

Braille Pad for Visually Impaired People

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Abstract-

In our everyday life the media transmission innovation assumes a significant part. It has totally progresses the manner in which we convey, particularly significant distance correspondence. In spite of every one of these headway in the media transmission field, the actually disabled individuals have no entrance for these innovations. So as a stage to overcome any barrier between the visually impaired individuals and the innovative progression in the media transmission field we chose to plan a SMS framework for them by interfacing Braille pad with the wireless so double disabled individual can have the admittance to the SMS framework and through which they can take significant notes. Here the client sends the SMS to the visually impaired individual's versatile number which is associated with the microcontroller which peruses the SMS utilizing GSM module through the AT orders and afterward changes over the letters of the SMS into the Braille language utilizing the query table in its memory. With the assistance of 6 transfers Microcontroller (PIC18F4520) vibrates the Braille pad on which the visually impaired individual can peruse the SMS.

Keywords-*GSM, Vibrate Motor, PIC18F4520 Microcontroller, SMS, Impaired Persons*

I. INTRODUCTION

Braille characters are little rectangular squares called as cells that contain small obvious knocks called raised dots. The number and arrangement of these dots recognize starting with one character then onto the next. We are planning a secluded gadget utilizing which dazzle hard of hearing individuals can send and get message with no help of others. The essential matrix of a Braille letters in order character comprises of six cells, situated like the figure six on a pass on, in two equal vertical lines of three dots each utilizing which 64 distinct signs can be made. In our secluded plan we are addressing cells as vibrator motors. Present days, visual impaired is one of the significant illnesses. 37 million individuals across the globe are visually impaired and more than 15 million are from India. So there is appeal in building up a helping gadget for them to give training through the minimal effort Braille cushion. Braille is an arrangement of raised dabs that can be perused with the fingers by individuals who are visually impaired or who have low vision. Braille isn't a language. Maybe, it is a code by which numerous dialects. Braille is utilized by a

huge number of individuals everywhere on the world in their local dialects, and gives a methods for proficiency to all. Braille symbols are framed inside units of room known as Braille cells.

As we know how important telecommunication is in our life, and mobile phone is used for that purpose. There comes limitation on it as people having visual inability and can't access them. So, we are designing one device through which these people can access the mobile phone and read SMS from the cell, plus can read the documents, books which are saved in external SD card. We are going to use braille system as a basis. Braille is not a language but it is a code through which people having low vision can learn any language. We are going to interface GSM module and vibration module to the microcontroller so they can access data from that and Visually Impaired People can get it to read.

II.LITERATURE SURVEY

The framework is connected with a GSM-GPS module to follow the area of the visually impaired individual and to set up a two way correspondence way by utilizing a remote innovation. Here the client sends the SMS to the visually impaired individual's portable number which is associated with the microcontroller which is capable perused the SMS utilizing GSM module through inbuilt the AT orders and afterward changes over the characters of the SMS into the Braille language utilizing the query table present in its memory. With the assistance of 6 transfers Microcontroller vibrates the Braille cushion which go about as stage from this paper, we comprehended that how Braille language can be utilized to infer a two route correspondence between typical individuals and hindered individual. Additionally, we saw how to assemble the rationale as indicated by the look into table in the microcontroller. [1] The client sends the SMS to the visually impaired individual's portable number which is associated with the microcontroller which peruses the SMS utilizing GSM module through the AT orders and afterward changes over the letters of the SMS into the Braille language utilizing the query table in its memory. With the assistance of 6 transfers Microcontroller vibrates the Braille cushion on which the visually impaired individual can peruse the SMS. For sending a SMS, the microcontroller changes over the composed Braille letter on Braille cushion to the English letter sets utilizing the Lookup table. Uproarious speaker is additionally utilized for making the voice declaration. From this paper, we comprehended working instrument of different sorts of transfers. This idea will assist with creating decorating on paper so that visually impaired individual can decipher it. [2]

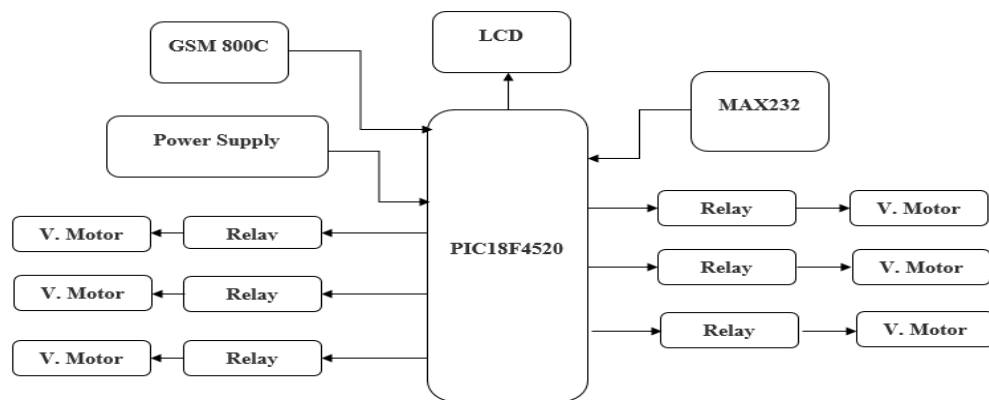
Venture depends on designing a courier for the diversely crippled arrangement of Humans, who may not be in the situation of utilizing cell phones for informing or some other sorts of discussing gadgets, with the palatable solace. This framework is connected with a NODE MCU module for the visually impaired individual and to build up a way correspondence way by utilizing a remote innovation. Here the client sends the SMS to the visually impaired individual's portable application which is capable realize the SMS utilizing NODE MCU module through inbuilt wifi safeguard orders and afterward changes over the characters of the SMS into the Braille language utilizing the query table present in its memory. Voice play back and OCR are the primary upgrades in this idea. Raspberry incorporated with camera carries out OCR measure for handicapped individuals. [3].

A plan to plan and create easy to understand financially savvy learning help for outwardly impaired kids. The venture intends to plan a learning help for visual hindered in English language which inject a feeling of playing while at the same time learning. The proposed thought is carried out on Arduino Microcontroller interfaced with Speaker, LCD and Braille Cell as yield gadgets. The proposed

model is builds up a character followed by number on Braille cell successively thus helps the visual debilitated to become familiar with the language. [4].

Presents a SMS Communication framework that is exceptionally valuable for the visually impaired society. An imaginative SMS correspondence framework is created utilizing different modules like GSM module, Braille keypad, amplifier, SD card and ringer. The toolbox will acknowledge the SMS from the ordinary client, store it, changes it over to voice signals and afterward declares it through the noisy speaker and furthermore shows it on the LCD module. This framework additionally gives an alert utilizing the bell to show that a message has shown up. Hence the telecom innovation can likewise be utilized by the visually impaired individuals [5].

III. BLOCK DIAGRAM



IV. SYSTEM ARCHITECTURE

GSM module is one key module which is used in the system. After supplying power to the system it comes into ready mode for receiving message. The received text can be max 6 bits. We have proposed a simple one-way communication such that it will be easy for the blind person to read the incoming message and at the same time able to understand what alphabet is being received. The user sends the SMS to the blind person's mobile number. The microprocessor reads the SMS connected to it via the data cable through the AT commands and then converts the SMS is read and the vibration motor process starts In short here the text message that arrives on the SIM card is first sent to the PIC microcontroller. Then the process of reading the receive text starts and the text can easily understood by impaired person

V. CONCLUSION

Embedded based easy to understand and cost effective Braille pad framework utilizing GSM has been proposed. Because of PIC18F4520 microcontroller highlights equipment prerequisite is diminish additionally cost get decreased. Our framework is capable to print sequential characters in Braille code which is useful for visually impaired person. Circuit simulation is carried using Proteus 8 programming which is additionally use for designing PCB. Endeavors are as yet made to fuse more highlights in the proposed Braille pad framework.

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