A Sophisticated HCI Perspective: Advanced Bengali Phonetics Communication System for Disabled (Deaf and Dumb) Persons

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 165
Number 11

Year of Publication: 2017

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10.5120/ijca2017914163

Abstract

The purpose of this study is to develop an intelligent system that can help the people who are dumb and deaf as they are recognized as disabled persons. These people face difficulties in communicating with other people in their regular life activities such as travelling, shopping etc. Nowadays, Human Computer Interaction (HCI) domain facing and solving the problem of disabled persons of this day to day activities. In this paper a new solution of this problem and the perspective of HCI is being focused. This paper is synthesized and analyzed speech-to-text (STT) and text-to-speech (TTS) algorithms to implement the system for those people who are deaf & dumb. The system will behave and act on behalf of the person and it will also capture the words from the other side and convert it to text, thus the deaf person may understand others say through the display of this system. There is a huge amount of people who are deaf and dumb in Bangladesh. Therefore, the system has been implemented both in Bengali phonetics & English language. The performance of this paper showed a satisfactory result of this system.
References


3. R. Sandanalakshmi, P. A. Viji, M. Kiruthiga, M. Manjari and A. Sharina, "Speaker Independent Continuous Speech to Text Converter for Mobile Application".


12. D. H. Klatt, "Text-to-speech Conversion".


Books," [Online]. Available:

22. M. Y. Arafat, "Speech synthesis for Bangla Text to Speech conversion," SKIMA 2014 -
8th International Conference on Software, Knowledge, Information Management and


24. "A real time speech to text conversion system using bidirectional Kalman filter in
Matlab," [Online]. Available:

https://www.researchgate.net/publication/263358996_An_Efficient_Speech_Recognition_Syste m.

https://www.nature.com/nbt/journal/v22/n10/full/nbt1004-1315.html.


Index Terms

Computer Science
Automated Systems

Keywords

Speech-to-text (STT), Text-to-speech (TTS), Deaf People, Dumb People, Handicapped people, Human Computer Interaction (HCI), Disabled People, Sphinx4, MaryTTS, RTRL.