Milestone 3 – Team 7

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Abstract. This document satisfies Milestone 3 requirements in terms of providing basic design decision documentation, as well as prototype cognitive and color models which have been applied in the light of Fitt's Law and the 7 +- 2 rule. Furthermore, it includes screenshots of the executable application, which demonstrate design concepts and improvements.

1 Design Decisions

The following list will give a broad overview of the basic design decisions brought throughout the course of the app development. Additionally a justification of each decision is provided.

1. Minimalistic activities – meaning that each implemented activity in its layout contains a not too exaggerated number of elements, which can therefore be displayed in a meaningful size, in order to provide a minimalistic look and feel to the app. This complements usability and time consumption while using the app.
2. Three colors – complementing the above design decision. By using only three colors, we are attempting not to be too attacking to the user (not to catch the users eye with too many colors), as well as to provide an interface which looks and feels simple, but at the same time modern and high quality.
3. Three activities – Player, Main, List. The number of activities has been limited to three because we think that a small number of activities complements usability, and is easy to remember in further usage.
4. Pure mp3 listening features – meaning that we do not wish to complicate by adding social network and connecting features, but rather keep processes at a local level, executing internet requests only if it is really required for a task.

2 Color and Cognitive Analysis

Color analysis:

Our color palette is black, white and mint. Since those very colors are contained in our app icon, there was no need to test all app components for color issues, but the icon. It was therefore uploaded to the www.color-blindness.com simulator for a test, which would demonstrate how our palette would be viewed by users with vision issues.

The vision issues of red-blind/protanopia and green-blind/deuteranopia were simulated for the icon. Results are displayed below.

Fig. 1. Red-blind, Green-blind, Normal (in this order)

As seen from the figure, red-blind users will see a slightly brighter violet color (which should be mint), while green-blind users will see a darker violet color. The black and white colors do not get distorted.

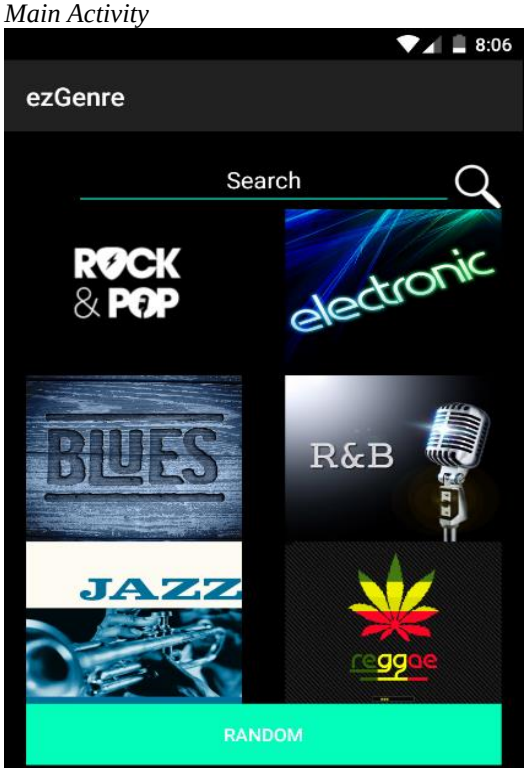
Cognitive analysis:

In order to satisfy the Fitt's Law requirement of not creating small activity components, components have been created in full size. There are no popup windows which could violate usability.
Everything can be found immediately, due to component size and colors, as well as placement. The placement is constant, which also complements the law, because users can get used to the interface, and find things more easily upon frequent usage.
Other cognitive requirements satisfied are that there are never more than 7+-2 components in a activity, which complements the short time memory concept of being able to remember this much components at a time. This also provides advantages to the usability of the app.

3 Prototype Description

Following is a broad overview of the basic functionalities of each app activity we implemented, including screenshots and explanations.

Main Activity



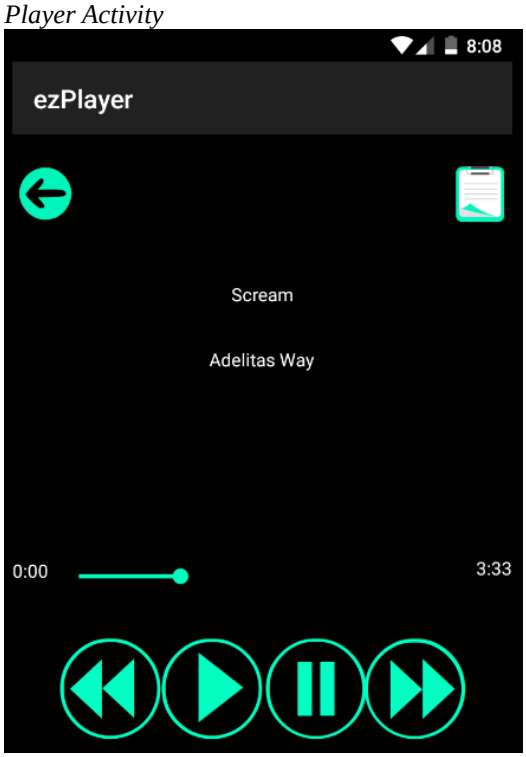
Functions: Search, random, genres.

The random generator chooses a genre from the available genres, and plays the songs associated with this genre from the database. It serves the purpose of being able to let the app decide which genre the user will listen to, if he/she cannot decide.

The search function serves as a means of providing songs to users, if they already know the song name. It will take the song name as its argument, compare it with song names in the database, and return a list of matching songs, from which the player can be executed.

Genres are shortcuts to the player, which upon click send the with the image button associated genre to the player. The player plays the with that genre associated songs.

Player Activity



Functions: Play, Pause, Previous, Next, List, Back

The play and pause buttons are due to the high fidelity features of the prototype not executable, since no real song is being played, but rather metadata about the song displayed (such as duration, song name, artist…).

The next button plays a random song associated with the previously selected genre.
The previous button plays the song played before the one executing at the time.

List executes another activity displaying all available songs from the database (explained in more detail below).

The back button simply returns the user to the main activity.

List Activity

Functions: Choose song

This activity displays all available songs (of all genres) from the database, and lets the user choose which one to play. Upon choosing a song, a new activity is started (player) which executes the song.