

ABSTRACT

The exchange of information is growing rapidly due to increasingly sophisticated technologies and provide a major influence on human life. Security and confidentiality of data is very important in a row with the development of technology by using digital media as the medium of information exchange. Some technique should be required in order to ensure the security and confidentiality of data, one of which is Steganography. Steganography is used to complete data security technique that has been known previously as Cryptography. The things that both Steganography and Cryptography have in common is that they both try to protect the contents of the information in order to prevent the lack of the contents to a person not entitled to that information. However, the differences lies on the output results.

This final project simulated the Steganography to interpolate a text message (.txt) into an image (.jpeg). The data encryption process is already done before conducting the interpolation. The method used to interpolate the message is *Discrete Wavelet Transform* (DWT). This message interpolation is conducted by replacing the coefficient value located below the threshold value with cryptic messages. Whereas, the *Fuzzy Color Histogram* (FCH) will represent a group of pixel of an image which will be interpolated by cryptic messages (text). Starting with segmenting the choosen image to conduct the interpolation of text, then proceed with determining the value of data representation using *Fuzzy Color Histogram*, finally it will be transformed using *Inverse Discrete Wavelet Transform* to get the *Stegano Object*.

The result of research, steganography system using DWT generate imperceptibility performance between cover object and stego image. These results are similar and generate more storage capacity. In conclusion, the result shows that PSNR is 79.44 dB, MSE is 0,02721 on cover object that embeded 1279-character of message. Robustness performance on stego image has BER value of zero which means there is no bit error in conducting extraction.

Keywords : *Steganografi, Fuzzy Color Histogram, Discrete Wavelet Transform, Digital Image*