

SENG 310 Assignment 1

For this assignment, Spotify is the music streaming software service chosen and the mobile platform of Spotify is being considered.

Part 1

Question 1

Spotify provides users a library of abundant music tracks and podcasts for listening. It allows users to browse and to search the library and to build their own libraries by saving or downloading tracks and podcasts and creating music playlists. Moreover, the application suggests related music playlists and tracks based on users' preferences and usage.

Question 2

The key metaphor in the design of Spotify is the concept of a library. A physical library provides people to browse, to search, and to borrow books from the library. Similarly, Spotify allows users to browse, to search, to save, and to download music contents for listening. Also, physical libraries usually have notice boards to inform people updated news and assistants that help people to find the books of their interests. Likewise, Spotify has a homepage to provide the relevant information for users, such as new releases of music contents or music tracks recently played. Based on the users' preferences and usage, the application also suggests related music playlists and tracks to the end-users.

Question 3

The main task domain objects include:

Song:

- Attributes: song title, audio track, artist name, track length, and album name and cover

Album:

- Attributes: list of songs, artist name, and album name and cover

Artist:

- Attributes: artist name and picture, list of songs, and list of albums

Playlist:

- Attributes: list of added songs

Your library:

- Attributes: list of playlists, list of saved or downloaded songs, and list of saved or download albums

Search bar:

- Attributes: input field, recent searches, songs, albums, and artists

Homepage:

- Attributes: recently played songs or albums, and suggested playlists

Question 4

The relationships of the conceptual objects are as following:

Albums contain songs. Artists contain albums and songs. Playlists contain saved or downloaded songs that are added to the lists. Your library includes playlists, artists, albums, and songs.

Search bar contains songs, albums, artists. Homepage includes recently played songs or albums, and suggested playlists.

Question 5

The operations available for each conceptual objects are described below:

Song: play, pause, forward, reverse, save, download, and view song title, artist name, track length, and album name and cover

Album: play/pause album, next album, previous album, save, download, play/access a song in the list of songs, and view list of songs, artist name, and album name and cover

Artist: view artist name and picture, view list of songs, view list of albums, play/access a song or album in the lists

Playlist: add or delete selected song, add or delete selected album, view list of added songs, play/access the list of added songs

Your library: view list of playlists, create or delete a playlist, play/access a playlist

Search bar: input text, search

Homepage: view and access recently played songs or albums, and suggested playlists

Part 2

Question 1

Yes, I can easily determine the function of the system. This is because Spotify has a good conceptual model, that is, a library with abundant music tracks. Hence, the users can understand what the software does and how it works intuitively.

Question 2

Yes, I can easily tell what actions are possible because of the well-designed visibility and signifiers in Spotify. For example, the main menu bar always located at the bottom, no matter what state the application is in. The icons in the menu bar at the bottom also describe the corresponding functions available in a way that users can easily interpret and understand. Moreover, there are texts displayed directly below the icons indicating the functionalities.

Question 3

Yes, I can determine the mapping from intention to physical movement because the UI design utilizes spatial mapping. For example, to jump to a certain point of a music track, one only has to drag the cursor on the progress bar to the corresponding point of the music track.

Question 4

Yes, I can easily perform the actions. This is because the software system provides actions that correspond to the intentions of users. The system allows the users to do the intended action in a very direct and intuitive manner.

Question 5

Yes, I can easily tell that the system is in a desired state. By considering the principles of visibility and feedback into the design, Spotify provides useful information about its state in a way that is easy for the users to get, to interpret, and to match how the users think of the system.

Question 6

Yes, I can easily determine mapping from system state to interpretation. This is because the software offers good mappings. It is very easy to determine the relationships between actions and results, between the controls and their effects, and between the system state and what is visible.

Question 7

Yes, I can always tell what the state the system is in. In each state of Spotify, the system provides a good physical representation that can be directly perceived and that is directly interpretable in terms of the intentions and expectations of the users.

Question 8

Overall, I do not think this software suffers from the gulf of execution or the gulf of evaluation. There is no difficulty in deriving the relationships between the mental intentions and interpretations and the physical actions and states. At the same time, it requires less efforts to interpret the physical state of the system and to determine how well the expectations and intentions have been met.

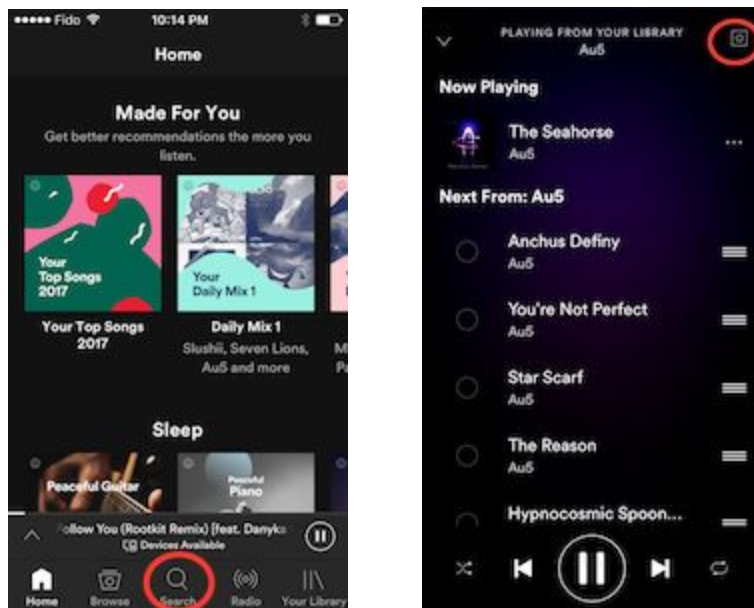
Part 3**Question 1**

Overall, I think Spotify offers an excellent conceptual model. The conceptual model of Spotify is very similar to a physical library in one's everyday life. Therefore, it allows users to have a good understanding of what it does and how it works quickly and intuitively.

Question 2

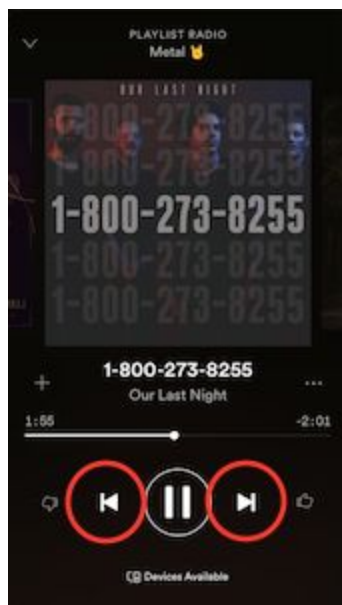
The system offers good discoverability in general. For example, as shown in the left figure below, the search function is easily discoverable since the search icon located at the middle of the bottom main menu is obvious and intuitive. There is even direct text displayed below the icon to avoid any kind of misunderstanding. However, the function of adding songs to the queue

of songs to be played next is not easily to be discovered. The icon of the function is difficult to find and it does not signify the what the usage intuitively as shown in the right figure below.



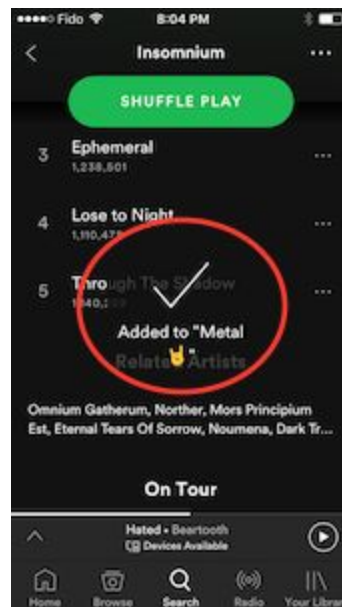
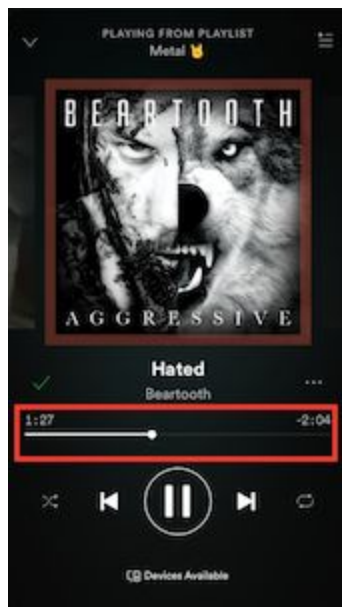
Question 3

Spotify makes use of mapping appropriately by utilizing natural mapping, that is, taking the advantage of spatial correspondence. A common example to switch between soundtracks in a list by swiping left or right on the touchscreen or tapping the “next song button” or “previous” song button shown in the figure below.



Question 4

The system gives appropriate feedback to users about the actions they make. The feedbacks given in Spotify are immediate and continuous. For example, when a music track is being played, the progress bar immediately and continuously shows the current point of the track, as shown in the left figure below. In addition, the feedbacks are also informative. For example, when a user adds a song to his or her playlist, spotify displays the information of the action in a clear and neat manner, as shown in the right figure below.



Question 5

In the design of Spotify, signifiers are leveraged and perceived affordances are made visible. For example, the icon of the search function is a magnifying glass which makes intuitive sense to users that this button affords searching as shown in the left figure below. Another example is that an album in spotify is simply displayed as a squared button with the image of the album's cover. Users can easily perceive that the button affords accessing the contents of the album as shown in the right figure below.

