



XD Report

SPOTIFY MOBILE APP

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EXECUTIVE SUMMARY

This report details the results of two studies that I conducted on Spotify's mobile application. I ran a moderated usability test (5 participants) with the goal of discovering how experienced users perform at tasks that gradually increase in complexity, as well as an online survey (42 participants) intended to gather quantitative user data. The studies uncovered various ongoing issues with the application, both in design and engineering. Based on my findings, I propose several UX Recommendations as well as steps to take for future research.

XD PLAN

- **Name:** Chris Korkos
- **Date Edited:** 8 March 2021
- **App Under Study:** Spotify
- **Test Objectives**
 - Evaluate the Overall Experience/Satisfaction (*what issues are present, how do experienced users perform, is satisfaction high/low*)
 - Evaluate Frequent Use of the Same Product (*how well do experienced users perform, how learnable is the app*)
 - Compare Alternate Products (*YouTube, Apple Music, SoundCloud, etc.*) and assess how highly Experienced Users Promote the App
- **Study Methods**
 - Moderated Usability Test (interviews, task success/efficiency, direct verbal feedback through post-test questions)
 - Online Survey (direct feedback, quantitative data)
- **Study Participants**
 - Moderated Usability Test
 - Regular "Veteran" Users with Spotify Premium
 - 5-10 total participants
 - Online Survey
 - Regular "Veteran" Users with Spotify Premium
 - Will include questions evaluating how long/often users interact with Spotify, as well as whether they use Premium
 - As many participants as possible, but will filter based on qualifying criteria
- **Moderated Usability Test Tasks**
 1. Follow an artist of your choice. "Like" and download one of their albums. Wait for the album to download. Finally, delete the downloaded album.

2. Let's say you really like this artist and want to follow them outside of Spotify. Please use the Spotify app to find and follow one of their social media accounts – it doesn't matter which platform.
3. Find and Like an existing workout playlist.
4. Create a playlist and add 5 songs to it. Move the bottom song to the top of the playlist. Remove one of the songs you added. Finally, copy the playlist's Share link to your clipboard.
5. Add 5 songs to your queue from your Starred playlist. Skip ahead to the 2nd song. Remove one of the songs. Finally, clear the queue.

- **Equipment**

- Video camera/phone recorder
- Zoom
- Google Forms
- Excel

- **Logistics**

- Locations: In-person (for Moderated Test if participants are able to get COVID tests beforehand), Online (Zoom for Moderated Tests and Google Forms for Online Survey)
- Timeline: Approximately 1 week per study, and 1 week to analyze data

- **Budget Details**

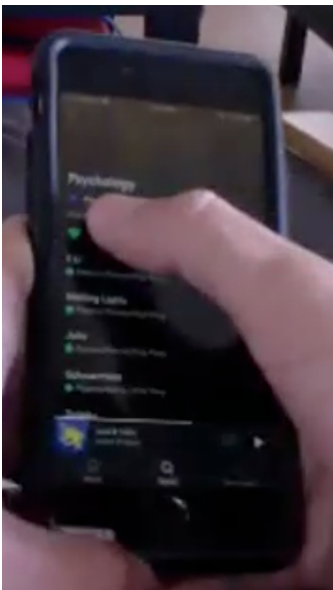
- Usability Test: \$0 spent
- Online Survey: \$0 spent

XD EVALUATION

- **Moderated Usability Test**

- Study Summary
 - Participants
 - Total Count: 5
 - Each participant is subscribed to Spotify Premium and has been a Spotify user for at least 5 years
 - Metrics
 - Task Success Score (with/without Assistance)
 - Task Time
 - Expected/Actual Ease of Use (per task/overall)
 - Direct Participant Testimony

- Pre-Test Introduction Script
 - *Thank you for agreeing to participate in this usability test. I'll be running you through a series of short tasks to evaluate your performance and experience with Spotify's mobile app. Keep in mind that these tasks are intended to evaluate the user interface and not the user, so don't feel pressure to successfully finish everything. Rather, treat the tasks as you would when using the app in your daily life. Before we begin, is it okay with you if I record this for data collection purposes?*
- Execution
 - Pilot Test
 - Conducted pilot test to receive feedback without pressure of the metrics counting toward overall results
 - Tested for feedback on task complexity and quality, effectiveness of during- and post-session questions, and Zoom recording capabilities
 - Changes:
 - Removed task "Search and play a song"
 - Added task "Find an artist's social media"
 - Edited 3 tasks to include additional sub-tasks
 - Added "Why?" if post-task ease rating was lower than 5
 - Added SUS questionnaire to the end of the session
 - User Tests
 - Observation Methods
 1. Shared smartphone screen via Zoom mobile app (if participants were able and preferred to use the app), OR
 2. Turned their computer 180° and held smartphone facing screen (this added the advantage of seeing their physical interactions with the device)
 - Session Process
 1. Recorded sessions (with permission) for accurate time readings, physical observations, and verbal feedback
 2. For each task:
 - Before starting, asked participant to rate how difficult to easy they **expected** the task to be
 - Ran participant through task; rated **success score**, **task time**, whether or not they required **assistance**, and any **observations** or **verbal comments** made by participant



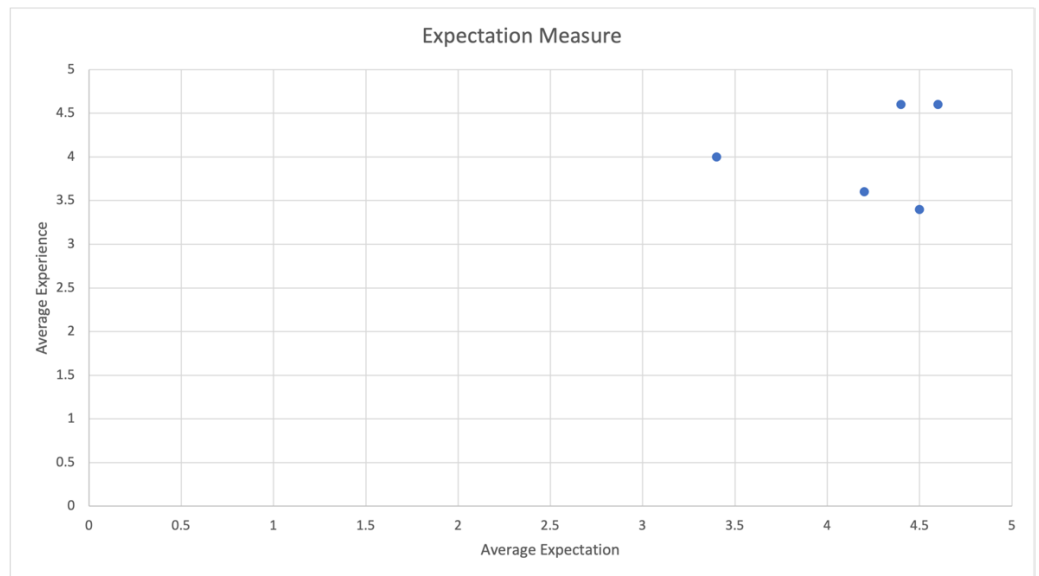
- When finished, asked participant to rate how difficult to easy they **actually** found the task

3. Ran participant through SUS Questionnaire

○ Analysis

Task	Avg. Task Success Score (1 best – 4 worst)	Avg. Task Time (sec)	Assistance Needed	Avg. Expected Ease of Use	Avg. Experienced Ease of Use
Task 1	1.2	71	1/5	4.4	4.6
Task 2	1.8	33.2	1/5	3.4	4
Task 3	1.4	41	0/5	4.6	4.6
Task 4	1.8	163.2	2/5	4.2	3.6
Task 5	2.4	81	2/5	4.5	3.4

▪ Expectation Measure:



▪ Participant Testimony

- Participants failed to notice/utilize top tabs in My Library section, and several noted how confusing it was even after noticing it
- Participants consistently expressed surprise at the location of the artist social media links; some expected or wanted links to be higher in the page
- Participants expressed frustration at the playlist editing interactions; needed to select Edit first rather than just hold and drag to move a

song; one participant discovered that song order couldn't be edited unless it was sorted to "custom sort", and there were no indicators that this was required

- Testing uncovered bug with the "Clear Queue" button's behavior; one participant "felt crazy" while uncertain as to why it was appearing and disappearing, and another gave up entirely

- System Usability Scale (SUS)

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Average
SUS Score	77.5	80	75	97.5	87.5	83.5

- Key Findings

1. Experienced users demonstrated firm grasp of basic Spotify interactions, and were able to easily overcome trickier tasks or tasks with app-side problems
2. Participants tended to rate the expected easiness for each task fairly high, and tended to rate the experienced easiness lower when they encountered challenges – even if their performance didn't suffer
 - Tasks 4 and 5 demonstrated the most notable dips in perceived easiness, and both correlated with higher (worse) success scores and more moderator assistance
3. All participants gave a SUS score above the "Acceptable" rating (70), and their average SUS score was much higher than 70; together these results indicate that experienced users tend to view the app as more usable
 - Future studies should compare average SUS Scores by experience level, to assess how performance and confidence affect perceived usability

- **Online Survey**

- Study Summary

- Participants

- Total Count: 42
- Premium Subscriber Count: 34
- Target Users: Spotify users with significant experience/time spent

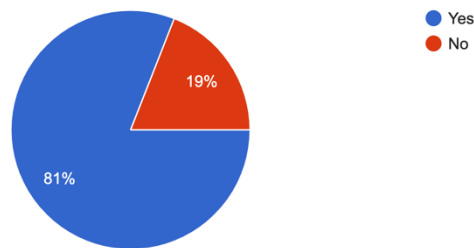
- Metrics

- Awareness/Understanding of Product vs. Perceived Usefulness
- Frequency of Use (interval data)
- Ordinal Ranking of Preferred Apps
- Direct Qualitative Feedback

- Execution
 1. Wrote 10 question survey in Google Forms to pull quantitative data from target audience
 2. Posted Forms link to several forums on Reddit (Spotify, Music, and Design-themed pages) to somewhat diversify responders
 3. After an adequate number of responses (was looking for 30-50, stopped at 42), set the Forms page to no longer receive responses
- Analysis
 - Premium Subscribers

Are you subscribed to Spotify Premium?

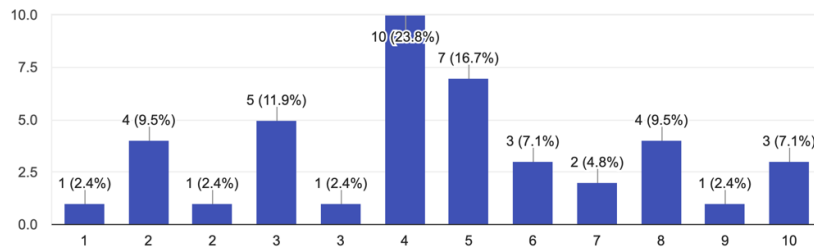
42 responses



- Frequency of Use

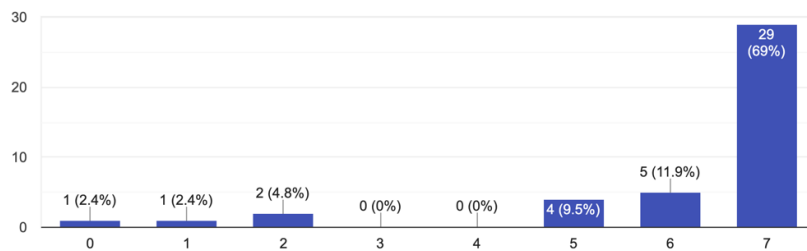
Roughly, for how many years have you used the Spotify mobile app?

42 responses



On average, how many days per week do you use Spotify?

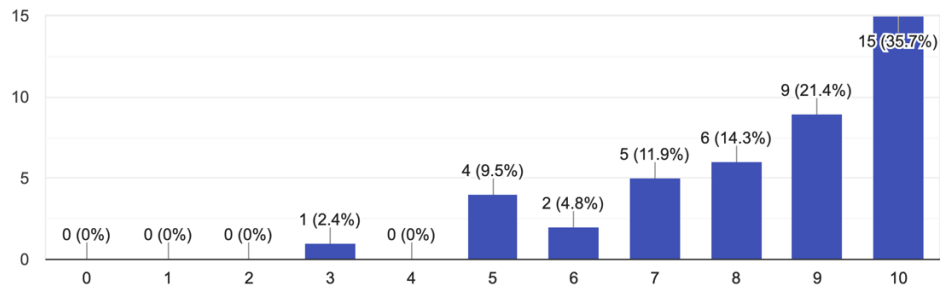
42 responses



- Net Promoter Score

On a scale of 0 to 10, how likely are you to recommend Spotify to a friend or colleague?

42 responses



- Detractors (0-6): 7, 17%
- Passives (7-8): 11, 26%
- Promoters (9-10): 24, 57%
- **Net Promoter Score: 40%**

- Net Promoter Score (Premium Users Only)

- Detractors (0-6): 4, 12%
- Passives (7-8): 9, 26%
- Promoters (9-10): 21, 62%
- **Net Promoter Score: 50%**

- Key Findings

1. Although only 81% of participants use Premium, nearly 90% of participants use Spotify at least 5 days per week; this demonstrates that there is a portion of highly active users who still don't pay for Premium.
 - This portion of users should be focused on in future studies, as a way to increase Spotify's overall revenue.
2. Participants overall gave Spotify a fairly high NPS of 40, which is consistent with the fact that they tended to list Spotify as their most used music/audio app. This score is generally consistent with [other consumer statistics websites](#).
 - While not unexpected, this data will be extremely useful in future tests with Spotify-specific target groups.
 - Users with Premium gave a significantly higher NPS of 50, likely due to the improved features that come with the paid model. This demonstrates the tradeoff of a diminished free experience, and may justify the ROI of improving the free version or attempting to increase subscription to the paid version.

XD REPORT

- **Study Findings**

- Overall, the experienced users demonstrated high performance and high satisfaction with Spotify, which – on its own – may not be as useful for detecting usability issues due to participants having already learned the interactions.
 - However, using a “think-aloud” protocol with experienced users generated very useful qualitative feedback, as participants pointed out issues and potential improvements based on their own successes and failures in each task.
 - Future usability tests with experienced users should include more open-ended tasks that focus on achieving a particular goal and challenging their mental models of the system.
- Experienced Spotify users correlate with a general preference for Spotify over other music and audio streaming applications, and generally offer a high Net Promoter Score. This demonstrates a **high satisfaction** for people who regularly use Spotify, even including the portion who don’t subscribe to Premium.

- **UX Recommendations**

Goal/Intended Result	Recommendation
Improve “My Library” Tabs	Individual Liked Songs section should be added to bar with Albums/Playlists/Artists. Visibility of Music/Playlists tabs should be improved with green underlines consistent with the lower bar.
Improve Visibility of Social Links	Low visibility in current state; access to About page should be available at very top of artist’s page, near 3-dot icon and Follow button.
Improve Playlist Editing	(A) Hold and drag to automatically move song in a playlist; could add a delay so that dragging must be intentional, OR (B) Move Edit option higher, to top of playlist UI, so as to reduce overall clicks while editing.
Improve Playlist Editing	(A) Allow editing playlist order while it is not in “custom sort”, OR (B) Show hypothetical ability to move playlist songs (grayed out hamburger icon) and notify the user of the correct steps to enable editing
Fix “Clear Queue” Interaction	Clear Queue button should only be grayed when not clickable, rather than disappear completely. Back-end logic needs to be fixed to improve overall usability.

- **Next Steps**

1. Rerun the study with new participants. Now that defined metrics and recommendations have been established, they can be tested against alternative user demographics to compare performance.
2. Test future groups with new tasks evaluating the legitimacy/efficacy of UX Recommendations. Create alternative designs and A/B test the design changes.
3. Compare the Net Promoter Score generated in this study to the NPS for other music/audio streaming apps, as well as the NPS scores generated for each future participant group.

APPENDIX

- **Moderated Usability Test**

- Google Forms: <https://forms.gle/1uSVDLijSzKSV5rq7>
- PDF Form: <https://drive.google.com/file/d/1Fkt8zPNb5pD1Z0QdIZEAeehTBdc-mnRW/view?usp=sharing>
- Spreadsheet Results: https://docs.google.com/spreadsheets/d/1ywOxVfwW6Ohq1PzGVd3kgJfMw_rO-1UM_cURpRsGCZM/edit?usp=sharing

- **Online Survey**

- Google Forms: <https://forms.gle/sYixQieotR8virfF8>
- PDF Form: <https://drive.google.com/file/d/16dT8UUQNKMyo-ZYqPSROKNNRfNYY5cHXz/view?usp=sharing>
- Spreadsheet Results: https://docs.google.com/spreadsheets/d/1AVxShk8yH_YNqh9woU4v96EQIsbOyv73KW-o-y3YqbO0/edit?usp=sharing

- **System Usability Scale (SUS) Questionnaire**

- How to Calculate: <https://www.usability.gov/how-to-and-tools/methods/system-usability-scale.html>

- **Net Promoter Score (NPS)**

- How to Calculate: <https://customergauge.com/blog/how-to-calculate-the-net-promoter-score/>
- Customer Guru Statistics: <https://customer.guru/net-promoter-score/spotify>