Abstract

Augmented Reality (AR) provides a new paradigm for human-computer interaction (HCI) in which virtual and real objects can be fused in the user interface. The HCI development in Augmented Reality is implemented in form of the device, example : Head Mounted Display (HMD). In AR environment, the interaction techniques that are used should conform to HCI development that requires an intuitive interaction capabilities, low cost, natural but also effective. The use of hands in the HCI to be able to interact with virtual objects is one of the research issues in recent years. So that the hand can interact with virtual objects then the process of hand tracking done in order to recognize and identify where the hands are.

This final project, developed an application that can capture the movement of the hand using the CAMShift algorithm and the Kalman Filter. CAMShift tracking algorithm is an algorithm that uses the probability of the color of objects as the basis for tracing the object. While the Kalman filter is a recursive estimator, which requires a previous state and current measurements to estimate the state now.

Then the hand tracking results is translated into an events such as object dragged, released object, the object down is then translated to the command, as a form of interaction between hand and virtual objects.

Keywords : Kalman Filter, CAMShift, *Hand Tracking*, Augmented Reality, *hand interaction*