Case Study: Binoculars

You bring the popcorn, we bring the friends

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I. Overview (Elevator Pitch & Description)

Binoculars is a web app that combines socializing and entertainment, while also letting users discover further content by reducing friction in joining watch/listen parties. Binoculars are used for discovery, whether it be for seeing what your own friends are up to, or also finding new people and content. Recommendations are important, but we do not want users to be suffocated by algorithms deciding what's best for them. Binoculars allows users to stay within their comfort zone or explore beyond it.

When we were thinking about what to make for our project, we thought about content consumption since many young adults find themselves watching shows, movies or listening to music when they have free time. Personally, I watch some shows and videos with friends when school was in-person, and I still do some now since I live with a few friends in a house. Having the ability to still share content was important, and also having some sort of human touch to it so that the users don't get lost in cyberspace too much. I did not like using Zoom much because it is hard to tell where my "virtual body" is. This is when I told my group we should use some sort of "bubble" concept, similar to this game called agar.io that many of us have played in high school. My group helped refine the idea and how the bubbles would act and work. We ended up implementing the bubbles as a concept for how users can find and join rooms, and we went from there for integrating more content sharing aspects.

Something else that was important was making sure the recommendations were also present, since people we interviewed said that they like to discover new content from people. As a result, we thought of the dynamic aspect of the positioning of bubbles, and how the closer bubbles could be more "related tastes" to what the user has. I also do not like when algorithms dictate how I use certain products, but I still like it when they give a helping hand. This seemed like a great way where the user is guided by an algorithm, but they can still stray away out of their comfort zone.

II. Parsing & Interpreting

I used double diamond when thinking through the design. I did some discovery through users and other applications that already existed. My housemates were especially useful for this since they expressed what they did not like about certain existing apps, and also had interesting concerns I was not considering at the time. It also made me realize that everyone has a different way they consume content, including platforms they use. Privacy was something I discovered that should be considered, with ways to ensure that people don't feel as though they are oversharing. Then I defined what we needed after extracting some of the points I found out through interviews and seeing existing apps. I had in mind the points we had to hit with the app, which helped define what we were making. I tend to develop by drawing and using prototype programs to try to see if there is any way I can fit everything together in a cohesive way. Then deliver some sort of model that works well and see whether the interactions make sense. I had my housemates try the prototypes I made and see where I can improve it.

The target audience are young adults who like to be social and use streaming platforms for content consumption. Many university students fall in this category, since university students do a lot of socializing in dorms when everything in-person. Also, almost every university student I know streams all their content. It was typical for many friend groups where someone would plug in a laptop into a TV and stream content so everyone can watch.

The personas are shown below. They cover some people I know from high school that I am still in contact with (Jack & Annie) as well as a peer from SCU. The bars on the tech access is based on frequency of usage for each category of device.

Annie Castellon

"I miss spending time with my friends and boyfriend"

Age: 19
Work: Part Time University Student, Part Time Barista
Family: In a relationship
Location: Chicago, IL
Income: $50,000

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Lonely | Sad | Bored | Anxious

Goals

- A way to watch content with her SO as she used to
- An easy way to share the movies she's going to watch with her SO
- Feel as though she is "there" when watching with her SO

Frustrations

- She is now living alone, which is a tough situation
- Wants to fill up her free-time while done with work and school
- Annoyed at the lack of socializing she used to do

Bio

Annie is a part-time university student who also has a part-time job on the side which takes up some of her time. She would frequently spend her time after class and work by watching movies with her boyfriend. Unfortunately, her boyfriend had to move after COVID-19, and she keeps in touch with him via texting and calling. She hasn't been able to watch movies with him as easily. They tend to just share each other which movie to watch, and they watch on their own time.

Tech Access

Laptop
Tablet
Phone

Streaming Services

Timothy Flemming

"This is not at all what I had planned for my senior year"

Age: 21
Work: Full Time University Student
Family: Single
Location: Santa Clara,

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Lonely | Solitary | Bored | Frustrated

Goals

- A way to watch content with his friends like he used to
- A way to more easily share his music with friends (recommendations)
- Some social gatherings he could attend to (virtually) over the pandemic

Frustrations

- Tends to like watching content with others rather than just with himself
- Has to fill up his free time with something for the weekends
- Frustrated at the lack of social experiences

Bio

Timothy is a full time university student attending a school in Silicon Valley. Before COVID-19, he always spent his Friday and Saturday catching up with his friends by watching some videos on the TV at his place. Now, he tends to spend his Friday and Saturday watching some content on Netflix and Hulu on his own. He listens to a lot of music throughout the day, and tends to have a close friend group he shares his music with for recommendations.

Tech Access

Laptop
Tablet
Phone

Streaming Services

III. Competition & Inspiration

A few apps we looked at while trying to design ours were Spotify, Zoom, and Teleparty.

Spotify was probably the first out of these to implement a feature that we were interested in. On the right side of each screen on Spotify, you have your list of friends and what they are listening to. Hovering over a friend, there is a play button you can press to listen to whatever they are listening to. Having that list on the right side added a human element to listening to music, which we liked. It was fairly basic in its feature set, since it only worked for music and also didn't actually sync up the timestamps of music. It was less of a "room" and more of "I just want to listen to what they are listening to".

Zoom was interesting to look at since it became much more ubiquitous in the last year. Zoom wasn't really designed for anything we use it for, since it was initially for enterprise video conferencing. However, many students we know use it for sharing their screen for others to see while watching some shows or movies. We liked how the camera was shared from each participant, so you can see everyone's faces. Zoom however is fairly clunky when sharing, with audio not always being shared easily and also the content on the screen can be recompressed by Zoom leading to some bad video quality. Personally, it is my least favorite way to share content.

Teleparty is an interesting extension that my group knew about where everyone connects to a virtual room to watch content on a video streaming service. It does a really good job of syncing up the video for everyone, and also it implements itself really well where it looks like it is native to the streaming platform. There is no video or audio chat however, since it is limited to text chat which wasn't ideal. I personally liked how generally sleek it looked and functioned, however.

The dark theme of Spotify was always nice in my opinion, and I think it works especially well if we made something like that for our product since users are probably using it at nighttime. I don't like being flashed by a light theme right after watching some content in the dark. Also, the general style and polish of the Discord app was a source of inspiration. Discord uses good animations to help the user better piece together where they are within the app.

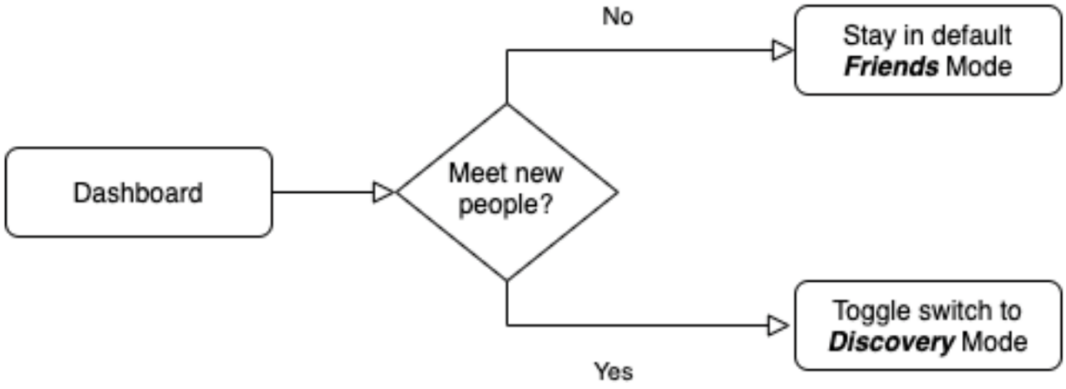
IV. Implementation

I personally use and know many people that consume content on their laptops. They either use it standalone or plug it into a display. Also, this application is more of a helper application that users should run in the background while using their computer if they want to share their activity. As a result, a web application seemed like the best idea, since it can work without installation but also be installed for a user (we would use React Native or something similar). It basically offered the most flexibility, and we didn't want to pigeonhole ourselves to a mobile application.

The main interactions have to do with the bubbles. There are the avatars and bubbles which move around the screen. It was important to make both of these dynamic since the avatars are going to be moving around, bubbles are going to move and grow/shrink. Having animations for the interactions and avatars moving around helps the user know where their avatar is, where the bubbles are, and gives them a better idea of what they can and cannot do. The information for the most part is visually in the bubbles, and users click on what they want to see information about. For example, clicking on a bubble shows what the bubble is watching/listening to.

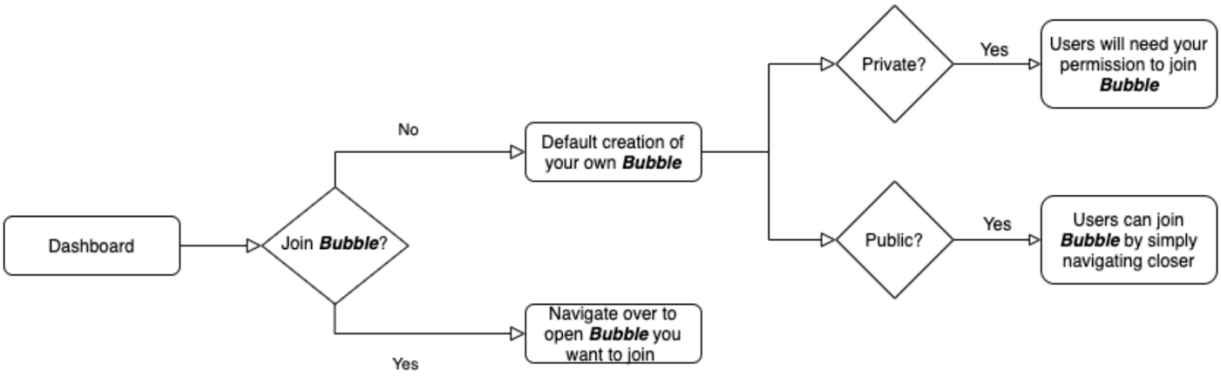
A couple of the task flows are shown below.

The first flow highlights an important switch that our interviews highlighted. Some users want to either stay in private mode where they have some more privacy, but some users also expressed that they wanted to converse with strangers and be connected to them. We tried to make it an easy switch to flip so that users can swap between the two whenever they'd like, but users can also choose to just keep it in one position and not switch it ever.

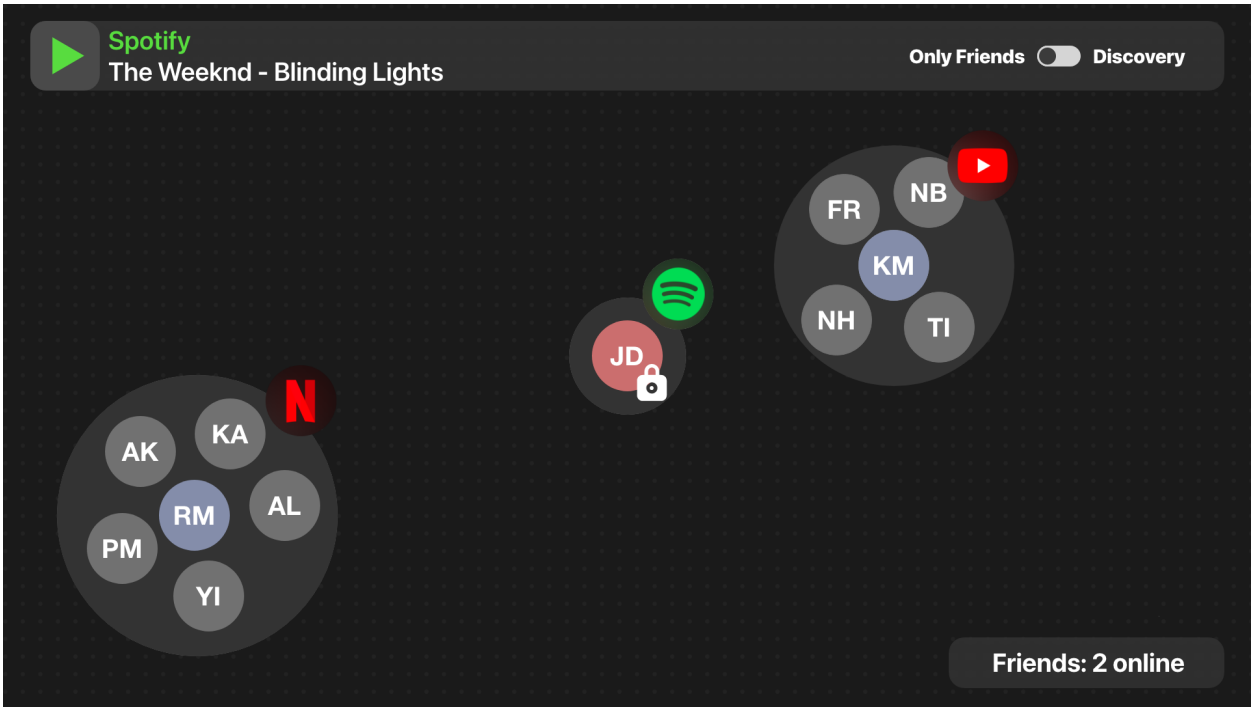


The second flow highlights the process of joining a bubble. Sometimes users want to join or make one to invite friends to (or even strangers). We tried to make it as simple as possible to execute those tasks without getting lost in submenus. A user sees a bubble they want to join, and they can click and join easily. When a user wants to share their bubble for other people to

join, they click on their own bubble and get the options they need to either make the bubble completely public or locked with invitation required to join.



As to the final prototype, it is provided alongside the case study in a separate file (Adobe XD format). Below is an export of the main screen for a preview.



V. Reflection & Next Steps

A major takeaway for me was seeing how to design an application with a sense of “presence” for the users. With things being virtual these days, you lose a sense of where you are in cyberspace. I needed to think a lot about a concept that made sense intuitively in simulating “being somewhere” but was also not too busy and confusing. I am very happy with the final concept that we have, since it hits all of the points we wanted to. Especially, I found that myself and other classmates said that they would use the app if it existed. I think it’s a testament for us filling the gap in social content consumption really well.
Also, there was a good amount of variance between people interviewed on what they watch and how they watch content socially. It was a takeaway that users are more varied than I expect, so it’s important to do interviews with a lot of people to find their needs and how to fulfill them. If I just made an app without interviews, it wouldn’t be nearly as good as what we ended up with. Again, people telling me that they would use the app if it existed is an example of us hitting the user needs adequately, which wouldn’t have been possible without the interviews.

The last takeaway was the constant iteration that is required to get a good design. When I was making the prototypes, I would constantly change and swap things, and gradually piece together what worked the best. I never really settled on placement and layout throughout, and I kept in mind that the constant iteration was honing into a good final design. I never got too comfortable with a specific layout, since it could always improve.

For the next steps, some research that would be useful is looking more into what streaming platforms to support. From our interviews, we found out about some of them, but getting more data on which platforms are most popular could help focus on the integration with the most used ones to ensure a better user experience. Also, trying some more user tests to refine the interactions would be very useful. I would want to test the app where the users can pan around the screen with all the bubbles to see if they find it self-explanatory how to navigate. Furthermore, finding out the best way to integrate with the platforms would be useful. There are very likely no APIs, so there would be a decision on either doing some sort of “screen share” (which would be questionable in terms of licensing content since users would be sharing paid content) or maybe everyone has their own stream in the bubble. Finally, doing some research on the colors and transparency would be good too. Transparency and dark colors are used a lot in the prototype, which could be hard to read or decipher. Playing with the colors and maybe adding an option to disable transparency would be good to look into.