**Summary**

**Introduction**

Hand gesture is one of the methods used in sign language for non-verbal communication. It is most commonly used by deaf & dumb people who have hearing or speech problems to communicate among themselves or with normal people.

The idea of the project is to recognize and understand the gestures and signs made and to translate it into readable text thereby making it easier for the people with zero knowledge about sign language to understand it.

This problem statement is addressed in SIH, PS number RK771 under the Domain Bucket of MedTech / Biotech / HealthTech by Department of Empowerment of Person with Disability Ministry of social Justice and Empowerment

**Existing system**

1. **Using Flex Sensor**

there user hand is attached with the flex sensors. On this module the flex sensor reacts on the bend of each finger individually. By taking that value controller starts to react with speech, each flex sensor holds a unique voice stored in APR Kit and for each sign it will play a unique voice.

1. **Using MATLAB to recognize sign language**

The dumb person should provide a gesture or sign image to the system. The system evaluates the sign input with MATLAB image processing technique and classifies the input to the recognized identification. Later it initiates the voice media through the system when the input image matches with the given dataset. And the output will be shown in the text format too.

***Limitations-***

* One of the major problem of the existing system is Dumb person should always carry the hardware with him.
* Users can’t do any other work with flex sensors on fingers and also sensors should be placed straight.
* The controller may think that the user is giving commands and finally it may result in unwanted results.

**Our solution**