



ADVANCED GLOVE FOR DEAF AND DUMB WITH SPEECH AND TEXT MESSAGE ON ANDROID CELL PHONE

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Abstract

Communication between the deaf and the normal has always been a problem. We hope that this project can inspire the public through a strategy of deaf silence prevention. Each club has a logo. For planned movements, the movement unit produces a difference in resistance, and the accelerometer evaluates hand movements. Preparation for this move is done in the manager. This club combines two mobility technologies - a setup mode and a control mode that benefits all customers. The association of letters to write words is done in the same way in the operator. Additionally, the architecture includes a content-to-speech (TTS) module that converts programmed actions (such as content) into spoken content. Hand signals are one of the techniques used in hand communication for non-verbal communication. It is often used by people who have hearing or speech problems, among themselves or in general. The manufacturers of the world talk a lot through brand structures, but it is not effective and it is not useful for the end customers. This paper proposes a structured approach to visualizing symbolic information to help ordinary people gather or communicate information to disadvantaged people.

INTRODUCTION

Talking is the key strategy for correspondence for every customary individual. In any case, consider a talk obstructed person who can't prepared to examine as regularly as conceivable with a normal person. Since talk ruined people use communication through signing for their correspondence. In addition, most of the all inclusive community don't grasp communication via gestures. So it puts the talk debilitated individual in a troublesome situation. Starting late, masters have been thinking near to signals disclosures and been outstanding for making applications in the field of mechanical innovation and extended in the zone of phony or prosthetic hands that can mimic the lead of a trademark human hand. This endeavor disregarding the way that utilizes a near technique for the acknowledgment of the improvement of fingers, in any case we have endeavored to extrapolate the idea in a barely exchange perspective and have devised a little yet critical application in the field of bioengineering. The guideline focus of this errand is to plan an electronic talking system as a glove to diminish this correspondence issue. This contraption benefits a talk debilitated individual to talk with a normal individual similarly likewise with a meeting crippled person. The rule section of

this errand is a glove with five flex sensors that are related with Arduino Nano which is the key control unit of this endeavor. This device has a component of customer input. So talk crippled individual can without quite a bit of a stretch use his/her own one of a kind picked bearings for express signals.

II. LITERATURE REVIEW

S. Sidney Fels and Geoffrey E. Hinton, 1997 [1] proposed a gesture-aware system to conduct conversations through a customizable interface. Hand movements are automatically mapped to the Parallel Formant Talk Synthesizer's ten control parameters. This plan allows the hand to move like a falsetto, producing a continuous sound. The structure uses communication tools such as internet clubs, contact clubs, three-dimensional projectors, foot pedals, parallel speakers, and three-dimensional systems. Split the signed speech function into vowel and consonant number using a gating framework to weight the vowel and consonant neural structures. Screen Structures Shyrng Fahn and Herman Sun, 2005 [2] presented a breakthrough in club data systems using dynamic recognition stimuli as finger enhancement sensors. It's a small cell phone with an interesting field driver that changes over time. There are few opportunities to review the hand in ten parts with only five sensors built into the palm surface. Therefore, the shape of the sensor does not change with the rotation of the finger, keeping the feeling of estimation and life. It is a cost-effective, simple and effective preparation method using two-part gloves, which have the same shape, with the goal of being able to determine each part accordingly. They also use time-sharing techniques to protect against interference between generators and sensors. The test results of the sensors that perform the correct smoothing and bending curve estimation are performed reliably using an oscilloscope without any noise. As explained in this article, they are beautiful circles as sensors, and these structures increase in electrical resistance. Michiko Nishiyama and Kazuhiro Watanabe, 2009, ©[3]. A fixed index finger and optic nerve have been shown to be trapped in a heterofocal section. This glove uses heterofocal nerve fibers as sensors to sense the flexion of the fingers and to perform non-invasive tests on the development of the hand. As shown in Figure 1, the Hetro focus sensor

consists of a transverse fiber channel with an extension of 9 μ m. The Hetro focal element sensor on the back of the hand uses single emission technology and is highly targeted to avoid being affected by glove seams. Also use the compiler. The adaptive sensor can identify the finger joint directions and close proximity to the muscle, and the heterofocal recognition method allows the index finger to work with many basic sensor centers. Heterofocal sensors show monotonous characteristics of the processing of optical objects with respect to the joint bending object. However, some fiber defects can be detected using this sensor Kotaro Tadano, Masao Akai, 2010[8], proposed a powerful glove using pneumatic muscle pseudolithotripsy (PARM), shown in Figure 3. PRAM is good for all 10 possible points, which It consists of four parts. In order to achieve the development of control aids, the PI control depends on the weight and strength of the blast sensor. EMG muscle patterns are assessed to measure the force that supports the task. Eventually this system becomes increasingly confusing and complex.

III. EXISTING SYSTEM:

Sign Language is the fundamental techniques for correspondence for hard of hearing people. With movement of science and development various frameworks have been made not only to restrict the issue of hard of hearing and bonehead people yet notwithstanding execute it in different fields.

Sign language is a language which as opposed to voice or sound models uses manual correspondence and non-verbal correspondence to pass on the message. This incorporates generally the blend of shapes, presentation and advancement of the hands

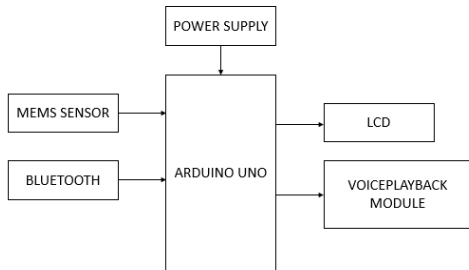
IV. PROPOSED SYSTEM:

This paper presents a system display that can therefore see sign language to help normal people with imparting even more suitably with the gathering or talk ruined people. This endeavor includes an Arduino controller interfaced with MEMS sensors and Voice play back circuit. By using sensors we can convey particular motions, for each motion we coded a voice track .so other

conventional individuals will easily fathom the thwarted individual .

Despite it we using a Bluetooth particular device. By using Bluetooth and Android application we can change over the voice headings into Text. This Text headings will appear on LCD which is useful for hard of hearing individuals as well.

V.BLOCK DIAGRAM:



VI..HARDWARE REQUIREMENTS:

- ▶ Power Supply
- ▶ Flex Sensor
- ▶ Blue tooth
- ▶ LCD
- ▶ Play back Module
- ▶ Arduino Controller

VII.HARDWARE DESCRIPTION:

A.ARDUINO

It is a microcontroller board subject to the ATmega328(data sheet) it contains 14 information and yield pins it is used as TWN yield 6 basic information sources It involve 16 Mhz creative resonator, and its includes a USB affiliation, control jack, and an ICSP header and a reset catch. Arduino is an open-source hardware organize subject to easy to-use gear and programming. Arduino sheets can examine inputs - light on a sensor, a finger on a catch, or a Twitter message - and change it into a yield - starting a motor, turning on a LED, conveying something on the web. You can direct your board by sending a great deal of rules to the microcontroller on the board. To do all things considered you use the Arduino programming language (in light of Wiring), and the Arduino Software (IDE), in perspective on

Processing.

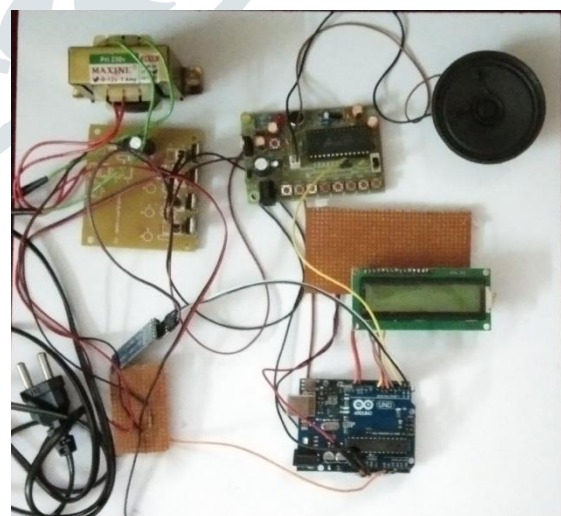


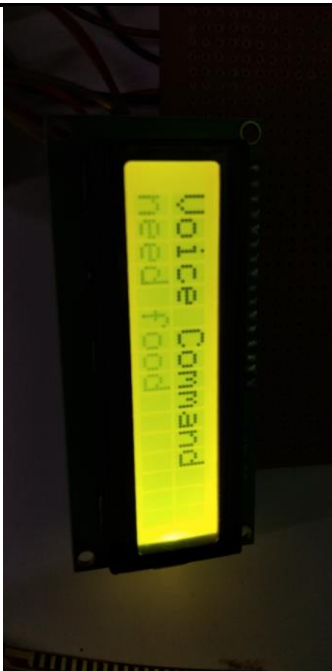
B.VOICE PLAY BACK MODULE:

This module is base on ISD1820, which a different message record/playback gadget. It can offers genuine single-chip voice recording, no-unstable capacity, and playback ability for 8 to 20 seconds. The example is 3.2k and the complete 20s for the Recorder. This module use is simple which you could coordinate control by push catch ready or by Microcontroller, for example, Arduino, STM32, ChipKit and so forth. Frome these, you can simple control record , playback and rehash, etc.



VIII.RESULTS:





IX. CONCLUSION:

A device to convert finger/hand action into speech is developed. It is going to help deaf and dumb people to communicate effectively. A sign language is a language which uses hand gestures, body movement to convey message. With the designed system, the movement of fingers is converted to audio snaps over the cell phone and hence, it is a low cost solution for improving the communication of deaf and dumb person with normal people. The glove has been designed using feasible and affordable technology. It uses low cost but effective flex sensors and commonly available Android phones. Android app is used to convert sign language into text and speech

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