ABSTRACT

The latest communication technology embedded on a smart phone has made the mobile handheld more users friendly and become a necessity in majority of people. One of the applications that are frequently accessed is the music player because almost every smart phone users listen to music on the sidelines of their activities. The current settings for the music player still manually by clicking the functions button on the appearance. This way is still not effective because when accessing this application required a high level attention so users main activity being disturbed. Therefore sought a way that can be easily and practically doing the music player settings by implementing the Automatic Speech Recognition (ASR), which makes the voice input as a command to perform play, stop, next, previous, pause, (volume) up and down.

A feature extraction method used in this research was the Mel Frequency Cepstral Coefficient (MFCC). MFCC method capable of capturing important sound characteristic for speech recognition system. K-Nearest Neighbors (KNN) was used as a classification method. KNN having toughness to classify the training data that has a lot of noise. The programming language used in this research was Java Android. Android is one of platform for mobile devices that have open source capability so that author can develops applications and configure the system according to the needs of the research.

The best accuracy of this system is 76%.If noise added, the system's accuracy goes down, which is 70% on low noise environment, 67.14% on medium noise environment, and 60% on high noise environment so the system is said not quite robust against noise.

Keywords: Speech Recognition, Music Player, Mel Frequency Cepstral Coefficient, K-Nearest Neighbors, Android