Rafael Silva – [rafael@t4q.se](mailto:rafael@t4q.se)

Date:2016-10-23

Version: 1.0

Pass with distinction (VG) assignment 1:

Java OOP, git, javadoc, external APIs, GUI.

# General rules:

1. Your assignment should be solved individually.
2. You can seek information on the internet and discuss possible solutions with your fellow classmates, but you are not allowed to copy neither text nor code to your own solution.

# Rules for submission:

1. When you are finished with your project, the only thing you need to upload to the student portal is the URL to your remote repository at github, preferably, as plain text.
2. Read the section “The assignment” in this document for further details of your task.
3. The deadline for this assignment is *monday 2016-10-31 at 11.55 pm*. This is a strict deadline and failing in submitting it in time could imply in missing the opportunity on getting a VG for the course. Personal problems, i.e. travel, sickness, etc. will be considered individually.
4. You are free to work either at school, with my guidance (not straight answers!), or individually anywhere else that you choose.

# The assignment:

In this assignment, we will create our own music player with the help of JACo MP3 Player API <http://jacomp3player.sourceforge.net/guide.html> . Using this API means that you do not need to implement the functions for play a mp3 file in a lower level, i.e. the API provides methods like play(), pause(), stop(), etc. that you can invoke within your code.

This is a pass-with-distinction assignment, since you will show your skills on e.g. how to design a program, using external APIs and implement it using good programming principles.

# General requirements for the assignment:

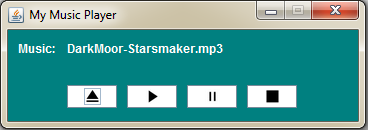
* You should design the structure of your project and define which classes/methods should be created. The project should have at least 3 classes and 1 interface. Further details of these files are under section 2 of *Further details of the assignment.*
* You should create the class diagram for your project.
* You should create your own remote repository and upload your project to your repository. (your project should have a couple of commits and not only one when it is finished!)
* You should be able to use the JACo MP3 Player API in your project. The API is available for download at: <http://jacomp3player.sourceforge.net/guide.html>
* You should add a user interface to your project. This is not mandatory to add a GUI to your solution, but it makes it pretty much easier to handle JACo MP3 Player with a GUI! Otherwise, make your program to be interactive on the console/terminal.
* You should use good principles of OOP and java code conventions when designing your project.
* Your solution should be finished, i.e., I expect not to have problems when I compile and run your code.
* NOTE: The deadline for this project should be respect. This is a strict deadline!

# Further details of the assignment:

1. The application should be able to play mp3 files and execute, at least, the following functions:

* Open: Open a file with JFileChooser and start playing a mp3 file. If you do not choose a file, the program will do nothing. If there is already a music playing when you hit this button, the current music should stop and the new selected music will start playing.
* Play/resume: plays a mp3 file from the start or resume the previous selected file after the play is in paused stated.
* Pause: pauses the music that is being played on the player.
* Stop: stops the music that is being played on the player.
* You should display the name of the file that is being played on the application.

Example of how the final application should look like, if you prefer to add a GUI to the program:



OBS: There is no requirement for how beautiful the application will look like in the end. The only requirement is that is fully functional and follow the requirements of this document.

1. The application should have at least 4 source files:

* An Interface called PlayerInterface, where you have the definition of the methods for the player, i.e. open(); play(); pause(); stop();
* PlayerMethods, that implements the PlayerInterface. You should also have an attribute of the class MP3Player, from JACo Mp3 player API, and getters and setters to it.
* ViewClass: Where you have the implementation of your user interface. It can be either a Graphical User Interface or a simple interface where you interact with your program through the terminal/console.
* Main: Where you have a main method and start the program.

Divide these classes in packages that you think suitable.

1. If you generate code with WindowBuilder, you should rewrite it in a way that it will be easier to read/maintain.
2. All the source code should be documented and the Javadoc for the project should be generated and included in the project.
3. Your program should be uploaded to a remote repository at your github account and it must contain a couple of commits to it.
4. Your program should be complete. Any compilation problem, or other eventual problems, will imply in failing the assignment.

OBS: I am uploading sample icons for the player, if you want to add them in your solution.