

ABSTRACT

The development in information technology, especially digital information has been increasing recently. This increase is marked by the growing of usage and distribution of multimedia data. The ease of digital media distribution, particularly via the Internet was a negative impact for the efforts of copyright protection for digital media that needs a security system that can secure information from the parties who are not interested. Therefore, digital watermarking, as one solution that can be used to overcome this problem, is to insert information or message to the multimedia data. One of the Digital watermarking technique is to use Image Homogeneity combined with wavelet transformation.

In this final task, the application will be made at the Digital Watermarking of digital images which implements the method Discrete Wavelet Transform (DWT) combined with Homogeneity in Image. Wherein the insertion process, prior the image that is insertion location formed into blocks, and then determine the homogeneous blocks based on minimum variance value. Those Homogeneous blocks are the locations where the information will be inserted. After the insertion process, then testing against given-attacks by checking the value of PSNR and MSE, and MOS.

From testing, the result shows that the PSNR average of AWGN noise is 34.9 dB with MSE is 20.8188, for speckle noise the PSNR is 35.1 dB and MSE is 19.9894, and for salt and pepper PSNR value is 36.8 dB and MSE 13.7238. Whereas for MOS values obtained for the average type of gaussian noise by 1, for Speckle noise for 1:54, and for salt and pepper noise obtained for 3368. The result showed that the proceeded images have an high enough resistance.

Keyword: Digital watermarking, wavelet transformation, Homogeneity in Image.