

Abstract

Human hearing have a limited ability that is not able to identify the tone that comes from a musical instrument naturally. Therefore required a form of application tool that is able to detect the tone of the music is a tool.

In this Final Project, has created an application that can detect the tone by using three different methods, namely correlation, Discrete cosine Transform (DCT), and Fast Fourier Transform (FFT). The music instrument is chosen as the tone generator in this Final Project is piano because it is a commonly tool that community used.

In general, Principe of this application is to detect the frequency of a tone, and frequencies are adjusted to the frequency reference so that the tone will be detected. Tone detected coming from the original tone, the tone of the noise and the tone of the echo. The parameter measured is the accuracy of detected tone. Accuracy expresses that frequency of detected tone is same with frequency of the real tone.

From the test results can be concluded that the correlation method is the best method of detection basic tone that has not been any interference. While for the basic tone with a big noise (SNR <30 dB), DCT and the FFT method is a more appropriate method.

Keyword: piano tone, Correlation, DCT, FFT.