SEMINAR 2

1. OBJECTIVES

- Design the solution of a given problem using OOP paradigm.
- Create and use classes and objects in C++ (object creation, destruction, copy, assignment).
- Create a dynamic vector class and understand the need for "the rule of three".
- Create a console based application in C++, using layered architecture.

2. PROBLEM STATEMENT

You love music! (Hey…who doesn't?) Studies show that "wide networks in the brain, including areas responsible for motor actions, emotions, and creativity, are activated during music listening"[1].

But even more than music, you love programming (maybe while listening to music). You therefore need an application that allows you to manage your songs and create playlists. The application will have a *database* (stored as a text file) of songs. For each **song**, you know the artist, the title, the duration (minutes and seconds) and you have a youtube link. The application will have a console-based user interface, allowing you to do the following:

- Add songs to your song database;
- See all the songs in your database;
- Create a playlist and play the songs in it:
    - Add songs from your database to the playlist (by artist and title);
    - Add all the songs from your database, by a certain artist, to the playlist;
    - Play the songs in the playlist, one by one. Playing implies that the current song will be played by your browser, using the youtube link.

Design the solution to this problem using the object oriented programming paradigm. Write the application in C++ and use layered architecture. Implement a class DynamicVector to store the songs.

[1] https://www.sciencedaily.com/releases/2011/12/111205081731.htm