ABSTRACT

IMPLEMENTATION OF HAND TRACKING ON MOUSE POINTER CONTROLL USING PYRAMIDAL LUCAS-KANADE ALGORTHM

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Various techniques of interactive dialogue that allows communication between human and computer in today is very quite varied, one of which is the natural interaction techniques and one of natural interaction techniques is computer vision based techniques where do not require direct contact with the user input device.

Computer vision oriented Interaction technique is a technique that have natural characteristic which do not require direct contact with user by using input device. Interaction input can be done with using a video camera. Visual input can provide sensing capabilities to the computer such as human do sensing with the eye. One of the natural motion that can be used as a tool to communicate is the hand movements or hand gestures.

In this research the implementation of hand tracking as interaction technique that have natural characteristic for controlling the mouse pointer with pyramidal lucas-kanade algorithm to detect the motion of the pixel of an object in real-time video with web-cam for the input device. By using color detection techniques and methods as well covexhull and convexity defect to perform computation to detect the hand and get the number of fingers of the hand that to be interaction input for right and left click event.

Key Word: Hand Tracking, Lucas Kanade, Convexity defect