Abstract

Digital image will be pricing if It was has artistic or commerciality. Therefor for controlling copyright protection, it use digital watermarking.

Many methods using for digital watermarking, one of them is Discrete Cosine Transform (DCT) that doing modification on transform's coefficients for embedding watermark. But it has a weakness that produce block artifact on block boundaries causing by non-overlap block. Modified Discrete Cosine Transform (MDCT) is the one of solution to solving the problem that doing overlapping between successive blocks. In this Final Task also using another method for controlling watermark which embed without making it perceptible is Just Noticable Distortion (JND) based on texture, edge, corner and luminance. Some observation doing attack simulation consist of JPEG compression, Gaussian Noise, Smoothing and Sharpening. After that analyzing watermarked image and robustness of watermark.

The result of observation shows that watermarked image has a good enough quality. JPEG compression that applied on watermarked image shows good enough quality even that quality compression level is 50%, watermark still can perceive. For Gaussian Noise, watermark only robust for lowest level of attacking. Also for smoothing and sharpening, performance of robustness is good enough, that watermark pattern still can perceive.

Keyword : *digital watermarking, MDCT, JND*