

HAND GESTURE LANGUAGE PRESENTER

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ABSTRACT

This objective of this project is used to present several hand gesture languages when the user speaks some words to the robot hand. The robot must be able to demonstrate at least three different words which are “ok”, “I love you”, “good”. The HM2007 chip is used to recognize the speech that spoken by the user. The HM2007 will be trained for a set of speeches for recognizing. There is a small keyboard and a display board connected to the HM2007 module. The keyboard is used to set the speeches into a key such like key “01”, “02” and so on. The key will display on the display board. The display board is used to show the speech that has been set into which set of keys and it also identify which speeches belongs to which set of keys. When the user speaks a word to the robot hand, the speech will be recognize by the HM2007 chip. HM2007 will compare the speech spoken by the user with a set of the speeches that have been set earlier. If the speech spoken by the user is same as one of the speeches that have been set into the HM2007, a signal will be send to the PIC16F877a microcontroller.

Once the PIC16F877a receives the signal from HM2007, the microcontroller will interpret the signal and send the signal to the motor driver, L293d. The motor driver is used to control the servo motor movement. The delay for the servo motor to turn is according to the instruction from the microcontroller. The servo motor is used to pull the string which it is attached to the robot finger for pulling down the robot finger and demonstrate the desired word.

The operation of the robot hand and speech recognition circuit was a success. In a future study, more words will be set for the robot hand to recognize and also the degree of freedom of the robot finger will be increased for more function such as grapping.