Assignment M1

Pushya Rajagopalan
prajagopalan9@gatech.edu

***Abstract*—**You-tube Music is a popular application that allows the users to listen, download (for the premium users of course) and share music online. The application has a special feature that enables the users to select a song list based on their mood that has been mixed up by the application itself, specific to the user, depending upon what has been heard last. This project will ponder upon this aspect of the application and, will check if the users are really being benefited by this feature and investigates further to develop an improvisation.

Technology: Ubiquitous Computing and wearables.

Idea: Context-Sensitive Computing Or Gesture based Computing

1 PROBLEM SPACE

In order to understand the effectiveness of the Youtube Music's feature, it is also necessary to understand the different contexts surrounding the usage of the application. The youtube Music's feature allows the user to select a mood and provides a playlist that gets created for the specific user, which is definitely fabulous. Let us take cooking as one of the contexts. There are people who love cooking and listening to music. There could also be others who feel cooking is a monotonous chore, and will definitely need music to lift their spirit. There could be lot more types of people in this wide beautiful world.

Imagine a scenario, where the user has been cooking for some-time now, listening to romantic songs on his favorite speaker. On the other side, the kids are playing loudly, and the neighbor is building a new sunroom for his house and there is yet another loud noise from the outside. Right now, the user wants to skip a particular song or may even want to switch to fast moving numbers. Youtube Music Premium allows the premium users to utilize voice activated controls, but with all the noise around, **the phone is unable to pick up the voice**. The wearables like apple watch have all become ubiquitous these days and **iWatch allows the user to control the application to an extent, of-course**

with a touch. Assume that the user is unable to use his fingers since he has been kneading the flour to make parathas(wheat bread). The user might get frustrated and might even give up his wish to change the song. Could a **gesture-sensitive** device resolve this? May be. But could there be a better solution for this?

Technology has been developed to help the human-kind function efficiently so, isn't it necessary to accomplish the user's requirements, without complicating it? And particularly in this case, isn't technology trying to kindle rather a strong negative emotion. I would like to focus on the two below mentioned aspects of the problem areas; and may be improvise the existing interface into a **context-sensitive** one.

1. The usability of the YouTube Music's feature that enables the users to select a playlist based on their mood.

2. The ease with which the users can select playing a song or an album while performing a task that demands most of their cognitive resources.

2 USER TYPES

Listening to music is something that everyone of us enjoy doing on a day- to- day basis. Here, let us state the different types of users who might help us redesign the aspect of improvising mood based playlist creation of youtube music and the way it is being played.

Context taken: Cooking (To define a specific problem scenario, the cooking context has been taken, the contexts could vary).

Am planning to segregate the users based on age groups which would give a better perspective.

User Type 1: Full time students (20 - 25 years)

User Type 2: Parents of young kids (26 - 45 years)

User Type 3: Adults (26 – 45 years)

User Type 4: The older people (around 60 years of age).

Mental well-being is of at-most importance during these hard pandemic times. Since the outbreak of the corona virus, people have started resorting to different ways of coping up with their stress. According to a recent survey published

in the New York Times (Grose, 2020), 63% of the parents had said that they felt like they had lost emotional support during the pandemic. Music is such a mood lifter and if an application can help user experience magic through their design, it could be a wonderful success, overall.

So, I would like to take up the User Type 1 & 2 for the need-finding exercises, as the main target users since they are the ones who need to handle way too many things at one go(my point of view, well, stereotypes are not always right and not always wrong after all). Also, I could relate myself more to them and they can have the same kind of motivation as me, since the final design could help resolve the problem. Do technologies like youtube music with their advanced algorithm that creates playlists for specific users based on different moods being used by the end users effectively? Let us delve into it further.

3 NEEDFINDING PLAN 1: PARTICIPANT OBSERVATION

Participant Observation is a method of need-finding or the data gathering process, where the designer dons the hat of a user and tries to use the application as such. In our case, cleaning and cooking are two house-hold chores that are relevant to the scenario described in the problem space. So, am planning to devise a strategy surrounding these two activities.

For the planning, let us take into consideration, the gadgets that might get involved during this need-finding exercise (things that I might use as a participant observer).

1. An iPhone.

2. An iWatch.

3. A blue-tooth headset.

4. A blue-tooth speaker.

Application that will be used: Youtube Music (No premium)

The all-time external factors: three little toddlers running and jumping around :)

Let us approach it with the help of **Norman's Feedback cycles**. The below idea(Figure 1) outlines a plan that might allow us to create a context as described above.

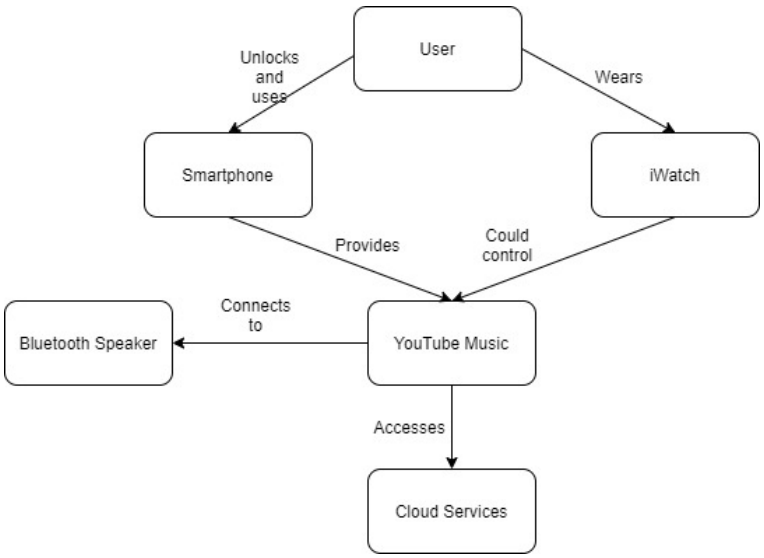

Figure 1—Figure 1

Plan: Listen Classical Carnatic music(this may vary during the execution part since I might prefer some other genre depending upon my mood), while cooking.

–> Open Youtube Music app

1. Select a song or album.

2. Play

–> Connect the phone to a Bluetooth speaker.

Specify:

–>Start Cooking.

–>Open Youtube Music on mobile phone.

1. Connect the phone to a Bluetooth speaker.

2. Select a classical playlist or a song.

3. Click on play

Continue listening.

Perform:

–> Get to the kitchen.

–> Prepare to cook.

1. Unlock the phone.

2. Open YouTube Music.

3. Select a song or playlist as needed.

4. Press Play.

5. Connect the phone to an external speaker.

–> Continue cooking.

The rest of the feedback cycle includes: Perceive, Interpret, Compare.

All these can be discussed after the observation gets executed. While executing the participant observation, it is required to **gather information** regarding,

A. How efficient the app's mood based playlist works, and,

B. Also, need to check if the user is able to seamlessly select and play a song, in the given context.

Depending upon different contexts (including the factors that I might encounter), the scenario could differ from the problem space that has been described above. Lastly, there is a chance of encountering **confirmation bias** in this case, since, as a user have encountered the situation sometime. To avoid this, will try and keep chanting, **"You are not your user!"**

4 NEEDFINDING PLAN 2 : SURVEY

Surveys are literally asynchronous interviews that can be circulated online with a set of relevant questions to the target users. These give a wider perspective of the problem that needs focus.

The survey questionnaires can be sent to my friends using Whats-app and other social media like Facebook and Instagram. Also, to the class students, to get more perspectives.

The problem in hand is to improvise or enhance an existing design of an interface, YouTube Music application. The questions need to be formulated in such

a way that they address the exact needs of the current users pertaining to the defined problem space. The two main aspects that need more probing would include,

1. The application offers playlists based on different moods and the user gets to choose them with a touch(generally). The questions need to check if the users could effectively use this feature of the application and how relevant the playlists are.

2. Does the application allow the users to intervene and be able to find, select and play a song of their choice, when they need it? This needs to be checked, as well.

Attaching a **flowchart diagram** below, which outlines the flow of questions that might get included in the survey questionnaire (Figure 2).

During this need-finding method, there is a chance of encountering two types of biases, **Observer bias and Recall bias**. Observer bias can be mitigated by having the survey questions reviewed by others. Recall bias is prone to happen because the users who answer the questionnaire might not exactly remember what or how he felt while executing a task.

5 NEEDFINDING PLAN 3: ANALYSIS OF PRODUCT REVIEWS

This method can be carried out by analysing the product reviews that is vastly available in the internet. This could allow us to get a wider perspective since the reviews differ demographically. This very reason could make the method both difficult and expensive. It might demand more time to analyze the majority of the reviews that is available online.

Here is a plan to gather information about the product(Figure 3). I would like to break the requirements into different aspects:

1. The Mobile Application – The problem that needs resolution in our design (mood based playlist), needs to be properly analyzed. This would allow me to be focused and get an insight about the mobile interface as such.

2. Users and their contexts – A thorough research of the different types of users and their needs would allow me to get a broader perspective of what specific types of users might want. Their preferences and their reviews about the quality,

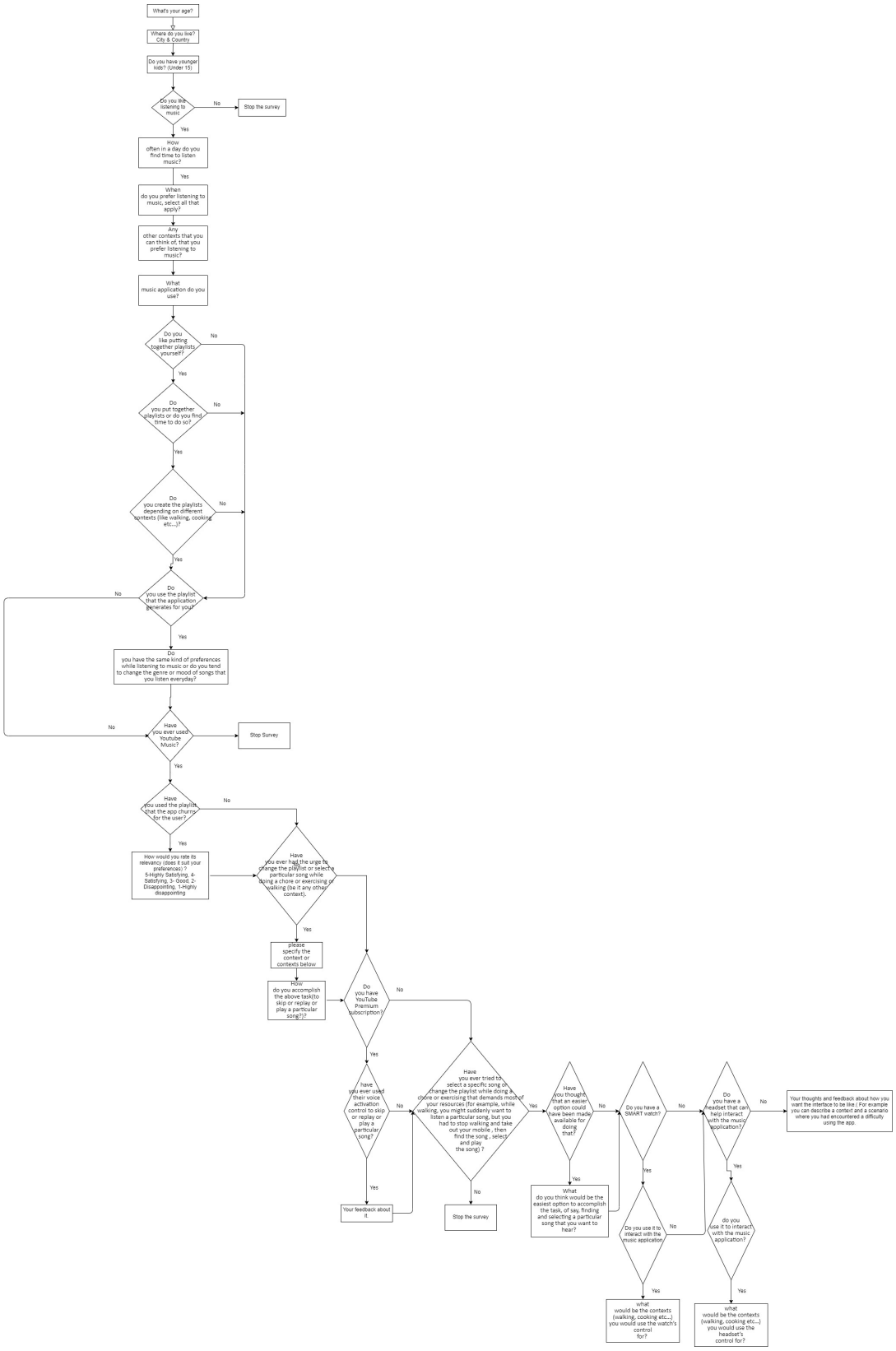

Figure 2—Figure 2

or the efficiency, of the mood based playlist creation of the app, would allow the designer(me) to connect more to the user and start thinking from their point of view.

3. Existing interfaces – The second problem stated in the problem space has more to do with the user's difficulty in carrying out a basic task, like skip a song or replay while doing another work. Analyzing the reviews based off of this aspect would help us understand the disappointment or the satisfaction that the user experience.

4. Cost – There is also another aspect that might need research. Youtube Music premium users pay a sum for their monthly subscription and, gain many advantages over the unsubscribed users. But do they really enjoy a better experience than those unsubscribed users? This could push the designers to broaden the perspective and come up with better options.

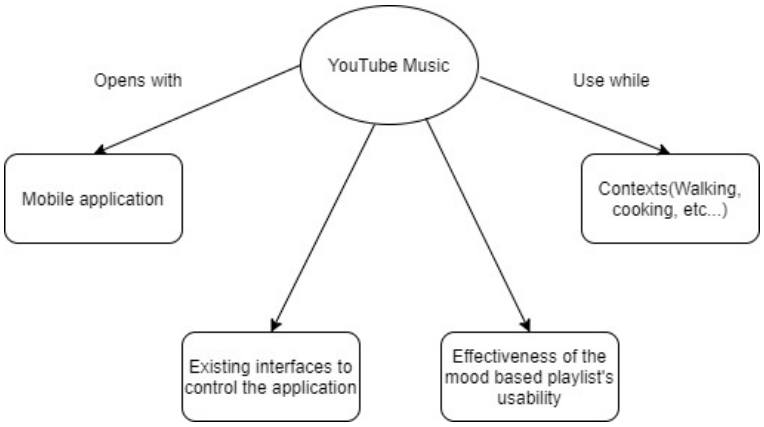

Figure 3—Figure 3

Based on these different aspects, I'll be doing an analysis of the product reviews to come up with a better solution. This need-finding method may encounter **confirmation bias**, since I will be analyzing the product based on he aspects that I have in mind. This can be avoided by trying to keep the mind open and accept all kinds of bad reviews regarding the application's interface.

6 REFERENCES

[1] Grose, J. (2020, September 9). *The Pandemic Is a 'Mental Health Crisis' for Parents.* The New York Times. https://www.nytimes.com/2020/09/09/parenting/mental-health-parents-coronavirus.html