

ABSTRACT

Watermarking is technique to hide a digital data into another digital data. Audio watermarking is an implementation of watermarking. Digital audio watermarking technology consist of temporal watermarking which is directly hide watermark into audio on time domain and spectral watermarking which is use transformation from time domain into frequency domain. Commonly used transformations are DCT, FFT, DWT, etc. However implementation of employing the DCT method for audio watermarking still rare to meet.

Audio watermarking a technique to embed digital data (in this case text) into digital audio file (WAV extension) was implemented on this thesis using Discrete Cosine Transform (DCT). Objective and subjective quality test was conducted into watermarked audio. Watermark robustness test against some digital signal processing also conducted.

From objective and subjective test result to DCT based audio watermarking system, I conclude that watermarked audio have almost equal quality compared to original audio file if SNR resulted is above 78,538 dB and watermarked audio quality depend on multiplier coefficient and the text length. Test result show that on multiplier coefficient 0,001 quality of audio file close to it's original. Meanwhile from watermark robustness test against digital signal processing I conclude that on DCT based audio watermarking system, robustness level on text watermark is very susceptible with alteration.

Key Words: Audio Watermarking, Discrete Cosine Transform