Mouse Pointer Movement using Gaze Tracking System

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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.
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Index Terms

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Keywords

HCI, gaze estimation, eyeball tracking, blink detection.