Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY

Belagavi

Project Expo-2023

Department of Computer Science and Engineering

Project Title : **User-Friendly Hand Gesture Vocalizer for Aged or Physically Challenged People.**

Motivation and Objectives

- To provide a unique and intuitive way to interact with technology
- It facilities convenient and intelligent two-way communication, by translating visual language into speech that can be understood by all.
- The system can also help the bed-ridden patients or physically challenged to be semi-independent.
- To detect and recognize hand gesture for fluid device control.

Methodology : Our proposed project consists of mainly of two sections.

I. Transmitter part section

II. Receiver part section

The stages in the transmitter section are:

a) Flex sensor

b) Accelerometer

c) Bluetooth Module

The stages in the receiver section are:

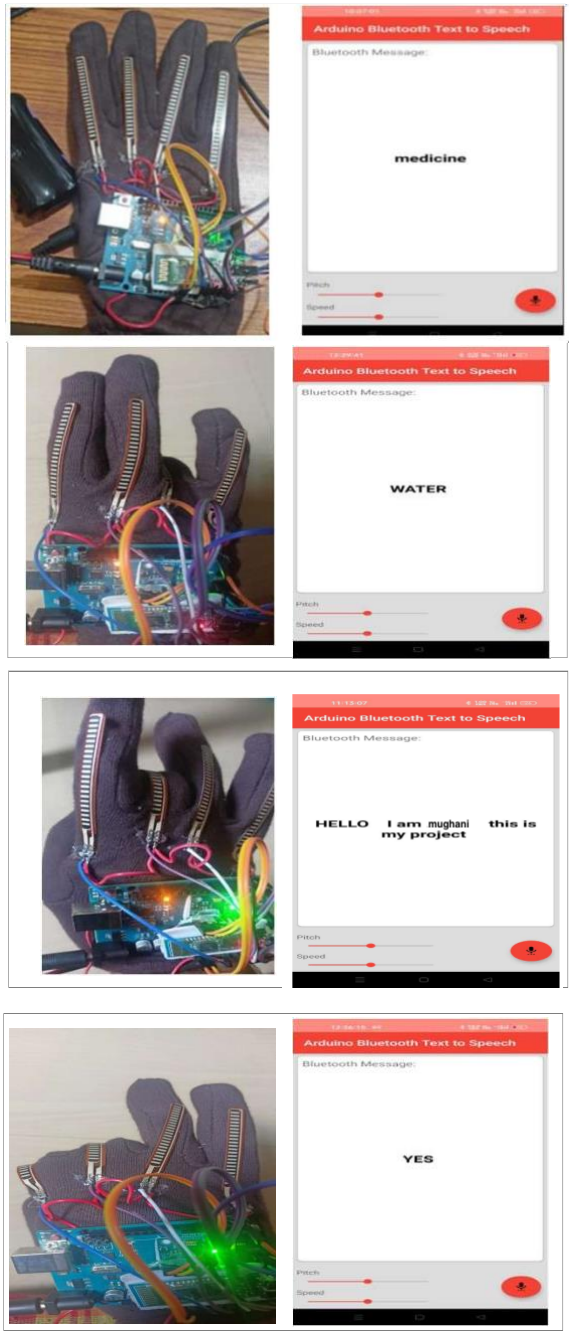
a) MP3-DF player

b) Android app

c) Arduino Uno.

The project will take the input from the flex sensors using different sign languages and observed by accelerometer and Arduino Uno and then the serial communication will converted into the desired output respectively to the sign language and will be auditable using an android app and can be converted to different languages using google API .

Results & Discussion : Finally, we have obtained a system that can read the values for a particular gesture done by the user, predict the output for the gesture, display it on the Android screen, and provide an audio output via a android speaker



Conclusions : Sign language is a useful tool to case the communication between the deaf or mute community and the normal people. Yet there is a communication barrier between these communities with normal people. This project aims to lower the communication gap between the deaf or mute community and the normal people .This project was meant to be a prototype to check the feasibility of recognizing sign language using sensor gloves. With this project the deaf or mute people can use the glove to perform the sign language and it will be converted into speech so that normal people can easily understand. The main feature of this project is that the gesture recognizer is a standalone system which is applicable in daily life.

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