

## ***Abstract***

*Multi-blob tracking is kind of tracking that can trace a lot of each blob at once without interruption. This problem can be solved using the Kalman Filter algorithm. Kalman filter is a recursive estimator, which requires the previous state and current measurements to estimate the state now. Kalman filter can detect the movement of many objects and follow the direction of the path that is formed with accuracy. In addition, the advantages of this method is the efficiency in computation, since Kalman filter using only current status and previous status to predict the next state, without making any observation on history.*

*This final project, developed an application that uses Kalman Filter to track multi-blob of a captured image from a webcam. Then translate into multitouch events such as, finger down, finger moved, and finger released, which then translates into a command, as a form of Multitouch Applications.*

*With the appropriate setting, Kalman Filter can do multi-blob tracking without interrupting each other, even when failure detection occurs in the case of blobcollision.*

**Keywords:** *Kalman Filter, Multi-Blob Tracking, Multitouch, estimator, state.*