# Software Specification Report

I will be developing a small program based on these requirements:

* The program must be of equal complexity to one of this description:

An advanced music player that allows the ability to sort and search the songs stored in a binary tree (any sort and search algorithm you select will have to be approved if it is not merge sort and binary search), the GUI should display the sorted track list and highlight and play the searched track, it should save the track list to a csv using a 3rd party library. The music player must load and play files

* It must also meet these specific requirements:
  + Must contain dynamic data structures (e.g. doubly linked list or a binary tree) -
  + Must contain hashing techniques
  + Must contain sorting algorithm
  + Must contain searching technique
  + Must contain 3rd party library
  + Must have a GUI
  + Must adhere to coding standards
  + Must have help files

Based on these requirements, I am proposing to create a program as follows:

* *The program will be an Audio file browser in java.*
* *The program will have a GUI made with the Java Swing library.*
* *The user will be able to browse audio files in a sorted double linked list.*
* *The user will be able to search for a file by name.*
* *The user will need to log in before they can use the program. Their password will be hashed for storage using SHA-256.*
* *The password will be retrieved from a CSV file using the Apache Commons CSV reader library.*
* *All variables will be named properly and the code will be formatted. All methods will have proper JavaDoc comments.*
* *Instructions for the user will be included in a document.*

The source control for the project will be done using GitHub. The repository will be at [NickoBrown/Java-III-Project: Source control for Java III project. ID 30032159 (github.com)](https://github.com/NickoBrown/Java-III-Project).

The program will be tested with these tests:

## Login Page

|  |  |  |
| --- | --- | --- |
| Test case | Expected Result | Actual Result |
| Login with correct credentials. | Proceed to next frame. | As Expected. |
| Login with incorrect credentials | Do not proceed. | As Expected. |

## Music Player Page

|  |  |  |
| --- | --- | --- |
| Test case | Expected Result | Actual Result |
| Add song | Song added | As Expected. |
| Play song | Song plays | As Expected. |
| Stop song | Song stops | As Expected. |
| Search song | Correct song appears | As Expected. |
| Press help button | Help PDF appears | As Expected. |