Abstract

Steganography is data protection approach which the process is to hide messages or information in a media without damaging the quality of the media. With steganography technique the information transaction is expected to be more safe and protected from people who are not allowed to access the information. The media that used in steganography can be a digital image, text, audio, or video without showing a distinct change in the media's quality.

In this final project steganography's techniques that used is DCT. DCT (Discrete cosine transform) is a technique for converting the signal into a frequency component basis. This technique is widely used in image compression. DCT is used on an image as steganography's object, with JPEG as it formats. The message or information that inserted to the image is a text-based file. Genetic Algorithm and OPAP (Optimal Pixel Adjustment Process). OPAP uses to get the different of the error between the image before it is inserted by the information with the image after it is inserted by the information. used to optimize the storage capacity and measure the message insertion optimization with DCT. Image quality after steganography process done will be measured using PSNR (Peak Signal to Noise Ratio) and MSE (Mean Square Error).

Index Term: Steganography, Discrete Cosine Transform, optimaization, Genetic Algorithm, Optimal Pixel Adjustment Process, Peak signal to noise ratio.