ABSTRACT

Speech recognition is a technology used to translate the words spoken into text. The application of speech recognition systems in electronic devices provide another option for controlling which generally use a button or switch. This allows people to control devices without having to be around it.

The system in this final project using Field Programmable Gate Array (FPGA) as a sound processor and a simple mobile robot using a DC motor and L298 motor driver. The process of feature extraction using the Mel Frequency Cepstral Coefficients (MFCC). Classification process using the euclidean distance. The output signal from the speech recognition process is used to control the motor using a DC motor driver that can adjust the direction of motion of the robot.

In this research, speech recognition systems have been created can be implemented on FPGA. The system produce 1024 feature coefficients for every words with the input signal length 0.89 second. Maximum delay of the system are 46832 clock cycle from the input clock system.

keywords : MFCC, *euclidean distance*, FPGA