Hardware Based Braille Note Taker

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ABSTRACT **– Because of the lack of vision, the blind person not able to access the information and the technologies through other communication facilities. New latest technological enhancements are very expensive so visually impaired people cannot be easily afford this technology also they are not easily portable. Therefore to develop a low cost, Braille System is required for blind people. Here we introduce a communication channel for persons for the communication purpose. It is having different modules: i) This Braille system is less expensive which use six dot vibrators to display characters. ii) System having Braille pad for writing the Braille letters. iii)SMS facility used for communication.. This system is less expensive, easy to handle, having high speed and accurate.**

Keywords – Braille system, SMS facility, high speed, less expensive.

I. INTRODUCTION

Now a day's mobiles are widely used technology. According to latest survey in India 84% of people use smart phone technology for communication. Therefore it is a good and useful technology which is used to communicate with others throughout the worldwide. It is now

possible to connect with outside word by making calls or by sending messages from mobile phone.

SMS is the very useful application available in mobile phones. This application is used by

almost 90% of users. But the blind people not able to use this technology.

Using this system the blind peoples are able to read message by using mobiles, and also the messages which are incoming acknowledgment would be send for them. Mobile is interfaced with system to build this system .

Louise Braille has invented the Braille system. For reading and writing, like normal people this system which is Braille is used.

I.A. BRAILLE LANGUAGE

Through touch blind and partially blind people can communicate using Braille system. The braille system was discovered by Louis Braille, who was teacher of the blind. Each Braille character or "cell" arranged in a rectangle manner having two columns with three dots in each column. Each cell is a representation of character, numbers or punctuation mark. Also there are some rarely used words or letters have their own cell patterns.

The different grades of Braille are as follows :

Grade 1: In this type of grade 26 standard letters of the alphabet are available. They also consist of punctuation. The people, who will start to read Braille newly, would be easily used this grade.

Grade 2: The standard 26 letters which form the base of the alphabet structure are also included in this grade along with punctuations. Contractions are used To save space contractions are used, as Braille page not able to fit as text on printed page which is having standard size.

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Grade 3: For personal letters, diaries, and notes this grade is used. Also used for literature upto some limit. To shorthand the complete word this grade is useful.

I.A.I BRAILLE CODE

Many types of Braille codes are used to encode character by mapping sets of every language into the six bit of cells. For mathematics and music different Braille codes are used. The 63 combinations are offered by six-dot Braille cell (26- 1 = 63).

II BLOCK DAIGRAM

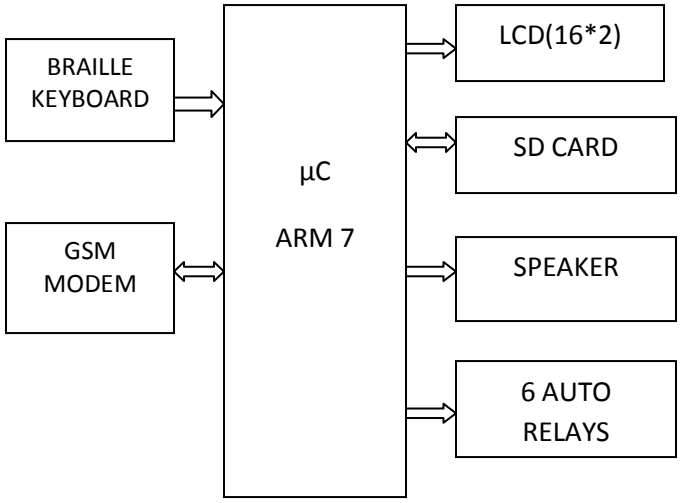
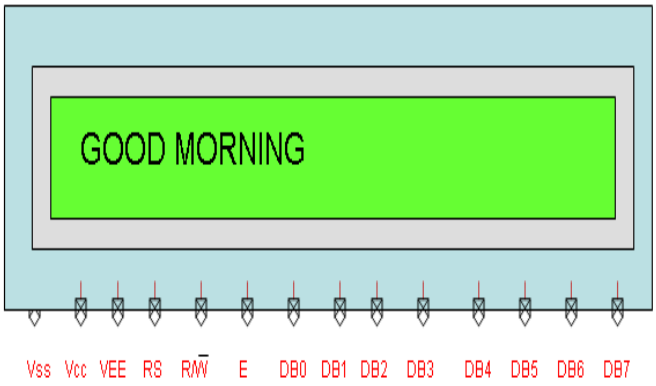


Fig. 1 Block Diagram

To receive message from GSM modem SIM 300 is used. The vibrating motors which are connected externally is indicate the arrival of every new message.LCD, Braille board and speakers get the message from ARM processor. This LCD is used by normal user not for blind person. Output from Braille pad and speaker used by the blind person

As LCD is a small size instrument and its cost is less it is used to display message. LCD is interfaced with a micro-controller. Micro-controllers having libraries, using these libraries message can be easily

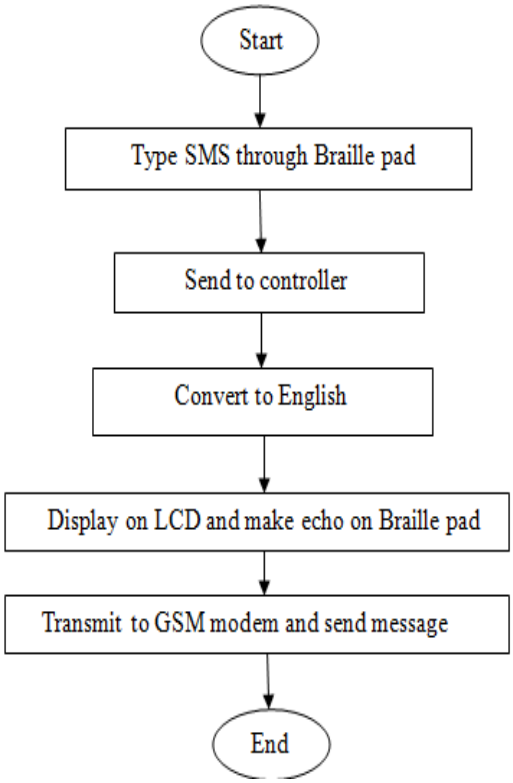
displayed.



LCD

III. FLOWCHART

A. SENDING OF SMS



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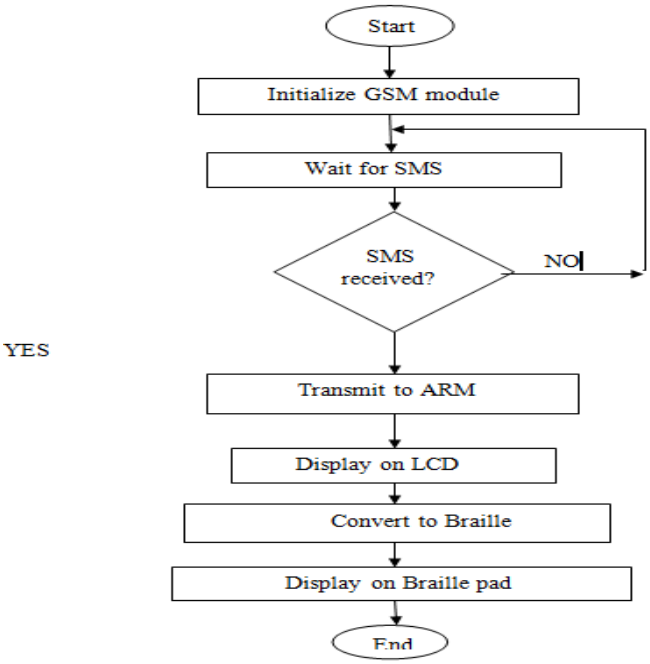
B READING of SMS



IV. RESULT

1. To detect which key is pressed by person in a system microcontroller grounds complete rows by applying zero.

2. After that microcontroller start reading columns.

3. When any one of the key is pressed in column that becomes zero. Accordingly microcontroller identify pressed key.

V. ADVANTAGE

1. Power requirement of system is less.

2. Fully automatic system .

3. System is robust.

VI. DISADVANTAGES

1. Reading process is very slow as system read message character by character.

2. System is not portable.

VII. CONCLUSION

Thus using designed system blind person able to read and write SMS using their mobile anywhere with less cost. Also the system is very easy to use for blind people.

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