

CS6750 Human-Computer Interaction

Project: Guest Mode for Spotify

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Abstract— Spotify is a digital music service that gives us access to millions of songs [1]. Spotify has a sophisticated recommendation engine intended to bring personalized music recommendations to users. When I'm in a family trip driving my car playing music and my son suggests an artist, if I play his suggestion from my phone, the future music recommendations from the system will include this artist. This project focuses on redesigning the Spotify's Search and Library features to exclude the results of certain searches from future music recommendations.

1 INTRODUCTION

1.1 Problem Space

I categorize Spotify as a personal application where I have configured playlists for preferred podcasts, shows, and music. Spotify is extremely good at suggesting recommendations for those days when I'm not really sure what to listen. The system is able to analyze factors and guess the mood that I might have at a certain point of the day to provide recommendations that tend to be quite accurate.

From the application perspective this functionality helps to increase customer engagement making sure users remain hooked up to the application keeping their subscriptions active. Spotify billing model is based on subscriptions, so they want to make sure the customers keep using the services and avoid any subscription cancellations. Spotify leverages machine learning (ML) technologies to implement their recommendation engine. Spotify's ML algorithms include but is not limited to natural language processing (NLP), usage patterns, audio, demographics, location, similarity, even context to identify what kind of music more or less I like.

Everything mentioned above could be affected by one variable, the time when is not me the one using the application in my own device to play a different kind of music that may or may not be of my taste or preference. The best example that I can provide is when my son, who is 12 years old and goes to middle school, uses my phone. After he uses my phone, in the upcoming days the recommendation engine starts including those artists as part of the "Made for you" list. I start getting notification of new albums, concerts, and announcements related to artists that I do not have any interest into.

A solution to this problem is to create a new Guest Mode feature where it is possible for a guest to interact with the application and do not affect future music recommendations. An analogy of this feature is using the incognito mode or private browsing mode of web browsers. Although that mode is to protect user privacy, the end result is pretty much the same. The browser usually keeps track of browsing activities, cookies are generated in the browsing sessions, these cookies could be used to target advertisements. If you are not using private mode and you are a user that shares your computer, you should notice a similar behavior where the advertisement popping-up on the browser may not be related to you.

1.2 User types

Spotify has more than 158 million subscribers, because the population is so big, I'm interested in designing this interface for all ages. Other characteristics like gender and ethnicity will be considered in the study. I will try to understand user's location by finding out country of residency and country of origin. In terms of expertise, I will consider novices and experts using music applications.

1.3 Instructions to access Spotify

If you are not already a Spotify user, note this application is publicly accessible. You can download the application to your device and sign up for free to start listening. Use this [link](#) [2] to get your account created. If you are using the mobile app with a free account, you will have few playlists chosen for you (e.g., Discover Weekly, Daily Mix). You will need to play songs from those lists. If you have a Spotify's Premium account, search for an artist, song, or album. You can use the application for few days until you see that the "Made for you" list starts making sense based on your selection.

To validate the scenario described in this project, please ask a friend, family or relative with different music taste to use your phone and play few songs. If you monitor the new recommendations from the system you should see how this artist, and style of music will start coming up in your personalized lists.

2 NEEDFINDING

2.1 Survey

The needfinding method that will be used is the survey. There are multiple reasons to use this method. First, to get information quickly. Second, to quantify information as much as possible. Lastly, to avoid my own confirmation bias. As shown in Table 1 Appendix 9.1, a total of 16 questions were designed to understand the demographics of the population, the level of expertise using Spotify, and to seek information about the current weaknesses in the interface.

I will use a two-phase approach to perform this method. First, I will request to a couple of friends if they would like to participate. I will send the survey for those accepting. Once they complete the task, I will analyze the results to ensure the validity of the questionnaire. I will adjust the questions that were not clear, concise or specific. I may need to remove or add more questions. Once the questions are revised, I will publish the survey to students of this class and external users, and I will close the survey after 25 responses.

Each question in the survey is connected with data I will gather. As detailed in Table 1 Appendix 9.1, the survey will answer following questions from the data inventory: Who are the users? Where are the users? What's the context of tasks? What do they need? What are their goals? What are their tasks? What are their subtasks?

2.2 Survey execution, report, and data inventory

I published the survey to students of this class and external users, and I received 25 responses. Table 2 in the appendix 9.2 shows the raw data.

The first four questions were used to understand the demographics of the population. I gathered information about age, gender, country of residency and country of origin. 64% of the population falls in the 18 – 29 age range. Furthermore, 60% is male and 40% is female. Lastly, 80% of the population is originally from USA and 88% is USA resident.

Questions five was used to understand the level of expertise. How familiar are you with Spotify? It was not a surprise to learn that 52% is extremely familiar with Spotify. Important to note that 96% of the population responded that they either are somewhat, moderate or extremely familiar.

Question six and seven: Help me to understand the contexts for the task. I identified that the users use Spotify while driving, relaxing, at work, working out, at home for kids' bedtime stories, cooking, parties with kids/family, and cleaning.

Question eight: What type of account do you have? It was used to understand what users need. in this case 76% of the population has a Premium account. 20% has a Free account and only 4% does not use the application.

Question nine and ten: Help me to understand what are the goal(s) and the task(s) of the users? The user goal is to play music and the task is to search music. 88% of the population uses the Search feature. Only 12% is very satisfied with the Search feature, 56% is moderately satisfied, 24% is somewhat satisfied, 8% is slightly satisfied, and 0% is very dissatisfied.

Question from 11 to 16: Help me to understand the subtasks. The subtasks are as following:

- Play songs from any playlist chosen for the users by Spotify's ML algorithms

- Use their personal phone to play music in friend/family parties
- Play songs recommended by a friend or family member
- Allow children, friend, family or relative to use their phone to play music

For these questions, 64% of the population plays songs from any playlist chosen for them by Spotify's ML algorithms. For them, 14% is very satisfied with the Spotify's recommendations, 18% is moderately satisfied, 41% somewhat satisfied, 27% slightly satisfied, and 0% is very dissatisfied.

From the total population, 44% uses their personal phone to play music in friend/family parties, 82% plays songs recommended by a friend or family member. 28% allows children, friend, family or relative to use their phone to play music. For them, 7% is very satisfied with the Spotify's recommendations, 13% is moderately satisfied, 40% somewhat, 33% slightly satisfied, and 7% is very dissatisfied.

2.3 Summary

Based on the results of the survey, the majority of the participants are familiar with Spotify and the Search functionality. They use the application in multiple contexts like driving, relaxing, at work, working out, kids' bedtime stories, cooking, parties, and cleaning. The majority of the participants have the Premium subscription. When the participants use their phone to play music in parties, or play songs recommended by a friend or allow children to use their phone to play music, the level of satisfaction with new Spotify's recommendations decreased considerably. I can conclude that there is an opportunity to improve the existing interface by creating a new feature (Guest Mode) where it is possible for a "guest" to interact with the application and do not affect future music recommendations.

2.4 Control for the bias

I anticipated confirmation bias, to control this bias I phrased the questions in a way that the participants were not pressured to answer one way or another. I was careful with closed-ended questions and provided "Other" option. Additionally, before publishing the survey I asked a couple of friends to review the questionnaire and provide feedback regarding the verbiage. Surveys are also sensitive to Voluntary Response bias, to control this bias I limited the information to introduce the content of the survey before the participants begin it.

3 HEURISTIC EVALUATION

I will perform heuristic evaluation to the Spotify's interface on mobile application. For the evaluation I will use five design principles: discoverability, simplicity, perceptibility, consistence, mapping.

3.1 Discoverability

Discoverability advocates that the correct design elements must be visible. The interface should be intuitive for the user to discover features within the application, and it should be easy for the user to learn how to use it. Taking this principle into consideration, something that works well is that Spotify is easy to use. The home screen interface is a standard landing page. It presents tiles of the most recently activities, and you can scroll up and down the screen to find customer playlists and ML's generated playlists.

Something that doesn't work well is having hidden functions like "This is [band name]". Spotify has special playlists with the best of the bands. Type "This is [band name]" in the search and if the playlist exists it will be shown as a top result. Another feature that is not easy to find is the ability to play your own music by uploading local files. This feature is turned off by default, you need to explicitly go to setting and turn on Local audio files. For a novice user these two features will be difficult to discover.

3.2 Simplicity

Simplicity is especially interested with whether people of different experiences, knowledges, or languages can figure out what to do. Taking this principal into consideration, something that works well is that the interface in general is simple. Users know that in the home screen they need to scroll up and down to find a playlist. After the playlist is identified the user taps the tile and will be able to play a song from the list.

Something that doesn't work well is the content overload. There are similar functionalities like Made for you, More of what you like, Uniquely yours, and Based in your recent listening. It is not clear to me which one should I choose? Additionally, there are playlists with confusing names like Jump back in, and Time Capsule. I wonder what the difference is.

3.3 Perceptibility

Perceptibility takes into consideration the ability of the users to perceive the state of the application. If the users are closer or farther away from achieving their goals. Something that works well is the perceptibility of the users about the state of the Spotify's services based on subscription. Premium subscribers are able to access basic functionalities and additional features. Free subscribers, by design, will be limited on features they will see and actions they will be able to do.

Something that doesn't work well is that the user feels helpless if they do not want to impact the future music recommendations, but they need to use their phone to play music in parties, or play songs recommended by a friend or allow children to use their phone to play music. The system does not provide a mechanism to isolate those searches and ignore them for future

music recommendations. In this case the users are farther away from not impacting the playlists. Based on the survey performed as part of this project, users using the application in the contexts described above are dissatisfied with the impact to the ML's generated playlists.

3.4 Consistency

Consistency is a design principle that can be used to create invisible interfaces and bridge the gulf of execution. When an interface is consistent with other tools, it makes the functionalities visible to the user. Additionally, consistency is maintaining the same styling, font preferences, design elements and placements throughout the interface. Something that works well is that the Spotify mobile app supports gesture-based and voice interfaces, and it uses standard user interface (UI) elements like tappable tiles, carousels with horizontal scrolling, lists, tags, etc.

Something that doesn't work well is the inconsistency of the home screen interface locating different sessions in random places. For the user is very difficult to explore and find the sections. Some of the recommended sections are repeated multiple times and placed randomly throughout the application. This inconsistency makes the user to get confused by the navigation. As observed in Figure 1, the red cycles show the same section how it is repeated multiple times throughout the home screen. For instance, Figure 1 [Left] "The Daily" section is repeated twice. Figure 1 [Right] Scrolling down the home screen the system repeats the "The Daily" section in a random place.

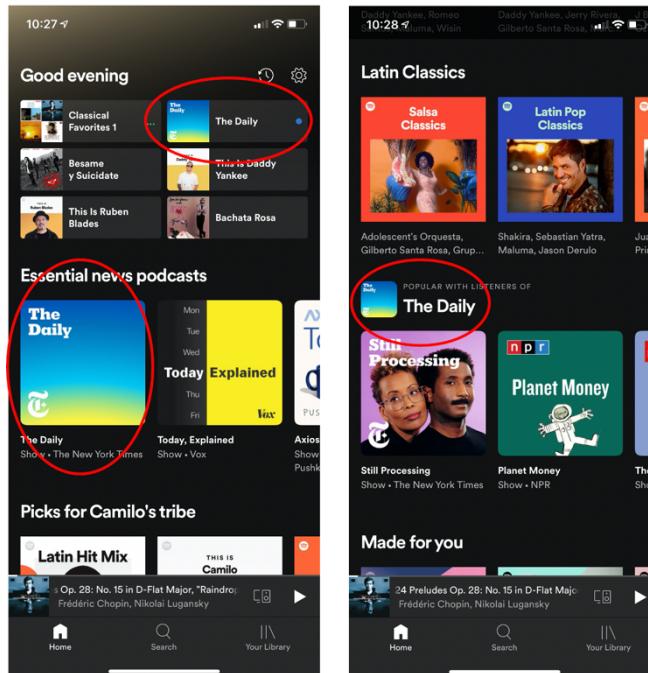


Figure 1 – Spotify home screen showing repeated sections. [Left] "The Daily" section is repeated twice. [Right] Scrolling down the home screen the system repeats the "The Daily" section in a random place.

3.5 Mapping

To benefit from the principle of mapping, the user should determine the relationship between intentions and possible actions. Something that works well is that Spotify uses UI controls with multiple identifiers. For instance, each list item has thumbnail image, album title and singer name. Users can easily map the item with the album, title or singer.

A challenge I described above was that Spotify provides similar functionalities combined with confusing playlist names throughout the application. Spotify provides playlists that are populated based on the ML recommendation engine. You might see different playlist names based on your subscription and preferences (e.g., Made for You, More of what you like, Recommended for today, Discover Weekly, Your Daily Mix). For the user is hard to choose from most of those recommended playlists because it is not clear what are the differences between them. It is not clear what is the purpose of the playlists and what will be the result of selecting them. This problem is magnified if on top of the confusing playlist names, the ML's generated playlists do not provide recommendations accurate to the user's preference.

4 INTERFACE REDESIGN

4.1 Defining requirements

Based on the needfinding and my heuristic evaluation, Spotify should be enhanced to implement a Guest Mode functionality. The Search feature needs to be improved to exclude the results of certain searches from future music recommendations. In addition, "Your Library" functionality should be enhanced to allow the user to configure playlists that should not be considered by the recommendation engine. These playlists could be used for parties, family reunions or for a family member that is not ready to have their own subscription like my son who is under 13 years old.

4.2 Brainstorming plan and execution

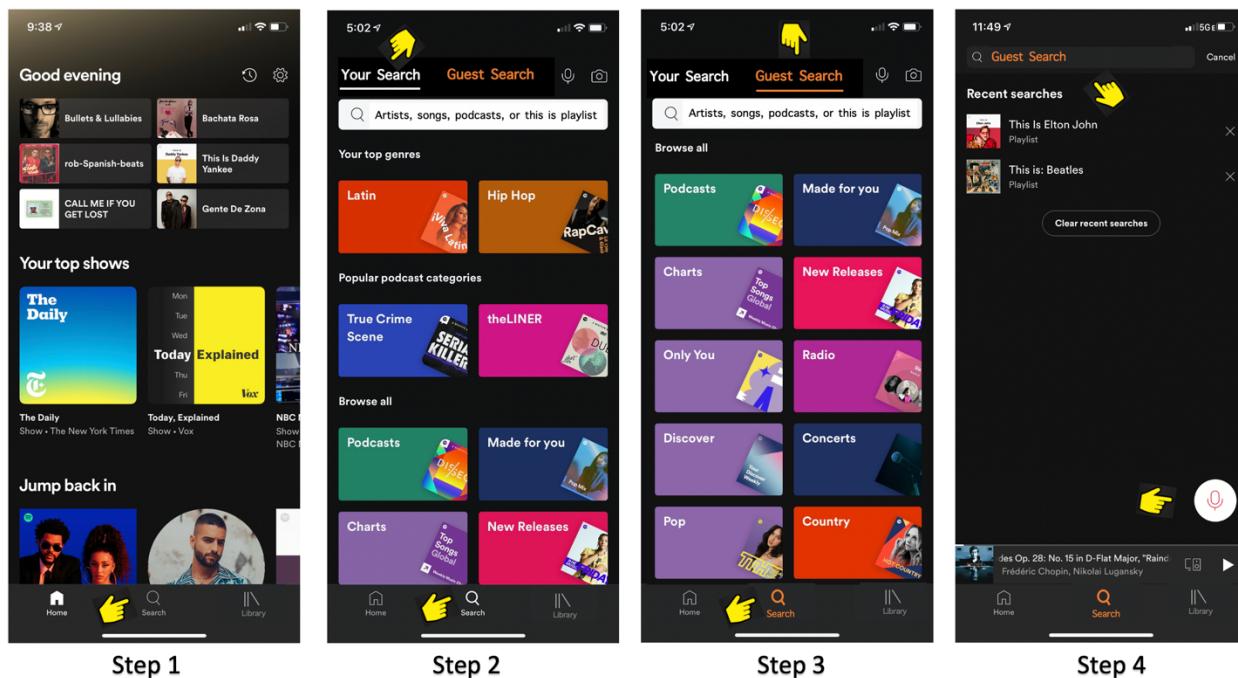
In order to look at different ideas of how to redesign the interface, I performed individual brainstorm sessions, I scheduled time box sessions of 15 minutes every morning for four consecutive days (from Monday through Thursday). I performed free-form brainstorm sessions that help me to generate below ideas:

1. Create a flow for Guest Search
 - a. Create options for "Your Search" and "Guest Search"
 - b. Maintain "Your Search" functionality as is
 - c. Create visual cues to identify clearly both options: "Your Search" and "Guest Search"

- d. “Guest Search” option needs to support voice commands
 - e. Ensure the guest search results are not part of the music recommendations
2. Create a flow for Guest Library
 - a. Create options for “Your Library” and “Guest Library”
 - b. Maintain “Your Library” functionality as is
 - c. Create visual cues to identify clearly both options: “Your Library” and “Guest Library”
 - d. “Guest Library” option needs to support voice commands
 - e. “Guest Library” option needs to display the items using lists or big tiles
 - f. Ensure the songs selected for the guest’s playlists are not part of the music recommendations

4.3 Wireframe prototype

The wireframe prototype will be used to redesign the “Home”, “Search” and “Your Library” screens of the mobile application to enhance the Search and Library flows. As observed in Figure 2, I have created a prototype with eight (8) screens. This will be an enhancement to the original Spotify’s interface, so I have added yellow cursors to the screens to highlight the new UI elements.



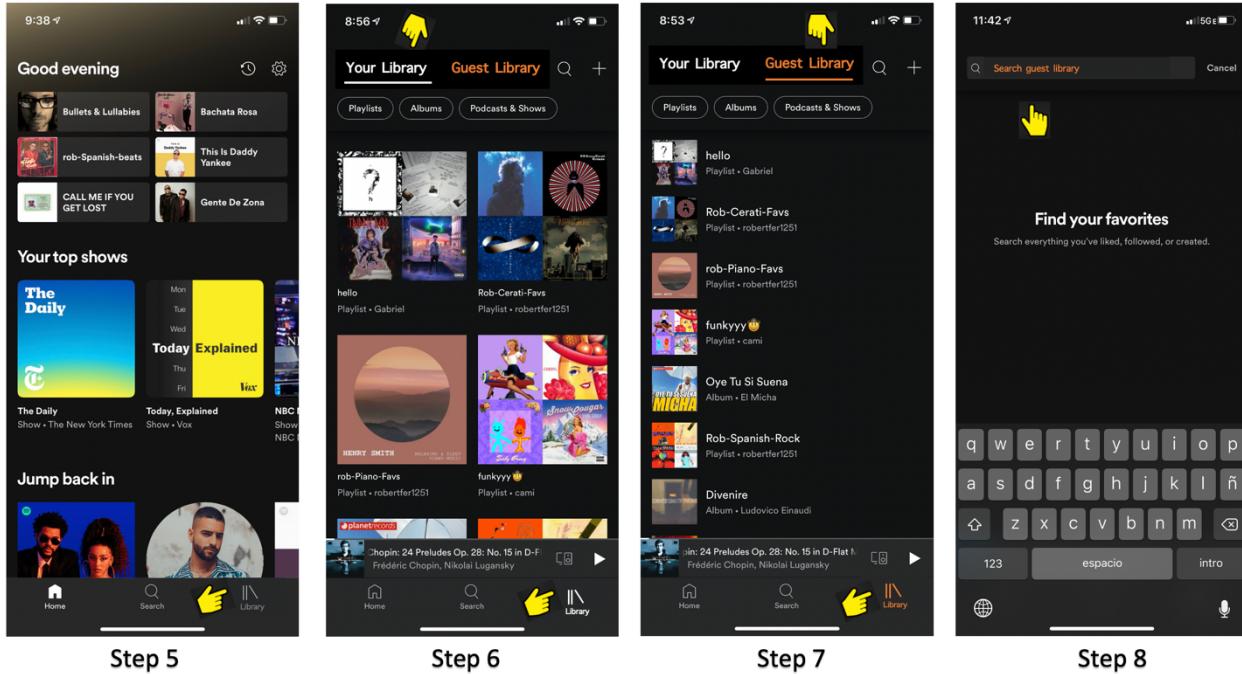


Figure 2—Wireframe prototype for Guest Mode feature in the Spotify mobile application. Screens from 1 to 4 display the new Search flow redesign. Screens from 5 to 8 display the new Library flow redesign.

4.4 Step 1:

User will open the Spotify mobile application and land in the Home screen. There is only one minor change implemented in this screen. “Your Library” option located at the bottom navigation bar was renamed to “Library”. The first flow I redesigned was the Search. In the Home screen the user will click the Search button and the system will display the Search screen.

4.5 Step 2:

This screen has few redesigned elements. First, the original Search was renamed as “Your Search” and a white line was added below the option to indicate the feature is selected. This option is the default one. It will be selected when the user enters the Search screen for the first time. The functionality of “Your Search” will behave as the current Spotify’s Search functionality. Second, a new option was added to the right of “Your Search” in orange color “Guest Search”.

4.6 Step 3:

When “Guest Search” option is selected, the system will add an orange line below the option to indicate the feature is selected. Also, the Search icon in the menu bar at the bottom of the screen will change color to orange as a signifier of the functionality been selected and

establishing an intuitive mapping between controls. When the user clicks the search bar to type the song, artist, podcast or this is playlist, a new screen will be presented.

4.7 Step 4:

The screen shows a search bar with the text “Guest Search” as pointed by the yellow cursor. The user will be able to type the song, artist, podcast or this is playlist. In this screen the history of the searches in guest mode will be listed below the search input field. Note that by pressing the microphone pointed by the yellow cursor, the user will be able to talk to the search screen to play a song, artist, album, playlist, or genre.

4.8 Step 5:

The second flow I redesigned was the Library. In the Home screen the user will click the Library button and the system will display the new Library screen (See yellow pointer in Step 5).

4.9 Step 6:

The next screen has few redesigned elements. As observed in step 6, a white line was added below the “Your Library” option to indicate the feature is selected. This option is the default one. It will be selected when the user enters the screen for the first time. The functionality of “Your Library” will behave as the current Spotify’s “Your Library” functionality. Additionally, it was added a new “Guest Library” option to the right of “Your Library” option in orange color.

4.10 Step 7:

Once selected the “Guest Library” option, the system will display a new view to manage the guest libraries. As observed in Step 7, the “Guest Library” is orange and the Library option at the bottom of the screen is also orange. The playlists can be displayed as big icons (tiles) or as a list. Last step, the user could select the search icon and the system will present the search guest library screen.

4.11 Step 8:

The screen shows a search bar with the text “Guest search library” as pointed by the yellow cursor. The user will be able to type the song, artist, podcast or album. In this screen the history of the searches in guest mode will be listed below the search input field.

5 INTERFACE JUSTIFICATION

Although Spotify interface has opportunities for improvements, overall, it follows design principles. The current interface in general is simple and easy to use. It has functionalities that are consistent with other mobile applications like gesture-based and voice technologies. It

accommodates users of various abilities and preferences, and the interface is targeted for novices and expert users. While preserving these positive elements, I have created the wireframe prototype to redesign the interface to implement a guest mode feature. This prototype meshes very well with the user types identified in the data inventory.

This prototype does not address all the criticisms described in the heuristic evaluation like the content overload with similar functionalities, recommended sections repeated multiple times and placed randomly throughout the application, and confusing playlist names. In a next design iteration, I would like to create prototypes to address those concerns.

In terms of design principles discussed in the heuristic evaluation, this prototype was created specifically to address the criticisms around the Perceptibility and Mapping principles, but it also takes into consideration other principles like Consistency, Simplicity, and Discoverability.

5.1 Perceptibility

From Perceptibility perspective, the user feels helpless using the current Spotify's interface if they do not want to impact the future music recommendations, but they need to use their phone to play music in parties, or play songs recommended by a friend or allow children to use their phone to play music. The system does not provide a mechanism to isolate those searches and ignore them for future music recommendations. With the proposed redesign, users will be able to easily perceive options for a guest (See Figure 3). They will easily learn that for searches and playlists created under guest mode, the feed that provides information to the ML algorithms will be turned off.

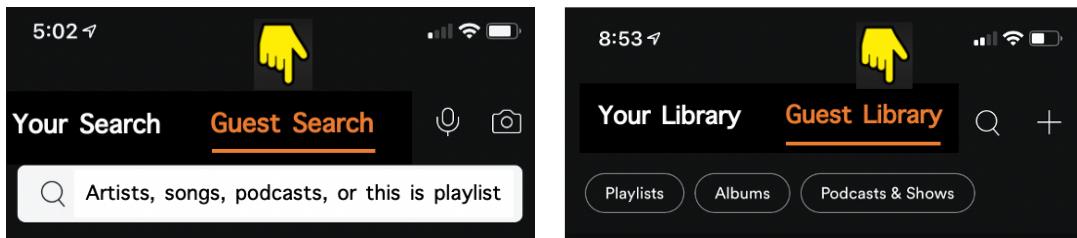


Figure 3—Guest Mode options. [Left] Guest Search. [Right] Guest Library.

5.2 Mapping

From Mapping perspective, the new interface helps the user to determine the relationship between the new UI elements and possible actions. The new UI elements are using color code to make more prominent the distinction between the user and guest functionalities. For instance, I used the orange color for the guest features selected (See Figure 3) and the icon located in the menu bar at the bottom of the screen (See Figure 4). I reused the white color for

the user search and library functionalities. Another mapping consideration was the order in which the options are displayed. First, the user options and second the guest options.

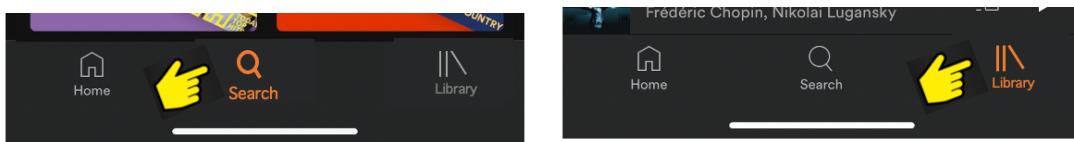


Figure 4—Guest Mode options. [Left] Guest search. [Right] Guest Library.

5.3 Consistency

The proposed redesign takes into consideration the Consistency principle. I kept the design consistent with the UI elements used across the application to minimize the amount of learning the user needs to learn the new features (e.g., lists, icons and tiles). In addition, the new UI elements included for the new functionalities are common on other interfaces. For instance, underlining the option that is selected to accentuate the selection (See Figure 5 pointed by yellow cursor).

5.4 Discoverability

This prototype also addresses aspects of the Discoverability principle. I added the new options in a position that is visible to the user for them to discover. The new options are at the top of the screens and have different color to attract the user to use them. As part of the learning process of the new features, users will easily discover that the searches done under “Guest Search” and their playlist created under “Guest Library” won’t impact the future music recommendations (See Figure 5). Another violation of discoverability that I identified was the hidden features like “This is [band name]”. I have addressed this issue by adding the “this is playlist” to the text clues in the search input field (See Figure 5).

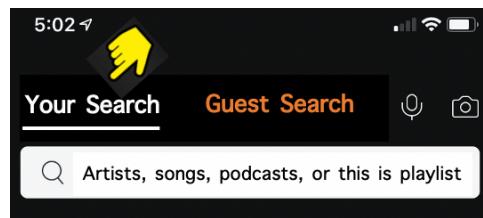


Figure 5—Search input field includes the “this is” playlist option to provide visibility to the functionality.

5.5 Simplicity

Simplicity is another principle addressed with this redesign. Users of different experiences, knowledges, or languages will be able to figure out what to do. While preserving the positive elements of the original interface, this prototype uses controls that are standard for digital user experience. For instance, UI elements for selecting new options, scrolling up and down the screens, tapping tiles, and inputting searches, etc.

6 EVALUATION PLAN

6.1 Empirical Evaluation

The evaluation I would use to evaluate the wireframe prototype is the empirical evaluation. I have selected this evaluation because my prototype is improving Search and Library features that are existing Spotify's functionalities. Also, the prototype was designed with high-fidelity.

For this evaluation I designed two treatments:

- **Treatment 1:** Original wireframe prototype shown in Figure 2. This prototype was described above in the Interface Redesign section. In this design I have enhanced the Search and Library screens with new UI elements to include the guest mode options.
- **Treatment 2:** Wireframe prototype shown in Figure 6. This design separates the original Spotify's search functionality from the guest search. As observed in Figure 6 - Step 2, I added a new screen that provides two options, one for the original search "Your Search", and another one for the "Guest Search". Step 3 and 4 are part of the new guest search flow. The same way, as observed in Figure 6 – step 5, I added a new screen for Library that provides two options, one for the original library "Your Library", and another one for the "Guest Library". Step 6, 7 and 8 are part of the new guest library flow.

The goal with this experiment is to compare treatment 1 and treatment 2 to evaluate how many participants consider the extra screen to select the guest mode feature could improve the user experience making it simpler.

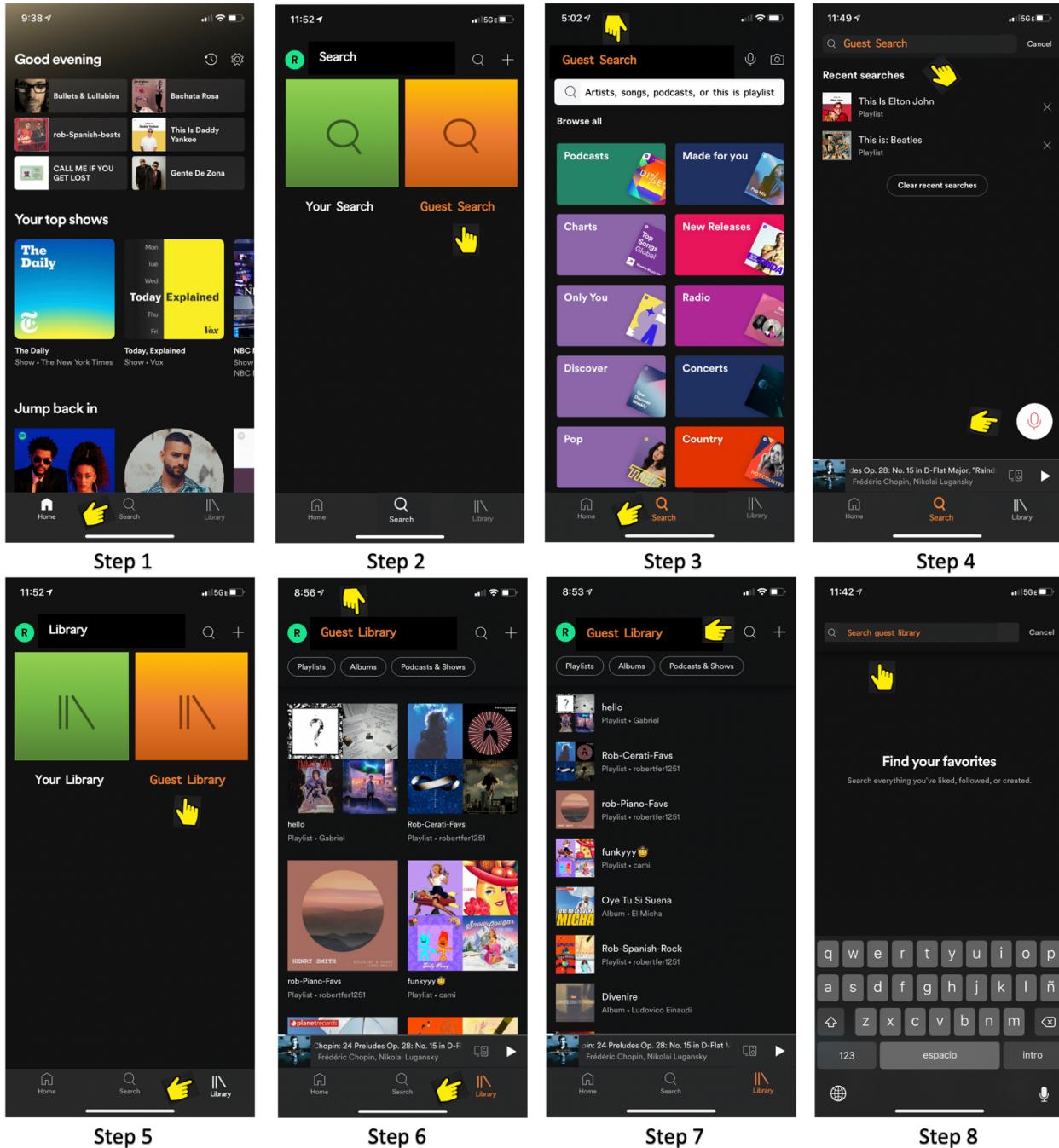


Figure 6—Treatment 2: Wireframe prototype for Guest Mode feature in the Spotify mobile application. Screens from 1 to 4 display the new Search flow redesign. Screens from 5 to 8 display the new Library flow redesign.

6.2 Experimental method:

The experiment will occur in a control environment. I will recruit at least 25 participants. To conduct this experiment, each participant will receive both treatments. This will be a within-subjects experiment. The test flows are very simple and could be accomplished in small amount

of time, so participants should not be concerned about time. To control the lurking variables, I will be serving the prototype variants randomly to ensure participants see the treatments in different order.

The comparison metric is an ordinal data, the participant will measure the treatment based on satisfaction. From 1 to 5, 1 been Highly dissatisfied and 5 Highly satisfied. The independent variables are the treatment 1 and 2, the dependent variables are distributions among ranked categories. This helps us to define the hypothesis testing, where the null hypothesis is that the distributions are equal, and the alternative hypothesis is that the distributions are not equal. This test is sensitive to the fact that the dependent categories are ordered. I will use the Kolmogorov-Smirnov test to analyze the data.

7 CONCLUSION

This project has focused on redesigning the Spotify' interface to implement a Guest Mode feature. The "Search" feature was improved to exclude the results of certain searches from future music recommendations. In addition, "Your Library" feature was enhanced to allow the user to configure playlists that should not be considered by the recommendation engine.

As part of the design life cycle, I identified the problem space, and user types. I planned and execute needfinding using survey. I performed heuristic evaluation identifying positive elements and areas of opportunities of the current interface. To perform the evaluation, I used five design principles: discoverability, simplicity, perceptibility, consistence, and mapping. I created a wireframe prototype to redesign the interface, and finally I planned an empirical evaluation to evaluate the prototype.

This prototype does not address all the criticisms described in the heuristic evaluation like the content overload with similar functionalities, recommended sections repeated multiple times and placed randomly throughout the application, and confusing playlist names. In a next design iteration, I would like to create prototypes to address those concerns.

8 REFERENCES

- [1] Spotify, "Spotify - Official Site," [Online]. Available: <https://www.spotify.com/us/>.
- [2] Spotify, "Sign up for free to start listening," [Online]. Available: https://www.spotify.com/us/signup/?forward_url=https%3A%2F%2Fwww.spotify.com%2Fus%2Fdownload%2F.

9 APPENDIX

9.1 Survey questionnaire

Table 1 – Survey questions designed to gather requirements to redesign the Spotify's interface.

No.	Question	Data Inventory
1	What is your age?	Who are the users?
2	What is your gender?	Who are the users?
3	In which country do you currently reside?	Where are the users?
4	What is your country of origin?	Where are the users?
5	How familiar are you with Spotify?	Identify level of expertise
6	When do you use Spotify? (At work, Working out, Driving, Relaxing, Other)	What's the context of tasks?
7	if other, specify when? (Use comma as separator)	What's the context of tasks?
8	What type of account do you have? (Premium, Free, None)	What do they need?
9	Do you use the Search bar to play a song?	What are their goals? / What are their tasks?
10	if yes, how would you describe your satisfaction with the Search feature of Spotify?	What are their goals? / What are their tasks?
11	Do you play songs from any playlist chosen for you by Spotify's ML algorithms (e.g., "Made for you", "Discover Weekly", "Daily Mix")?	What are their subtasks?
12	if yes, how would you describe your satisfaction with Spotify's recommendations?	What are their subtasks?
13	Do you use your personal phone to play music in friend/family reunions?	What are their subtasks?
14	if yes, do you play songs recommended by a friend or family member?	What are their subtasks?
15	Do you allow children, friend, family or relative to use your phone to play music?	What are their subtasks?
16	if yes, how would you describe your satisfaction with recommendations of Spotify after been used by another person?	What are their subtasks?

9.2 Survey results (Raw data)

Table 2 – Survey questions and results.

No.	Question	Result
1	What is your age?	64% from 18 – 29; 24% from 30 – 39; 8% from 40 – 49; 4% from 50 - 64
2	What is your gender?	60% Male; 40% Female
3	In which country do you currently reside?	88% resides in USA
4	What is your country of origin?	80% country of origin is USA
5	How familiar are you with Spotify?	52% is Extremely familiar; 36% is Moderately familiar; 8% is Somewhat familiar; 0% Slightly familiar; 4% Not at all familiar
6	When do you use Spotify? (At work, Working out, Driving, Relaxing, Other)	Users use Spotify while driving, relaxing, at work, and working out

7	if other, specify when? (Use comma as separator)	Users use Spotify while at home for kids' bedtime stories, cooking, parties with kids/family, and cleaning
8	What type of account do you have? (Premium, Free, None)	76% Premium; 20% Free account; 4% None
9	Do you use the Search bar to play a song?	88% Yes; 12% No
10	if yes, how would you describe your satisfaction with the Search feature of Spotify?	12% Very satisfied; 56% Moderately satisfied; 24% Somewhat satisfied; 8% Slightly satisfied; 0% Very dissatisfied
11	Do you play songs from any playlist chosen for you by Spotify's ML algorithms (e.g., "Made for you", "Discover Weekly", "Daily Mix")?	64% Yes; 32% No
12	if yes, how would you describe your satisfaction with Spotify's recommendations?	14% Very satisfied; 18% Moderately satisfied; 41% Somewhat satisfied; 27% Slightly satisfied; 0% Very dissatisfied
13	Do you use your personal phone to play music in friend/family reunions?	44% Yes; 56% No
14	if yes, do you play songs recommended by a friend or family member?	82% Yes; 18% No
15	Do you allow children, friend, family or relative to use your phone to play music?	28% Yes; 72% No
16	if yes, how would you describe your satisfaction with recommendations of Spotify after been used by another person?	7% Very satisfied; 13% Moderately satisfied; 40% Somewhat satisfied; 33% Slightly satisfied; 7% Very dissatisfied