

ABSTRACT

The development of technology and the growth of the internet which is very fast supports one of the human needs, namely access to exchange of data and information quickly. Along with this, the security and confidentiality of data is very important in the development of information exchange through digital media. To ensure the security and confidentiality of data, a technique for securing the data is needed, watermarking. This Final Project discusses watermark compression.

Before the watermark compression process was carried out, the watermark was encoding the Bose Chaudhuri Hocquenghem Code (BCH Code). After that the watermark is processed using the Discrete Sine Transform (DST) and Discrete Wavelet Transform (DWT). The watermark compression method used is Compressive Sampling (CS). During the watermark insertion process to the video host using the Stationary Wavelet Transform (SWT) and Singular Value Decomposition (SVD) methods. For the watermark reconstruction method using Orthogonal Matching Pursuit (OMP), the result of the video watermarking method is then decoding BCH which aims to check and correct the error bits. Bit Error Rate (BER), Peak Signal to Noise Ratio (PSNR) and Mean Squared Error (MSE) as parameters of the research results. The attack on video watermarking uses gaussian blur noise, pepper salt and rescalling.

The video watermarking performance in this final assignment is obtained by testing the host that has been inserted with the watermark. By testing both the compression, insertion, extraction and reconstruction processes, the results of the parameters in the implementation of image watermarking are obtained with the PSNR value with an average of 47.269 dB, MSE with an average of 1.712, and an average BER of 0.080. And also resistant to Noise Gaussian Blur and Rescalling attacks.

Keywords: *Watermarking, Stationary Wavelet Transform, Discrete Sine Transform, Singular Value Decomposition, Discrete Wavelet Transform, Orthogonal Matching Pursuit, Bose Chaudhuri Hocquenghem Code, Bit Error Rate, Peak Signal to Noise Ratio, Mean Squared Error.*