ABSTRACT

Human hearing has its limitations and is unable to identify high and low tones for sure. Limitations of hearing and the traditional ways still be utilized by the maker of Balinese gamelan to identify the tone quality of gamelan that they made so that the results obtained are not optimal. Therefore, they need an application that is able to detect high and low tones and to know the quality of tone on the Balinese gamelan.

In this final project has created an application that can detect of high and low tones and tone quality calculate in real time. The musical instrument was selected as a tone generator is ugal which is one of Balinese traditional musical instrument that really plays an important role in the staging of the Balinese gamelan.

This final project discusses about the use of Wavelet Transform as a tool for decomposition to eliminate noise on the input signal by using the mother wavelet and decomposition level specific and use the Fast Fourier Transform (FFT) as a feature extraction to distinguish the frequency of tone on ugal signal.

From the test results showed that, as greater the value of SNR as greater accuracy in determining the tone quality and high and low tones at ugal tested against a reference. Systems achieve maximum accuracy when SNR values given above -10 dB with a value of 100% accuracy.

Keywords: Ugal Tone, Wavelet Transform, Fast Fourier Transform (FFT)