

# **Background Subtraction and Foreground Detection based on Codebook Model with Kalman Filter**

**Su Su Aung**

**susuaung87@gmail.com**

**University of Computer Studies, Mandalay, UCSM**

**Zin Mar Kyu**

**zinmarkyu.pp@gmail.com**

**University of Computer Studies, Mandalay, UCSM**

Foreground object extraction is an important subject for computer vision applications. The separation of foreground objects from the background is the crucial step in application such as video surveillance. In order to extract foreground object from a video scene, a background model which can represent dynamic changes in the scene is required. A robust, accurate and high performance approach is still a great challenge today. In this paper, the background modeling approach based on Codebook model with Kalman Filter is presented. This approach can be used to extract foreground objects from the video stream. The Lab color space is used in this approach to calculate color difference between two pixels using CIEDE2000 color difference formula. extracted foreground object from video sequence using this approach is useful for object detection in video surveillance applications.