ABSTRACT

A lot of method used to protect digital intellectual property from illegal duplication and data use irresponsiblely. One of that is watermarking. Watermarking is a technique to hide digital data at other digital data. This technique commonly use to hide copyrights data content to protecting that content. In this Final Project, that watermarking technique is applied at video data.

Technique of hiding copyright data at video which has spasial domain and temporal is using 3D-Diskrit Fourier Transform method (3D-DFT). 3D-DFT is representing function of three dimension fourier transformation. That video data transformed to become three dimension data blocks and watermarked independently. Image copyright data presented in spread spectrum signal. Which for later that data is insert to 3D-DFT magnitude of video.

Data capacities which can be inserted at this watermarking technique is biger than frame-by-frame DFT watermarking. However that, percentage of best data insertion is 20-30 percent of totally capacities of 3D-DFT watermarking. Quality of watermarked video result is very influenced by scale factor of embedding data process. Good video quality with value of PSNR mean 34-40 dB produced best extract image. 3D-DFT watermarking technique at this Final Project have good robustness from geometric attack such as cropping and resize. For frequency domain attack have not too good immunity.

Keyword : 3D Discrete Fourier Transform, video watermarking, spread spectrum.