

# **SIGN LANGUAGE TO AUDIO TRANSLATOR USING LABVIEW**

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## **DOMAIN: VIRTUAL INSTRUMENTATION**

Sign language is the way of communication, mainly used by dumb people who can't communicate with others by words. This mainly includes facial expressions and hand gestures. The Signs performed by those people is difficult to understand by others. So this is the main objective of our project which is "to make dumb people to speak". So, we designed a glove for them which are fitted with flex sensors for each finger which gives output when it gets bend and accelerometer to detect the hand movements. When flex sensor bends the bended sensor will give output and while motion there is drastic change in x y z axis. We done with some programs which will give the audio output in speakers based on the gestures done by them. If the people sign the words through glove, the voice output will be sounded in speakers which make everyone to understand. So, they can communicate like others without any hesitation. A flexible glove is fitted with twenty flex sensors (resistive type) are attached on fingers. That were kept in a position that each finger's nerve traces on the upside of hand. So it gives flexibility of the fingers when performing gestures and it also allows the efficiency of sensing methodology by low cost sensors. The two accelerometers (adxl335) are placed in center of each palm of two hands. It is used to detect the motion of hands while doing gestures. 3 outputs were taken out from accelerometer(X, Y, and Z). The sensors outputs and accelerometers outputs are fed into myRIO in order to synchronize it. Glove is a flexible italic fabric which is nylon stitched gives a good strength and performance. As it is a black color it absorbs the signal produced. The size of whole

devices will be compact. The gloves are flexible ones and do not need much tension to wear on hand .As a whole the entire model was designed and explicated with the minimal amount of cost. Hand gesture detection is used previously in gaming and robotic controls. By using same methodology the proposed design interpret the sign language and provides predefined audio signals in the amplified range. **"Better way of communication is a good way of expressing yourself"**-Engineer.