

## ABSTRACT

As a one of digital data processing for security of digital data is digital watermarking, it forms to protect the intellectual copyright of multimedia product, especially digital image, with insertion a digital watermark to a digital image. It relies by the easy of multimedia data accessing which causes a needed of security system that can secure safety of important data from unconcerned parties. Besides, it can take care of authenticity of data from manipulation process.

The technique which used in this final task are Scrambling technique and Blind Watermarking system, it's to do for found out of the best performance from watermarking process. Scrambling technique's is a method which used for mess up the information or to spread the energy from watermark image to all of frequency in order to host image which is send, more kept the safety and not too decrease watermarked image's quality. Messing up of information is done by using generated random number pattern with Pseudorandom Number Generator's algorithm. Whereas, for transformation that used in insertion and extraction' process of watermark image is Discrete Cosine Transform 2-D.

Through objective and subjective measurement, then could be obtained the conclusion that system showing a good enough performance in insertion's process, that could be caused by watermarked image have a PNSR average value about 40 dB or more and MOS average value about 4.58. With that output of performance, the system could be said have a good enough performance in insertion's process. Whereas in extraction process, extraction watermark's image have a poor grade of sensitivity, so in extraction's process, the system couldn't be show up the best's performance. Furthermore, the attack which given to watermarked image, watermark image could be survive from Gaussian noise and rescaling attack, besides for JPEG compression and rotation attack, it couldn't be show up a good quality result.

Keyword: Blind watermarking, DCT 2-D, Scrambling technique, PRNG, watermark.