ABSTRACT

Voice recordings in the form of conversation files are one of the tools for various purposes, one of which is for the police. Identifying a room class is one of the clues in processing a crime scene. Creating a room class detection system is one way for the police to identify room classes.

To determine a room class can be measured through reverberation time using the MFCC algorithm to extract the features of the sound recording training data. After the feature extraction is obtained, the data features will be input as a dataset which will then be tested. Then the test data for which the class of the room is unknown will be carried out by the testing process. Processed test data will be classified using LVQ based on the characteristics of the existing data in the dataset. The end result of this system is to bring up the value of accuracy and computation time.

The research will process sound recording data using the MATLAB application, then look for feature extraction using MFCC and look for classification using LVQ. Using 48 training data and 18 test data as calculation and simulation process. The accuracy value obtained from the room detection system based on reverberation time with the MFCC and LVQ methods is 94.44% and the computation time is 32.969474 seconds with parameters that are worth Coef MFCC 40, Frame size 0.05, Node Layer 5, and Epoch 10.

Keywords*: Reverberation Time, Mel Frequency Coefficients Cepstral, Learning Vector Quantization.*