**Java Music Player**

**Sam Reynolds**

I’ve decided to revolve my assignment around making a simplistic and effective music player. I’ve always enjoyed music and music players are something that I have to use on a daily basis which gives me an idea of the standard that music players follow.

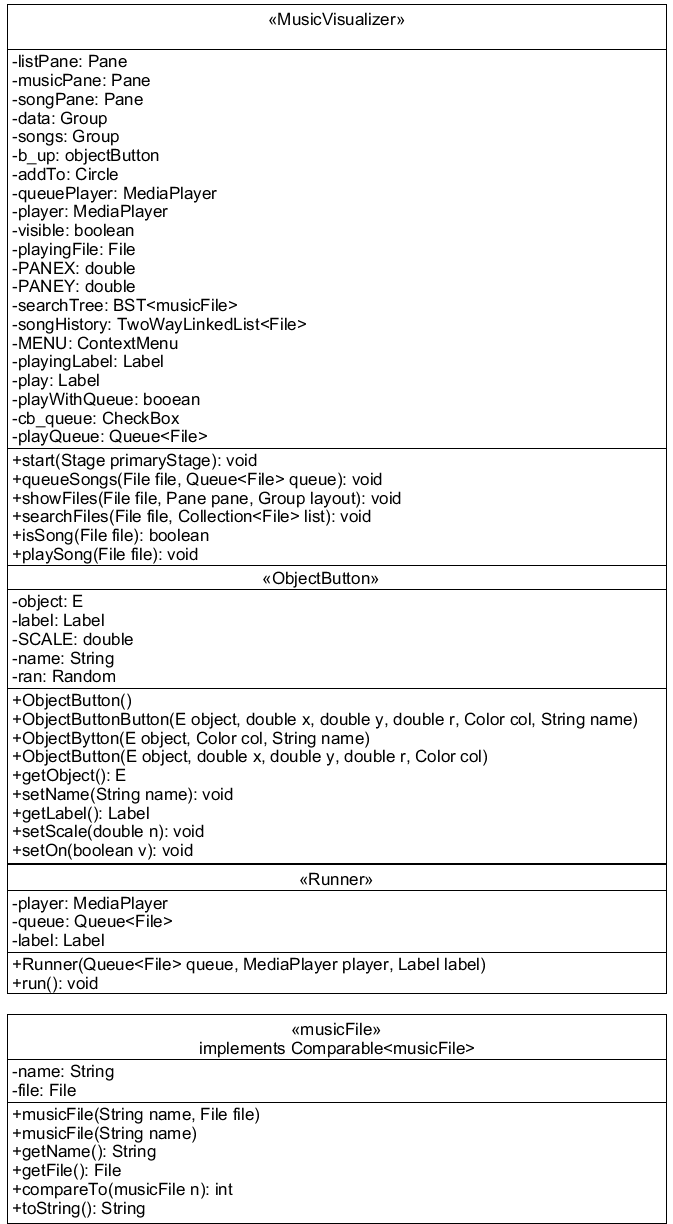
The program has a music folder in which the user will add their files regardless of if it’s an artist file or an album file or even the song itself. The program will take the files and create objectButtons for every file it has found with the file that was passed through the method showFiles. This method will call itself in the case a objectButton is clicked in which the file associated with the objectButton is passed through the method allowing it to recreate pane. This kind of operation would run on O(N) complexity because it doesn’t search through any of the files until one of the objectButtons is clicked. When the ObjectButton is clicked, then it calls the songPlay with the buttons file as its parameters, which plays the file.

This program also has a Song section in which the program has a recursive search function of average case O(n^3) because most music structures go Artist->Albums->Song and worst case O(N^N) complexity that will search through the file that was passed to the method and look through every folder and subfolder adding any songs it can find until it has reached the end of the file. All these songs are added to the songPane as objectButtons. This program also contains a queue checkbox in which allows you to click on songs and add them to queue in which would cycle through all the songs until the queue is empty

This program also contains an BST that contains all the artist/album Files as musicFiles. This tree allows the user to be able to search for any artist/album or even song to and the BST will return the closet matching element it contains. The musicFile class takes a File and a String name and had to be created in order for the files names to be compared rather than the full path to the file inside the BST.

Three major improvements:

* Queue function
* Ability to cycle through playlists properly
* General visual improvements

.