

ABSTRACT

Digital Image Watermarking is a technology to secure the digital image so that the copyright ownership of a digital image is maintained. One of the challenges in Digital Image Watermarking is knowing where the watermark in the watermarked image after the image is changed intentionally or unintentionally. A change in image makes it difficult to validate whether the received image is the watermarked image or not.

In this final project, the analysis of authentication watermarking technique has been carried out by using Weber's descriptor. Research is carried out by inserting a digital watermark into the host image using a two-dimensional Discrete Cosine Transform (DCT). In Weber's authentication process uses two parameters descriptor based on pixel. These parameters are differential excitation and orientation. Attacked watermarked image is confirmed by using the Euclidean distance.

Testing is done by providing a form of attack resize, rotation and noise Gaussian and noise salt and pepper that given in the watermarked image. From the test of the systems using DCT watermark embedding produces an imperceptibility watermarked image. Results of the testing system authentication watermark rotation, resize, and the addition of noise produced the average of accuracy 87.15%. The result of accuracy in this system is 88.89% from the attack of rotation, 94.4% from the attack of resize, 87.5% from the attack of Gaussian Noise and Salt and Pepper, 75% from the rotation and resize attack, and 75% from rotation, resize and noise attack. Average size of watermarked image PSNR obtained is 47.14 dB and the average MOS values obtained for 4635.

Keywords : Digital Watermarking, Authentication, Weber's descriptor, Discrete Cosine Transform (DCT), Normalized coefficient correlation, Euclidean distance.