Abstract

The fastness of transmission, and the stored media capasities must be considered when data will be stored or transmitted. A size of data is very infulence two things that were mentioned before. Smaller size of data that was transmitted or stored, will make the use of stored media capasities more efficience and transmission of data will be faster enough. Thus, we need a compression technique that can reduce redudance of data and make data smaller, but can representated the original data.

In this final project, we developed an aplication of digital image compression using a transformation, that is Contourlet Transform. CT is a technique for decompositioning a data of digital image to one lowpass subband *and some bandpass* subband. *Contourlet transform has two main blocked, that are Laplacian Pyramid (LP) and Directional Filter Bank (DFB). This transformation has an ability to capture smooth contour from an image in some direction and some location that makes the quality of reconstructed image better. The other transformation can't do a such ability. While the quantization was used is vector quantization. And entropy encoding that was used in this final project was Arithmetic Coding. The merger of such metode that were mentioned before make this system be a lossy compression system.*

Based on analysis which have been done, the system have a good performance based on PSNR and compression ratio. The average of compression ratio that was reached is 40-80 %. While, PSNR value that was gained is 20-40dB.

Keyword : image compress ion, Contourlet transform, lossy compression, compression ratio, PSNR