ABSTRACT

In the development of increasingly sophisticated technology and communication, this makes the exchange of information more susceptible to interference or attack, which has a negative impact on some aspects of information exchange such as attacks on the Telkomsel website taken by attackers. From these problems or negative impacts, steganography techniques are also developing. This steganography has a disadvantage, namely when the process of restoration of image, the quality decreases.

Based on these problems the author designed a steganography system to insert message information in the form of images inserted into the image host. Before the message steganography process in the form of an image is done, the sampling process uses Compressive Sensing (CS). After that the steganography process was carried out using the Stationary Wavelet Transform (SWT) method and then using the restoration scheme of the Fuzzy Adaptive Histogram (HAF) method.

The results obtained in this final project are a message image that has been restored after the steganography process with CS techniques or without CS techniques and with the HAF restoration method. Performance evaluation results are seen from PSNR, SSIM, and BER. From the tests carried out when the steganography system without using CS resulted in the value of PSNR = 51.8294 dB SSIM = 0.999952 BER = 0, while those using CS produced a PSNR value = 51.05381 dB SSIM = 0.999944 BER = 0. Then the steganography system with the HAF method that uses CS produces PSNR = 51.6519 SSIM = 0.99995 BER = 0.

Keywords: Steganography, image, Compressive Sensing (CS), Stationary Wavelet Transform (SWT), Fuzzy Adaptive Histogram (HAF).