# ABSTRACT

Easiness in the process of sending digital media can cause security and privacy problems for the information. Even research from Juniper Network estimates in 2019, the annual cost caused by data theft will exceed 2 trillion US dollars. This led to a concentration of security in communication is important to keep the information.

To resolve these problems we can use steganography techniques or by using cryptography. Both have an identical goal of protecting information. In cryptographic, information is concealed by random constructions. While in steganographic, information will be hidden into a media so only the sender and the receiver know the information.

In this final project has been used two times steganography process to increase complexity of system. The method used in the process of insertion of information into the media is LSB (Least Significant Bit) and DCT (Discrete Cosine Transform) with Fibonacci series. Then do the extraction process on the receiver side to get messages that have been inserted.

Performance parameters of this final project are BER (Bit Error Rate), PSNR (Peak Signal to Noise), and MOS (Mean Opinion Score). The result is a steganographic system with an inperceptible result of the difference between the original image and the inserted image with the value of BER after the secret message is extracted is 0, can produce stego image with PSNR value more than 40 dB, and the value of the MOS test is 4.59.

**Keyword :** *steganography, image, DCT, LSB, double*