

ABSTRACT

Audio watermarking is a technique to embed watermark into audio (host). This is a solution to protect a media, especially audio from copyright infringement. Watermark usually contains with information about the audio ownership, so other people cannot modify, distribute or admit as owner of the audio.

Watermark can embed in time or frequency domain, each domain has advantages and disadvantages. Watermarking in time domain is easier to be implemented, but watermarking in frequency domain has higher robustness than time domain. A good watermarking not only must has good imperceptibility, but also good robustness. So, in this final project watermarking in frequency domain is purposed. Many methods of audio watermarking have been researched, in this final project audio watermarking based on Discrete Sine Transform and Singular Value Decomposition (DST-SVD) with Quantization Index Modulation method is implemented on wavelet domain.

This research is expected to evaluate DST-SVD with QIM methods on wavelet domains and produce much better audio watermarking than previous studies. Parameters that determine the results of this study include BER, SNR, and ODG.

Based on the results of DST-SVD research with the QIM method in the wavelet domain, the average Objective Difference Grade (ODG) value is -0.07, the average Signal to Noise Ratio (SNR) value is 13.9965, the average Bit Error Rate (BER) value is 0.279402, and the Capacity (C) value is 5.3883.

Keywords: *Audio Watermarking, Discrete Wavelet Transform (DWT), Discrete Cosine Transform (DCT), Singular Value Decomposition (SVD), Algoritma Genetika, Quantization Index Modulation(QIM).*