Abstract

This paper talks about the implementation of speech recognition in Bahasa Indonesia. The system will translate audio file into text according to the spoken word that has been trained into the system. MFCC method is used for feature extraction where feature vector dimension is reduced with PCA method, then it quantized using Y. Linde, A. Buzo, and R. Gray (LBG) and classified with HMM method. The reduction of the feature vector dimension is applied because the number of dimension in MFCC feature from MFCC method is very high. PCA is chosen because the PCA can project the data into a space where the variance is high with the order of the dimension, so the redundant and less important data can be reduced. Also, the dimension reduction can affect the system performance, because lesser dimension means lesser data to be calculated. The results show that the system can recognizes word with 80.19% accuracy, but there is no significant improvement in system performance, the highest improvement is at around 3.29% for training process, because only at vector quantization process where the number of data has decreased, also the PCA process add process time that wasn't there before.