

ABSTRACT

The development of digital technology now provides convenience in life, one of which is the making of video works for various purposes. Videos can be disseminated to various kinds of social media, and can be claimed by several people for commercial purposes, therefore a protection is needed to protect the copyright of a work, one of them is watermarking technique. Watermarking is a way to protect copyright over multimedia data such as images, audio, video or text by inserting information into a multimedia data.

In this final project, a watermark consisting of binary images with a size of 256x256 is used, and the host video data is in AVI format with a duration of 15 seconds. First, watermark coding is done on BCH. Furthermore, watermark compression is done by compressive sampling using Discrete Wavelet Transform (DWT). The watermarking video process uses the Discrete Wavelet Transform (DWT) and Singular Value Decomposition (SVD) methods to produce video watermark output, which will then be extracted to improve the watermark and video host, then the watermark will be used using Orthogonal Matching Pursuit (OMP) and in decoding with BCH Code.

This study produces the best parameters at level 1, blue RGB layer, HH subband, dB1 mother wavelet, 256x256 watermark image, ratio 0.8, and measurement level of 0.4. Video data produces an average value of BER 0.048, PSNR 49.807 dB, and MSE 0.679 at the time without attack. This research is resistant to Salt and Pepper attacks with the results of the average value at BER 0.056, PSNR 54.952 dB, and MSE 0.262.

Key words : *Watermarking, Video Watermark, Compressive Sampling, Discrete Wavelet Transform, Singular Value Decomposition, Orthogonal Matching Pursuit, Gaussian Noise Blur, Salt and Pepper, Rescalling.*