

Abstract

Along with the development of technology and information, digital data is very commonly used especially in the form of image of digital data. Behind the benefit of data storage in digital form there are also negative side, that is easily to modification the digital data. Especially digital medical image are necessary the authenticity of the data because it contains important information from a patient. So that need to build a system for ensure the authenticity of a digital medical image.

Watermarking technique can be used for the solutions of these problems .The insertion of special characteristics or commonly called a watermark into an image that protected which can keeping the authenticity of the data. In this final project will implemented the watermarking techniques using algorithm Fast Wavelet Transform (FWT) and Absolute Moment Block Truncation Coding (AMBTC). AMBTC is a newer method of Block Truncation Coding (BTC) that is used to perform the feature extraction. With the expectation modificated digital medical image can be detected and then can be repaired. Parameter that used to measure the quality of image are PSNR (Peak Signal to Noise Ratio) and Error Rate.

Analysis of the results show that watermarking system was built can produce a good quality watermarked image with average PSNR 60,77 dB. The best location of the insertion 3 bits watermark on subband HL (High Low) and LH (Low High) results of FWT transformation in bit 16, 17, and 18. The system can also do the detection of 2 type attacking namely noise and sharpening beside that system can recover modified watermarked image.

Keywords : watermarking, AMBTC, FWT, digital medical image.