

ABSTRACT

The development of digital technology has developed very rapidly and provides various facilities in life. One of them is making videos for various needs and interests. At this time, there are many copyright violations committed by irresponsible people such as pirating videos by recording the video. Watermarking is one technique that can be used to protect copyright over multimedia data by inserting information into the multimedia data.

In this final project, a watermark consisting of a binary image with a size of 64×64 pixels is used, and the video host data is in AVI format with a Full High Definition (FHD) resolution which lasts 10 seconds with 30 fps frame rate. First, a Dual-Tree Complex Wavelet Transform (DT-CWT) transformation is performed to decompose the video host to which the watermark is inserted. Then the watermark insertion process is performed into video data. The process of video watermarking using the Dual-Tree Complex Wavelet Transform (DT-CWT) method produces an output that is watermarked video, which will then be given a digicam attack using a mirrorless type camera that will disturb the signal. After being interrupted by digicam, an extraction process will be performed to separate the watermark and video host.

This study produced the best parameters at level 1, V YUV layer, tree 1, HH subband, real part, with a watermark image resolution of 64×64 pixels, and α 40 times. Video data resulted in an average PSNR value of 39.2863 dB, and BER of 0.78% when without attack and BER 17,9473% after being attacked by digicam attacks.

Key words: *Watermarking, Video Watermark, Dual-Tree Complex Wavelet Transform, Pseudorandom Watermarking, Digicam.*