Head Controlled Mouse

Abstract

The basic idea of the projects is to build a human machine interface which can be used to control mouse using head-tilt and eye-blink. This mouse-emulating device can be found to be most useful by physically handicapped people who can no longer control the computers using their hands. Since the device relies on user's head and eye movement, it can be used even by patient who are paralyzed from shoulder downward. Simple head movement doesn't require too much energy and neither does eye blinking. Therefore user won't get tired from using this device. In this device or goggle we are using 2D-accelerometer for detecting the movement of the head according to this, the movement of the cursor has been done. A photo sensor detects eye blinking. The Infrared transceiver consists of a 935nm IR transmitter and a phototransistor mounted on the same unit. This detects a strong increase in the reflected signal upon intentional long blink as compared to normal eye blink.

References

- Thomas B. Moeslund Amd Lau Norgaard, 2003, "A Brief Overview of Hand Gesture Used In Wearable Human Computer Interface", Technical Report: CVMT03-02, ISSN 1601-3646, Laboratory of Computer Vision and Media Technology, Aalborg University,
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- Amy K. Karlson, Benjamin B. Bederson, John Sangiovanni, Applens And Launchtile; Two Design For One Handed Thumb Use On Small Devices, Preceedings Of The SIGCHI Conference On Human Factors In Computing System, April 02-07, 2005,Portland, Oregon,USA.

Index Terms

Computer Science Wireless

Keywords

Accelerometer photo sensor Infrared transceiver ADC Paralyzed Microcontroller