

ABSTRACT

Bali is one of Indonesia's island which became one of the favorite tourism destination for foreign tourists who come from different countries and have different understanding of languages for each country. Commonly, travelers use English as an international language to communicate each other. However, not all of Balinese people can use English correctly because for their conversation, they usually use Balinese language. Because of that problem, we have to make a system that can translate Balinese language into English.

In this final project will be carried out simulations of Balinese language translator into English based on speech to text using Hidden Markov Model classification method. At the simulation process the input signal is a speech signal in the form of words that the feature of that signal will be extracted using Mel - Frequency Cepstral Coefficient. That signal feature will be required for the classification process to obtain a translation in the form of text based on database that was created previously. The testing process will be done in real time domain.

The best model of dependent speech system that produces the best accuracy consist of 2 states, 50 MFCC, and the size of codebook is 70. The accuracy of real time speech recognizer for dependent speech without noise is 76 % and the maximum accuracy for each word reaches 100 %, the accuracy of real time speech recognizer for female speech without noise is 57,20 % and the maximum accuracy for each word reaches 100 % , and the accuracy of real time speech recognizer for male speech without noise is 42,40 % and the maximum accuracy for each word reaches 100%

Key Words: Hidden Markov Model, speech to text, Mel-Frequency Cepstral Coefficient