Abstract

The automatic recognition of sign languages to help hearing impaired people is an area that has been explored for quite some time. However, this is still a practical problem due to the complexity involved making it a big challenge. Environments with complex backgrounds and different lighting conditions, hinders the recognition of hand gestures and other expressions when performed. The use of devices that are developed to increase the man machine interaction for entertainment, such as the Microsoft Kinect, has been shown to be promising in gesture recognition due to the amount of resources that it provides in the development of applications involving movements. The ease in detecting users and regions of interest such as hands, greatly reduces the complexity in the process of capturing gestures made by a user in complex environments. Therefore, this paper proposes an application for users of the Brazilian Sign Language (Libras), which brings a main feature of voice generation based on static hand gestures. The application utilizes the Kinect technology concomitantly with the eigenhands technique linked with the process of lighting normalization in the gesture images. The
preliminary results obtained through testing had an accuracy reaching up to 89% in the static gesture recognition of the language LIBRAS.

References


Index Terms

Computer Science
Image Processing
Keywords

Microsoft Kinect, Brazilian Sign Language.