ABSTRACT

Inpatients in the hospital require intensive care from the medical team to monitor their physical and psychology of the patient. But not all hospitals can provide the maximum care so that needed a system that can monitor the condition of hospitalized patients. This problems make the writer want to do research on the monitoring room of inpatients who are able to describe the situation that occurred in inpatient rooms while maintaining patient privacy.

Monitoring inpatient rooms based audio signal in which the monitoring process which took place at room inpatients using the speech characteristic and sound characteristic may occur in patient rooms. Input data is audio files, audio files contained on sound recordings that represent the events that occurred in patient rooms and the surrounding environment. Feature extraction parameters used are mel frequency cepstral coefficient (MFCC), delta mel frequency cepstral coefficient (Delta MFCC), energy bit, band energy ratio and classification using support vector machine (SVM). There are two process in this simulation, non-real time and real time. In non real-time testing phase will be the process of finding the best accuracy by comparing the use of wavelet or without wavelets.

Results in the process of non-real time accuracy is 100% when using the n frames is 128, moving average coefficient is 10, delta MFCC coefficients is 10 and uses a single level DWT, then proceed to process real time. Accuracy in the process real time is not as good as the accuracy on the non real time process because several factors such as noise, and sensitivity of both hardware and software devices used in this final project.

Keyword: Inpatient Room, Observation Room, Audio Signals, Speech, Sound.