ABSTRACT

With the presence of the internet today which is growing rapidly, there are so many distribution of data in the form of audio, images, and videos. The amount of the distribution will also result in the vulnerability of copyright theft which will cost a problem. Watermarking is one way to prevent copyright theft in the form of images, sounds and videos so that we can protect it from other people who will modify or credit the copyright of the data.

The aim of this final project is to analyze the 2D DCT, SWT method with Compressive Sensing on Digital Image Watermarking. The watermarking test in this digital image uses the 2D DCT and SWT with Compressive Sensing. This final project is using the image of RedGreenBlue host with the measure of 256x256, 512x512 and 1024x1024. The inserting is using QR Decomposition as a site of insertion and performing the compressive sensing L1 reconstruction regularized Least Square.

The final results of this final assignment research are obtained from the results of system performance evaluation using the Matlab application with an average value of PSNR = 73.4894, MSE = 0.0041, SSIM = 0.3411, and BER = 0.02863 during the embedding process or extraction without applying an attack.

Keywords : 2D DCT, SWT, Image Watermarking, QR Decomposition, L1 regularized Least Square