C++ project plan

Contents of the project plan

Participants

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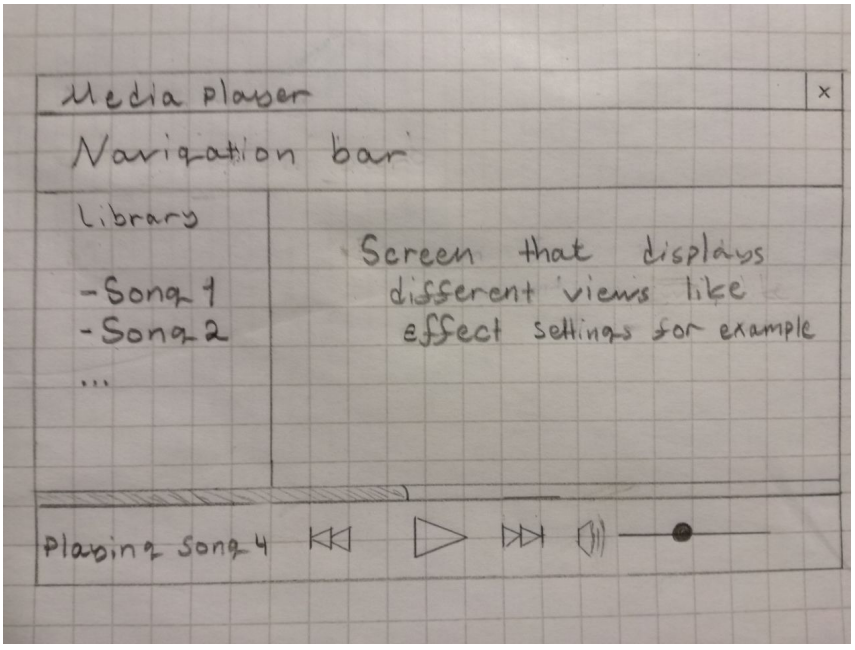
1. Vision of the project

1.1 From early vision into finished project

In the first stage we aim to create a graphical UI that has only the necessary functionality and features covered in it. Basically this means having window with boxes that are going to have content later on, and buttons which affect state and view of the GUI by opening a drop-down menu, sidebar or something else. We want to have neat, but simple visualization of the player that would look fairly similar to the finished project in regards of the design.



Drawn illustration of the design

After creating core of the UI, next part is to start adding some basic functionality into the player - backend in other words.
Our first task is to create a feature which allows sound files to be played, and then supplement it by making volume adjustment responsive to the users demand, as well as play, pause and every other button that controls the sound.

Basically at this point we should have insufficient, yet a functional media player.

From this point on we don’t find it necessary to have a ordered list of all the features that will be implement. Our vision of a useful media player is that there’s a lot of small details and fine tuning that support main purpose of media player - playing audio files.
After that, whether this means having drag & drop support or ability to rate and categorize your albums, we can’t be sure. It comes down to testing and finding which features are most useful, possible to create in reasonable time and how the used tools provide support for different things. Eventually we’ll still have most of the required features covered.

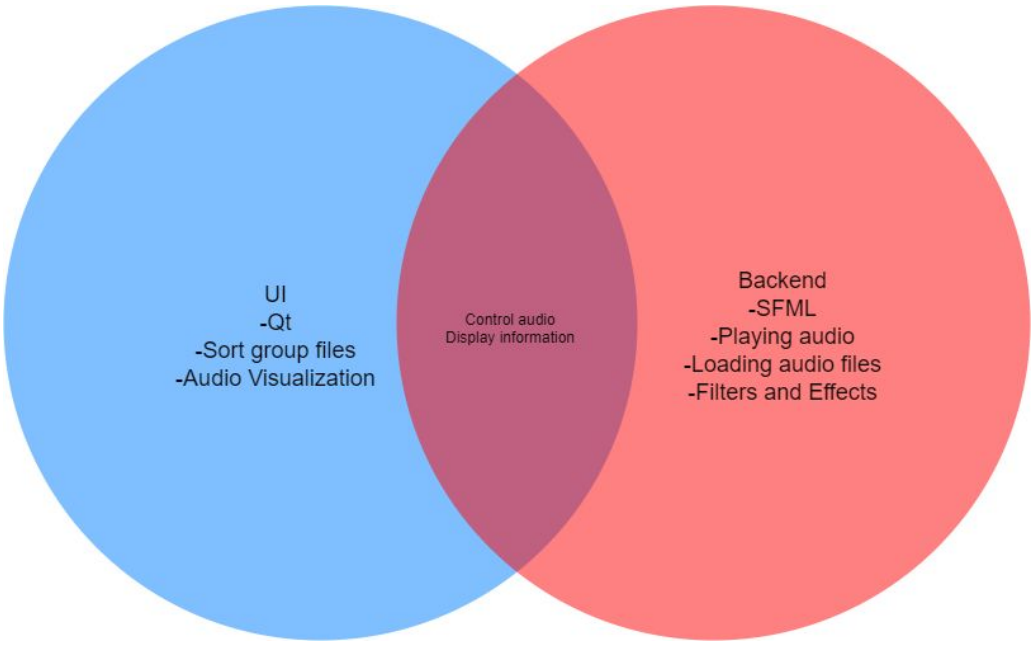
1.2 Extended view and possible add-ons

As mentioned, we are aiming to create media player that is rich in small details and full of features. Nevertheless, just like in every other project there is a time limit within, which means that not all of the proposed features will end up making it into the final product.
After discussing about the topic we were able to reach consensus on those parts that we either view as a must have, or as a add-on feature.
Rawly, they fall under two categories - graphic and non graphic, where the graphic parts are mostly just nice to have features.
This means that audio visualization or having album art cover, etc. are not our top priorities since those do not provide the value for the usability of the media player.

2. Technical decisions, architecture and hierarchy

2.1 Architecture

Architecturally we will have software split in 2, “frontend” and “backend”, frontend is going to be done with Qt. With it we can create the GUI for the player. The GUI will send data to the backend, which will handle all the playback functionalities. Backend will mainly uses ID3 and FFmpeg libraries to get information from the files and play them. It will also handle all the I/O operations with the OS.



2.2 Tools

Main libraries we will be using are ID3 for mp3 metadata, FFmpeg for media handling and Qt for creating the GUI.
For version handling we will use git

3. Schedule and work routines

3.1 Roles and distribution of work

First we get familiar with the libraries we are using. After that we will decide who will do what feature next. Most likely we will be working together most of the time.

3.2 General plan of working

We will build one feature at a time, because if we all do different features, it could get difficult to integrate them all to the project. For each feature we will have a branch in git, and after it’s finished we merge it to develop. Master branch is only for functioning versions. Our goal is to make at least one feature in a week.