Abstract

The Gaze tracking system has been developed to provide access of computer for people with disabilities. Low cost and low complexity technique is used in our technique. In these system we use hardware such as Eye Touch Goggles and micro controller. Micro controller is based on data acquisition (DAQ) system. This system will be capable of performing left click, right click, and double clicks using appropriate eye winks of the user. In addition to that we have also tried to perform some tasks like open or close folder, reading pdf file. In this system we are using Infra-red sensors (IR sensors) for building light-reflection based system with non-imaging sensors like photo-diodes. This system is basically low Complexity system. IR sensors give us accurate approximation of the point of eye gaze. A system can be developed that would listen to DAQ device and performs major tasks like providing a user interface, determining current action performed by user and accordingly performing the action related to the current event. And hence cursor movement can be done. This proposed system will provide a promising interface between computer and human.
References


6. 2013 IEEE Transactions on Neural Systems and Rehabilitation Engineering A Nonlinear Model for Mouse Pointing Task Movement Time Analysis Based on Both System and Human Effects.


8. IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING, VOL. 21, NO. 6, NOVEMBER 2013 A Dual-Mode Human Computer Interface Combining Speech and Tongue Motion for People with Severe Disabilities.


10. IEEE TRANSACTIONS ON CYBERNETICS, VOL. 44, NO. 2, FEBRUARY 2014 A Low-Computational Approach on Gaze Estimation With Eye Touch System.


Index Terms

Computer Science     Automated Systems
Keywords

HCI, gaze estimation, eyeball tracking, blink detection.