Abstract

Communication between deaf-dumb and a normal person have always been a challenging task. About 9 billion people in the world come into this category which is quite large number to be ignored. As deaf-dumb people use sign language for their communication which is difficult to understand by the normal people. This paper aims at eradicating the communication barrier between them by developing an embedded system which will translate the hand gestures into
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synthesized textual and vocal format without any requirement of special sign language interpreter. This system consists of a glove that will be worn by a dumb person to facilitate the communication with the normal person. It translates the hand gestures to corresponding words using flex sensors and 3-axis accelerometer. The signals are converted to digital data using comparator circuits and ADC of microcontroller ARM LPC 2138. The microcontroller matches the binary combinations with the data given in the look up table of the databases and produces the speech signal. The output of the system is displayed using the speaker and LCD.

References

- Rajam, P. Subha and Dr G Balakrishnan, "Real Time Indian Sign Language Recognition System to aid Deaf and Dumb people", 13th International Conference on Communication Technology (ICCT), 2011, pp. 737-742.
- Nicholas Born, "Senior Project Sign Language Glove", ELECTRICAL ENGINEERING DEPARTMENT. California Polytechnic State University 1-49, 2010.

Index Terms

Computer Science

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Keywords
Sign Language  Flex Sensor  3-axis Accelerometer  Arm7 Microcontroller (lpc2138).