Abstract

In our daily life, images are often used as media to capture moments, either private or non private moments. An application that is capable of hiding private or secret images, are required in many cases, to prevent the secret image from being spread publicly.

Cryptography is a science studying mathematic techniques used for information security aspects, such as the privacy of data, integrity of data, authentication of data, and non-repudation of data. *Twofish* algorithm is a finalist of Advance Encryption Standard (AES). *Twofish* Algorithm is known as a highly secure algorithm, and this method is also freely used.

Based on the implementations done on the digital image, the *Twofish* algorithm has an *avalanche effect* value reaching up to 34,1%. This shows that using *Twofish* algorithm on encrypting digital images is good choice. The decryption process also creates an image very similar to the original image. It's similarities reach up to 99,9%. The time needed to finish the encryption and decryption process depends on the size of the digital image used. The larger the image size, the longer it takes for the encryption and decryption process.

Key Word: Image, Cryptography, AES, *Twofish*, *avalanche effect.*