EnableTalk

Abstract:

"Enable Talk"—gloves that will translate sign language into spoken word, giving a voice to the 40 million people who live every day with speech and hearing impairments. These gloves will translate sign languages into text and sound, and the output can be displayed on a phone or a computer. The Enable Talk gloves will work by translating the dynamic gestures of the user's hands through a text-to-talk engine connected to a smartphone.

Theory of Implementation:

There would be a predefined database which will specify the sign for each alphabet. Based on the position and orientation of each finger the appropriate alphabet corresponding to that sign would be displayed on the phone/computer. The black gloves will with sense-read and interpret the wearer's hand movements.

Timeline:

Week 1: Implementing different signs defining position of each finger.

Week 2: Code the interphase.

Week 3: Design the circuit and implement the required sensors and transmitters.

Week 4: Make the glove ready with all the components in the required positions.

Week 5: Link the hardware and software part of the product.

Week 6: Debugging and Buffer Week.

Components Required:

Flex sensors – To calculate the turn/bend of the fingers.
Touch/Contact sensors- To see if two fingers are touching or the palm.
Gyroscope sensors, Accelerometers- For direction of fingers – up, down, left, right.

Cost Estimate:

Anywhere around ₹4500.

Salient Features:

- Can give voice to the 40 million people who live every day with speech and hearing impairments.
- Can also be used to transmit speechless information between two people.
- An asset to the disabled by providing them with a great mode of communication.