Abstract

Innovations in the field of Human Computer interraction lately been progressing quite rapidly. It can be seen from the emergence of new technologies that have new interactions. The interaction like touch and tilt at the tablet or smartphone, sound at speech recognition application, or movement at kinect technology. In this task, the author will make an application that uses hand gestures to interact with computer using a webcam or camera.

In this case, hand will be traced and recognized to be used as spesific event on a computer. So it need fast computing that can work in real time, but still accurate. To recognize gesture of hand, the picture of hand will transformed by thinning process. Thinning is a process that converts the image into a thin line called skeleton. The characteristics of the skeleton is used to identify the type of hand gesture at the time.

Thinning or Skeletonization method that will be used in this case is the method of Zhang and Suen thinning. This method is also known as fast parallel thinning algorithm. Fast characteristic of this algorithm makes it suitable to work on real time case. Where the speed of computing systems with the best parameters in this case were able to achieve above 13 fps and hand gesture classification accuracy by 90%.

Keywords: *hand gesture, real time, skeleton, thinning, zhang and suen algorithm.*