

# Glove for Speech Impaired

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## Abstract

World is impossible without communication. Feeling, thoughts, ideas, emotions etc. are exchanged through communication. Dumb people find it difficult to interact with normal people. They use sign language to communicate with normal people, but many people don't know sign language and it becomes difficult to interact & many times get misunderstood. There is the need of to help such people by technology for communication. The paper describes a way to reduce this communication barrier by developing Glove Based System for deaf and dumb using XBEE. This portable communication device will help such people. It converts sign language into speech & controlling the home appliances by using hand gesture. The glove is equipped with switches. For each finger there is switch and database which is decoded by PIC. The values of switch are transmitted by means of XBEE to another PIC at receiver side. The output of system will be presented with the help of speaker. As we go on updating the database the dumb will speak like a normal person.

**Index Terms-** Communication aid, switches, PIC, Speech impaired.

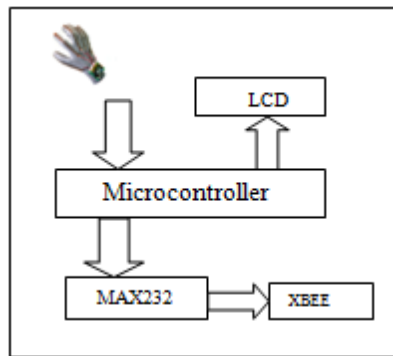
## INTRODUCTION

Wildlife is impossible without communication. To communicate we must require a voice for better understanding. If we consider the peoples those are dumb who can't speak so they may get misunderstood by other person due to improper communication. So, sign language is commonly developed for dumb communities. Sign language is communication skill that uses gestures instead of sound to convey meaning. This project "Glove Based System for Speech impaired using XBEE" is developed to solve the above mentioned problems. In this project, we make a glove that contains switches which caches the digital input of the fingers. The signal is given to microcontroller. Microcontroller will send this data wirelessly to a sound generating IC. In which, already contains some data that will be played through speakers according to the data. He/she whatever the dumb user wants to speak he/she just needs to give sign input through his fingers and arm then the word he want to speak is played through the speaker. And hence the person in front to him will get what exactly dumb person wants to speak.

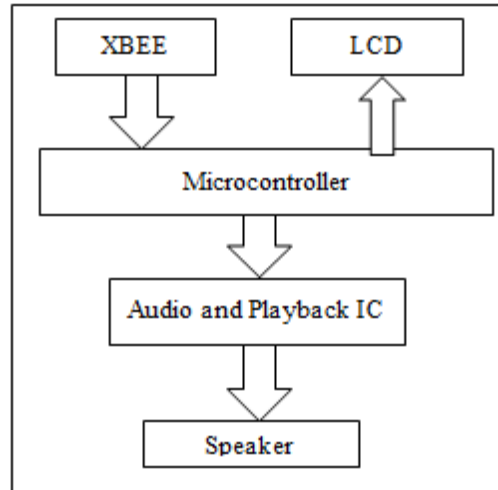


Fig.1 Glove

## HARDWARE DESCRIPTION



**Fig.2 Transmitter**



**Fig.3 Receiver**

**Switches**

A push-button or simply button is a simple switch mechanism for controlling some aspect of a machine or a process. Buttons are typically made out of hard material, usually plastic or metal. The surface is usually flat or shaped to accommodate the human finger or hand, so as to be easily depressed or pushed. Buttons are most often biased switches, although many un-biased buttons (due to their physical nature) still require a spring to return to their un-pushed state. Terms for the "pushing" of a button include pressing, depressing, mashing, hitting, and punching.



**Fig.4: Switch**

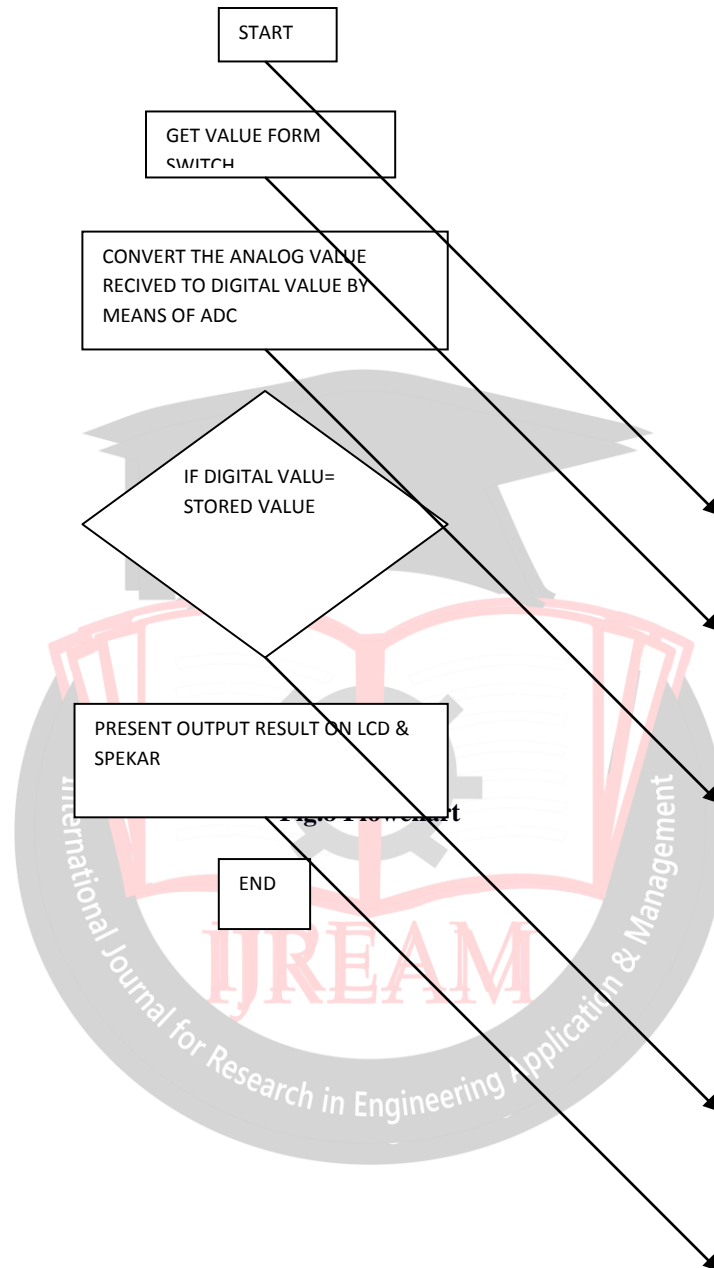
**Zigbee Module (Tarang)**



**Fig.5 XBEE**



**Flow chart**



**CONCLUSION**

Deaf and dumb people use the sign language to communicate with the world. Though sign language is known to many normal peoples but still there is a communication gap between them. So this project tries to help such people with the help of technology and make their communication easy with the world. This glove will help them not only to communicate but also help them to control some appliances.

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