

A NOVEL DCT ARCHITECTURE FOR IMAGE PROCESSING APPLICATIONS

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ABSTRACT

Now days for image transmission applications the compression technique is a necessary technique. To transmit the image with high quality factor and high efficiency, multiple compressions is used. When the image is compressed, the discrete cosine transform is applied on an image and then IDCT is applied for image restoration. The image is compressed multiple times and the quality factor is estimated each and every compression by obtaining the PSNR, MSE and SSIM. For the quality image PSNR value should be high and the MSE value should be non-negative value. The efficiency of the DCT algorithm is measured by calculating the process time of the algorithm. Hence novel discrete cosine transform architecture for compression is designed. Power consumption of the DCT algorithm is calculated by using the Xilinx ISE 8.1i.

KEYWORDS: *Image Compression, PSNR (Peak Signal To Noise Ratio), MSE (Mean Square Error), SSIM (Structural Similarity), DCT (Discrete Cosine Transform), IDCT (Inverse Discrete Cosine Transform), Power Consumption And Area, Xilinx ISE 8.1i.*