Course:	INFO6046 Media Fundamentals
Project # 3:	Net stream, recording and processing from microphone, text to speech, text to speech into wav file.
Weight:	20 % to 33.33% of final mark (depending on number of projects)
Due Date:	January the 9th, 6:50 p.m.

This project can be done alone or in groups.

Possible groups are listed at the end of this document, you must indicate if you are working within the group or alone before submitting your project.

Description and Purpose

Create a small "sensible" application that is a game or story, utilizing net streamed and microphone recording and processing, text to speech to speakers (to speakers) and text to speech into wav file. Your application should also control (or demonstrate) the manipulation of the sound adding dsp effects to microphone recorded sound and text to speech wav file.

Make sure your audio files and paragraphs selection is appropriate for an academic environment. When creating this project consider the possibility to add it to your professional portfolio.

Keep in mind the following:

These are the maximum marks *possible* for each section

There are some minimum requirements that must be present before you will receive any marks. For example: a win32 or console application that only loads and plays a single or multiple sound/s will get you a mark of zero (0).

Make sure to test your visual studio project before delivery, no code or project correction accepted after due date, you will be graded with whatever you decide to upload to FOL dropbox.

Details

Your application must:

1. **25 points -** Have a number of **net sounds** (sounds from the internet your preferred url/ip, at least 3)
   1.1. By pressing key 1, pause or play net stream sound 1
   1.2. By pressing key 2, pause or play net stream sound 2
   1.3. By pressing key 3, pause or play net stream sound 3

2. **25 points –** Record sound from your microphone, and apply at least 3 different dsp effect (as seen in class):
   2.1. By pressing key 4 start recording from your microphone
   2.2. By pressing key 5 enable/disable a dsp effect 1 on recording sound
   2.3. By pressing key 6 enable/disable a dsp effect 2 on recording sound
   2.4. By pressing key 7 enable/disable a dsp effect 3 on recording sound

3. **25 points –** Text to speech.
   3.1. Load at least 3 paragraphs from an external file (at least 3 sentences per paragraph).
   3.2. Paragraph 1, use female voice
      3.2.1.Sentence 1, speak normal
      3.2.2.Sentence 2, spell
      3.2.3.Sentence 3, emphasize a word or section of text.
   3.3. Paragraph 2, use male voice
      3.3.1.Sentence 1, rate -5
      3.3.2.Sentence 2, rate 10
      3.3.3.Sentence 3, rate 15
   3.4. Paragraph 3, use female voice
      3.4.1.Sentence 1, add silence 800 milliseconds at the middle of sentence.
      3.4.2.Sentence 2, change pitch to 5
      3.4.3.Sentence 3, change pitch to 10

4. **25 points –** Text to speech into wav file.
   4.1. Load at least 3 paragraphs from an external file (at least 3 sentences per paragraph), different than question 3.
   4.2. save it into “c:\yourlastname_yourfirstname\project3.wav” (update lastname, firstname with your own)
   4.3. load it with fmod as loop (continuous play)
   4.4. Enable/disable 3 dsps by pressing keys, 8, 9 and 0

   You might need to create more than 1 solution/projects for this implementation should be based on FMOD sound low level API, and SAPI Text To Speech.

   Must be in C++, and be able to be compiled with Visual Studio 2017

How to upload to FOL:

Upload a single "zip" file (LastName_FirstName.zip) containing all needed files (after selecting clean solution on visual studio) and dependencies to successfully compile and run your project.

It is quite important to include README file and place it at "root" of your project or solution, your README file must include instructions to interact with your application/project and/or any special instructions you need me to execute/follow. ***I am unable to find requested functionality by following onscreen instructions you might not get any marks for your implementation.***

Plagiarism:

While you may freely "borrow" mine (or anyone other) code but **your code should be "sufficiently" different.**

In other words, you cannot simply use an existing game engine (or part of a game engine) to complete this assignment; **it should be either completely new or "significantly" modified.**

Grading Scheme

- Normally a grade of zero (0) will be assigned to any assignment that is submitted late.
- However, certain rare exceptions apply according to the Infotech Policy on Missed Evaluations and Evaluation Deadlines.
- If you code does not even compile, I will not mark it. Period. This will get you a mark of zero (0).
- If you code does not build (i.e. linker error) and run (i.e. no crazy run-time crash that is unexpected), I may investigate this further, but only if there is some simple problem and/or very slight and/or very obvious (and easy to fix) configuration error.

Project Corrections

If any corrections or changes are necessary they will be posted to the course web site and you will be notified of any changes in class. It is your responsibility to check the site periodically for changes to the project. Additional resources relating to the project may also be posted.

Possible Groups

You have a choice of being in the group or not.

If you choose to be in a group, all group members receive the same mark, maximum 3 students per group.

I am not going to get involved with issues like "I did all the work, and he/she is a lazy bum," and so on; if you choose to work in a group, you also choose to manage the dynamics of the group.

Note: You must indicate your grouping before submission. This can be in the comments portion on the submission page of Fanshawe Online.

Only one student needs to submit, but if you like, then you may also have every member of group submit the same project to FOL, **it is important to indicate full name (Last Name, First Name) of all team members inside FOL comments.**

Also: Either place this note (or any other note you expect me to read) in the FOL comments, in an e-mail, or in some obvious place, like a "README" file on the root of your project folder.

Please don't place them deep inside the comments of one of the files, buried within the code somewhere, etc.