

## **ABSTRACT**

*Development on face recognition technology in the last decade have a significant progress because the “unique” characteristic. Face recognition is a human ability that capable to differentiate a face with another one even with different hairstyle or accessory on his/her face. With frequently home invasion cases, face recognition implemented on Surveillance Room System for helping investigate the suspect. Using 2DPCA for feature extraction, HMM for classification, and Haar Cascade for face detection, are used as face recognition method. A microcontroller needed as CPU for low power consumption because Surveillance Room System must be always on. That is why Raspberry Pi used because it's powerful enough to do face recognition. With face recognition average accuracy 74.64% and average time process 2.66 seconds, and power consumption between 3.75 W – 4.54 W when processing a face recognition.*

***Keyword: Face Recognition, Raspberry Pi, 2DPCA, Surveillance, HMM***