ABSTRACT

A sign language can be identified through a person's mouth movements and movements. By recognizing the special characteristics of each sign, we can easily translate it. This research conducted the introduction of a number of sentences in sign language, so that people with the ability to speak more easily translate the verbal cues of a mute or deaf people.

Inputs used in this research are in the form of video files that contain sign language performed by two individuals, by referring to Indonesian Sign Systems (SIBI). Video files are then divided into frames of images. Each image frame is analyzed and then feature extraction produces feature vector of each image. Characteristics are made based on each actor's hand movements of sign language. Next, feature vector will be quantized and modeled with a Hidden Markov Model (HMM), and training conducted to produce a database for the entire HMM. The introduction of each signal will be done through an evaluation of the HMM. The output of this system is in the form of sound that is a translation of the input signal.

In this final research, ten variations of words in sign language performed are used by two actors in sign language. The accuracy of the system reaches 90% when used on two different individuals.

Keywords: sign language translator, SIBI, videos, feature extraction, Hidden Markov Model, sounds