ABSTRACT

Researchers from all over the world are working to make our devices more interactive and to make them work with minimal physical contact. In this study, we suggest an interactive computer system that can function without the usage of a keyboard or a mouse. This device has the potential to benefit everyone, especially paralyzed people who have difficulty using a real mouse. Virtual Mouse with Hand Gesture Recognition is a project that shows a novel way to control mouse movement with a real-time camera / Web camera. Our idea is to employ a camera and computer vision technologies to manage mouse tasks (clicking and scrolling), and we demonstrate how it can do all that existing mouse devices can. This project demonstrates how to construct a mouse control system. The proposed system is made up of nothing more than a sensor which is a normal-resolution webcam that can follow the user's hand in two dimensions. Python and OpenCV will be used to build the system. Hand gestures are the most natural and effortless manner of communicating. The camera's output will be displayed on the monitor. It improves the recognition of human hand postures in a Human Computer Interaction application, reduce the time spent computing and improve user comfort related to human hand postures. The authors developed an application for computer mouse control. Based on the proposed algorithm and selected hand feature, the application has good time-based performance. The user finds it easier to operate the system due to the proposed hand postures