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Introduction:

The goal of our project is to materialize the group's passion for music, specifically streaming music. By researching how to use C++ with local files, the group plans to make a full functioning desktop MP3 player/manager. The planning of the team's project focused mainly on researching GUIs and libraries that would allow us to import mp3s to the program, along with how to interface functioning buttons, such as play and pause.

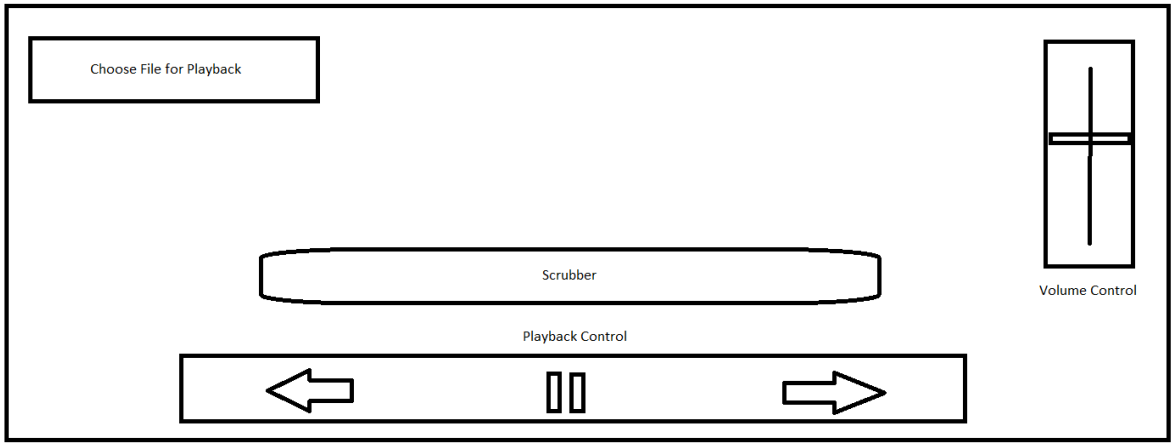
Objectives:

The first step in attacking this project was to figure out how to build a simple user interface. The group has previous experience with GUIs in Python, therefore finding a similar resource for making interfaces was fairly simple. Qt is a well-known and simplistic package that the group finds will meet their needs once actual coding of the program begins. At a base level for a functioning mp3 player, the group requires a pause/play button, a skip button, and a reverse/go to beginning button, as well as a spot to change mp3s and a volume slider. Resources such as Qt and stackoverflow are filled with resources on how to develop interfaces, and figuring out the actual mp3 buttons would be the next step.

If the group were to finish this basic GUI setup ahead of schedule, other possible inclusions that have been looked into include sound modifiers (reverb, sampling, etc.) and a queue menu to make switching between songs more user-friendly. Other aesthetics could be added to the final product to make the application more eye-catching, and Qt is a database that allows for extensive GUI customization, but the group will prioritize functioning buttons and output before all else.

Expectations:

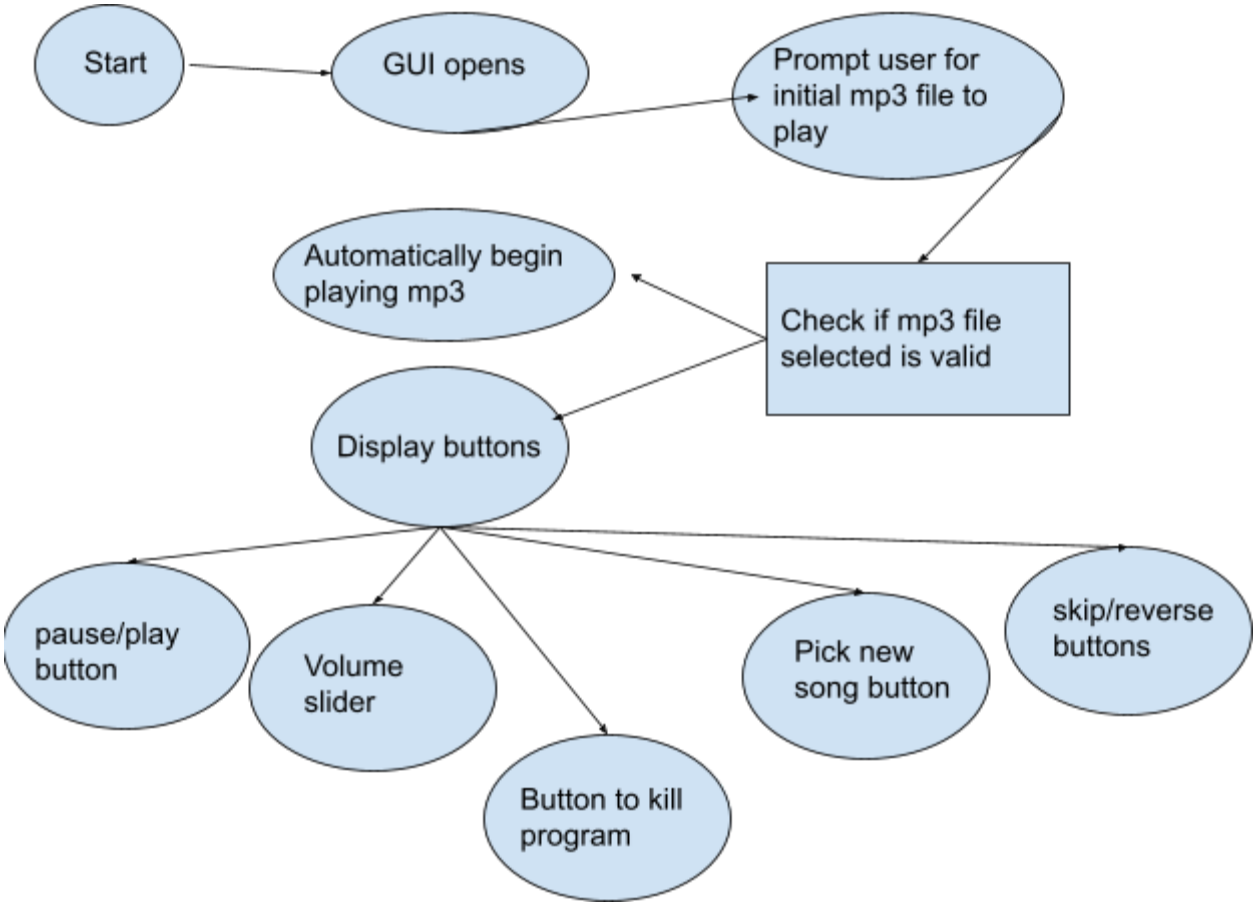
As seen in the below figure, the expected output of the program will have a gui with buttons for the user to utilize. A button will be available to select an audio file for playback. Following this, the easy to use interface will lead the user to the next set of buttons for playback control (pause/play, rewind, forward) as well as the playback scrubber for fine tuning playback. On the right side of the program will be a volume fader for the user's convenience.



The process in creating the project has been delayed due to outside responsibilities as well as the middle of the semester having multiple projects due for other classes. The expect workflow of the project is to:

1. Take in an audio file and be able to be read
2. Playback audio file
3. Add a window and GUI
4. Implement play/pause functionality
5. Implement forward/backward functionality
6. Implement playback scrubber
7. Implement volume slider

The team is currently working on possible libraries to be used, and is interested in utilizing built in functions from the Windows.h library. The following graphic depicts our flowchart.



Conclusion:

The group plans on splitting up the workload between one person working on the GUI of the program, and the other two making a program that is able to read and play an mp3 file. After those two separate projects are functioning, mapping the functions onto the buttons of the GUI is anticipated to be fairly simple, recalling the simplicity of the same process in Python.