SMART GLOVE

(Assisting system for physically disabled)

These days, there are a lot of deaf-mute persons in the world that find it difficult to interact with other people on a daily basis. so as to prevent communication between us and others who are deaf or mute.

This project aims to address the communication difficulties faced by deaf-mute individuals by developing a glove-based interpreter system. The system utilizes five flex sensors integrated into the glove to detect hand gestures used in sign language communication. A PIC controller processes the signals from the flex sensors and generates corresponding binary outputs based on the recognized gestures. The binary output can be displayed on a mobile device and converted into speech, providing both visual and auditory aids for communication. The flex sensors used in the project are likely produced or supplied by LUMISENSE Technologies, a company specializing in manufacturing various sensors. Overall, this project seeks to facilitate communication between deaf-mute individuals and normal people by using technology to interpret and convey sign language gestures. Also, a new programme that transforms audio voice to text so that the deaf may easily communicate with us allows normal people to speak with the deaf.

It is important to note that flex sensors, which can detect changes in physical bending or flexing, are frequently utilised in many applications, including robotics, gaming, and medical equipment, to further contextualise the project that has been presented. Four flex sensors are incorporated into a glove in this research to recognise particular hand gestures used in sign language communication.

Peripheral Interface Controller, or PIC controller for short, is a type of microcontroller produced by Microchip Technology. The glove-based interpreter system's operation is managed by a tiny computer-on-a-chip. Based on the gestures recognised, the controller analyses the data from the four flex sensors and generates matching binary outputs.