

Abstract

Easyness to access multimedia data cause the needs of security system that can secure every important information from unconcern sides. One of digital processing method for securing digital data is digital watermarking. Digital watermarking is one of way to protect intellectual property of multimedia products by inserting digital watermark into the multimedia data. Because of the disadvantages of human visual digital images are often chosen as a carrier, as long as the information contained does not have significant impact on quality of the carrier image.

This research uses transformation wavelet as its method to embed the watermark with multiresolution analysis. Multiresolution is a wavelet characteristic which is wavelet can be redecomposed several times. Watermark data are inserted on different level from decompisition, with combination of subband as the option.

This research finally concludes that after objective dan subjective measurement, Multiresolution Wavelet method shows better result than any other watermarking methods. This conclusion is based on facts watermarked images have good invisibility and good robustness against *gaussian noise*, *JPEG compression*, *resize*. Although watermark data shows good robustness against *gaussian noise*, *JPEG compression*, *resize*, the inserted data, however would be broken if processes like rotation applied.

Keywords: *Citra Digital, Watermarking, Watermark, Wavelet Multiresolusi, Gaussian noise*