

**CSCI366**  
**ASSIGNMENT 2 (15 marks)**  
**Due 30/10/2020**

**Aim:** to apply audio processing techniques discussed in lectures.

**Tasks:** You are required to develop Android apps for the following tasks. There are 2 audio files provided to test your apps:

- audio1.wav (for Task 1)
- audio2.wav (for Task 2)

**Task 1 (7.5 marks)**

Load the audio file (*audio1.wav*) supplied together with this assignment into your app. The audio file contains some high frequency noise and you are to implement a low pass filter to remove/minimize the noise.

Provide proper user interface (i.e. buttons, views, etc.) in your app so that user can choose to play the original audio or play the “de-noise” audio.

**Task 2 (7.5 marks)**

In typical music recordings (stereo), the vocal track is the same on the left and right channels (or very similar). The volume of the various instruments are more unevenly distributed between the two channels.

In this task you will need to remove (or minimize) the vocal track on the given stereo audio file *audio2.wav*. One of the simple way to achieve this is to subtract one of the channel with the other channel. The resulting audio is mono and consists of some instruments sound only.

Provide proper user interface (i.e. buttons, views, etc.) in your app so that user can choose to play the original audio or play the “without vocal” audio.

**Requirements**

- Name the first app (Task 1) as “Noise Filtering” and second app (Task 2) as “Vocal Removal”. Use the following package name :  
**com.csci366-2020.<your name>.<app name>**
- Pay some attention to GUI design as GUI design carry up to 3 marks.

**Submission:**

Use appropriate comments in your source code. Please use the “Export to Zip File...” feature in Android Studio to generate the zip file of your project. Then upload this zip file to *moodle* on or before the due date.

**Assessment:**

Marks will be awarded based on the quality of the implemented features. Note that marks may be deducted for other reasons, e.g. if your code is too messy or inefficient, is not well commented, etc.

For code that does not compile, does not work or for programs that crash, the most you can get is half the marks (i.e. 7.5 marks or less). Note that you may be contacted to explain your code.