**ECE-S2020 Capstone Design**

**Project Abstract**

**Music Transcription**

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If you have any question or comment, please contact us

**1 Background & Motivation**

The Transcription of music refers to the generating of the music note from a given part of music. The traditional music transcriptions have been written by hands. This is absolutely a time-consuming job, and, it also requires the people who do this has a very well musical knowledge base. What’s more, it also has a lot of other requirement, for example, the place should not be very crowdy. These limitations of the traditional music transcription makes people hard to write or record the music they want to. To let everyone be able to “write” music, we want to find a way to do music transcription automatically.

Also, I want to ask for some more paper about the latest PUF, because the paper listed on the lecture seems to be 2010 which is not so up to date.

**2 Goal & the Difference with the Related Work**

Our goal is to develop an application to write music sheet automatically with a given part of the audio on android platform.

After the research of the related work, we find that there are many excellent works to refer till now, but there are still few application, especially mobile application, exists. When it come to the application, there are more things to concern for example, how to get the audio, how to generate the noise of the data. To solve these and also do a good transcription of music, we need to do more.

**3 Scope of Work**

The whole project can be probably divided into 3 main parts: the audio data fetching and preprocessing part, the music transcription part, and the output and presenting part. In the first part, we will focus on how to get the data from the device and to generate the dataset which will be used in the transcription part. In the second part, our goal is to finally output a MIDI file from the data we get from the first part. The last part is to transcript the MIDI file into a standard version of music sheet, which can be directly used by orchestra or chorus.

**4 Progress**

Now, we have successfully got the audio data from the microphone and generate it by the frequency of the sound. We plot the data in a time-frequency chart, which will be easier for us to operate. Also, we have developed a basic android application which could be directly used for further developing.