ABSTRACT

As the time goes by, many genre of music are growing. For example Jazz music. Jazz music will influence the listener to be more relax and feel comfortable. The tone that come to the brain will be processed and the brain will give output signals. The output signals can be detected using Electroencephalography EEG.

The EEG device will detect the electrical activity using electrodes that placed on the scalp. There are several kind of output signals, such as gamma, alpha, beta, delta and theta. As the output signals that mentioned above, the researcher is focusing the research on the gamma and theta signals only. The output of the EEG device can be analyzed using digital signal processing to identify whether people on the relax condition or not based on the gamma and theta signals. Principal Componet Analysis (PCA) method will be used in this research to extract the feature and K-Nearest Neighbor (K-NN) is used to classify the signal.

The final assignment result of this research is to identify relax condition or not when listening jazz music. The system produced the best performance at 61,7% accuracy on gamma signals and 63,33.33% for theta signals. By for the research, system can help recognize rilex state or not especially gamma and theta signals.

Keyword : PCA, Gamma, Theta, EEG, Jazz