Assignment M4(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. Designing an interface for transitioning between playlists and songs will be the focus of this assignment.

Qualitative Evaluation :

Out of the three prototypes outlined in the M3 assignment, I have chosen the verbal prototype for the qualitative evaluation. The idea for the verbal prototype was to use artificial intelligence to monitor user behavior, activities, listening habits and play music accordingly so the users do not have to interact with the Apple's music app interface while engaging in other tasks to change songs or playlists.

Evaluation Plan :

Since the prototype comes under the verbal category, I thought of conducting in-person interviews. Participants will be recruited based on their familiarity with the Apple Music App interface and usage. Some of them were participants of the initial needfinding exercise.

Participants: Two friends, one family member, one colleague.

Location: Convenient locations (office, home, coffee shops). The location will be a place with minimal distractions and noise where it is easy to have a conversation. Ensure that there is sufficient time (That the participant is not rushed)

Recording method: Note taking is the preferred recording method since all the participants were reluctant to be video recorded.

Qualitative Evaluation: Method

The interview will be scripted with room for follow up questions and discussion. I will provide a brief explanation of the prototype and how it supposed to work before the questions. Explanation of the app functionalities is not needed since the participants are already familiar with the app interface. However, I will emphasize the tasks of changing songs and playlists while driving or exercising to get the participants attention to the exact problem that I am trying to solve at the beginning of the interview. Also, reading out the interface description script from the previous assignment is also considered.

Questions :

- Would you find such utility as artificial intelligence for streaming music is useful? why or why not? What do you think of the idea?
- Do you think not touching your phone to change songs/playlists during an activity (driving, exercising, bicycling) is important? why or why not?
- Would this design be less distractive? (distraction from the main activities were one of the main concerns). Explain briefly.
- Are you willing to give a feedback on songs and playlists selected by AI agent for future improvements? And recommendations on how to input feedback.
- Any suggestions on additional features to be added to the prototype?
- This prototype creates profiles based on your activities where appropriate music will be played based on your activity. You can either select them at the beginning of your activity or select the profile manually. Do you see this feature as useful? Why of why not?
- Are you concerned about the data collected by the app? briefly explain.

Goals of the qualitative evaluation are to validate if the proposed prototype fulfills the user expectations and solves the problems of the existing design. Limiting interactions with the app interface to curtail distractions was a major requirement in the previous M assignments. Participants agreed that this prototype will address the exact problem. This evaluation helped to determine

that a major requirement of less interaction with the app is met. Some participants expressed that AI may not provide accurate results of their listening choices. Users may still have to interact with the app interface when they don't like the selected songs.

Empirical Evaluation :

Paper prototype (Figure 2 in the appendix) of M3 will be used for the empirical evaluation.

Conditions:

This evaluation should compare the efficiency between two interfaces while executing the task of changing the playlist.

- Interface A (Apple Music app) : Changing playlists by opening the existing interface of the app. Navigating to the list of playlists to execute the task.
- Interface B (proposed): Redesigned app widget (Appendix: Figure 2).

What are we testing:

- Will the proposed interface make it faster for a typical user to reach the goal of changing the playlist.
- Will the proposed interface lets users change the playlist without being distracted from their main activities (exercising, driving)

Hypothesis

Null hypothesis: The proposed interface does not make the task significantly faster or easier.

Alternate hypothesis: Proposed interface makes the task significantly faster and less distractive or both.

Experimental Method

A written survey is the planned method for this exercise.

Study design: Within-subjects study is considered. There will be two sets of interview questions and the subject will be required to answer both. A randomized order will be used to present surveys.

Survey questions:

Q : How often do you use the app widget while listening to music:

- Never
- A few times
- Quite frequently
- Always

Q: If you replied never, Please provide a reason.

Q: Would you find this interface easy to use:

- Very easy
- Somewhat easy
- Difficult
- Very difficult

Q: Would this interface help you save time?

- Yes
- No

Q: If you replied no, Please provide a reason

Q: Do you have any comments/questions/suggetions?

Lurking variables:

There are some systematic differences between the two interfaces. Users may already have used to interface A (existing app). Interface B(proposed) may require some time for a user to be familiarized. This could introduce variability in the results.

Data analysis method

Design: Within subjects

Data: discrete/categorical(may be converted to continuous)

Methodology: ANOVA

Predictive Evaluation

Paper prototype (Figure 2 in the appendix) will be used for the predictive evaluation. I will be looking at how a novice user navigates through the prototype in accomplishing tasks such as changing playlists and sound songs. Tasks and operators are listed in table 1(with the cognitive walkthrough). This prototype can be used to achieve tasks such as adding songs to existing playlists, creating new playlists with some extended features. I would consider redesigning the prototype to facilitate these functions in the future.

Cognitive Walkthrough

Task	Notes
Switching the Phone on (to change songs or playlists)	• Widget is visible to the user. • Playlists created by user are visible. • Search option is visible. • Information on current playing song is available. • Music controls (volume control, skip) options are available.
Changing the current playlist.	• Look/Scroll through the playlists. • Tap on the desired playlist. • Press play/shuffle button.
Play a particular song on the playlist	• Scroll through the list of playlists • Find the playlist. • Tap on it to view the songs. • Tap on the song title to play the song.
Search for a song or a playlist	• Tap on search bar to open key pad • Type song title/playlist. • Tap on “search” (search button will be a part of the key pad). • Tap to select and play the

	song/playlist from result window.
Add a song to an existing playlist (find the song by searching)	• Tap on search bar to open key pad • Type song title/playlist. • Tap on “search”. • Press on song title (keep pressing for one to two seconds) to open up options menu.(Similar to current app design) • Add the song to a playlist. • Novice user may not eble to figure out this step, an experienced user might.

Table 1. Cognitive walkthrough

Preparing to Execute

Evaluations selected:

- Qualitative evaluation through in-person interviews.
- Empirical evaluation through surveys.

Why:

- The requirements and the prototypes are in early stages. Qualitative feedback will be useful in finding more insights about the prototypes. I can improve the design based on the user feedback and suggestions.
- I would have preferred to create the Wizard of Oz prototype instead of the empirical survey. I couldn’t recruit so many in-person participants within a short time period.

References

1. Udacity Lectures.

Appendix

The three prototypes from the previous assignment were:

- Adding voice controls to the interface (Textual Prototype)
- Using Artificial Intelligence to to monitor user behavior to select and play music (Verbal Prototype)
- Changing the interface of the app widget (Paper Prototype)

Figure 1. Apple Music app widget

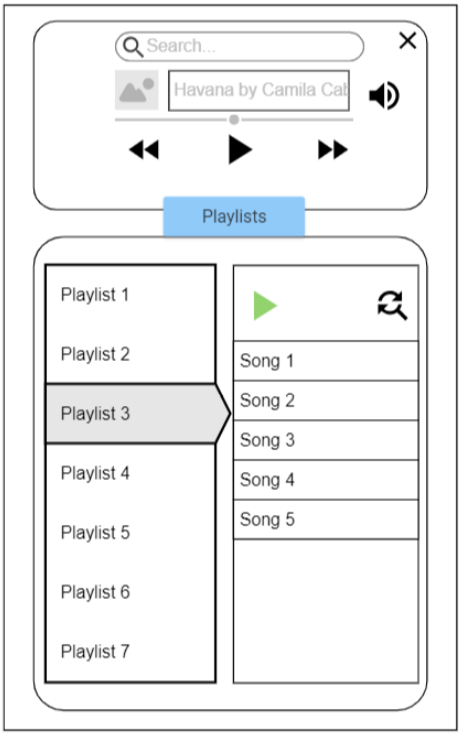

Figure 2. Prototype for Empirical evaluation(paper Prototype)