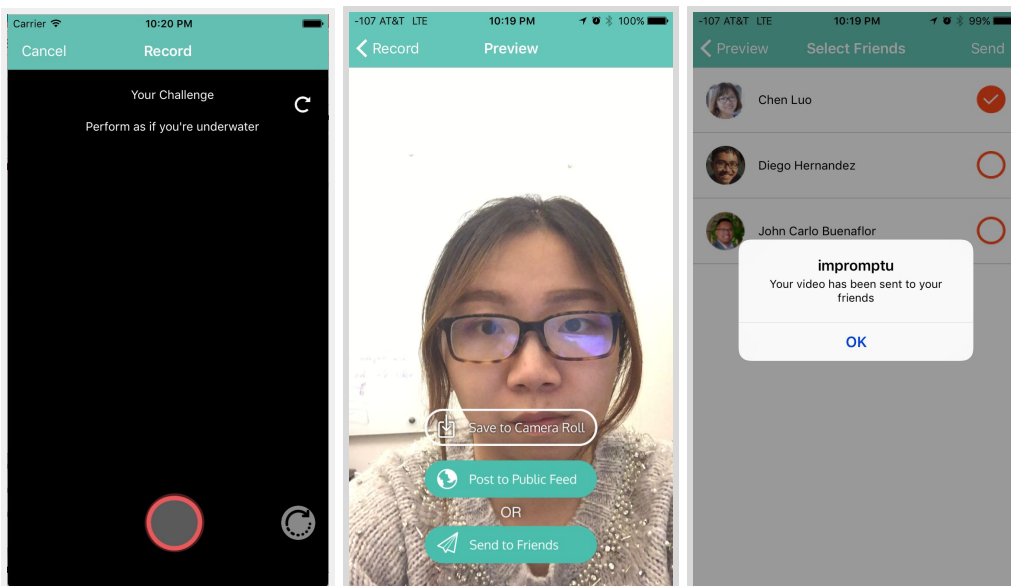
Task 2: Low-Fi



Task 2: Med-Fi

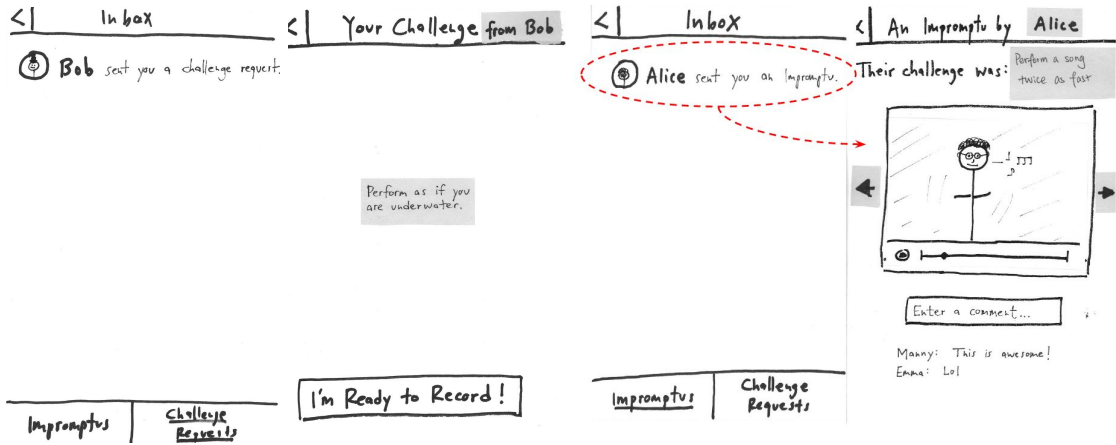
Reasoning for design changes:

After you finish recording, there are two sharing options: privately share to a friend or publicly post to a feed. The potential problem is that if you choose to share in both ways: your friend will see the same video twice (one in the public feed and one in the inbox). So we redefined the sharing options. Now the user can only share to friend or post to public feed. In this way, there is no duplication. Also the private conversation and public comment thread are separated.

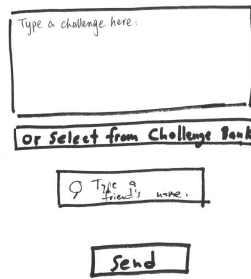


Task 2: Final Design

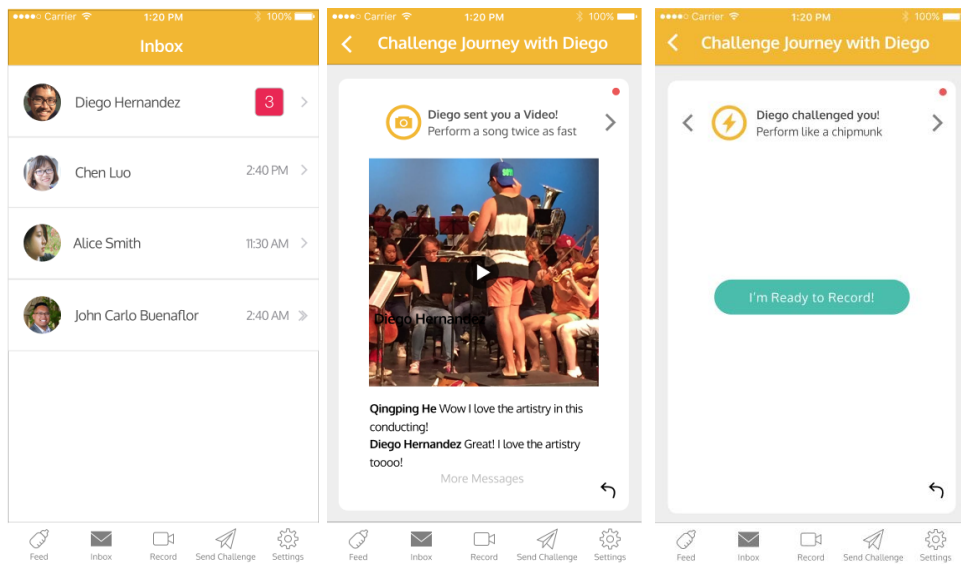
Task 3:

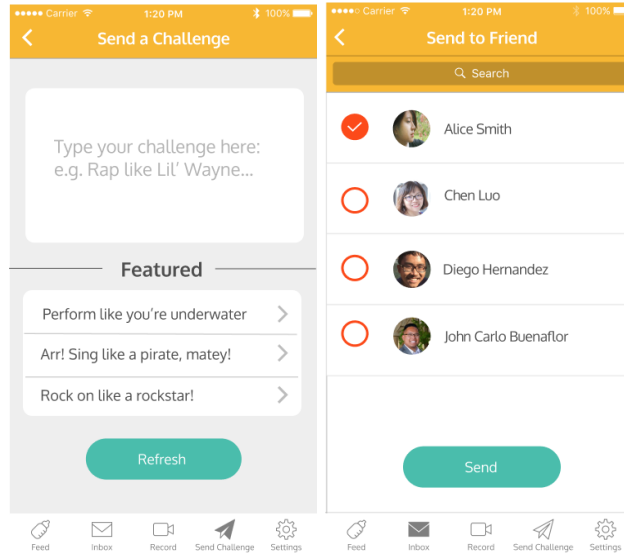


< Challenge a Friend



Task 3: Low-Fi

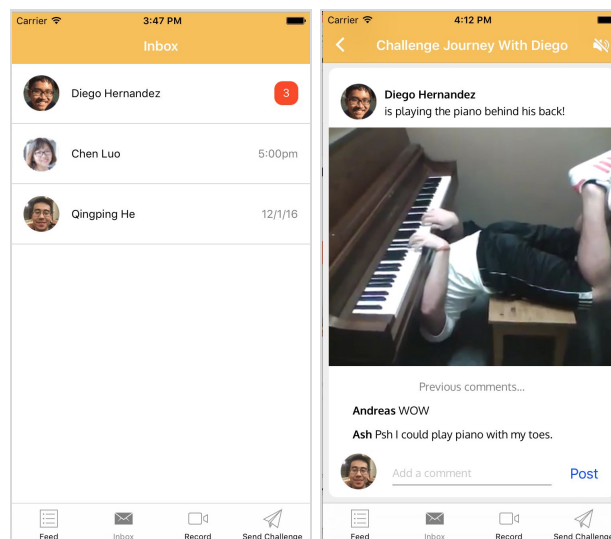


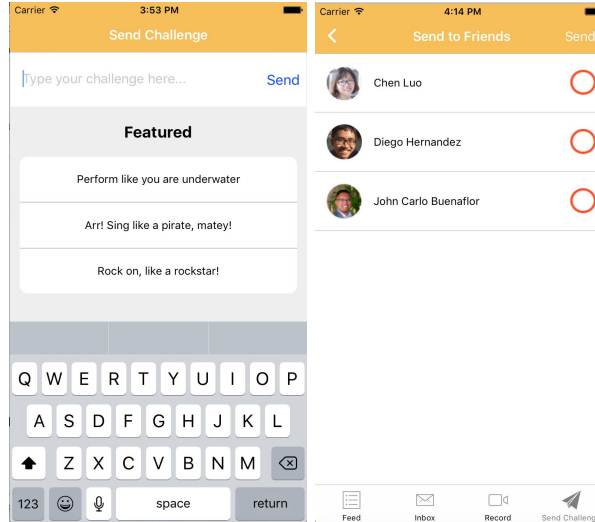


Task 3: Med-Fi

Reasoning for Design changes:

The low-fi prototype separated the challenge requests and challenge videos in the Inbox, which seemed too artificial. Therefore, we changed the Inbox to organize it by conversation, thereby grouping all interactions by person (the other person with whom the user is interacting). The centralized organization clearly presents all activities between you and each friend. This also makes the interface more intuitive. For each friend, there is a series of activities including challenge requests and videos. We use card deck to present them so that it's clear each activity on each card is a distinct entity. On the card, it contains the associated information including description, video and comments.

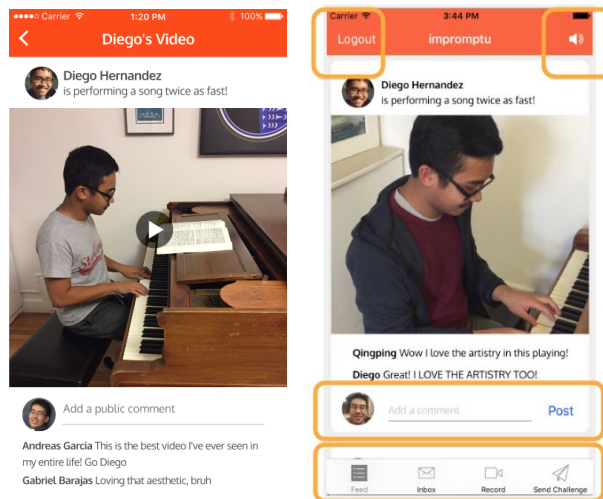




Task 3: Final Design

5. Major Usability Problems Addressed

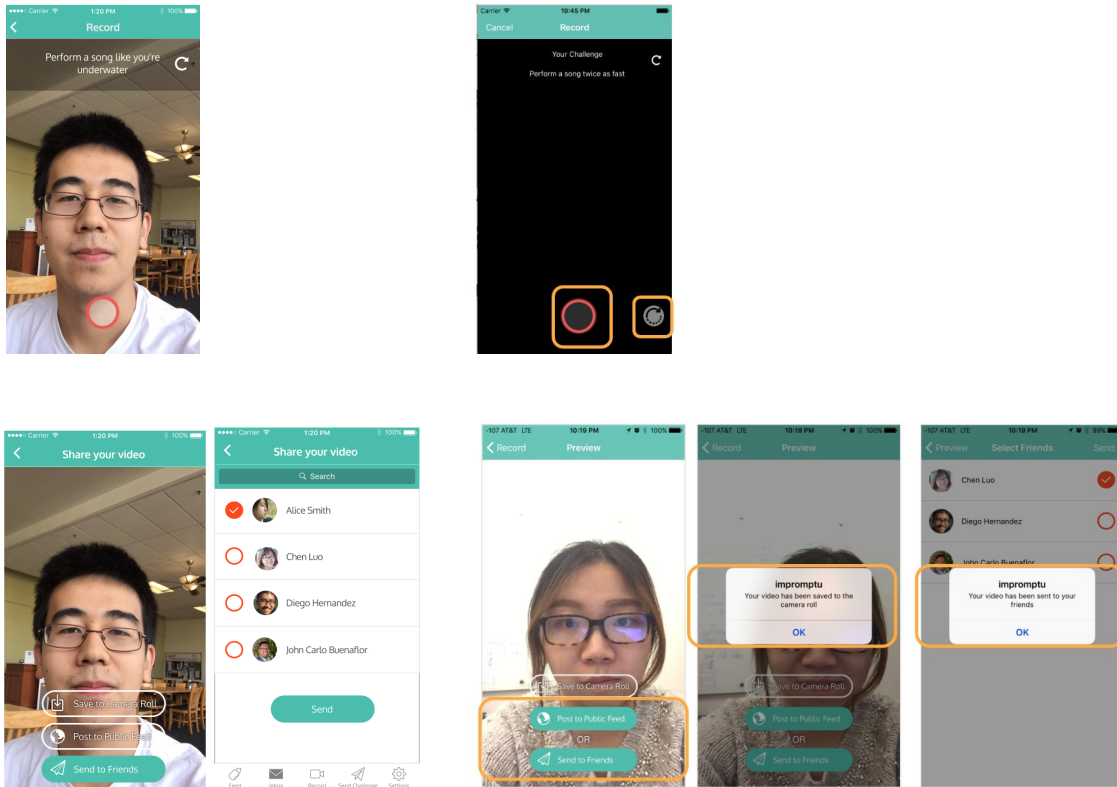
Task 1:



Task 1: Design Changes for Feed (original on left; final on right)

- H2-7 Flexibility and efficiency of use:** Videos in feed do not appear clickable.
 Solution: The video in focus is auto-played, and there is a “mute” button for the user’s convenience. We are also using a card deck style for consistency.
- H2-1 Visibility of system status:** Feed not labeled public.
 Solution: In onboarding, the user is informed that the feed is public.
- H2-3: User control and freedom:** Settings button location

Solution: We moved the settings button from the tab bar to the top left corner of the feed screen. Also, due to time constraints, we changed the settings button into a Logout button that simply takes the user back to the login screen.

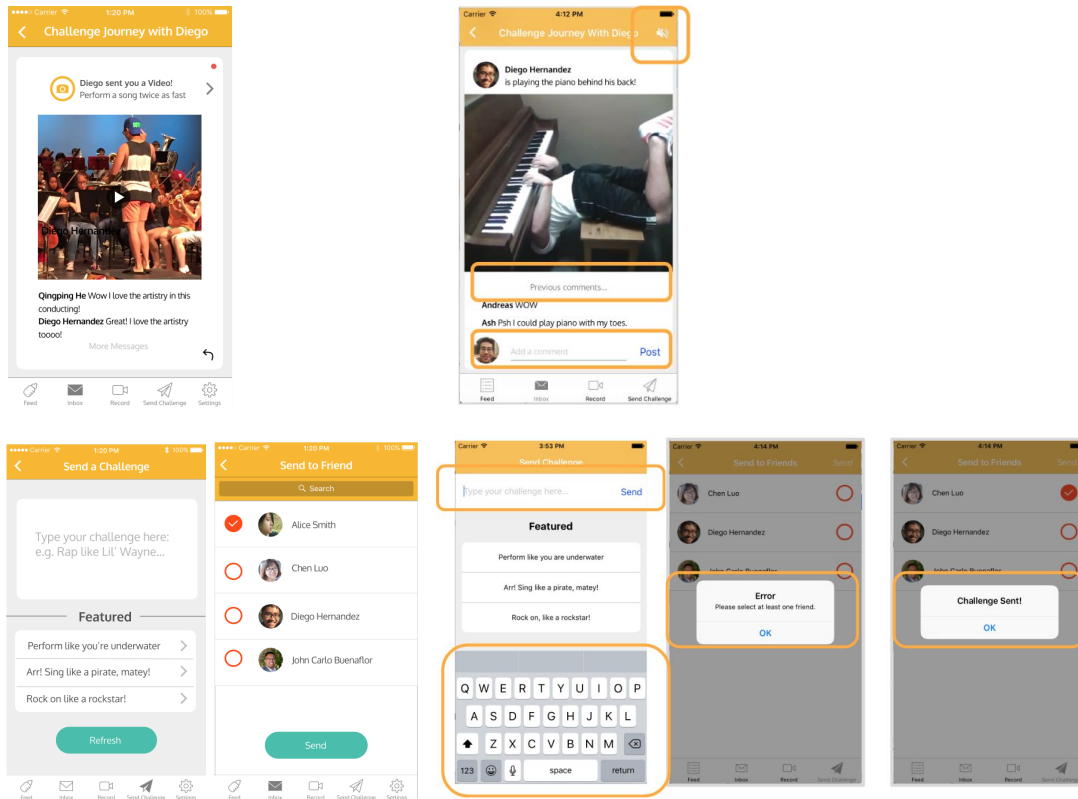


Task 2: Final Design Changes Comparison (original on left; final on right)

Task 2:

- H2-4: Consistency & Standards:** Randomly generated challenge confusing
 New users are confused about the top section for the system generated challenge in the record screen and the challenge request sent from your friend. There will be more explanation in the on-boarding screen to show that the record screen is for users who want to take a new challenge on their own. The response to friend's challenge request will originate from the card in specific conversation.
- H2-1: Visibility of Status:** Showing system status when sharing video
 After sharing video and challenge
 Add an alert Pop-up after selection friends and pressing "Send".
- Other changes:**
 In the sharing screen after recording, we put a text label saying "OR" between the buttons for the two sharing options, "Post to Public Feed" and "Share to Friends." This makes it explicit that the user can select one of the two options.

Task 3:



Task 3: Design Changes for “Send a Challenge” (original on left; final on right)

- **H2-7: Flexibility and efficiency of use/H2-1: Visibility of Status:** When sending a challenge, two options unclear
After clicking on “Send Challenge” button, the keyboard pops out by default providing more affordance to the top section for customization of challenge.
- **H2-7: Flexibility and efficiency of use:** No clear way friends list is populated.
We added a screen to login to Facebook, which populates Impromptu’s friends list with the user’s Facebook friends.
- **Other changes:**
In the medium-fi prototype, we had a “left-pointing arrow” button that the user would click if they wanted to comment. We removed this button and replaced it with a text field that appeared directly on the card, in order to commenting easier and clearer.
Also, in each conversation (“Challenge Journey” screen), we use scrolling up and down, instead of horizontal swiping between cards, for consistency with the feed.
- **Suggestions we did not take:**
Some evaluators suggested that the inbox was inefficient to navigate; that is, it took one tap to select the friend with whom you were conversing, and yet another tap to select the

particular challenge the user wants to do. We chose not to restructure the Inbox because we believe that organizing the inbox by conversation adds a useful structure that users can easily navigate, especially if there are many challenges circulating between the user and their friends.

6. Prototype Implementation

Tools:

- React Native
 - We decided to use React Native because most of our team did not have development experience in either Android or iOS, and we felt that React Native has enough traction and a community behind the technology that it would be feasible to use React Native for our app. Our team did have familiarity with Javascript, which is the de-facto language for React Native.
 - We enjoyed using React Native because of its declarative, component based style, and how apps are structured like a tree. We especially liked the hot reload feature, where changes made to the code were quickly reflected in the app simulator. The removal of the compile and build time made iteration and development more fluid.
 - We did face some issues using React Native, mostly in part due to the quirky nature of Javascript. Many hours were wasted debugging to why we kept getting the error 'this.props is undefined', which were due to a naive understanding of Javascript function context and the 'this' keyword.
- Objective C
 - Unfortunately, React Native did come with working iOS camera recording and video implementations out of the box. Since our app relies on heavy usage of both playing challenges and recording challenges, we needed to find a work around. To implement video playback and recording, we wrapped low-level, Objective C code in React Native components that would launch the iOS camera and video. Implementing functionality by opting out of React Native and falling back to Objective C turned out to be very challenging and time-consuming, so we would not recommend users who require functionality outside of what React Native provides to use React Native in building their mobile app.

Wizard of Oz:

- We used no wizard of oz techniques. Our prototype can be explored and interacted without the intervention of our team members.

Hard-coded Data

- Cards in the Feed View
- Challenges in the Send Challenge View

- Friends list when selecting friends to send videos or challenges to
- All initially loaded videos
- Profile photos

What is missing and what might you add in the future?

- Searching for friends to send challenges or videos.
- Creating a dynamically updating conversation/ Challenge journey between users.
- Creating a dynamically updated list of challenges for users to choose from.

7. Summary

Impromptu evolved from a simple idea amongst a flurry of needfinding notes and brainstorming post-its. We took the insight that musicians needed a socially supportive way to go outside of their comfort zone, and improved our prototypes through rounds of testing and iteration. Our initial audience was musicians, but we realized that our app could extend to non musically inclined users, and designed it to be friendly and pleasing to all. Through sharing our insights and working with each other, we were all pleasantly surprised at the amount of progress we have made this quarter.