

ABSTRACT

Our deaf friends have had problems in communicating with anyone they encountered. This people group has always depended on sign language that uses specific hand gestures to interpret their thoughts to a specific meaningful way. This study aims to improve a hand gesture recognition system for deaf and mute people by creating a device that will be able to translate some important sign language to recognizable speech. Additional circuit is done by creating a response system for people to communicate with deaf people. In this case, gyroscope sensors and flex sensors are used to determine the hand and finger movement. The device is controlled by Arduino pro mini microcontroller as its brain, Bluetooth module for wireless communication, and an android app for text to speech conversion. For the response device, this enables ordinary people communicate to deaf people by the use of speech to text conversion in an android app and send this text to the display. Since deaf people can read, they will know what other people want to say. This device will be a good help of breaking this communication barrier.

Keywords: Gyroscope sensor, flex sensor, Arduino pro mini, Bluetooth, Text to Speech