Abstract

Image compression is a substantial point about data transmission and stored database. Purpose of image compression is to decrease redundancy data on image so that can be stored and transmitted efficiently. There are two main steps on digital image compression, compression and decompression. There are three steps on compression technique, they are transformation, quantization, and entropy encoding. On the other hand, decompression process is inverse of compression process. Previously, there were many research about image compression, one of them use DWT-SVD as technique transformation and Arithmetic Coding as encoding technique.

In this final project, it will use *Integer Wavelet Transform*(IWT)-*Singular Value Decomposition* (SVD) as transformation method. IWT is used to transform those image subblocks that show a high correlation and SVD is used to decomposition those image subblocks thar show low correlation. IWT is a development of method DWT that improve the weakness in DWT to get floating point which result lost data because limit memory. In the quantization process, it used vector quantization, which is quantization process will be used in set of codevectors. Output from quantization will be encoded with Huffman coding

Implementation of digital image compression with Huffman Coding based IWT-SVD can compress test images into 2/5 original size. Value of PSNR is in the range of 23-32 dB. Then, the result of this system are Ratio compression and value of PSNR, is not better than JPEG compression.

Kata Kunci: compression, digital image, Huffman, IWT, SVD.