Project Proposal:

Abstract:

Discrete Cosine Transform (DCT) is considered to be one of the major bottlenecks for image/video compression application due to number of multiplications and additions involved. During the first phase of my project, I propose to do a good study of recent DCT-IDCT algorithms for MPEG compression. In the second phase, I will do a hardware implementation of a chosen fast DCT-IDCT algorithm using Verilog HDL. The criteria for choosing an appropriate algorithm would be good performance with less hardware. The exact algorithm to be chosen would be decided later after surveying some of the recent work published on this topic. The procedure to test the design will also be decided later.

References:


[2]. OPTIMIZATION AND IMPLEMENTATION ON FPGA OF THE DCT/IDCT ALGORITHM by A. Ben Atitallah(1,2), P. Kadionik(2), F. Ghozzi(1), P. Nouel(2), N. Masmoudi(1), Ph.Marchegay(2).