An Android Messenger Application for Dumb and Deaf People

ABSTRACT

An evolution of Information and Communication Technology has influenced every part of human life. It has modified the way we do the job, occupation, travel , acknowledge and convey. For the Deaf people group, the utilization ICT has enhance their personal satisfaction by creating frameworks that can help them discuss better with whatever remains of the world and among themselves. Gesture based communication is the essential method for correspondence in the almost totally impaired group. The issue emerges when hard of hearing individuals attempt to convey what needs be to other individuals with the assistance of these gesture based communication language structures and bad habit a versa. The application gives hard of hearing individuals a method for getting more shut to cutting edge innovation by utilizing discourse to picture interpretation. This deaf individual to learn new advances by looking toward pictures which are being changed over to pictures by utilizing discourse acknowledgment framework.

Keywords : Sign Language, Deaf and Dumb, Android Application

LITERATURE SURVEY

Different approaches have been used by different researchers for recognition of various hand gestures which were implemented in different fields. In [1] Gesture detection using video and image processing is used for enabling the communication between the deaf, dumb & normal people. It introduces new application which will detect the Indian sign language via mobile camera and converts into corresponding text or voice output. This application uses certain image processing techniques to compare the input with the already stored signs and requires only android phone and does not require any special markers or magic gloves on
the hand of the user. This application is not affordable for poor people.Sign language is used as a communication medium among deaf and dumb people. The author in [2] helps the people to convey the message with each other. In order to bridge the gap in communication among deaf and dumb community and normal
community, lot of research work has been carried out to automate the process of sign language interpretation with the help ofimage processing and pattern recognition techniques. An optimized algorithm has been implemented in the form of an android application and tested with real time data and the algorithm does not depend on skin tone of any person and hence the image processing is independent of the illumination. All students, regardless of their personal circumstances, have a right of access to and participation in the education system, according to their potential and ability. In [3] the use of speech technology, attempts to provide solutions for some of these issues by creating an interactive system. This application will help innovate a new way that will help blind and visually impaired people to take the test on their own without using anyone's help. From this application we have taken the process of Voice Recording and it is implemented in our application.The author focuses on developing an on-line speech-to-text engine. The system [4] acquires speech at run time through a microphone and processes the sampled speech to recognize the uttered text. The recognized text can be stored in a file. It can supplement other larger systems, giving users a different choice for data entry. A speech-

to-text system can also improve system accessibility by providing data entry options for blind, deaf, or physically handicapped users. User can send messages to the entered phone number. Speech recognition is done via the Internet, connecting to Google's server. The application is adapted to
input messages in English. Speech recognition for Voice uses a technique based on hidden Markov models (HMM - HiddenMarkov Model). It is currently the most successful and most flexible approach to speech recognition. But the HMM process may be somewhat difficult to understand and use in their daily activities. In paper [5] the author presents a method to design a Text to Speech conversion module with the use of Matlab by simple matrix operations. Firstly by the use of microphone some similar sounding words are recorded using a record program in the Matlab window and the recorded sounds are saved in .wav format in a directory. The recorded sounds are then sampled and the sampled values are taken and separated into their constituent phonetics. For each and every word the recording is necessary and may occupy more space in memory.