Abstract

The speech and hearing impaired face a severe problem of communication with the normal people as the sign language used by them, is not understood by a majority of the people. Today those using sign language require a human sign language interpreter to surpass the communication barriers with non-disabled people. Hence we will develop a system that will advance their social integration as they are enabled to express themselves to non-sign language speakers. Hence, in order to bridge the gap between the speech and hearing impaired and normal people, we are developing a system which will enable them to easily communicate with the non disabled using hand gestures and sign language. The proposal is to design an integrated hardware and software solution which will consist of leap motion controller and computer based application. We propose an efficient and real time model which recognizes the hand gestures of the impaired using leap motion controller as the primary input device. The data from the leap motion controller will be processed and transmitted to the computer application for gesture discrimination and speech translation. The input signal will be
acquired and examined to see if it is a legal sign language gesture or not.

**References**


**Index Terms**

Computer Science  
Information Sciences

**Keywords**

Sign Language, Leap Motion Controller, Feature Extraction, Sign Recognition, Text-to-Speech.