ABSTRACT

One of methods for securing copyrights of multimedia data is to use watermarking techniques. Watermarking is a method of inserting information into a multimedia such as images, video, and audio. Where the information inserted can not sensed by human senses. The type of inserted watermark can be either image, text, audio, or video. Watermarking has two scheme, there are non-blind watermarking and blind watermarking. Non-blind watermarking scheme is not practical because it requires storage capacity and doubles communications bandwidth for detection. While blind watermarking scheme can detect and extract the watermark image without requiring the original image.

One of the insertion basis of the watermark on the original image is to use the discrete wavelet transform. Discrete wavelet transform is a wavelet transform method that divides the image into subband which has high and low frequencies. Discrete wavelet transform is used because it is very attractive, efficient in computation process and can increase the resistance of the inserted watermark.

This final project simulates blind image watermarking with quartenary segmental cropping method based on discrete wavelet transform. In this simulation some information in the form of image are inserted. The method used for the watermark insertion is the quarternary segmental cropping, which the first cropped watermarked image into four equal parts before inserted into the original image. The results obtained in blind image watermarking system is acceptable, as evidenced from the value of PSNR is good enough for average of 42.46 dB to 57.86 dB, and the MOS value for average of 4.7 to 4.96. And for the extraction of the image logo from blind image watermarking system is obtained that the average value MOS is 3, which is quite good if the process has less disturbance.

Keywords: Blind image watermarking, discrete wavelet transform, quartenary segmental cropping.