ABSTRACT

The ease of access to digital data on the internet is prone to causing rampant piracy, especially against copyright piracy and ownership that now often occurs in the multimedia industry. Therefore, the need for a security system that can protect and secure the copyright of ownership of a data. Watermark is one solution to overcome the number of piracy that occurs. Watermark starts to be commonly used so that the confidential information that is inserted can still be solved by other parties.

In this final project discusses Image watermarking using Discrete Wavelet Transform (DWT) method which is used for decomposition of host images that are used as a place where watermarks are inserted and the Spread Spectrum (SS) method used for the insertion process by spreading watermark bits on the image host, then the Compressive Sensing technique is used to increase the efficiency of the watermark technique to increase capacity and percepbility in the watermarking process. Then the process is reconstructed by Orthogonal Maching Pursuit (OMP) in the MATLAB R2017a application.

The results will be obtained from this final project is the host image that has been inserted by the watermark on the best subband of the image frequency. Based on the results of the tests that have been conducted on the system, then obtained some performance results by including the PSNR value with an average of 55.629015 dB, MSE with an average of 0.194352, SSIM = 0.99876 and an average BER = 0.098671.

Keyword : Watermarking, Compressive Sensing, Discrete Wavelet Transform, Spead Spectrum, Orthogonal Maching Pursuit.