Abstract

With new changes seen in computer technology day by day, it has become quite essential for us to find specific new ways of interaction with computer systems as its need is increasing in society every day. Today, every device is making the use of touch screen technology on its systems, which isn't affordable to be used in all applications. A specific interactive module like a virtual mouse that makes use of Object Tracking and Gestures that will help us to interact can be an alternative way for the traditional touch screen and the physical mouse. The objective is to create an Object Tracking application that interacts with the system. This system proposed is a Computer Vision-based mouse cursor control system, which uses hand gestures that are being captured from a webcam through an HSV color detection technique. This system allows the user to navigate the system cursor using their hand bearing color caps or tapes that the computer webcam tracks and perform mouse operations like left-click, right-click, and double click using different hand gestures. Python and OpenCV library is used for realtime computer vision to implement the system. The camera output is displayed on the monitor. This device has the potential to benefit everyone, especially paralysed 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.