

## **Problem Statement**

During the semester, our group chose to research and test the Spotify mobile app. Spotify is a music streaming platform that allows users to listen to music and podcasts, create playlists, discover music, and interact with friends. As smart phones became more popular throughout the last ten years, so have apps that allow users to listen to music. Spotify has become one of the most popular and well known music streaming platforms and we wanted to further understand what functionalities it has (or doesn't have) that keeps people using this platform over other music streaming services available. For this usability test, we chose to look at the mobile app instead of the desktop app because from our prior research, we found that more people tend to use Spotify on their mobile devices/tablets rather than on their laptop. Also, from personal experience, our group found that the mobile app can be less intuitive to use than the desktop app, as more features have to be consolidated in order for it all to fit on the screen nicely. By being slightly less intuitive, we can find more information about where the users' pain points are, what's confusing, and what is easy to use with the app.

To further narrow down our research, we decided to look at several questions while conducting our usability test:

1. What is the most common route users take when attempting to complete our tasks? (Do they use the search bar, browse function, etc.)
2. If users get stuck on one of the tasks, how do they go about figuring out the issue?
3. Does Spotify have enough features to be able to complete tasks in multiple ways?
4. Are users aware of all of the features Spotify has to offer? (ex. Concert dates/tickets available on artists' page)
5. Do users tend to complete one task similar to the other tasks, or do they go about the tasks in different ways?

## Findings

From our usability tests, we found that most users, whether familiar or unfamiliar with the app, tend to use the search bar to find what they are looking for rather than using the tabs/sections provided by Spotify. Searching seemed to be the most common way our participants completed our list of tasks. For example, for one of our tasks we asked the users to find their Release Radar (a playlist made by Spotify for the specific user using an algorithm) and add it to their queue. This playlist can be found in as little as 2 clicks using the Search/Browse tab, however most users ended up searching for “Release Radar” in the search bar. Another task we asked our participants to complete was to find the #1 song on the US Top 50 Playlist created by Spotify. Again, instead of looking for this playlist using the Browse tab, users directly searched for it with the search bar. This showed us that some users, especially those a little more unfamiliar with the app, tend not to know about all the features and different ways to go about different tasks offered by Spotify, and tend to fall back on one technique (searching) when looking for something specific. If users were confused about a certain task, they went to search for it instead of looking for different pages or tabs. This also showed us that while Spotify does offer multiple ways to complete tasks, they seem to be hidden for some users. For better user experience, Spotify could make these different routes more visible so users don’t have to rely on the search bar.

We also found that tasks that were easier for our participants to complete were tasks that aren't specific to Spotify. For example, all three of our participants completed the task of sharing concert ticket information via SMS with ease. This could be because sharing something via SMS is done on multiple different platforms, so the users knew what the sharing icon looked like and how to get to it. Also, all of our participants were able to complete the tasks that could only be completed by going to the Settings tab. Again, we think this could be because the Settings in most apps include similar items, so it was intuitive for the participants to look there first with some tasks. For example, one of our tasks was to turn on Data Saving, and all participants went to Settings right away.

Additionally, we found that Spotify isn’t necessarily the greatest at promoting all of its features to its users. One of our tasks was to find the next concert Chance the Rapper was having, and all participants were unaware that you could even find this information on Spotify; they thought you could only listen to their released music. This feature is pretty unique to other music streaming apps, but people don’t know it even exists. Our participants thought it was cool to be able to have access to purchase tickets to concerts on the app, as it makes things

consolidated in one singular app rather than having to go to Ticketmaster or another similar ticket site. This made us think that even though our group considers ourselves very comfortable with Spotify, how many features are available that we don't know about?

## **Participants**

We conducted our usability test with three different users from our SI 422 class. All users were in college, female, and ranged in age from 20-21 years old. While this isn't a particularly diverse sample, we did have a wide range of knowledge of the Spotify platform throughout the test participants. Two of the test users had little experience with using Spotify, with one primarily only having used the app on a friend's phone and the other saying that they almost never use the app and are frequently confused. The other user stated they were much more comfortable with using the Spotify app, but didn't use it very frequently.

## **Key Insights**

We were able to use our test participants' experience levels with Spotify because each participant had different experiences. One participant was not a Spotify user but had used her friends' accounts, one was a Spotify user, and one had never used Spotify. The key insight we found using this metric was that even those who were unfamiliar with the application or only had basic knowledge of the app were still able to navigate through the tasks fairly easily. Although the Spotify user was the fastest and knew how to do almost every task in a straightforward manner, the other users were still able to complete all of the tasks in a reasonable amount of time. The user with no Spotify experience had to try multiple methods for a few of our harder tasks, but she was able to complete them with little help. Afterwards, she even said she was not frustrated at any time during the test.

Second, we found that if anyone did not know how/where to find a certain feature, they tended to know where to look to find those features. Spotify has one area for settings with a recognizable symbol of a gear, so it is intuitive for people to find certain features under certain categories. For example, one participant was trying to find the feature to turn on a private listening session, and when she realized it was under the umbrella of social features, she went to the Social section of Settings to find the switch. Because all of the features are sorted into these categories intuitively, it was relatively easy for all of the participants to find them even if they had never used them before. Generally, users were correct in their intuition when trying to find the location for a feature.

Finally, we found that there were multiple ways to complete the same task within the application. The participants all used slightly different ways. However, the user who regularly uses Spotify knew the “shortcuts” to complete certain tasks while less knowledgeable used more of a brute force method, exhausting all options and perhaps taking a longer route to complete a task such as browsing through multiple tabs or trying various phrases in the search bar. Nevertheless, we believe it was extremely helpful Spotify had multiple routes to complete some tasks because each participant thought out their journey in a different way - one preferred searching for features, while another preferred using Settings first, for example. This way, Spotify could ensure that almost all users would eventually be able to complete tasks/find features even if they have different thought processes in how to use the app.

## **Reflection**

There were several things that worked and several that didn't and could be improved upon in our usability test. To begin with what worked well included the preparation of the note taking sheet that we used to log notes during the tests. The sheet consisted of a table that listed the tasks the user would go through which allowed for easy segmentation of task notes and also made it easy to edit with two note takers. Because we had four people in the group, we had one person be the facilitator, one person logging observations, and the remaining two taking notes. Because of the table set up, we were able to alternate who was taking notes and allowed the note takers to be more detailed and continue writing down important details and final thoughts about the task even after it was done because the other note taker was there and ready for the following task.

Another thing that went really well was the set up we had going in our usability test room. It was quiet and had a TV screen that we were able to connect to a laptop. We projected the laptop screen onto the TV which allowed for all group members to see what was happening on the test user's screen. This made it easier to take notes and let the user have more space and not feel like all eyes were on them while they worked through the tasks.

While our tests were relatively smooth, we could definitely improve on some things. Initially when planning the usability test, we knew of more common ways and actions to complete our various tasks that we put in the observation logging form. However, we have all used Spotify and didn't even consider some of the ways that a few of the users did some of the tasks. It would have been very helpful to collaborate with someone that has hardly used the Spotify app when creating this sheet because the test participants definitely did some of the

tasks in completely different ways than what we thought anyone would do. While we were able to add observations, we should've tried to think even more outside the box when initially creating the observation sheet. However, because we didn't even think people did tasks this way, it became a great learning opportunity to see how much you can learn from people in a usability test even with a platform and app has developed and engineered as Spotify.

## Appendix

Link to folder with user test recordings, consent forms, logging notes, and basic performance data:

[https://docs.google.com/document/d/17LAUECuQInVSU-nuBJjKbZPgVIV0mLNqUDEGCv3C\\_hw/edit?usp=sharing](https://docs.google.com/document/d/17LAUECuQInVSU-nuBJjKbZPgVIV0mLNqUDEGCv3C_hw/edit?usp=sharing)

### Logging Notes:

Project: SI 422 - Group 8

Date: 12/5/19

Logged by: Sonia

Participant Identification: Laurel Dentinger

Pre-test: Age 21, doesn't really use Spotify but finds it pretty easy to use (has used on friends' phones). Doesn't get confused often, mainly uses queue and search.

Actions	Observation/Comments
Find the #1 song on the United States Top 50 playlist created by Spotify.	<ul style="list-style-type: none"><li>- Scrolling down, goes to popular playlists, doesn't see so just searching instead (auto populated), found</li></ul>
Create a playlist that contains the songs Best I Ever Had by Gavin DeGraw and Little Talks by Of Monsters and Men.	<ul style="list-style-type: none"><li>- Went to library, create playlist</li><li>- Names it "new playlist", add songs</li><li>- Searched for "Best I Ever Had", swiped to add to playlist (?)</li></ul>
Go to one of your created, public playlists and make it secret.	<ul style="list-style-type: none"><li>- Went to new playlist just made</li><li>- Clicked dots in corner, made secret</li></ul>
Please start a private session on Spotify that allows you to listen	<ul style="list-style-type: none"><li>- Never done before, not sure what means at first (Seemed confused and unsure)</li><li>- Clicks on a song at first (doesn't work)</li></ul>

anonymously.	<ul style="list-style-type: none"> <li>- Goes to settings</li> <li>- Goes to Social, then turns on private session easily</li> </ul>
Please navigate to the page for Chance the Rapper. If he is on tour, send the next event he is performing at to the number 608-228-7836 using Messages.	<ul style="list-style-type: none"> <li>- Scrolls down artist page</li> <li>- Sees that he is on tour</li> <li>- Share via text</li> </ul>
Find your Release Radar and add them to your queue.	<ul style="list-style-type: none"> <li>- Navigates back to homepage</li> <li>- Scrolling down</li> <li>- Doesn't know what RR is so searches instead</li> <li>- Found</li> <li>- Adds to queue</li> </ul>
Navigate to Settings and turn on Data Saving.	<ul style="list-style-type: none"> <li>- Scrolls up to settings gear</li> <li>- Data saver</li> <li>- Turns on easily</li> </ul>

Post: not frustrated, but did a lot from the homepage and not that familiar, so ended up searching a lot; helps that is she was stuck, search bar would just suggest what you would need, pretty self explanatory

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Project: SI 422 - Group 8

Date: 12/5/19

Logged by: Grace

Participant Identification: Julia Lauer

Pre-Test: 21 age, comfort using mobile phone app:4, using spotify for 5 years, considers knowledgeable using app, infrequently confused

Actions	Observation/Comments
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Find the #1 song on the United States Top 50 playlist created by Spotify.	<ul style="list-style-type: none"> <li>- Scrolls down on homepage</li> <li>- Found</li> </ul>
Create a playlist that contains the songs Best I Ever Had by Gavin DeGraw and Little Talks by Of Monsters and Men.	<ul style="list-style-type: none"> <li>- Goes to search, types in song name, autpopulates</li> <li>- Clicks 3 dots, add to playlist</li> </ul>
Go to one of your created, public playlists and make it secret.	<ul style="list-style-type: none"> <li>- Clicks 3 dots, made secret</li> </ul>
Please start a private session on Spotify that allows you to listen anonymously.	<ul style="list-style-type: none"> <li>- Goes back to homepage</li> <li>- Settings gear</li> <li>- Social</li> <li>- Private</li> </ul>
Please navigate to the page for Chance the Rapper. If he is on tour, send the next event he is performing at to the number 608-228-7836 using Messages.	<ul style="list-style-type: none"> <li>- Search bar "Chance"</li> <li>- Scrolls all the way down on artist page</li> <li>- Clicks on tour</li> <li>- Clicks share icon</li> </ul>
Find your Release Radar and add them to your queue.	<ul style="list-style-type: none"> <li>- Back to search page → doesn't directly search it</li> <li>- Goes to new releases</li> <li>- Found release radar</li> <li>- Clicks 3 dots</li> <li>- Added</li> </ul>
Navigate to Settings and turn on Data Saving.	<ul style="list-style-type: none"> <li>- Homepage</li> <li>- Settings gear</li> <li>- Data Saving</li> </ul>



Post test: unsure about how to go about some tasks, but was eventually able to figure it out; sometimes on homepage has randomly linked things which is more efficient than searching, but whatever on homepage changes.

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Project: SI 422 - Group 8

Date: 12/5/19

Logged by: Abbey Chester, Emily Douglas

Participant Identification: Ellen Tsao

Pre-test: age: 20, 4 (comfortable using mobile apps), don't use spotify (had account for 2 months), not knowledgeable using spotify, frequently gets confused bc doesn't use app like ever

Actions	Observation/Comments
Find the #1 song on the United States Top 50 playlist created by Spotify.	-uses search bar to search for "number one song in US" -navigates back to home and browses -very confused -searches top hits 2019 -searches top US hits after prompting from facilitator→ able to find
Create a playlist that contains the songs Best I Ever Had by Gavin DeGraw and Little Talks by Of Monsters and Men.	-searches for "best i ever had" -> adds to playlist using 3 dots at the top -creates new playlist after clicking add to playlist -search for next song and does the same
Go to one of your created, public playlists and make it secret.	-scrolled over to albums first, but corrected issue pretty quickly after -navigates to playlists -3 dots at the top, makes secret
Please start a private session on Spotify that allows you to listen anonymously.	-facilitator gives context -looks under account→ about -clicks through everything under account to find social page→ confused if private session was already started or not
Please navigate to the page for Chance the	-goes to search bar and searches for Chance the Rapper -found his page, scrolls down his page

Rapper. If he is on tour, send the next event he is performing at to the number 608-228-7836 using Messages.	<ul style="list-style-type: none"> <li>-finds "on tour" at the bottom</li> <li>-clicks on event on 2/6 (first one she saw, which was the closest show to AA)</li> <li>-goes back, clicks on all concerts and finds the most recent</li> <li>-clicked on most recent concert</li> <li>-clicks share at the top, then share via messages</li> </ul>
Find your Release Radar and add them to your queue.	<ul style="list-style-type: none"> <li>-needed clarification on if it was a playlist or not</li> <li>-searches through created playlists</li> <li>-goes back to home</li> <li>-after slight prompting, searches for it → still confused and finally finds it</li> <li>-to queue the songs she does each individually, told that task was complete after queueing three songs</li> </ul>
Navigate to Settings and turn on Data Saving.	<ul style="list-style-type: none"> <li>-goes to home page</li> <li>-clicks settings at top right</li> <li>-easily finds data saving and turns it on</li> </ul>

`-wasn't very frustrated, even though was confused

-wants a privacy setting as opposed to a private listening session

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## Usability Test Observations

Navigate to browse tab					
Navigate to top charts tab					
Create playlist by clicking song and creating playlist					
Create playlist through profile tab					
Create playlist using other method					
Uses song to search					
Uses artist to search					
Navigate to own public playlist using library					
Navigate to own public playlist using browse tab					
Navigate to playlist settings					
Make playlist secret					
Navigate to profile settings					
Clicks tab(s) NOT labeled social					
Clicks tab labeled social					
Starts private session					
Searches for Chance the Rapper using search bar					
Searches for Chance the Rapper using function other than search bar					
Scrolls down to find "On Tour" section					
Clicks to select next event happening					
Navigate to share icon on upper right					
Shares event via messages					
Clicks on Chance the Rapper under "The lineup" and taken back to Chance the Rapper's page					
Searches Release Radar to navigate to playlist					
Navigates to Release Radar via browse tab					
Clicks "Shuffle Play" to queue playlist					
Scrolls to second screen displaying info about Release Radar					
Clicks three dot icon in upper right to open settings of Release Radar					
Add Release Radar to queue					
Click "close" to close the release radar settings tab					
Navigate to home page					
Navigate to settings and "Data Saver"					
Turn on Data Saver					
Facilitator	Emily	Abbey	Sonia	Grace	
Data Logger	Abbey	Sonia	Grace	Emily	
Observer/Notetaker	Sonia	Grace	Emily	Abbey	
Observer/Notetaker	Grace	Emily	Abbey	Sonia	