ABSTRACT

Cryptography is a technique to secure data so it will be safe when being communicated, without getting interrupted from the third parties. The result of cryptography is very flashy, therefore it could arouse suspiciousness and a tendency to figure out the real message from those who see it.

Steganography is a technique to hide data on a media such as image, audio, or video. Unlike cryptography, the result of this technique is not flashy, and the media used as the cover will not change significantly. The most common implementation of this technique is hiding text on a cover image, but the method used is pretty simple so it will break easily by the third parties.

This final project implements both cryptography and steganography process to hide text on a cover image so that it will be more secure. Text will be first encrypted using AES as the encryption algorithm, and then it will be embedded to the image using F5 as the steganography algorithm.

The implemented AES algorithm has a good performance, as shown from the result of Avalanche Effect which range from 0.43 – 0.59. The image produced by the system has a very similar histogram with the original cover image, so there is no significant difference when we see them. But, the size of the image file change ranging from 1.25 – 3.25 times larger than the original cover image. If there is noise or distortion within the image, text cannot be extracted.

Keywords: Cryptography, Steganography, AES, F5.