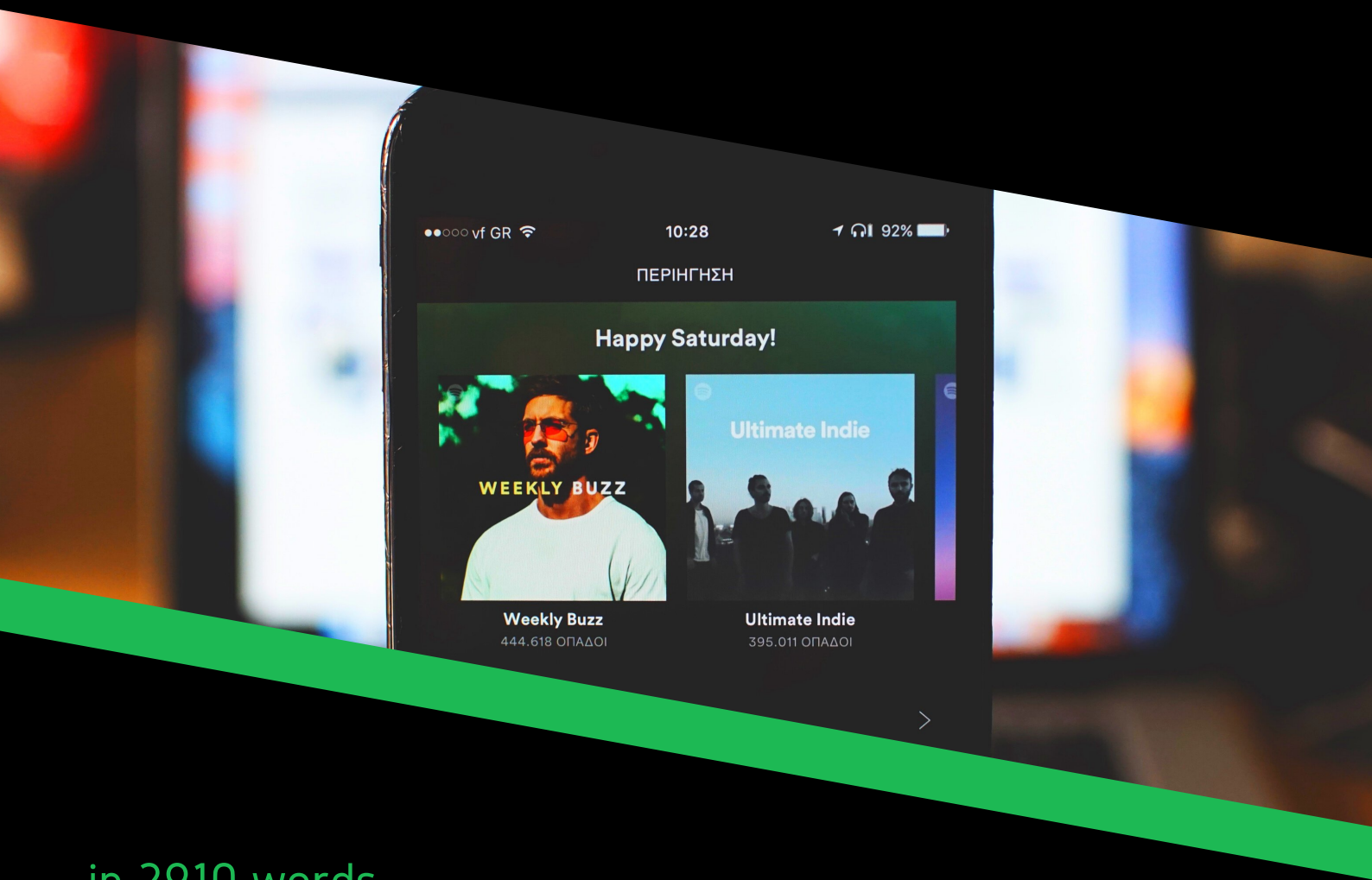
RE-DESIGNING SPOTIFY RECOMMENDATIONS & SHARING



in 2910 words

Prepared by:
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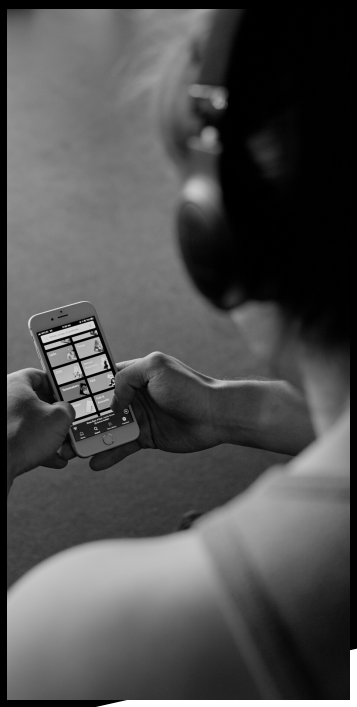
EXECUTIVE SUMMARY



Before beginning the study, I had noticed that many people shared songs using Messenger or WhatsApp. I wondered why Spotify did not provide an in-built music sharing/suggestion feature when so many people were using a third-party app to fulfill this need. To understand if this was indeed a shared need by a significant segment of Spotify users, I decided to conduct 8 interviews with people who used the app regularly.

During the interviews, I found that the shared need for a more social Spotify goes beyond the in-built music sharing feature to replace Messenger/WhatsApp. The personas and user journey maps I built, uncovered that social circles and activities that the user is engaged in, have an enormous influence on the playlists they play, what songs they add, and what they are thinking when they are listening to music.

I was surprised to find the level of involvement of friends and their suggestions in the daily listening habits of many users.

To understand the functional value of these discoveries, I analyzed the user journey map to be able to pinpoint certain attributes that could become actionable.

I then constructed a service design blueprint to understand Spotify's music delivery system, in order to be able to make recommendations on what parts of the system could be improved to serve this newly discovered need of a more social Spotify.

We learned that:

1. The recommendation system is the keystone of the app and that user retention depends on it.
2. Users are constantly sharing and thinking of their friends as they listen to music.
3. The recommendation system can be supplemented with data from the user's friends given that the system to do so is already in place.

METHODS

We began collecting qualitative data with the intent of investigating social habits and interactions between Spotify users, their friends, and family.

We conducted interviews with 8 users who use Spotify throughout the day.

PARTICIPANTS

Age: 18 - 35
Regular Spotify Users since 2 years

SAMPLING

Stratified Random Sampling: After emailing a screener survey to students (present & alumni) from 3 universities, I segregated the population by 3 age brackets to account for lifestyle differences (18-22) (23-28) (29-35). Then from each group, I selected 3 participants using a random no generator on excel.

DATA SOURCE

8 Interviews -- 40 mins -- In person/Zoom

SAMPLE QUESTIONS

What kind of songs do you add in your shared playlists?

How often do you listen to music shared by your friends?

Does your music taste match with your friends?

PERSONAS

8 Audio transcripts later, I formulated 3 personas on the basis of 3 kinds of intentions users have when interacting socially while using Spotify.

1. The Collaborator - intends to get along with others
2. The Explorer - intends to get recommendations from others
3. The Casual Stroller - intends to browse for music now and then

CRITIQUE

After receiving critiques on the three personas, I selected "Yujin" the collaborator as our representative persona. The critiques included:

1. Focus more on social aspects of the personas like personality & social media app usage
2. Increasing the size of the words in the word cloud
3. Reducing the no of words in the quote and the word cloud
4. Reducing the size of the quote and making the names bolder & larger
5. Questioning the relevance of power users/casual strollers who are indirectly using their social circles to get better song recommendations.

The critique sessions helped me notice that Yujin's persona would be most relevant to understanding how Spotify can integrate with a person's social life.

Yujin persona was selected as her intentions to use Spotify were explicitly social as opposed to Magnus or Rashid (see Appendix 2,3). Magnus communicated with his friends concerning social sharing of music to get better recommendations while Rashid only casually interacted with his friend's music choices. Yujin on the other hand represented a significant portion of users who actively want to know what their friends are listening to and try to connect with them over their shared interests.

To dig deeper into what this experience constitutes, I built a user journey map to visually grasp Yujin's daily experience of Spotify in her natural surroundings.

USER JOURNEY MAP

The Journey Map was designed to capture Yujin's activities, emotions, interactions, etc from 7 am to 9 pm, so that we can encounter opportunities to address pain points that come up. I arranged the experiences and emotions that Yujin went through, as an amalgamation of 3 interviews with socially keen users. It gave me a glimpse of what a full day of using Spotify looks like for this segment.

The critique session on user journey maps taught me the value of touch points and made me focus on brand touch points outside the Spotify UI. I added Instagram, Whatsapp and the messenger platform as touch points during Yujin's interactions which revealed even more about her social experiences tied to the brand that occur outside the app.

SERVICE BLUEPRINT

The Personas and the User Journey maps told us that there were gaps in the user's experience where they are compensating for the lack of social features that Spotify has, by either moving to another platform (eg: WhatsApp) or simply giving up on sharing music or suggesting songs to their friends.

I built a simple service blueprint to display the systems responsible for recommending a song and then sharing it. As a system with many interconnections that are fed back into each other, it was necessary to make backend processes overt to see how onstage contact actions become functional. To make the process flow accurate I went through numerous documents that Spotify engineering publishes on their company blog. Most helpful were 3 pipeline flow schematic diagrams that show which software libraries Spotify use and how it process data in batches to make the app come alive. After a tedious redistribution of the important elements, I could finally position them in the backchannel to match with corresponding UI features. Organizing the backchannel so that separate system blocks interconnect and arrows don't intersect was the toughest part of the process. It was necessary so that one could see the flow of data for any UI interaction one chooses to follow.

DESIGN RATIONALE

Every section above describes the specific reasons why information hierarchy decisions were made and why we chose to look at certain attributes (daily activities/user flow/social relations) over others (weekly activities/brand perception/social awareness).

For the templates we chose the following colors representative of the Spotify brand:

1DB954 100%	1DB954 70%	1DB954 20%	000000	33333 70%	33333 40%

We chose an L shape grid to represent personal info of Personas and used a grid system to organize the rest. User Journey maps and Service blueprints had to be linear, temporally moving from left to right and so we used block design to cleanly separate different moments in time.

RESULTS

THEY WANTED SPOTIFY TO BE SOCIAL WITHOUT IT BECOMING A SOCIAL MEDIA PLATFORM.

During the interviews, we realized that the activities users engaged in were intimately tied to the social circles they were part of. For eg: When User M went on road trips, she liked to be prepared beforehand with a playlist that has at least one favorite song of every person in the car. Similarly, when User J got in a relationship, they began a collaborative playlist and would add at least one song each night for their partner to listen to before they go to sleep.

They wanted Spotify to be social but not become a social media platform. There was a mild distaste for social media encroaching on their music.

Over the next few weeks, I focused on aspects of the User Journey that was less about social media but more about close friends in social circles. Interviews indicated a shared need for:

1. Easier access to close friend's music
2. Ability to recommend songs to friends

The personas revealed the personality traits of such users (see User personas on the next page) and gave us a clear picture of whom we are designing for. Yujin the collaborator was the ideal choice for this user intentionality since she represented a segment of users that are social media savvy, want to share music with their partners, and listen to what their friends find interesting.

Comparing and contrasting her with other personas informs us of the unique ways in which she would encounter and navigate Spotify (See Appendix)

We learned from the interviews that the best features of Spotify are the uncomplicated user interface and the recommendation algorithm. Because it does the job of supplying music competently, Spotify need not focus more on the social aspect of its platform (eg: followers, shares, etc). Yet at the same time, if offering music to explore is what Spotify does best, then the recommendation engine can be supplemented with user data of friends.

Yujin

24, Collaborator

Miami, USA

MEDIA SAVVY AMICABLE

Bio

Yujin is 24 year old communication assistant working for an NGO. She listens to his music during runs and with ehr friends. She and her boyfriend have a collaborative playlist and so she keeps looking for new songs to add.

Goals & Interests

- Listening to a new song each week
- Collaborating on playlists
- Reminding her friends to listen to a song she shared
- Sharing on instagram and social media

Pain Points & Concerns

- Creating the perfect house party playlist
- Going through too many steps to share
- Having to use desktop to see songs listened by friends on spotify

Motivation for listening

Work	30%
Fitness	60%
Cooking	10%
Driving/Riding	90%
Other Chores	70%

OS

Personality

Introvert	● ○ ○ ○ ○
Analytical	● ● ● ○ ○
Sensing	● ● ● ○ ○
Judging	● ● ● ● ●

Brands

> The Playlists my boyfriend and I make, I usually listen to his once when he shares them.

SOCIAL CIRCLES

To see what is the nature of these social interactions surrounding Spotify use, we must refer to Spotify Collaborator Yujin's User Journey map. Her map is a depiction of the activities she is immersed in as she uses Spotify throughout the day. From 7 am to 9 pm, she has 3 moments when she wants to interact with her friends, and we have 5 opportunities to serve her needs. Her emotional fluctuations throughout the day tell us the intensity of those needs and the activities she is engaged in giving us the context of those needs (eg: bored in the gym --> could translate into an opportunity for us to recommend her some songs her close friend has been listening to in the gym)

To dive into how the recommender system could tap into the user's "friend" data we have to look at the service design blueprint.

The persona, user journey map, and service blueprint combined give us the target, solution, and the implementation of the solution respectively. The Spotify market is reliant on the size of its music library and its sophisticated recommender system. Every Interviewee professed that they have tried switching to another platform but Spotify's unique selling point is that they can keep recommending new and interesting songs that do often match their taste. Continually improving this recommender system in distinctive ways is the key to their continued success and a re-design of the data flow will be another incremental growth to their recommender system. This can happen by considering plugging in the user's friend data.

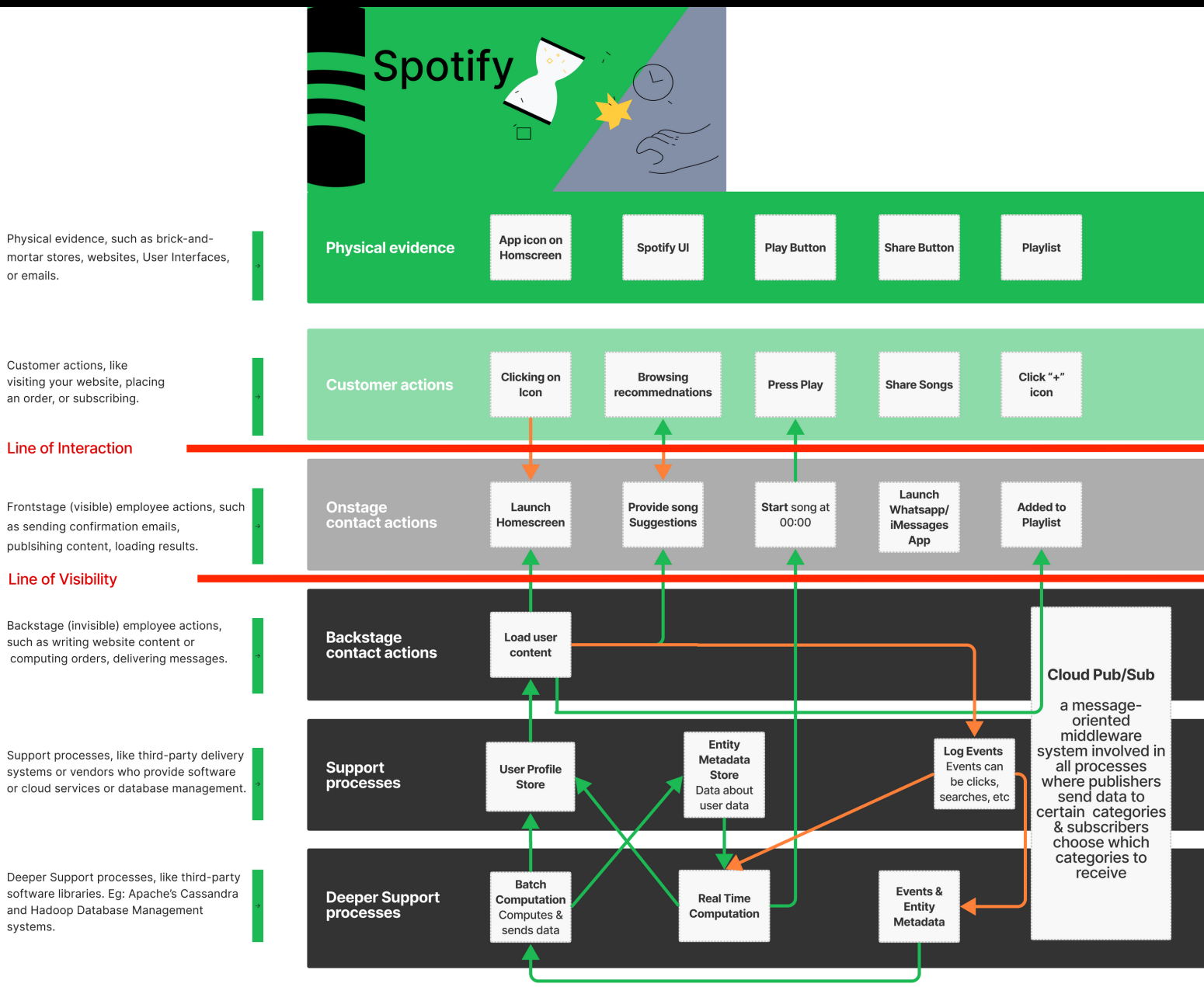
RECOMMENDATION SYSTEM

The recommender algorithm uses the user attributes from the UPS(User Profile Store). If this UPS is also supplemented with data from the user's "friends," its recommendations can be improved. Especially if user attributes such as how many times a song was shared, what kind of recommendations by another friend did a user like, etc are fed into the User Profile Store. This way the recommender algorithm can improve its recommendations more organically.

The re-design process will require more than simply creating and organizing UI elements like a share button and adding a contact list. Since changing the recommendations is a systemic process, the re-design of the recommendation system by involving "friend" user metadata will require connecting different software libraries hosting this data via new algorithms.

Spotify Collaborator Yujin's Journey Map

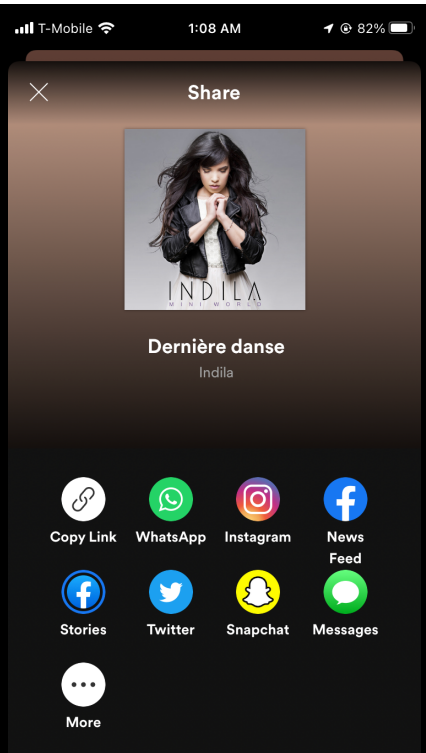
	Morning Music (7:00 am – 7:40 am)		Work with background music listening (9:00 am – 5:00 pm)				Browsing & leisurely listening (6:00 pm – 8:00 pm)		Leisure (9:00 pm)
Does	Wake up routine	Breakfast	Workday/ School begins	Meetings	Assigned Tasks	Workday/ School ends	Workout/ physical activity after work	Cook	Before Bed Leisure
Touchpoints	Playlist	Shuffle	Discovery Weekly		Spotify Web Player	Whatsapp Sharing	Instagram Spotify Story post	Playlist	Liked Songs
Channels									
Feels	Groggy → Refreshed → Energized → Anxious → Flustered → Flow state → Irritated → Excited → Resigned → Pumped up → Dull → Vexed → Stressed → Tired								
Pain Points	No time to look for new songs		Wants to share music but has already sent too many whatsapp links				Bored of same gym playlist	Remembers friend's playlist but can't access	Manually saving songs friend recommends
Opportunities	Suggest songs from friend's playlists	Sharing feature within Spotify itself	Allow same access on mobile app as web app to view friend music activity				Make friends's playlist more accessible		Allow friends to send music suggestions



The service blueprint shows us the backend processes, support processes, and the deeper support processes that enable the events(clicks, buttons, plays) on Spotify.

To design social sharing of music in Spotify, we need a "share with friends" UI menu item when the menu is opened from the share button.

For this menu item to be functional, we need the entity metadata store which contains data about user data (metadata), to be fed into the User Profile Store via an algorithm that selects metadata about a user's friends. (friends could be a separate category like followers that Spotify can add).



DISCUSSION

Spotify has acquired a reputation for its track recommendations. It displayed this notoriously in a series of billboard advertisements that said "Dear person who played "Sorry" 42 times on Valentine's day, what did you do?". This captures how our social lives are tied to the music we listen to. This is the power of extracting insights from metadata.

The recommender system currently seems to be extracting user data such as frequency of listening, likes, dislikes, skipping a song, setting it to repeat, adding to a playlist, duration of listening, etc. These data attributes are personal but don't fully capture the kind of music the user might want to listen to.

Outside the app, the way we are exposed to music is often via friends, movies, music playing in the background of places we visit, etc. Since Spotify users tend to have friends who also use Spotify, it should be considered that their tastes, likes, dislikes also influence each other's listening choices.

Research now shows that predicting music choices based on personalities rather than genre or other music conventions of certain demographics is better for recommendation systems. (Greenberg et. al., 2016). In a larger media studies context, Jakobsen has studied how macro events such as album launches, upcoming concerts, the buzz generated by influencers, and micro-events such as mood and activities, shape the agency of a listener.

These research studies display a gap in our understanding of how much and in what manner do social circles of Spotify users affect their interactions on the app.

We found that numerous times the listener was thinking of other people (friends, family, exes, past acquaintances, etc) while listening to tracks. Some of this experience prompts an explicit action like wanting to share music or suggest a song to someone, while at other times it simply affects how and what songs the user plays next.

Our persona told us what kind of person listens and thinks about others during the use of the app.

DISCUSSION CONTINUED

The story map told us at what points, in what situations, during what activities, in what contexts, and during what emotions, is this person under the effect or interacting, with their social circles.

Surprisingly, the service blueprint displayed that almost 95% of the processes were already in place, to allow social sharing within the app and enable social suggestions in its recommendations.

An analysis of the blueprint told us that simply connecting certain databases would enable these 2 features in Spotify.

Yet at the same time, we should be wary of the consequences of connecting the two databases. Since the interconnections of databases build upon a system that is interactive, new concerns might emerge that will require additional re-design processes to take sustain of them.

RECOMMENDATIONS

The first few iterations of the User Journey map taught us that social circles play a role in user interactions even when the user is not explicitly interacting with a friend. This opened up the opportunity to add social recommendations to the recommender system.

Based on this report, I would recommend creating a separate entity called "friend" that is parallel to a "follower". A friend would include actual friends and the Spotify user profile store can incorporate user data from friend's profile as well.

Next, we should A/B test a Spotify prototype with a new share functionality where you can send a song in-app directly to a friend without exiting the app and moving to WhatsApp/Messenger.

Finally, we should UX test via screen recording and a 7 day diary study, to see how the new recommender system works if social recommendations are integrated i.e. friend's suggestions and similar listening patterns are considered by the algorithm while making track recommendations to a user.

To understand this phenomenon deeper, we must recognize that individuals are agents embedded in the social fabric and so even when they are listening to music in private, they still are acting in the larger social sphere.

Outside of the direct UI/UX implementations, we must also consider what other effects does the social life of an individual have on their music. Even when participants were spending their "me" time, they often thought about "if their friend would like this song" and "who the song reminds them of."

We must conduct more qualitative research on the social elements of music experiences to generate more insights on how music can be organized and experienced.

APPENDIX 1

Yujin

24, Collaborator

Miami, USA

MEDIA SAVVY AMICABLE

Bio

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Pain Points & Concerns

- Creating the perfect house party playlist
- Going through too many steps to share
- Having to use desktop to see songs listened by friends on spotify

Motivation for listening

Work	30%
Fitness	60%
Cooking	10%
Driving/Riding	90%
Other Chores	70%

OS

Personality

Introvert	● ○ ○ ○ ○
Analytical	● ● ● ○ ○
Sensing	● ● ● ○ ○
Judging	● ● ● ● ●

Brands

> The Playlists my boyfriend and I make, I usually listen to his once when he shares them.

APPENDIX 2

Bio

Magnus is 33 year old full time developer who listens to his music during work. He is always on the hunt for new music, willing to explore. He is not interested in social media and is only aim is to expand his music library. He will strategically exploit any new features to cover more ground on the music terrain.

Goals & Interests

- Increasing his music library size
- Finding ways to get new recommendations
- sending and receiving recommendations from friends
- Organise his music to make it more accessible

Pain Points & Concerns

- Data privacy
- Having to leave spotify app to share music.
- Not wanting to publicily display every song that he listened to.
- Not having to check his phone often.

Motivation for listening

Work	90%
Fitness	40%
Cooking	100%
Driving/Riding	50%
Other Chores	10%

OS

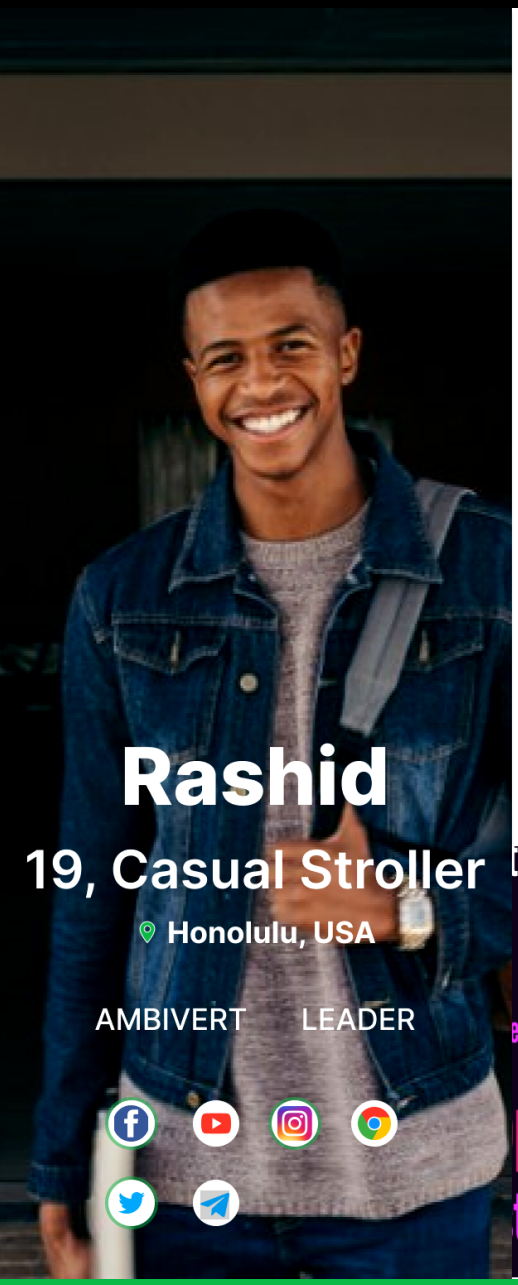
Personality

Introvert	● ● ● ● ○
Analytical	● ● ● ● ○
Sensing	● ● ○ ○ ○
Judging	● ● ● ● ●

Brands

> If I find someone interesting I want to listen to their music, just to see if there is something in there that I like.

APPENDIX 3



Rashid

19, Casual Stroller

Honolulu, USA

AMBIVERT LEADER

Bio

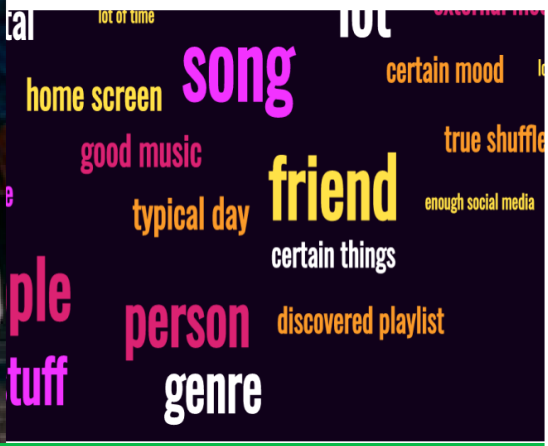
Rashid is 19 year old sophomore student with a part time job at a pet store. He listens to a lot of background music that helps him set the mood. He doesn't search for new songs but only plays what he encoutners in social media, friend cirlces, occassionally shazaming a track playing on campus.

Goals & Interests

- Having a study playlist
- look up songs people suggest
- playing songs that take them back to high school
- Singing aloud

Pain Points & Concerns

- Have to listen to many bad songs to get to good ones
- Don't like songs some friends recommend
- Playlist gets monotonous after a while



Motivation for listening

Work/Study	90%
Fitness	60%
Cooking	10%
Driving/Riding	20%
Other Chores	30%

OS

Personality

Introvert	● ● ● ○ ○
Analytical	● ● ○ ○ ○
Sensing	● ● ● ○ ○
Judging	● ● ○ ○ ○

Brands

"Mostly I just listen to songs that I have been listening to for a long time."