

# **Secure Image Encryption for Military Images based on Baker's Chaotic Mapping**

**Lwin Htet, Su Thawdar Win**

*University of Computer Studies, Yangon*

*Lwinhtet211@gmail.com*

## **Abstract**

*Nowadays, Image information is important, especially in the field of military. When those images are transmitted over the communication channel, it needs the privacy. Therefore, Image encryption plays important role. There are a lot of image encryption algorithms already presented. Because of storing large size of pixels, most of the functions are not appropriate for the image encryption. This system will present an alternative symmetric-key encryption algorithm for securing images, namely Secure Image Encryption based on chaos. Generally, it comprises of three main components: (1) horizontal vertical transformation function (HVT); (2) Shift function(S), and (3) grayscale function (GS) HVT function is based on a two-dimensional chaotic map that utilized Baker's map algorithm. GS function extends the algorithm to three-dimension, whereby, the third dimension refers to the level of the grayscale of a pixel. This secure image encryption will be applied to encrypt military images, such as Maps, Buildings, Arm forces, etc.*