Design Research Review
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CSE 440AA

Summary:
During our research process, we aimed to explore how different environments and settings affect group interactions with music. This broad inquiry revealed a much more open-ended and loosely-defined design problem than originally intended—we thus have decided to narrow our target users to groups of college-aged students in creative majors. This refinement will allow us to achieve specificity and directedness in our tasks, designs, and understanding of the root problem. We found that the quality of music played in a group is dependent on the person in charge of the music, whether they consider input or not. Our participants desire a better way to learn about more music and have their voices heard.

Design Research Participants:
Our first interview was conducted by Christina Stanfield with interviewee "Sarah Smith" during a private campaign fundraiser at Smith's off-campus house on April 20th. Smith is an undergraduate at UW studying Medical Anthropology and Global Health and hopes to attend medical school. Smith grew up in Bellingham, WA, is Caucasian, 21 years old, identifies as a lesbian female, and has a self-admitted "eccentric" Seattle-grunge/alternative music taste. She finds her progressive tastes are more well-suited for individual listening, and that these habits do not often transfer well to collaborative music settings. Additionally, Smith is financially supported by student loans and her part-time HFS job; this budget restricts her from purchasing higher-end music listening devices, which she may not even need considering her current devices suit her individual needs. She does desire a better recommendation and peer-sharing platform from streaming services—in particular, a way to support local musicians.

Our second interview was conducted by Trevor Alexander with interviewee "Joseph Hughes" in a casual setting a Hughes' home. Hughes is an undergraduate at UW studying Design and plans to graduate in June 2020 as a fifth year senior. Hughes grew up in Tacoma, WA, is Vietnamese, 22 years old, and describes himself to have fairly alternative/indie music taste. He talked with Trevor about creative group environments in Design/Art classes alongside his own experiences. Right away, Hughes acknowledged that having music in a creative setting is preferred to not. Although, he believes playing music can influence creativity and productivity in a negative or positive way. From Hughes' class experience the teacher will usually handle playing music, students rarely speak up with direct disagreements but some make suggestions. When only with peers, Hughes said he is often playing the music and encourages his friends to speak up. Hughes was asked specifically about environments where collaboration is required and responded that he will sometimes listen to suggestions, expanding that disagreement takes form in others asking to

control the music. If all else fails, Hughes will put on a commonly known alternative/indie playlist that most Design majors seem to like (he claimed that in his opinion, this stereotype is often true).

Our third interview was conducted by Trevor Alexander with interviewee "Alice Smith". Smith is a 22 year old dance major at a small liberal arts school in New York. Smith describes her music taste as chill and alt-pop. She has extensive experience with music in class and music in freestyle dance sessions with friends. The interview took place over FaceTime when Smith was at her apartment. She mentioned that New York is extremely expensive, and while a solution to this problem would be nice, the cost of a solution could factor in to whether she would use it. Ultimately, she desires a way for the music to encourage creativity and inspire everyone in the room. She claims that one of the biggest problems is showing up to a session and spending significant time choosing the music. She uniquely spoke about the differences in choosing music for sessions with set goals compared to when there are no plans (freestyling).

Design Research Themes:
Synthesizing the interviews exposed common complications in optimizing between the individual and community regarding music selection, device resources, and control of either.

In all three cases we noticed that music selection was a point of conversation with differing outcomes, how does the selection balance niche and popular? Alice mentions her taste is not ideal for individual listening which compromises her enjoyment of most music played in groups. Joseph says he tries to incorporate feedback but may ultimately choose a well known selection if mediation is ineffective. Finally, Alice is sensitive to time when choosing music, implying she will compromise her preferences if selection is taking too long. Individuals are willing to compromise their preferences to satisfy the group, sometimes before voicing their opinion or attempting to give feedback. This provokes a need to design for encouraging feedback to ensure everyone feels acknowledged and potentially contributes to helping others discover new music.

Each interview also commented on using either personal or shared devices/resources for playing music. In Sarah's scenario she leveraged the host's speaker setup for the optimal experience as opposed to relying on her own. Joseph made a point about individuals switching between a common source and individual devices depending on enjoyment. Contrarily, Alice said everyone in the session had to listen from a common source by nature of the dance discipline. These different approaches challenge us to design for all cases in which groups have or lack the option to listen from a common source or individual devices. We ask the question if either is optimal to solve a certain type of problem and if there is a reasonable compromise?

In both selection and device utilization is the notion of control, who or what dictates selection and interacts with the device? Both have immediate influence in the group's experience of music. In Sarah's case there was a host but no active control, the selection and device seemed automated/pre-chosen. For Joseph, there was either a central figure (instructor) who accepts feedback (but may not always act) or an equal network of peers who influence each other. Lastly, Alice states that the level of control varies according to the occasion and relates to the goal of the session rather than the enjoyment of the group. Between the three interviews there are differences in objectives that clearly interplay with the method of control. How can we design to provide granularity of granting control to an individual as opposed to the entire group based on objective?

Moving forward we believe our design must capture flexibility in addressing selection, device utilization and control compromises while still making innovations that improve our users experience across all combinations.

Task Analysis Questions

Who is going to use the design?
College-aged students in creative majors such as Art, Design, and Dance who listen to music in collaborative settings.

What tasks do they now perform?
These users regularly listen to music during studios (scheduled time to work on creative projects with an instructor) and when working with friends. When music is controlled by an instructor students task recommendations based on how the music is influencing their creativity and productivity. When the music is controlled by peers, tasks include connecting to the speaker, using music streaming apps, taking/giving feedback, and dynamically changing the music to fit/set the mood.

What tasks are desired?
Our users desire seamless ways to discover relevant music on-demand and communicate their preferences to those in charge without social pressure or consequences. These new tasks should integrate with existing platforms and/or be completed by inexpensive and accessible methods.

How are the tasks learned?
Music collaboration in a studio environment is learned through observation and prompted by the instructor, who sets the etiquette of playing music in the classroom. In a group with friends, the technical setup tasks are learned by device and application instructions. Social tasks in the music

decision collaboration/recommendation process are common but must be fit to different groups and learned through experience.

Where are the tasks performed?
Music sharing and decision collaboration happens anywhere with a group and a common music source. Some specific locations for users would be at a studio, classroom, library, art gallery/museum, concert hall, or stage. Tasks are almost always performed on users' phones and computers, where they actually interact with music services.

What is the relationship between the person and data?
Each user has an inventory of listening devices, music libraries, and preferences. Users own their hardware and preferences but access libraries through streaming services or distributors like iTunes/Youtube (unless pirated). Some services "own" the user's listening profile detailing preferences and libraries in order to server ads and/or recommendations. Inherently, user's are creators of their own data, our problem is in modeling the group data from individuals.

What other tools does the person have?
We found users are often closely bound to their previous experience (ie. a Spotify user has difficulty parsing Apple Music's suggestions). User's also search top music for a certain genre online, find music through social media apps, and identify songs through recordings.

How do people communicate with each other?
Primarily, users communicate verbally or through body language but also share music/opinions directly through applications.

How often are the tasks performed?
Tasks are performed almost every day when playing music in a group.

What are the time constraints on the tasks?
In a studio setting,tasks are limited to the occasion. In a peer setting, selection must happen quickly because availability may be limited, groups strive to get to work as soon as possible.

What happens when things go wrong?
When devices malfunction students often listen individually using headphones, this route may also be taken in less extreme cases (user's don't like the music). If headphones are not an option, productivity and creativity are poorly affected.

Contribution Statement

Trevor Alexander (50%): 2 interviews, summaries and most questions.

Christina Stanfield (25%): 1 interviews, summary and some questions/feedback.

Gerard Gaimari (25%): Editing/compiling findings for design research themes section, final review.