Assignment 5
Low-Fi Prototyping + Usability Testing

Team - Sign Along

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Introduction

### Mission Statement/Value Proposition

Bring meaning to every moment.

Problem/Solution Overview

The deaf community is generally not the intended audience for live events, making it difficult for them to enjoy and share live experiences with their loved ones. Exacerbating this issue is the shortage of interpreters; there is little incentive to become a certified ASL interpreter because of the high technical barrier to entry. Our product, Sign Along, addresses both these issues by giving interpreters the opportunity to engage in passion projects (interpreting for music concerts) that do not require certification, and by giving deaf users the agency to vote for their favorite interpreter to come onstage and sign for their favorite artists.
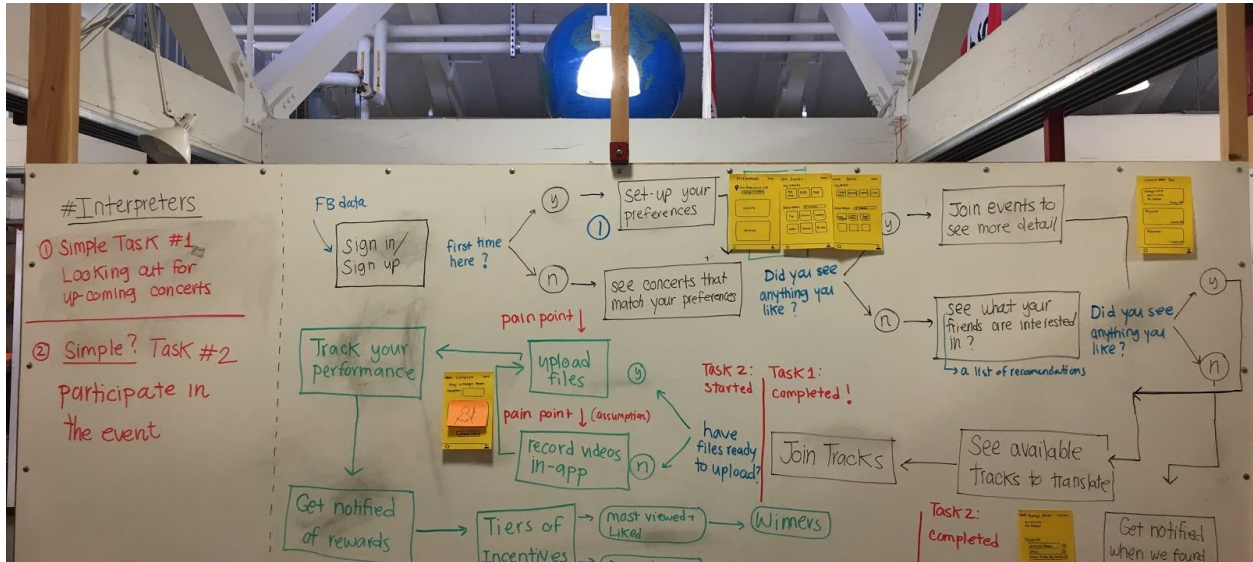
Sketches

Sketch Design 1
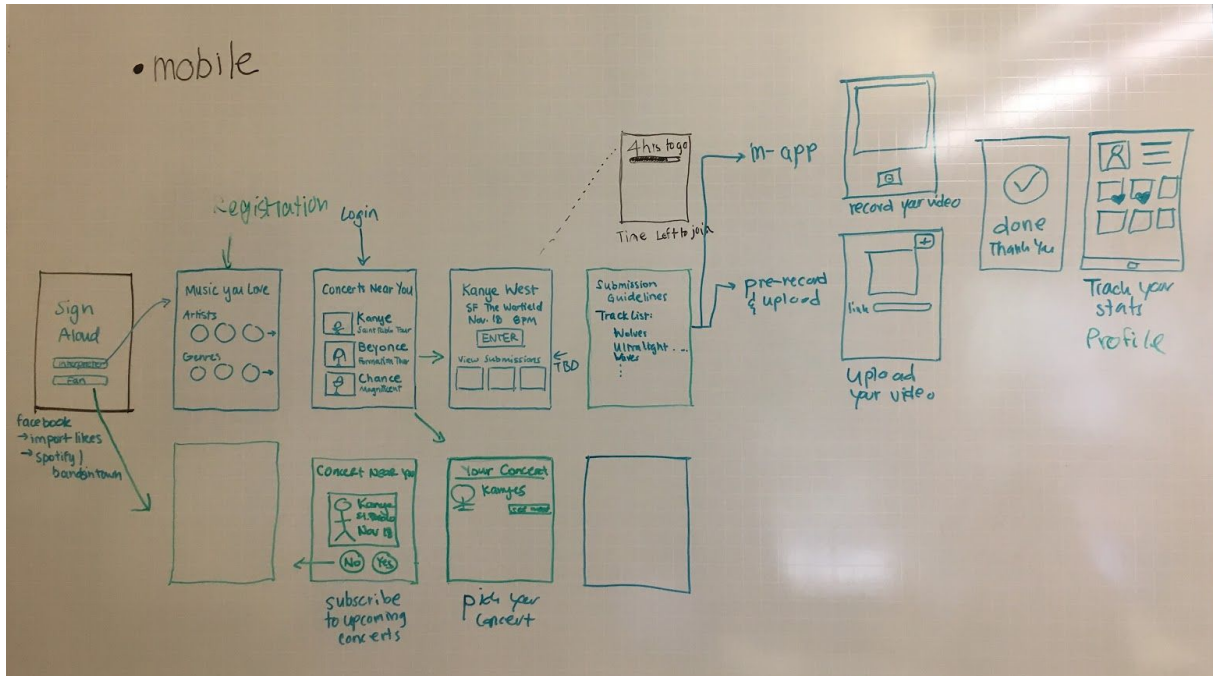
We explored the concept of card based design pattern for the Sketch Design 1 because we wanted sorting through music preferences to be visually simple and a delightful experience. We accomplished this by using bold typography and a grid-like arrangement, which plays to the strength of card, based design pattern.

Sketch Design 2

In Sketch Design 2, we wanted to flesh out the task flow as clearly as possible. We decided to sketch the user journey, which detailed precisely what steps the user has to take in order to accomplish his/her desired tasks. We found this process to be extremely helpful and very generative as it came back to serve us as our guiding principles to evaluate our visual design.

Selected Interface Design

We chose this interface for several reasons. It nicely decomposed our proposed tasks into smaller, simpler, and easy-to-execute steps. Each screen consisted of nicely decomposed function and action required to get you one step closer to achieving higher goals, which are all about enjoying live events together with friends for hearing impaired folks and about having fun with a good cause for ASL interpreters. The top navigation pattern is consistent yet flexible and has a very clear visual affordances when it comes to getting that step done quickly and effortlessly. Lastly, the selected interface adopt many familiar UI associated with already familiar tasks that users are already master at for example, the voting feature adopts it design from app like Tinder which makes it super intuitive in our initial tastings that users just get it and get tasks done without hustles.

Hearing Impaired Users' Flow

Medium Task: Deaf users want to find the best interpreter out of the pool of submissions.

Screen 1
See what's coming

Screen 2
Vote your favorites

Screen 3
Decide what to do with the event

Complex Task

Deaf users want to interact and establish relationships with their favorite interpreters.

Screen 4
See your events & interpreter

Screen 5-A
See a signed set list

Screen 6-A
View signed videos

Screen 5-B
Get to know your interpreter

Screen 6-B
See your interpreter's upcoming events

Screen 6-C
Start a conversation

ASL Interpreters Flow

Simple Task: Interpreters want to know when upcoming concerts are coming to the area.

Screen 1
Set Preferences

Screen 2
Select Genre

Screen 3
Select Artists

Simple Task: Interpreters want to use their ASL skill to do something fun with a good cause.
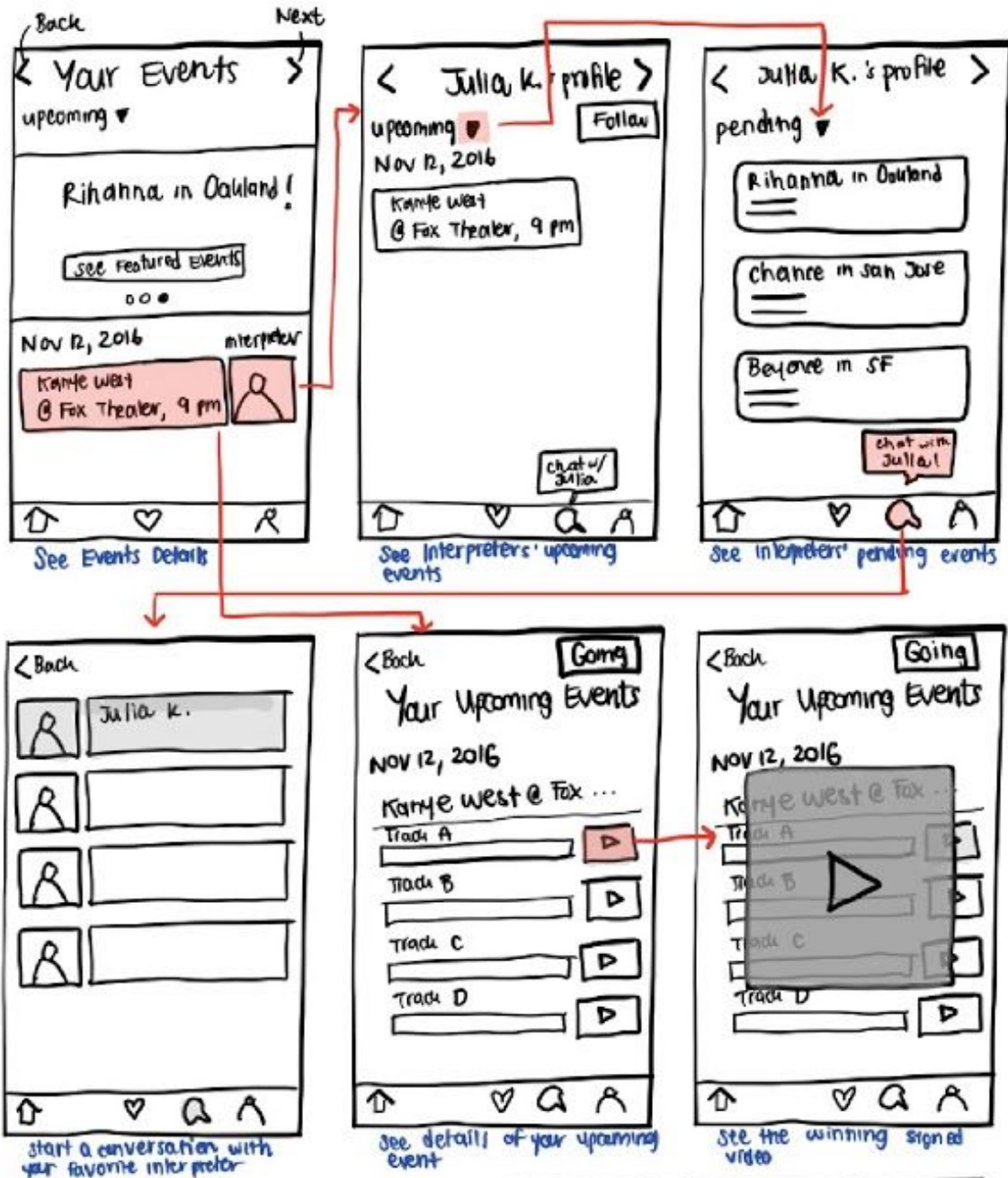
Screen 4
See Concerts Near You

Screen 5
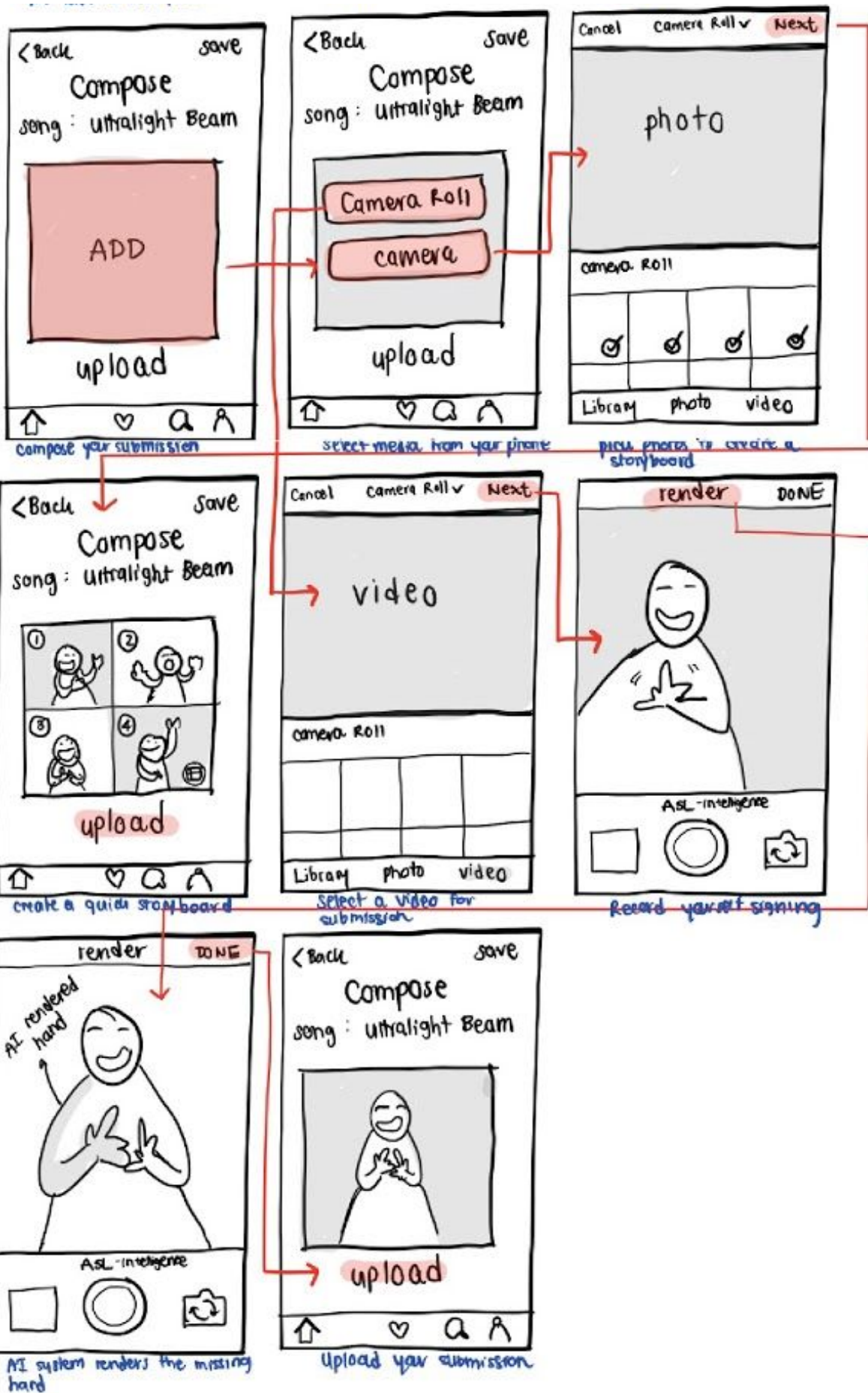See What Tracks Are Available to Sign

Screen 6
Compose a submission

Screen 6-A
Record Your Video

Screen 6-B
Upload Your Video

UI Storyboards

Back | Next

Your Events
upcoming ▼

Rihanna in Oakland !

See Featured Events
◦ ◦ ●

Nov 12, 2016 | interpreter
Kanye West
@ Fox Theater, 9 pm

See Events Details

Julia K. profile | Follow
upcoming ▼
Nov 12, 2016

Kanye West
@ Fox Theater, 9 pm

chat w/ Julia

See Interpreters' upcoming events

Julia K.'s profile
pending ▼

Rihanna in Oakland
___

chance in San Jose
___

Beyonce in SF
___

chat with Julia !

See interpreters' pending events

< Back

Julia K.

start a conversation with your favorite interpreter

< Back | Going
Your Upcoming Events

Nov 12, 2016

Kanye west @ Fox ...
Track A ▷
Track B ▷
Track C ▷
Track D ▷

See details of your upcoming event

< Back | Going
Your Upcoming Events

Nov 12, 2016

Kanye west @ Fox ...
Track A
Track B
Track C
Track D

See the winning signed video

Screen 1 (top left): < Back — Save — Compose — song: Ultralight Beam — ADD — upload
compose your submission

Screen 2 (top middle): < Back — Save — Compose — song: Ultralight Beam — Camera Roll — camera — upload
select media from your phone

Screen 3 (top right): Cancel — Camera Roll ✓ — Next — photo — camera Roll — Library — photo — video
pick photos to create a storyboard

Screen 4 (middle left): < Back — Save — Compose — song: Ultralight Beam — ① ② ③ ④ — upload
create a quick storyboard

Screen 5 (middle center): Cancel — Camera Roll ✓ — Next — video — camera Roll — Library — photo — video
select a video for submission

Screen 6 (middle right): render — DONE — ASL-intelligence
Record yourself signing

Screen 7 (bottom left): render — DONE — AI rendered hand — ASL-intelligence
AI system renders the missing hand

Screen 8 (bottom right): < Back — Save — Compose — song: Ultralight Beam — upload
Upload your submission

Prototype Description

Our prototype is made from large sticky notes. Our app has two components, one for interpreters and one for user. Both have a home screen that allows them to set their music preferences to view upcoming concerts. Interpreters can then select concerts they are interested in and upload tracks to audition for the interpreter role at that concert. Deaf users can vote for their favorite interpreters for upcoming concerts and interact with their favorite interpreters (by following their profiles, seeing their signed tracks, and messaging them). A more detailed breakdown of how these tasks work in our app can be seen in the user flows in the Selected Interface section.

Method

Participants

Our goal in securing participants for the low-fi testing was to find people who were good fits for either the interpreter or deaf user role of the product. We found two subjects who fit the interpreter role.

Francine, a woman in her late 20s, is an interpreter whom we recruited from The Registry of Interpreters for the Deaf, Inc. (RID), a national membership organization.

Julia, a student at Stanford University, is fluent in ASL, so we thought that she would be a great fit, since our product does not necessarily require official interpreter certification as being comfortable with ASL is the main requirement.

Our greatest challenge was finding a suitable test subject for the role of the deaf user. Our efforts to expand our search outside of campus were unsuccessful; however, we were fortunate to be able to secure the involvement of **Zina**, a student at Stanford. While Zina is not deaf, she is hard-of-hearing and has prelingual bilateral sensorineural hearing loss. She wears a hearing aid, but it is still difficult for her to filter out sounds at times, and often words can

come across as muffled. Zina is an active advocate for the hard-of-hearing community, and she serves as the president of the Hearing Loss Association of America. Since Zina has some of the same needs as a deaf user attending a concert or live event, her user testing proved to be quite insightful.

Environment

Since we envision our product as a standalone mobile application, our only requirement for the environment was that it be any location where the user would reasonably pull out and use the application. For our two interpreter testers, we used locations where they would feel comfortable recording and submitting videos. We tested the product with Julia at the Lathrop Tech Lounge, since she said that she would most likely borrow video recording equipment from the tech lounge and film her video in one of the private rooms. For Francine, we did our testing in the student union of Cañada College in Redwood City. As Francine is a junior at Cañada College, it seemed to be the most natural environment for her. And for our user tester Zina, we tested with her at Tresidder, since she spends a lot of her time at the student union throughout the day and would most likely peruse the app while there.

Tasks

We tested our three main tasks with the participants:
1. Simple task: Find upcoming concerts in your area to apply to interpret for. (interpreter)
2. Medium task: Find and vote for your favorite interpreter out of the pool of submissions. (deaf user)
3. Complex task: Engage and establish relationships with your favorite interpreters. (deaf user)

Procedure

We had two team members present for each test. Christian and Varis tested with Francine in Redwood City, with Christian playing the role of the facilitator and Varis the role of the computer. Zina's user testing was done with Varis and Minna, with Minna playing the role of the facilitator and Varis the role of the computer. For Julia's testing, Helen played the role of the facilitator and Minna the role of the computer. For each of the tests, the procedure was constant throughout, and we performed practice runs prior to testing. For each test, the facilitator would begin by giving the test subject a brief overview of the product. The facilitator then displayed a card to the subject that stated the current task for the her to complete. Then, the computer would execute the actions depending on the subject's flow through each screen. After the tasks were completed, we asked the subject how she felt about executing the tasks, and whether there was anything confusing or difficult she found about the process.

We were interested in quantifying and qualifying these key elements in our low-fi testing:

- **Ease of use**: How easy was it for the user to navigate our app? How long did it take her to figure out the functionality of specific buttons, screens and actions?
- **Pain points**: When and how often did the user stumble, pause, or feel frustrated during the process? How many times did the user try to ask questions or seek guidance?
- **Joyful design**: What was the user's overall experience using the product? What kind of emotions and facial expressions did she exhibit during the testing process? Did she find value in the product?

Results

Participant 1

Interface Design: Participant was a little bit confused with the first screen, and it was not readily apparent to her that she was setting her preferences. This led to some confusion on the front of the "Save" button, where she thought she was just clicking through to see the concerts that were happening soon, as opposed to selecting preferences that would be saved. On screen 4, she was not sure about the "67 people who had joined" a certain concert, but she imagined that clicking on a concert would allow her to make her own submission. Additionally, on screen 6, she was confused about the difference between "Upload" and "Record". Her rationale was that recording precedes uploading in the process of submissions.

Desired Features: As opposed to having the first screen representing a selection of preferences, she suggested that maybe once you open the app, interpreters can see which concerts are happening soon, and then based on that, she can go through the process of deciding whether to submit a video. On screen 5, she suggested that the song play and an interpreter can hear the song play while she signs to it. She also suggested that maybe there would be a link to the lyrics, or maybe they are displayed simultaneously while the song plays. In addition, she suggested that users can save multiple drafts before uploading their final videos so they can familiarize themselves with the lyrics of the songs. She also suggested that somehow we involve the deaf community because they often get overlooked when it comes to recognition. So, maybe it would be interesting if we explored offering the interpreter interface to people in the deaf community, allowing them to submit videos as well.

Participant 2

Interface Design: Participant was confused about the first screen and wasn't clear whether she was setting her preferences or directly searching for events. She was confused about the "Save" button as well. Participant was confused on the uploading an audition submission screen and spent some time deciding between "Upload" and "Record" buttons because she wasn't exactly sure what each entailed.

Desired Features: Instead of having the first screen be where the user set their preferences, the participant suggested to instead allow users to search for the artists they are interested in (under the observation that most people know what concerts they want to go to). Also the screen with the list of concerts should also include time of concert (cosmetic omission) and be sorted in order of when they are upcoming so she can prioritize upcoming concerts over concerts happening in a few months.

Participant 3

Interface Design: Participant was confused about the tab bar at the bottom of the screens. Specifically, she was not sure how the "like" and "chat" features worked. For Screen 2 ("Vote your favorite"), she thought that the four available actions - "yay," "nay," "could be improved," and "comment" - were confusing and not all necessary. She was confused about how to use the swipe up and down actions for the "could be improved" and "comment" actions, and thought that vertical swiping was very unintuitive. Also, she wasn't sure if the arrow buttons pointing left for "Nay" and right for "Yay" indicated button presses or horizontal swiping, and ended up trying to use both actions when voting for the interpreter. Finally, she wondered why the screen did not contain the name of the interpreter whose video was displayed, and she wasn't sure if the video submissions were anonymized intentionally.

Functionality: A major misunderstanding that the participant had was her assumption that she was voting for a personal interpreter who would accompany only her to the concert. She did not realize until much later into the process that the app aggregates all user votes to select one designated interpreter for each concert. This is a very important clarification that we will need to make, since this voting structure is the underlying crux of our product. For Screen 5A ("See a Signed Set List"), she thought that the track list featured the artist's songs, rather than the signed video translations, which was what we were attempting to depict.

Desired features: The participant was expecting the ability to purchase tickets through the application, and also mentioned that the app should offer accessibility and seating information/arrangements for the prospective concertgoer. This was a very helpful and insightful suggestion for us, as our goal is to have our final product be as mindful of the

user's needs as possible and not exclude any necessary functionality. Furthermore, we realized that the participant placed a very high value on the trustworthiness and reliability of the interpreter. For example, she tapped on the interpreter's profile picture in the hopes of seeing an interpreter bio (which we did not have). Additionally, she wanted to know if the interpreter had been verified and had background checks. Lastly, she said that the ability to video chat with interpreters would be a welcomed addition.

Discussion

Overall we felt that the interpreter's app was mostly usable. Our participants were generally able to navigate throughout the app with relative ease given the interface was rather intuitive.

Moving forward, the most important changes we need to make involve submitting audition videos. We need to remove any confusion between recording a video via the app in real time and uploading a previously recorded video from their device. This seemed to be the biggest pain point, and the amount of time and confusion at this point would be the strongest deterrent of what should be a fun experience. Some more nuanced tweaks we also need to make include providing users with lyrics and allow them to practice before uploading (we overlooked the fact that even fans do not always know all the words to every song).

Similarly, the flow for deaf and hard of hearing users was mostly intuitive, with some minor/cosmetic concerns regarding the interface. However, from our test with Zina, we realized that having trustworthy and credible interpreters to vote for was very important. Moving forward, we plan on requiring more comprehensive profiles for all users so that people have a better idea of who they are voting for (and perhaps requiring background checks).

Finally we realized that because our app facilitates the concert experience for deaf and hard of hearing individuals, it would also be worthwhile to explore making the experience truly comprehensive by allowing users to purchase tickets on the app and request for accommodations at these venues.
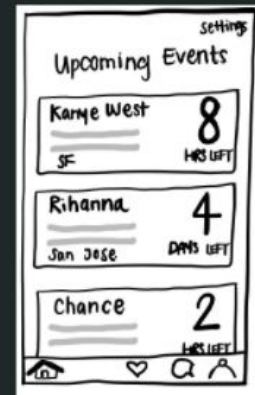
Appendices

Suggested UI Changes

Re: Preferences

"I want to see the artists and their show dates" - Francine
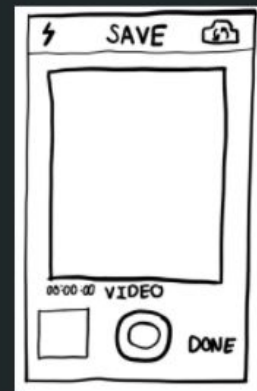
First screen visible will be "Upcoming Events" near you with an option for updating settings

Re: Video Creation

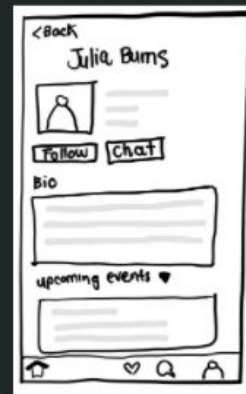"I'd probably be in front of a mirror not a computer to practice" - Francine

The user will be able to save multiple drafts before uploading their final videos.

Re: Interpreter's profile page

"I'd want to know that they are not creeps" - Zina

The user will be able to view the selected interpreter's bio