ABSTRACT

An automatic tone recogniziton becomes a very important system. It is caused by limitation of human auditory system in recognizing tones. People can only hear sound from music instrument without knowing kind of tone that is being produced. Mostly, the nowadays system is made only to recognize modern instrument and has limitiation in recognizing the traditional one. One of traditional instrument is talempong, which comes from Minangkabau, West Sumatra. Talempong is played by hitting the instrument based on the intention tone. So far, system to recognize talempong's tones hasn't been made yet.

In this final project, the system to recognize tones of talempong has been made. The system is expected to be useful as a parameter in telempong calibration process when the tone that is produced is not right. The system applies two feature extraction methods, they are harmonic wavlet transform and Mel Frequency Cepstrum Coefficients. Every talempong tone that has been featured will be recognized using Artificial Neural Network Self organizing map.

From the result, it can be proven that this system can indetify talempong's tone at 100% level accurate in a non-real time system. 13 talempong tones have been used and the input for identification system is 13 recorded talempong's tones.

Keywords: *Harmonic Wavelet Transform, Mel Frequency Cepstrum Coefficients, Artificial Neural Network Self Organizing Map*