



## Computational Problem Solving II

### CPET-321

### Mini-Play-List

#### Design Overview:

Your task is to design, code, and fully test a program that will permit the display and play songs playlists.

#### Design Specifications:

##### Part A – System Executable Command Line & Playlist File

##### Specifications / Deliverables:

- 1) Using Visual Studio, enter, compile and run the “*youtube\_song.cpp*” shown below. Once you have this code working, modify the song\_Name, song\_Artist, and song\_URL to your favorite song.

```

/*****
*** Title: youtube_song.cpp
*** Course: Computational Problem Solving CPET-II
*** Developer: Dr G.H. Zion
*** Description: Play a song from youtube URL
*****/
#include <iostream> // cin & cout
#include <string> // strings

using namespace std;

int main()
{
    string song_Name = "Highway to Hell";
    string song_Artist = "AC / DC";
    string song_URL = "https://youtu.be/5HYT9iEM1Ig";

    string command;

    cout << "Playing : " << song_Name;
    cout << " by " << song_Artist << endl;

    // Create Command Line & Call it
    command = "start chrome --window-size=250,675 " + song_URL;
    const char* system_command = command.c_str();
    system(system_command);

    // Close the Browser Window to Continue
    cout << "\nClose the Browser Window to Continue, then..." << endl;
    system("pause");

    cout << "Bye, Thanks For Playing" << endl;

    return 0;
}
/*****/
```

- 2) Create a text file called *my\_playlist.txt* that contains the information for ten (10) of your favorite songs. For each song, you'll need the song's name, the artist's name, and the song's URL on youtube. The format of the file is shown below:

```

We Didn't Start the Fire
Billy Joel
https://www.youtube.com/watch?v=m50p-XScreM
Stairway To Heaven
Led Zeppelin
https://www.youtube.com/watch?v=ATw-zqeTzqw
Sweet Home Alabama
Lynyrd Skynyrd
https://www.youtube.com/watch?v=DNF2Im0vDxc
Hells Bells
AC/DC
https://www.youtube.com/watch?v=P9cCCirb8Qo
Thunderstruck
AC/DC
https://www.youtube.com/watch?v=iVURZ3kN_qA
AC/DC
```

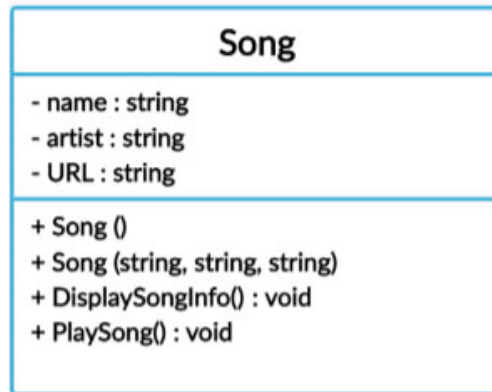
Note: Don't use URL's from youtube playlist. These playlists have an index number that prevents them from working properly with the C++ system command.

## Part B – My Play List

### Specifications / Deliverables:

Your code for **Part B – My Play List** must meet the following design specifications:

- 1) Write the C++ code to implement the class **Song** illustrated in the UML diagram shown below. Organize this design in two files, **song.h** containing the class declarations and **song.cpp** containing the class definitions.



Note: The member function **DisplaySongInfo()** should only display the song's name and artist. For example: Hotel California by The Eagles

- 2) Using the **Song** class implemented above, write a C++ main() program that implements the following:
  - Open and read your playlist file (**my\_playlist.txt**) and populate a **list** of **Songs**. If the file does not exist, print an error message, and terminate the program.
  - Using the **list** of **Songs** and the member function **DisplaySongInfo()**, display a menu that lets the user select the song they would like to play. Use a menu system similar to that shown below:

```
C:\Users\ghzite\Desktop\GHZ\Classes\CPET-321 CPS II\CPET-321 VS...
Song Menu :
( 1 ) : We Didn't Start the Fire by Billy Joel
( 2 ) : Stairway To Heaven by Led Zeppelin
( 3 ) : Sweet Home Alabama by Lynyrd Skynyrd
( 4 ) : Hells Bells by AC/DC
( 5 ) : Thunderstruck by AC/DC
(-1) : QUIT
Select =>
```

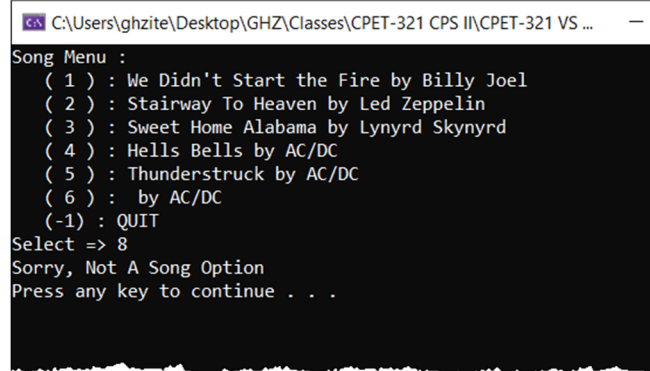
Note: This menu is using a playlist of only (5) songs, your implementation will have at least (10).

- If the user enters a legal value, play the selected song using the **PlaySong()** member function. After the song is finished playing (or you close the browser window), re-display the menu and prompt for a new selection.

```
C:\Users\ghzite\Desktop\GHZ\Classes\CPET-321 CPS II\CPET-321 VS...
Song Menu :
( 1 ) : We Didn't Start the Fire by Billy Joel
( 2 ) : Stairway To Heaven by Led Zeppelin
( 3 ) : Sweet Home Alabama by Lynyrd Skynyrd
( 4 ) : Hells Bells by AC/DC
( 5 ) : Thunderstruck by AC/DC
(-1) : QUIT
Select => 4
Playing : Hells Bells by AC/DC

Close the Browser Window to Continue, then...
Press any key to continue . . .
```

- If the user enters an illegal value, print an error message, re-display the menu and prompt for a new selection.



```

C:\Users\ghzite\Desktop\GHZ\Classes\CPET-321 CPS II\CPET-321 VS ...
Song Menu :
( 1 ) : We Didn't Start the Fire by Billy Joel
( 2 ) : Stairway To Heaven by Led Zeppelin
( 3 ) : Sweet Home Alabama by Lynyrd Skynyrd
( 4 ) : Hells Bells by AC/DC
( 5 ) : Thunderstruck by AC/DC
( 6 ) : by AC/DC
(-1) : QUIT
Select => 8
Sorry, Not A Song Option
Press any key to continue . . .

```

- If the user enters a '-1', print a farewell message and terminate the program.

***Due Date:***

The following items for your *My Play List* implementation (part B) are due on **Saturday 11/5/2021 @ 11:59 pm**.

To receive full credit, you must submit the following items:

- **play\_list.cpp**
- **song.cpp**
- **song.h**
- A word/pdf file containing a series of screenshots that FULLY demonstrates that your code is working correctly.

All code needs to be properly commented and formatted in accordance to the post C++ Style Guide.