Assignment 8
High Fidelity Prototype

OX: Become closer through shared music, seamlessly.

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Problem/Solution Overview

Sharing your music with others can be uncomfortable and sometimes scary. There are fears around judgment and failed attempts to please a room of eager music listeners. OX changes the game by automating the music selection process. With the information of other "listeners" in the room and a desired ~vibe~ OX will generate playlists that please! Additionally, OX equips users with new language around their own music tastes to facilitate conversations about music and discovery of new music in a collaborative setting.

In addition to the high-level solutions that OX provides, there are two key aspects that address specific needs in group music listening experiences. The first is proximity: the app is designed to be most effective and impactful when in a shared space. The second is simplicity. The main functionality of the app requires at most three button presses: to automatically find who is around you, what the vibe of the room is, and finally, automatic curation.

Our tasks

1. Simple task: listening party

Generating a listening party is the core feature of Ox. The biggest pain that we found through our needfinding process was that people felt uncomfortable selecting the music for a group of people, and so along those lines, we decided to orient out simple task to address that need. In a three step process, users select people, select a vibe, and then "hop on the ox" to generate a playlist at the intersection of everyone's music taste. The automation of playlist generation takes the uncomfortable feeling of individual choice out of the equation and also pleases throughout an intelligent curation from data that an individual may simply just not know.
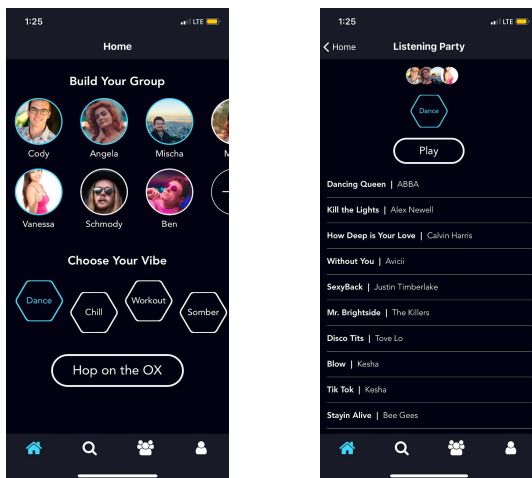

2. Medium task: group discovery

Our next task stems from the untapped potential around discovering and listening to music with a group of people. Currently in the music application space, there are no mechanisms that facilitate group profiles/ music tastes and allow a group of people to ... we see this as a key step in our goal of bringing people together through shared music experiences. Users can therefore create and save a group from nearby friends and then generate playlists of new music with that group and look at music preferences of the group as a whole. By having a group that lasts beyond a single listening party, we are also facilitating continued conversations with the same group of people, thereby strengthening those relationships.
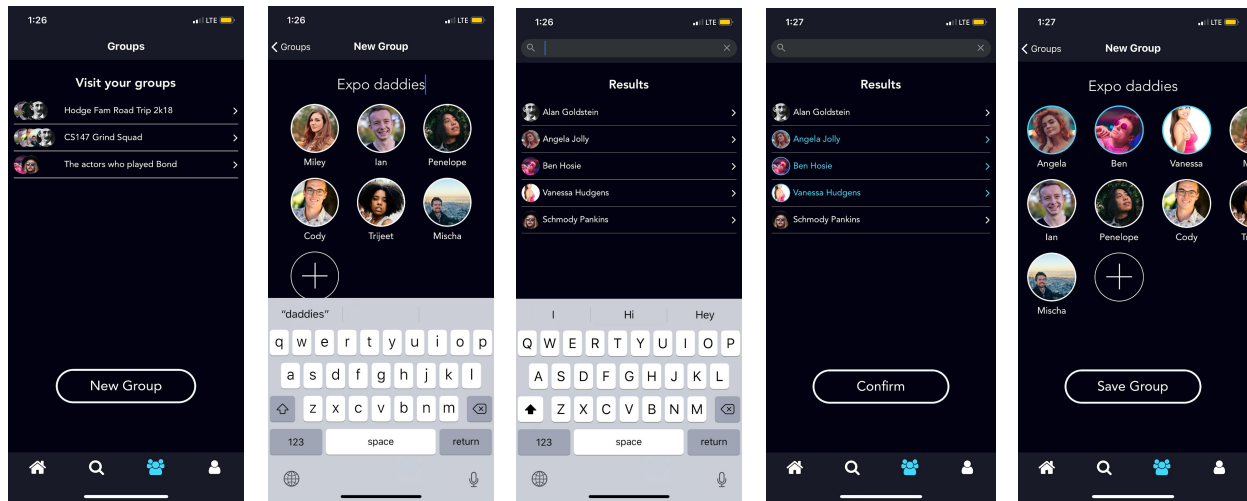
3. Complex task: personal profile

Along with automating music listening and music discovery for users, we also want to equip our users with the language and means to talk about music comfortably with other people. We have therefore designed a personal profile page that showcases a new way to understand and talk about music taste. Using insights from Spotify's APIs, we have developed 9 different features to describe music. The personal profile page tells users their "score" in each of these 9 features, explaining in accessible terms what that means for their music taste. The personal profile page also reveals top artists and songs and past listening parties for ease of use.
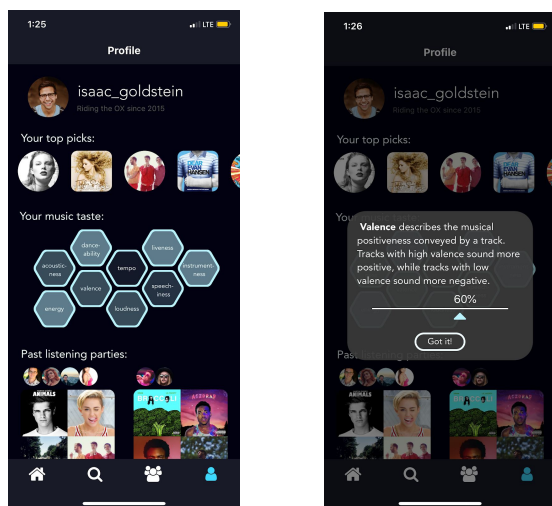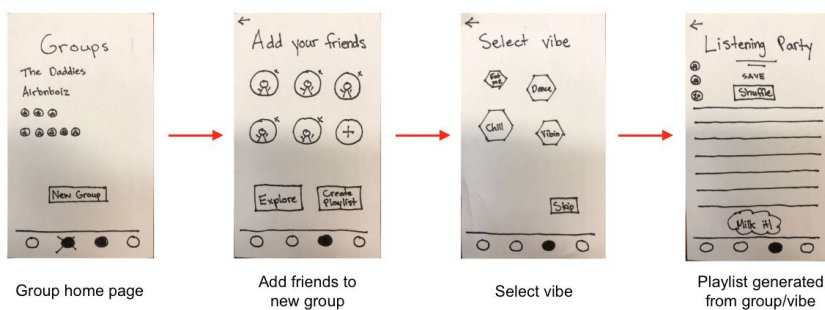
Design Evolution

Original Lo-fi Designs
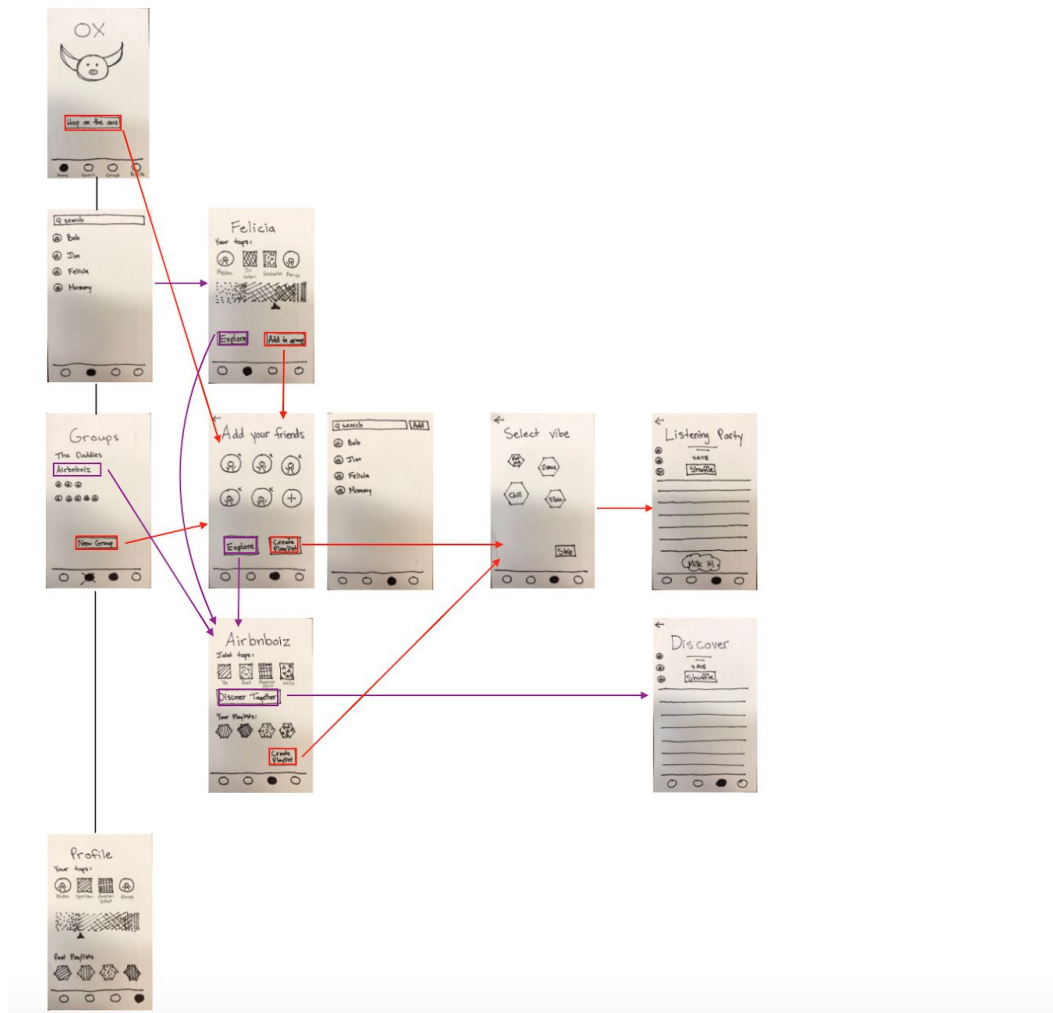
Our original designs came out of four main aspects of listening and discovering music with others that we found through our needfinding interview: selecting music for a room of people, finding commonalities in music tastes with others, discovering music together with a group of people, and talking about one's own music taste. These four aspects translated into our four navigation tabs, and we then design the user flows from these starting points.

Testing our three tasks

From the framework of our three tasks for OX, we began by defining a clear user flow with our lo-fi design. We thought about ease of navigation and how our users would understand the different features of the app through concise words and visual cues. We then went through a series of usability testing, as we explored how outside individuals interacted with our lo-fi prototype. These finding led us to update our designs, and as we learned about visual design principles, we creates a medium-fi prototype using the tools in Figma. Exploring color became a key part of the process for us. We initially began with the color wheel and a triad framework, but then when we created out first mood board and saw images that resonated with our intentions, we overhauled the color scheme of our designs. From this medium-fi prototype, we went through a series of heuristic evaluations. We took the resulting feedback and made one last set of updates to our designs as we created our hi-fi prototype. Below is the evolution and rationale for the three key tasks of OX.

Simple task

Selecting music for a room of people was a consistent pain point across our interviews. In an effort to ease the difficulty of processes around group listening, we decided to make the simplest task for the user one that would automate this selection process. Users can now easily "hop on the aux."


| Group home page | Add friends to new group | Select vibe | Playlist generated from group/vibe |

After user testing, we learned that it is unclear how to select and remove people from the "Add your friends page." We also reflected on the goal to ease "hopping on the aux," and

the reality that our current flow maybe had one too many steps. We decided to condense the customization to one screen and start the flow from a main home page.
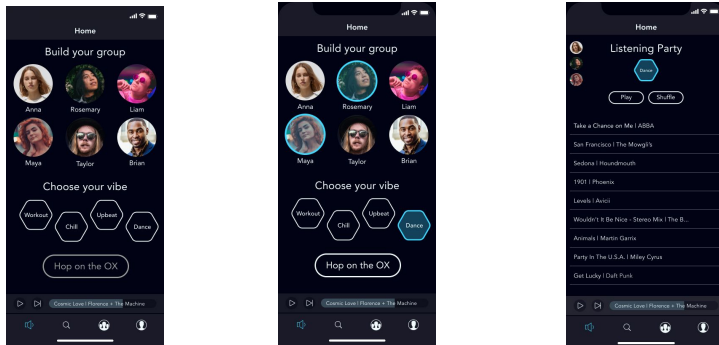

Next came the heuristic evaluation on this medium-fi prototype. In this particular flow, we violated certain measures of both "help and documentation" around how to select/deselect other listeners/vibes and "user control and freedom" in doing so. We need to guide users through this curation process, and we decided to do so through visual cues.
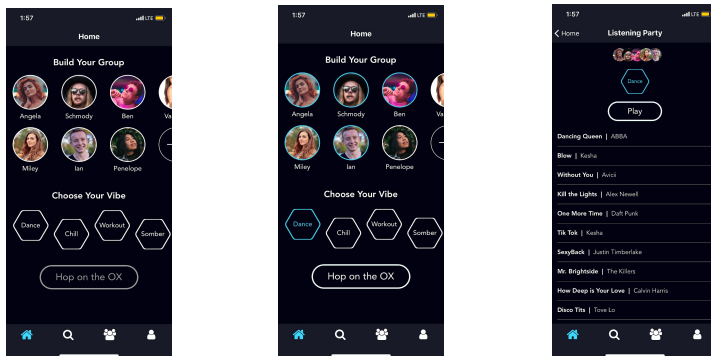
Medium task

Another key part of the group music listening experience oriented around discovering new music with other people. We therefore wanted to create the framework of a listening group where users could explore intersections in music taste discover new music together. Originally we categorized the "discover" feature as the complex tasks but in reflection have realized that this component still contains a lot of aid and automation from OX.
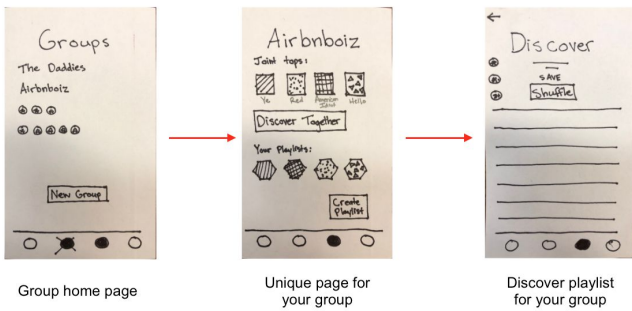
| Group home page | Unique page for your group | Discover playlist for your group |

After user testing, we learned that the group page was unclear in its purpose and options. The language itself did not signify what different functions were and it was confusing for our users where the details of certain parts, such as "joint tops" and "your playlists," came from. We needed to clarify and communicate the different parts of this group page, while thinking about what aspects of a *group* would be relevant for the purpose of this app.
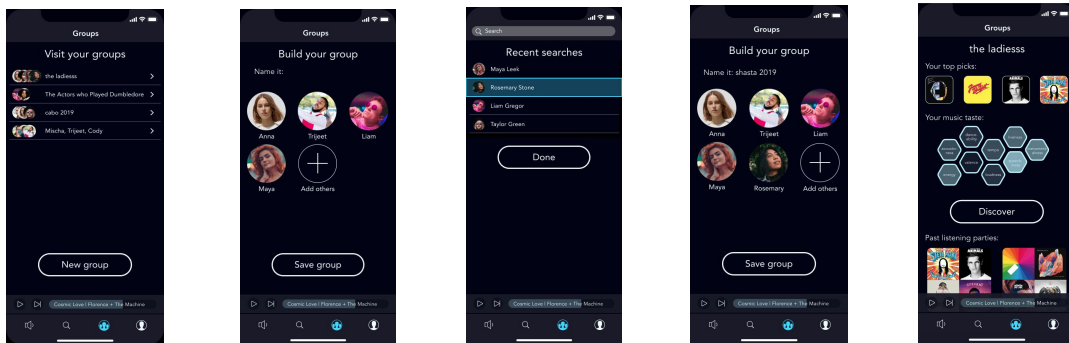
Next came the heuristic evaluation. We learned that when searching for members for a group, our screens violated heuristics around both "match between system and real world" and "consistency and standards." We quickly fixed these issues to create a cleaner and more consistent search process. Additionally, we labeled our listening parties and altered the group naming process to clarify for our users.
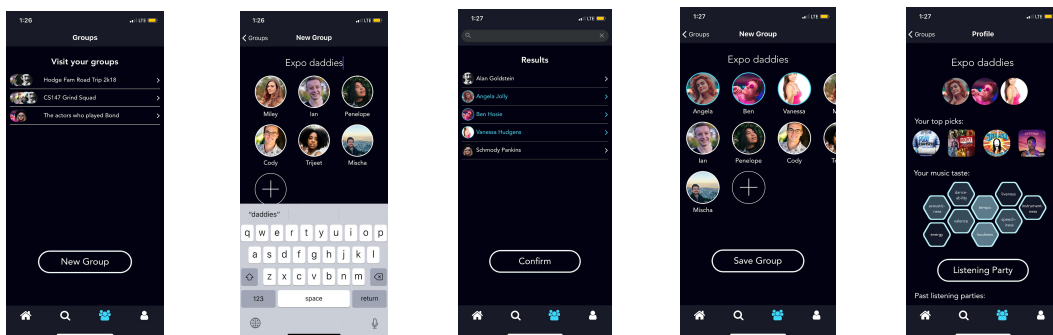
Complex task

The most complex task stems from the goal of not only creating an enjoyable listening experience but also equipping users with the tools to have conversations about music outside of OX. Through the personal profile, users can discover unique features of their own music taste.
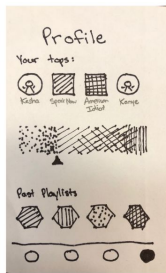

Profile home page

After our user testing and class discussions, we recognized that music taste is not linear. While complex as we depicted, we needed to define a multi-dimensional representation of a user's music taste. Additionally, we needed to clarify some of the profile's other features. We quickly recognized that designing the profile and group page together would benefit user recognition and consistency throughout the app.
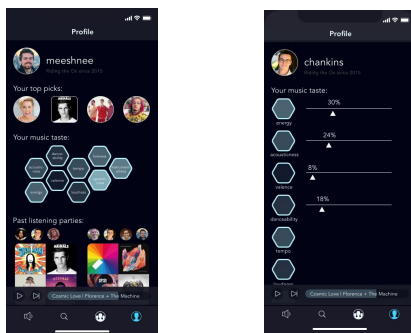

While we developed the music taste into a multi-dimensional, visually appealing graphic, the heuristic evaluation revealed that there was still a lack of clarity around what these different dimensions/features signified. We needed to inform the user what these different aspects of their music taste meant, and we needed to satisfy "user control and freedom" through more points of interaction.
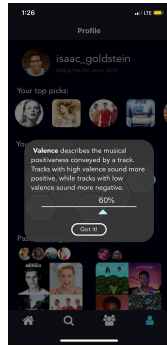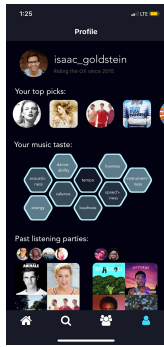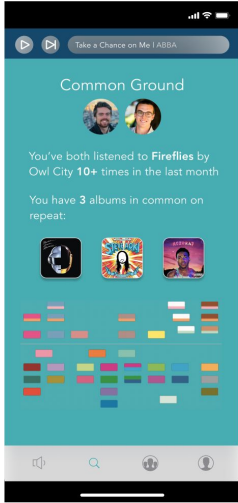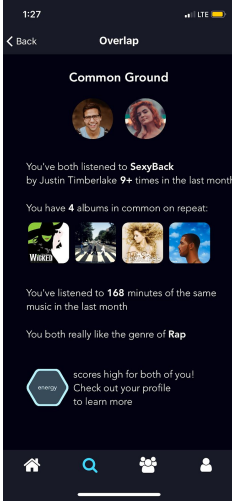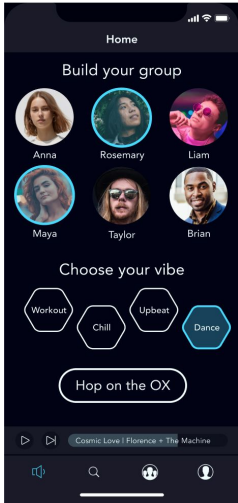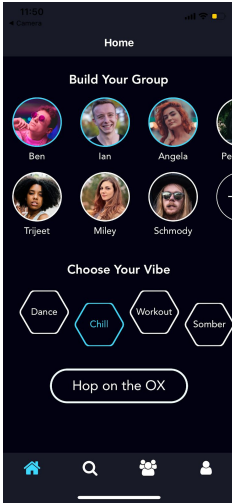
As we finalized the designs for each screen we tried to employ consistency as a guiding principle. Whether that was consistency in sizes and weights of differents fonts and icons or consistency of margins across screens, thinking in terms of a style guide across the app helped us arrive at clean designs. Additionally, the heuristic evaluations feedback (as shown in the following sections) helped us think about nuances around use cases.

Final Hi-fi Designs
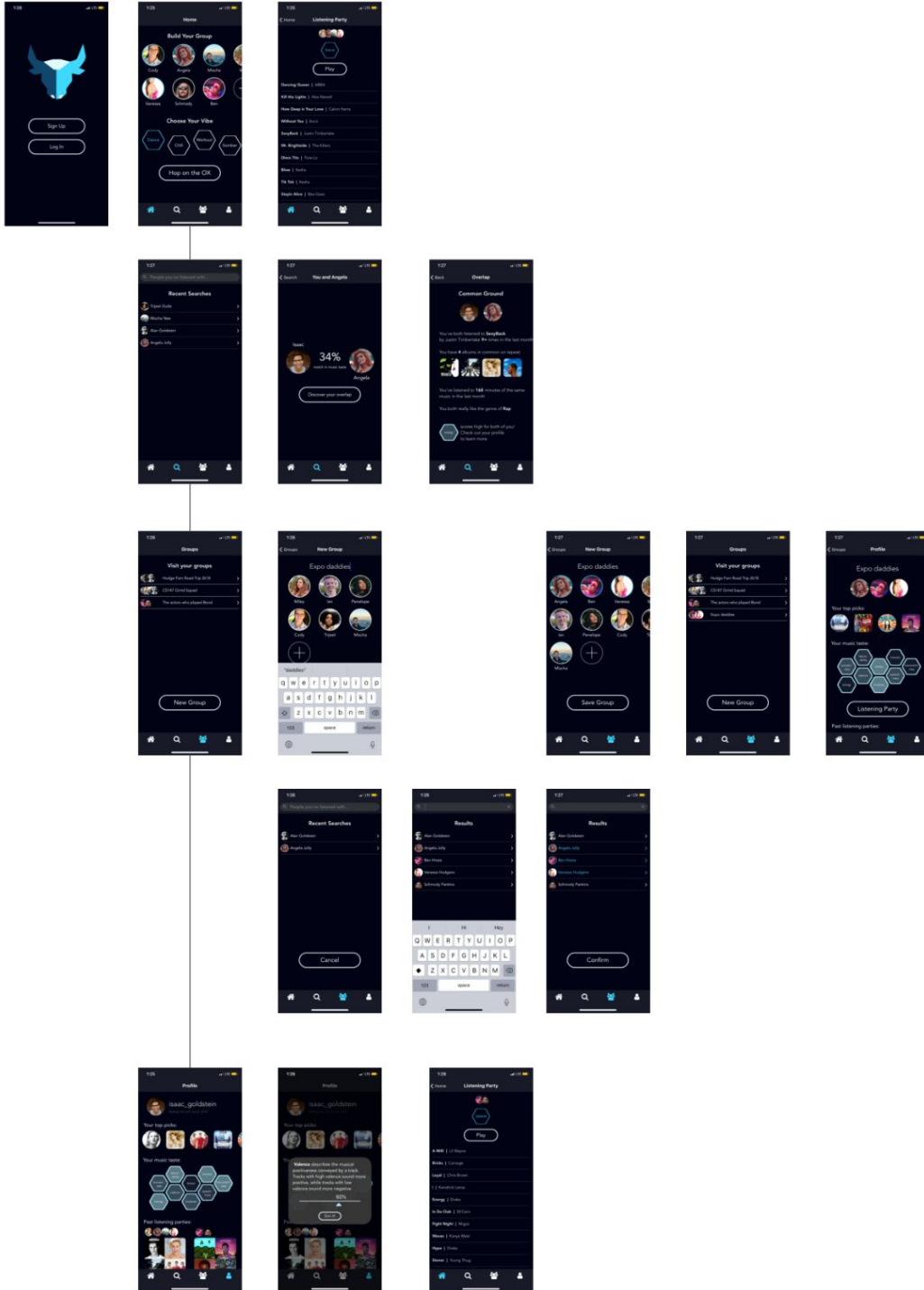
Major Usability Changes

The prototype was operated manually, which worked surprisingly well. We made sure that whoever was operating the notecards did not provide help or input, and was simply the computer. It simulates the ability to network with other users, create a listening session, and explore personal and shared music.

| Original Design	Update of Design	Rationale
Design changes from level 3 and 4 heuristic violations		
		The chart on the Common Ground page was unclear. There was no documentation on what the coordinates or colors mean, and it was unclear what the visual layout signified. We therefore overhauled this page and designed it to reflect the profile page to increase recognition and familiarity and this new way to talk about music
		When creating a new group, it was very clear how to add members but there is no way to remove them. We decided to try to inform users of this ability simply through design. We added a white ring around every picture that would change to blue when selected to inform users the the way to add and.....
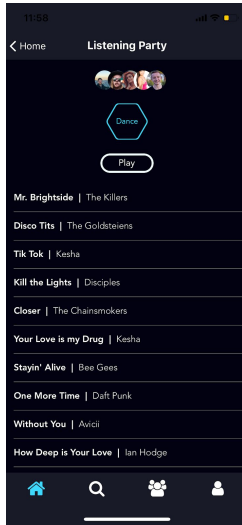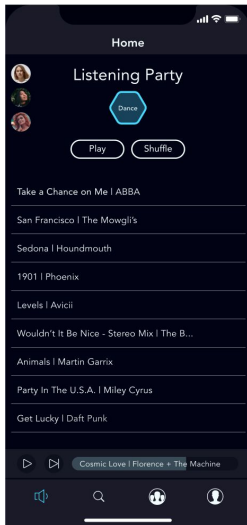
In general, there were no back buttons. We have added back button to every screen that extends beyond the home screen of each bottom navigation button. Additionally, simply tapping on a navigation button will take the user back to the home screen of each button.
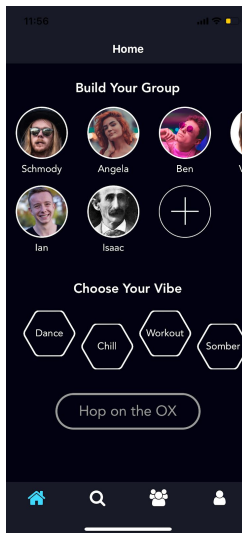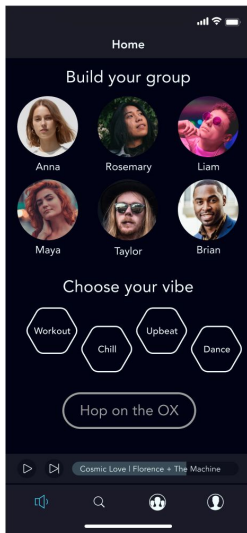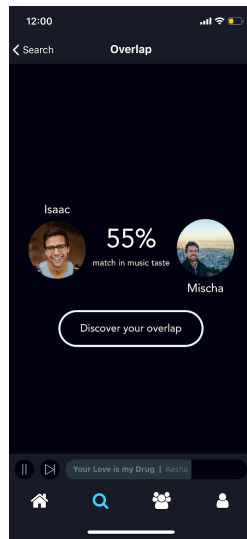

On the primary home page, it was unclear how to search for a profile or a certain vibe when there are 6 or more users. We therefore designed this page so that when there are more than 6 icons (6+ users and then the "+" button) the additional icons will bleed off the page to signify the ability to scroll to see more options. We did the same with the vibes to provide the user the entire list of possible vibes.

X
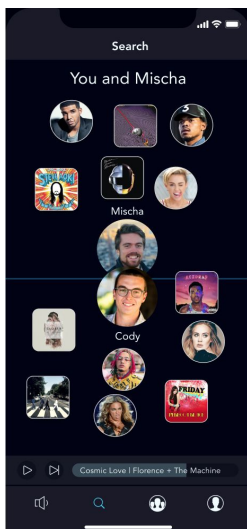
The shared screen "You and ___" features a wide variety of songs or artists that both of the users listen to. However, all of this information was very cluttered and hard to digest. As it detracted from our goal of finding overlap in users, we decided to get rid this page and simply add small animations to the % overlap page.
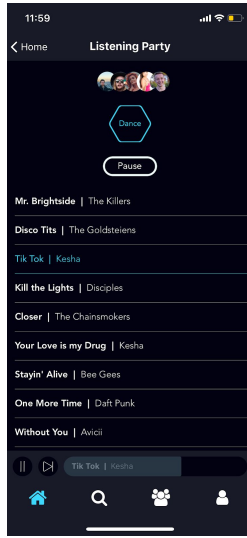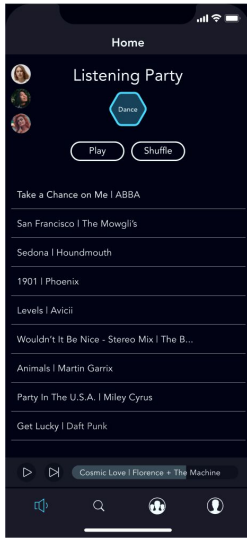
		In the medium-fi prototype, there was no way to interact with the song (for example, moving to a different part of the song). We added the ability for users to move the bar showing progress of a song using touch.
		When in the music overlap screen, users wanted to tap on the profile icon like they could do in the group creation process of this app. Tapping on profile icons in the overlap page is not our intention. By adding the white border to the icons that users can select in the group creating pages and not on this page, we will visually cue users to not try to select these icons.
Other design changes from our own evaluation and informal user feedback		
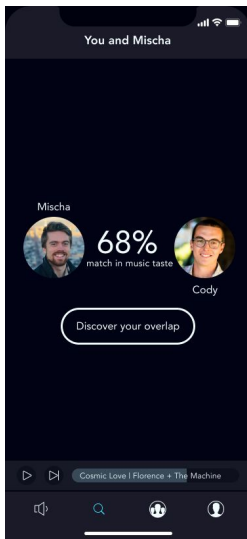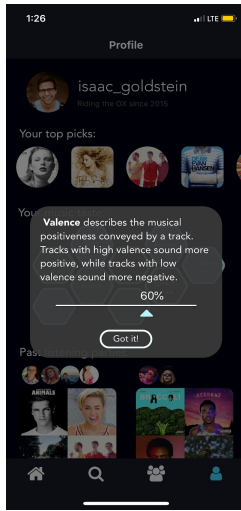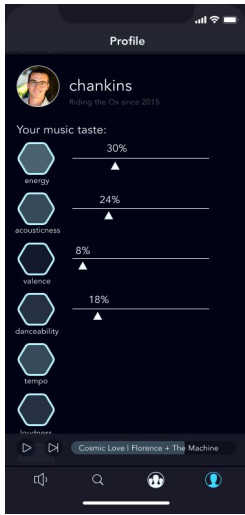
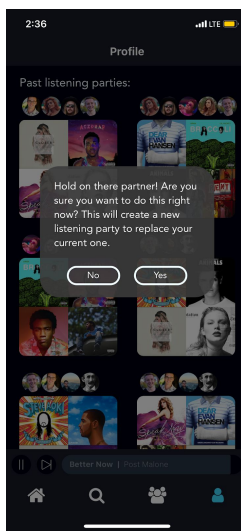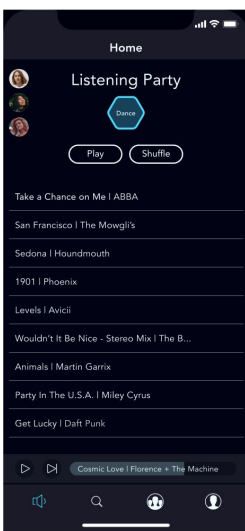|		
		The visual representation of the music taste needed some explanation and access points for users who want to discover more. Our medium-fi designs revealed percentage, but did not explain anything about each feature. Since we wanted this explanation to be concise and not take the user away from the profile screen, we decided to create modals for each of the nine features with an explanation and percentage.
		It was difficult to figure out exactly how to name a new group. While our meidum-fi designs directed the user with the language "name it," it wasn't intuitive where to click and it wasn't visually appealing. Now, when creating a new group the user is immediately taken to the point where the keyboard is up and they can type the name of the group. This change better facilitates the process we intend.
		Past listening parties can be accessed from the personal profile and saved groups. In our medium-fi design we did not consider the case in which a listening party is already occurring when an old one is accessed. We decided to therefore ask the user if they wanted to replace their current listening experience with the old listening party they are accessing.
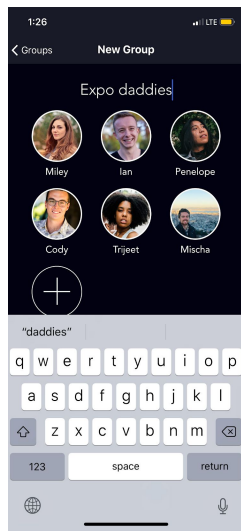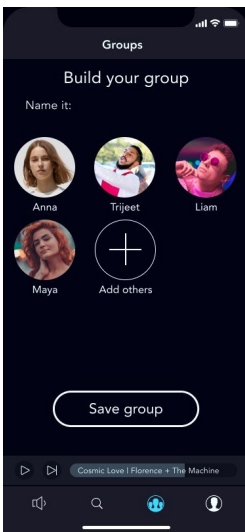
Method

Tools

We are using the framework of React Native to develop OX. None of us have worked in React Native before, but after learning about the basic structure, it has proven to be an effective way of developing our screens. As we are developing, we are constantly running our working prototype through Expo. The in-time updates of Expo allow us build rapidly, especially as we are exploring and learning a new dev framework. Additionally, the dev environment VS Code has proven to be super helpful is navigating all the pieces of this prototype, and we are using Node.js to actually run our code.

Wizard of Oz

Our hi-fi prototype functions with manually inputted data. As we are not yet connected to Spotify, we are waving our wand for the following features:

- Nearby listeners -- random number and random selection of users will appear on the home page every time this screen is accessed
- Listening party songs -- to represent our *magical* playlist generation algorithm, we simply create a playlist with all of the songs categorized as the selected vibe and 10 other randomly chosen songs
- Recent searches -- randomly selects 4 other listeners from our collection of profiles
- Top picks -- randomly selects 8 artists/albums (for both personal profile and group)
- Music taste -- randomly selects an opacity/percentage for each of the 9 features
- Past listening parties -- randomly select 4 from a series of preset listening parties with an associated vibe (for profile); each of the other preset groups have 1, 2, and 3 preset listening parties respectively
- Playing a song -- progress bar moves across song at a consistent rate of 20 seconds

Hard-coded Data

As we have created a preset user with preset groups and preferences, the following data is hard-coded:

- Other listeners -- 11 names and associated pictures
- 3 preset groups containing 3, 5, and 2 other listeners
- Music data -- 10 preselected songs for each vibe
- Past listening parties -- each with an associated group, vibe, and listening party
- Albums/songs -- 15 preset albums/songs to be cycled through listening parties and top picks for profiles and groups

Future possibilities

Thinking about opportunities for OX to truly mold to users' needs, we could add more freedom in the music *curation* process. OX automates playlists and represents music tastes. While this is our primary goal, it is also only a starting point for potential ways that OX could be used more comprehensively in the music listening experience. For example, once a playlist is curating through "hopping on the ox," it would be great to give users the freedom to add/subtract certain songs and make minor customizations on what they have been given. Additionally, we have a queue of tasks that make this prototype better represent out actual intended application: animate profiles on home screen like airdrop, add loading page to the playlist generation sequence, incorporate sign-in/logout option, and connect OX to spotify so every song can be played in full. Finally, out biggest next step involves constructing the playlist generation algorithm actually using the nine features of the music profile and each song.

Summary

"Hop on the aux!" Have you ever heard that before? You have just tasked with selecting music that every single person in the room will enjoy. You probably get nervous, your hearts starts beating faster, and you quickly try to assess what everyone will like. Now, imagine a world where those four words are exciting rather than nerve-wracking, where selecting music for a room is simple rather than convoluted. OX knows every person's music taste and through three easy clicks, you can confirm your listeners, select a desired vibe, and hop on the aux with an already curated playlist.