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Project Overview

Programming III AT3

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# 1. What data structures are you using?

I would use LinkedList<T> to insert songs for mp3 player and List<T> to use as storing string data.

* Double linked list(DLL) – DLL is a linked data structure, it has two pointer in each node which called previous pointer and next pointer. The two node links allow traversal of the list in either direction and allows the operations are simpler and potentially more efficient.
* List - is an abstract data structure type that represents a countable number of ordered values, where the same value may occur more than once.

# 2. Where are you using hashing techniques?

I will create a login interface just before you can access to the main application. And from there will needed a hashing techniques for password criteria. I will use SHA256 class as the hashing technique because SHA256 generates an almost-unique 256-bit (32-byte) signature for a text. No matter how big the input data is, the hash will always be 256 bit.

# 3. What sorting algorithm are you using how this is different from selection and bubble sort?

The sorting algorithm going to implement in this application is Bubble Sort because this application has very small data sets as its average and worst case complexity is Ο(n2) where n is the number of items.

The differences between bubble sort and selection sort is that the bubble sort operates by repeatedly swapping the adjacent elements if they are in the wrong order while the selection sort sorts an array by repeatedly finding the minimum element from the unsorted part and placing that at the beginning of the array.

# 4. What search technique are you using?

Binary Search technique would be used in this application because it is efficient, fast and also one of the most commonly used techniques. This technique search a sorted array by repeatedly dividing the search interval in half. Begin with an interval covering the whole array. If the value of the search key is less than the item in the middle of the interval, narrow the interval to the lower half. Otherwise narrow it to the upper half. Repeatedly check until the value is found or the interval is empty.

# 5. What third party libraries are you using?

I would use CSVHelper as the third party library. It is for reading and writing CSV files. Extremely fast, flexible, and easy to use. It also does supports reading and writing for custom class objects.

<https://joshclose.github.io/CsvHelper/>

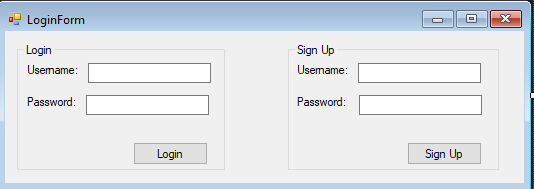
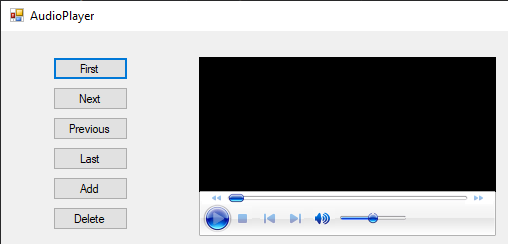
# 6. Where can I find the documentation for this?

All the documentation during the development of application will be upload to GitHub by version naming by every alternations approved by client (Lecturer).

<https://github.com/jaydenlee5559/Programming-III-AT3-Project>

# 7. A mock-up of the GUI.

Below images it just a basic mock up GUI for the Login form and Music Player. The exact GUI would be developed thru the developing of the application.

# 8. What source control are you using?

GitHub will be my source control platform during developing the application. GitHub is a code hosting platform for version control and collaboration. It could let me to keep track the version I’ve done and comparison what have altered between version.

<https://github.com/jaydenlee5559/Programming-III-AT3-Project>

# 9. What are your coding standards you are enforcing?

I would use Visual Studio Code style preferences to enforce the coding standards. Code Cleanup button at the bottom of the editor (keyboard: Ctrl+K, Ctrl+E) to apply code styles the Code Style options page. It could clean up below

* Consistent Indention
* Remove unnecessary using
* Sort using

# 10. What tests are you going to run?

The undergoing tests will be overall testing all the functionalities of the application such as below:

* Login button(Login Form)
* Signup button(Login Form)
* First button(Music Player)
* Next button(Music Player)
* Previous button(Music Player)
* Last button(Music Player)
* Export Library button(Music Player)
* Import Library button(Music Player)
* Sort button(Music Player)
* Search button(Music Player)
* All text fields