Assignment M3(Fall 2018)

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Abstract. Apple Music app on iPhone is trendy and cool. However, some of the functionalities of the app fail to give users the ability to accomplish their intended tasks quickly. As a daily user of the iTunes mobile app, I have observed a number of functionalities that could use efficient redesigning. The task of changing playlists and songs while using the app was identified as a function that needs changes through a few needfinding exercises. In this assignment, I would like to redesign the way of transitioning between playlists and songs.

Brainstorming Plan :

I want to come up with ideas to redesign a way for a user to change playlists and songs when using Apple's music app during the brainstorming session. While brainstorming, I need to keep in mind about the standards in the current interface of the app and not to complicate other functionalities. Not focusing on one alternative design and strictly focusing on tasks of switching songs and playlists are the only rules I will follow during the brainstorming session. I am hoping to have the brainstorming done in about an hour. I will be thinking about doing changes to Apple Music widget than making changes to the app interface.

Brainstorming Execution:

Now that I have completed brainstorming, I have come up with a few ideas. Figure 1 shows the worksheets where I listed down the ideas. Most of the ideas listed down can be achived by making changes to the app widget.
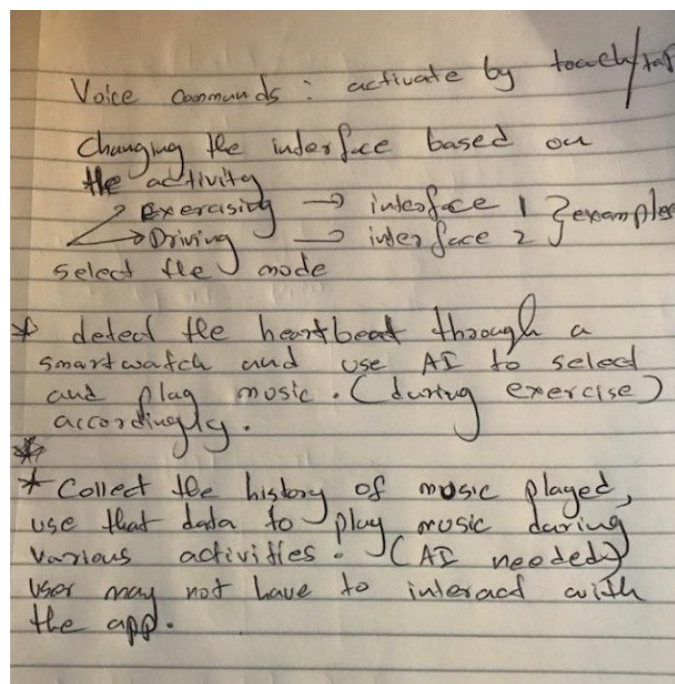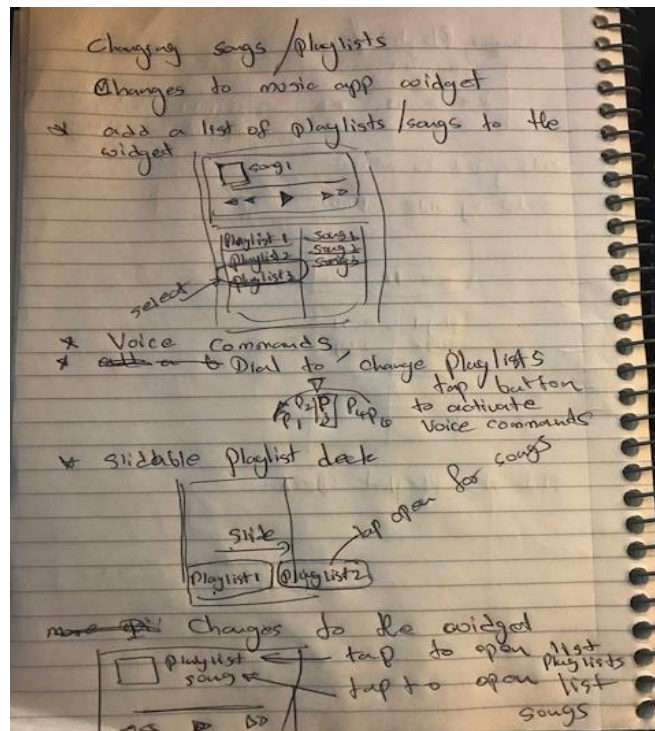
Figure 1. Brainstorming notes

Most ideas suggest changes to the app widget and the rest involves using artificial intelligence. Adding voice controls to the interface was an obvious choice. Changes to the app widget involve creating list views, dials and sliding deck interfaces. Which would make navigation between playlists and songs easier. Collecting Data while the users are listening to the app and create a profile is another idea. This can be used to generate personalized playlists and provide options to change the interface according to the activity which users are engaged in. As an example, User will have a specialized interface while exercising, and a different interface while driving. Monitoring user activity and use Artificial intelligence to select songs and playlists was also an idea that came up during the brainstorming session. Detecting the heartbeat of a user while exercising and playing songs accordingly was also on the list. I am not sure how it would help users and their activities but listed it down anyway.

Selection Criteria

Ideas to move forward with prototyping:

1. Adding voice controls to the interface –

One of the requirements from M2 is to make the interface hands free as much as possible. Making the interface entirely hands free is not possible in this idea, adding voice controls can make interactions less dependent on touches and taps. Users can tap a button on the widget interface or on the headphones that they are wearing to activate voice commands.

2. Changing the App Widget –
During need finding interviews, many participants suggested changing the app widget. This will bypass the need for opening the App. The widget will have the controls to select playlists and songs in the forms of lists or decks. Changing playlists on Apple's music app is a four to five step process, which has a wider gulf of execution. Adding playlist selection to the app widget will eliminate the need to open the app.

3. Using Artificial Intelligence to monitor user behavior –

By Collecting data and create a personalized user profile might help users navigate music automatically when they are doing certain activities at different

times of the day. The app will detect the variations of the pulse and other factors to determine the user activities and play music according to them.

Prototype 1

Adding voice controls to the interface – Textual Prototype

Voice controls are really useful when users prefer fewer interactions with interfaces. Amazon's Alexa enabled products are good examples where voice commands do most of the tasks. Voice commands can be used to accomplish most of the tasks of the Apple's music app. Changing or skipping songs, switching playlists, search for music, save/bookmark songs, create new playlists are just a handful of tasks can be accomplished. On iPhones, SIRI can be used to play music. But SIRI cannot be launched from the app widget or the app itself and it has limitations.

Figure 2. Apple Music app widget

Even if users can play and change music with SIRI, it's not capable of handling the tasks of creating playlists, adding music to existing playlists. Feedbacks given by SIRI is not very helpful in evaluating the tasks.These tasks can be achieved along with the activities mentioned above if voice commands processing can be integrated into the app widget. Users can tap a button on the widget or on the headphones to activate voice commands. (the majority of users have headphones on when listening to music). If users can activate voice commands with their headphones, they don't even have to touch the phone. This option

may not be available for drivers and bikers(I interviewed participants who use Apple's music app while driving and biking for needfinding exercises). They have to use the voice control button on the widget. After each voice command, functionality would be disabled until user press the appropriate button again. This will prevent the interface from processing unintentional conversations as voice commands. Using voice commands as the mode of control can be challenging at times. If users are in a noisy environment, voice inputs may not be captured accurately. Some accents may not be interpreted well. Feedbacks after each voice command is important in my opinion.

Example actions and feedbacks.

Action: Play "Back in Brazil" by Paul McCartney.

FeedBack : Playing "Back in Brazil"

Action: Add this song to "playlist one".

Feedback: adding "Back in brazil" to "playlist one".

Voice feedbacks from the interface will make users evaluate their actions instantly.

This prototype will meet many requirements which were gathered in the M2 assignment. The participants of the needfinding assignments are using the music app while engaging in other tasks such as exercising, playing sports and driving. Distractions caused while trying to interact with the app was one of the main complaints by the participants. Less interaction with the interface will help users to focus on their tasks while listening to music. Time spent on the interface will be reduced and distractions can be avoided. This will help the prototype to mesh with the very audience described in the data inventory. This design misses the requirement of being completely hands free since users have to press a button to activate voice commands.

Prototype 2

Using Artificial Intelligence to monitor user behavior to select and play music – Verbal Prototype

This prototype is a different approach to redesign the Apple's music app. It involves artificial intelligence to play songs for you. Imagine a scenario where you are driving on a highway, the weather is gloomy outside. Music App will detect the weather conditions and the fact that you are driving, and make a playlist with songs that suit the situation. Imagine doing intense exercises at your gym. The app will detect that your pulse going up (possibly through a smart watch), it will start playing your workout playlist or similar songs. Of course, you may not always like the songs selected by AI. You will have the options to skip them or mark them as "unlike". The App will learn from your actions and improve its song selection model and select better songs for you. The learning process will happen every time you are using the music app. Based on your activities, multiple profiles will be created. You will have options to select a mode before starting the activity. Modes are created based on your activities.

Examples:

If you are about to go for a run, you will have the option of enabling the running mode of the app. It will play music based on your previous running activities. In running mode, music will be vary based on your running speed, time of the activity, pulse etc. If you are about to study, you can turn the study mode. Study mode will play music that makes you focus. Time of the activity, weather, and other factors will decide what music you are going to be listening to.

You will have the options to create your own mode, if the modes for the activities that you do are not available. For an example, if a mode for painting is not available, you can add the mode to the app and start listening music on that mode. The app will create a profile for the mode and start adding music to the painting mode based on what you are listening. The App will always be learning from the data it collects and will create profiles, which automatically detects what activity you are doing based on the location and time. Sometimes, the app will ask you for feedback on its performance to improve the accuracy in the form of notifications. You can provide your input for better results.

This prototype will limit the interactions with the interface, which was a requirement in the M2 assignment. Users will not have to open the app or even use the app widget (unless they want to change or skip songs). This will help the

users who use the app while doing almost any activity, without being distracted or losing momentum. This prototype will fit with the requirements and the data inventory due to the reason mentioned earlier. Users can discover music that they never came across before, since the song selection is completely done by the App. Options of manual changes to playlists and other settings will also be available. This design did not miss any requirements.

Prototype 3

Changing the interface of the App Widget - Paper Prototype

Figure 2 shows the existing app interface where users can interact without opening the app. Skipping songs and changing the volume are the only functionalities available on the widget and it could be improved in many ways. My goal is to enlarge the current widget interface and add more functionalities to make the navigation between songs and playlists easier. Many participants of the needfinding exercises suggested the idea of redesigning the app widget. They tend to use the widget often to skip songs often when they are listening to music while engaging in another activity. Figure 3 shows a proposed redesign that I thought of during the brainstorming exercise.
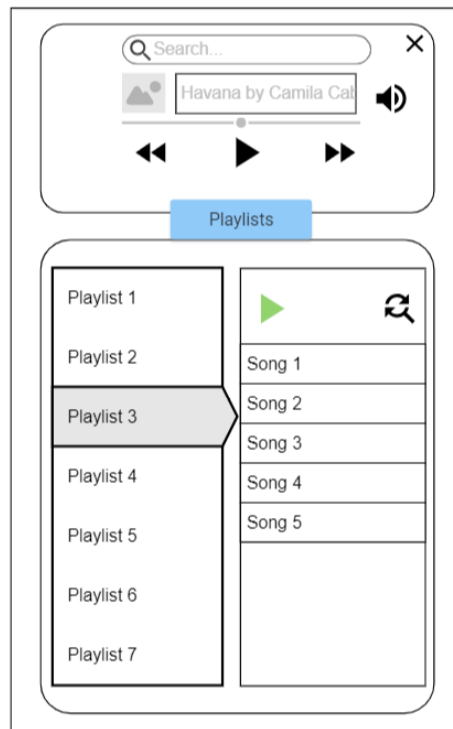
Figure 3. proposed redesign for the app widget

I have added a few functionalities to make it easier to search songs and navigate through the playlists. Search functionality will be similar to the app interface, users can search and add music to existing playlists or create new ones. The Bottom list of playlists is not visible unless the "Playlists" button is tapped. The left side of the table view will contain the playlists. A playlist will be highlighted when selected and the list of songs will appear on the right where users can play or shuffle. The original design of the widget (figure 2) is still visible, except for the placement of the volume controller. This design meets the requirements of changing playlists without having to go through multiple steps and misses the requirement of being hands-free. Users will have a view of their music library on the home screen of their phone where they can interact. The intended audience of this design are users who engage in other activities while listening to music. Users will spend less time on the music app and be more focused on their main activities.

References

1. Udacity Lectures

2. The wireframe (figure 3) was created using https://moqups.com/.