Talk to the Hand: A Portable Translator Between Verbal Communication and Tactile Sign

Song, Lily (School: North Park Collegiate and Vocational School)

Talk to the Hand is a project that facilitates access to communication and understanding between the verbally able and the deaf blind community. Many people do not know sign language, especially tactile sign language for the deaf-blind. Learning a language can be a difficult task, so to make communication more accessible, a translator can be created. Using a speech recognition program in python, oral speech is translated into text and is sent using the serial package to the Arduino IDE, where it is processed and output onto a glove. This glove emulates tactile sign language, a language that is transmitted through touch on a hand, using ZYAMY motors and AdaFruit LEDs. These motors and LEDs are coded in patterns that output like physical motions of the tactile alphabet. This concept can be applied as an app translator, translating between spoken language and tactile language. Therefore, even without knowledge of tactile sign language, communication can be held between the deaf blind and verbally able. This allows for language to become more accessible, having face-to-face or over the phone conversations, by simply wearing a portable glove. This project can provide equal access to the deaf blind by giving them a method of understanding in a comfortable way of communication, contributing further to improve methods for accessibility for individuals with disabilities.

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