

BRILLIANT WRISTBAND FOR VISUAL AND SPEECH IMPAIRED PEOPLE

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Abstract: Folks with "blindness" and "speech" deficiency usually isolated and made to measure in an exceedingly restricted world, as they face serious compound communication issues. This project introduces a system to support the communication of blind and deaf-blind folks, so fostering their independence and integration within the society. This project uses little and low-cost parts to make a communication device that solves the antecedently mentioned issues. It includes a Smart-Band that interprets the braille alphabet, that is "a system of raised dots which will be scan with finger sensation by blind and vision impairment folks everywhere the planet in their native languages"[1]. The Smart-Band allows the blind and deaf-blind user to make a text message by pressing properly ordered electrical switch switches situated on a Smart-Band. The message is then transmitted by Bluetooth to the opposite mobile user. The Smart-Band can even receive incoming messages victimisation little vibration motors situated on the rear of the band, that permits the blind to understand the alphabets.

I. INTRODUCTION

Globally, braille is that the manner that those individuals communicate with, and it's a system of raised dots that are shaped by six dots that may be browse by fingers sensation, and it's employed by countless individuals round the world in their native languages [1]. This technique tried its affectivity. However, the matter lies in this the general public don't perceive the braille. the foremost necessary motivations for the project are to beat this communication barrier. The Smart-Band developed during this project provides the power to blind man United Nations agency use braille system to send and receive a text messages. The Smart-Band incorporates a set of pushbutton switches. Blind user will write messages

through pressing pushbuttons set on the Smart-Band. thus totally {different completely different} Pushbutton patterns correspond to different braille codes. These braille codes are sent by Bluetooth to the mobile wherever they're regenerate to show the corresponding alphabets, words and sentences. If user receives a message from the mobile, then the character corresponds to a braille code that is matched to the six vibration motors on the braille hand

II. RELATED WORKS

- Avijith Hazra and his groups has printed the paper Hand Glove to come up with Bengali Braille Characters for Visually Impaired individuals. The Graphical programme, Designed in Java works because the input house and converts every character to Unicode.
- Tanay Choudhary and his team has printed paper on A Braille primarily based Mobile Communication and Translation Glove for Deaf-Blind individuals. This Glove Makes communication even with common man United Nations agency doesn't perceive Braille.
- Hasan U.Zaman and his team printed paper on an occasional price Wireless Braille System Hand Glove for Real Time Communication. The Combination interface and therefore the Hand Glove will effectively used for reading e-books.

III. EXISTING SYSTEM

This system can permit the visually impaired individuals to scan any text given as input within the laptop. though Braille Gloves is completely different from ancient braille in the sense that it desires no braille embosser or any paper, it is straightforward to perceive if one is aware of

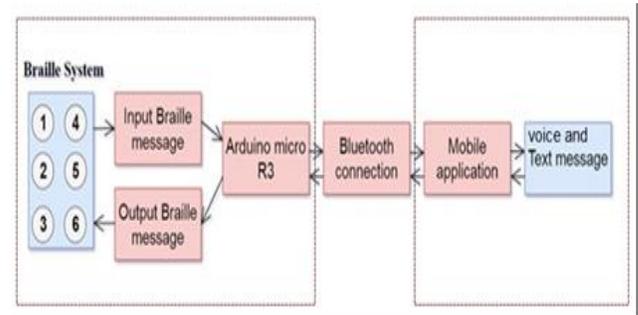
braille. The graphical user interface, designed in java, works as the input area and converts every character to Unicode. The six beeper motors mounted on fingertips of the forefinger, middle finger and ring finger of every hand glove represents six dots in braille. Vibration corresponds to a raised dot. Motors are controlled by AN algorithmic program embedded on Arduino Uno board

IV. PROPOSED SYSTEM

The design for the proposed system can be classified into three categories: Storing Braille Sequence, Android Development, Message Transmission. A detailed explanation for the above mentioned categories are stated below.



V. WORK FLOW FOR PROPOSED SYSTEM



A. Storing Braille Sequence

We connect Arduino micro R3 with six pushbuttons located in the Smart-Band using digital pins, which represents a braille printer. We used another two pushbuttons to send the message from the Smart-Band to mobile application, first one to send the character and the second button to send the complete message. We write a message using braille and press the buttons in a particular pattern according the braille system and send it to the application which receives it as a text message

B. Android Development

To connect Arduino micro R3 with mobile (mobile application) a Bluetooth connection is needed. We make a connection between mobile Bluetooth and Bluetooth module. To develop the application, we use Java , The Android application contains the many activities, such as Home page, practice, speech, setting and Bluetooth connection

C. Message Transmission

“Receive code” receives the message and outputs it on the vibration motors, which it vibrate according representation of each braille character. The reception of the message appears as a vibration on "vibration motors", different vibration pattern for each character. By touching the six vibration motors with the other hand, the blind user can distinguish "vibration motors" to know the character

VI. APPLICATIONS

- Blind user will write, read messages in braille system.
- System will establish a association between traditional user and blind user.
- Translates alphabet to braille and the other way around.

VII. FUTURE SCOPE

- In future several features can be improved. Mainly the system should be extended to support other languages, and the system can use several way to communicate, it can use.
- Wi-Fi connection, which enables a faster connection and better range from anywhere in the world.

VIII.CONCLUSION

We constructed a Wrist-Band for supporting visually and speech impaired people in communicating with normal people who are not familiar with braille . The Smart-Band is able to connect to Android mobile and facilitate exchange of messages. Whereas the android application is able to send and receive text messages from and to the Wrist-Band and the Wrist-Band able to send and receive braille messages from and to the application. The Wrist-Band is light, cheap, easy to use and no risk

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