ABSTRACT

In this final project, writer have designed and implemented steganography by combining the two methods which is LSB and SSB-4 method. Those two methods used because it's fast and easy to implement. The embedded message is in form of binary image and image cover, the image used is RGB bitmap image.

The message embedding into the image cover is using pseudorandom generator as scrambling method. The pseudorandom generator output will determine the method used in embedding process, which is LSB or SSB-4. In LSB method, the message bit embedding will replace the LSB bit of the image cover. Meanwhile in SSB-4 method, the message bit embedding will replacing the fourth bit of the image cover.

The embedding process resulting stego-image which is later extracted back in the receiver part to get the secret message. The examination and analysis of the system performance are based on time (delay), robustness, fidelity, and visibility. The result shows that stego image without noise has a better fidelity, with PSNR over 50 dB. The message extraction has a good quality (BER=0) in without noise condition. Maximum noise level allowed for the message to be extracted back are Gaussian :10^{-7}, Localvar : 2.10^{-7}, Speckle : 10^{-6}, and Salt & Pepper noise density as much as 3.10^{-5}. Any addition over that level will crash the message.

Keyword : steganography, LSB, SSB-4, pseudorandom generator, image cover, stego image.