

DResearch JPEG2000 TM

Image data compression and decompression library

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DResearch JPEG2000 TM is a software library based on the new image compression standard JPEG2000, and especially developed and optimised for the TriMedia. It already offers you today, the standard features of tomorrow for your application.

Take advantage of these unique features of the future and contrast with your competitors by using DResearch JPEG2000 TM in your TriMedia application. An easy to use buffer interface facilitates the use of the library in your software project. DResearch JPEG2000 TM is available as a library for TriMedia and as a TSSA- component.

Features

- Optional lossless compression
- Preview capability: optional image decoding at half or lower resolution in reduced computing time
- Both PSNR-scaled and resolution-scaled stream: The data in the stream are organised in a special way. The image gained from the first part of the stream is a low-quality image in lower resolution. The image gained from the 2. part has a good quality. The 3. part is optional and provides the unchanged original image.
- Wavelet-based compression: Using the same bit rate, it offers, in general, a better compression than conventional DCT-based techniques (e.g. JPEG), using small bit rates it offers a big advantage.
- Arbitrary image sizes from 64 x 64, up to a width of 2048



Original Bitmap, 1220 x 1196 Pixel



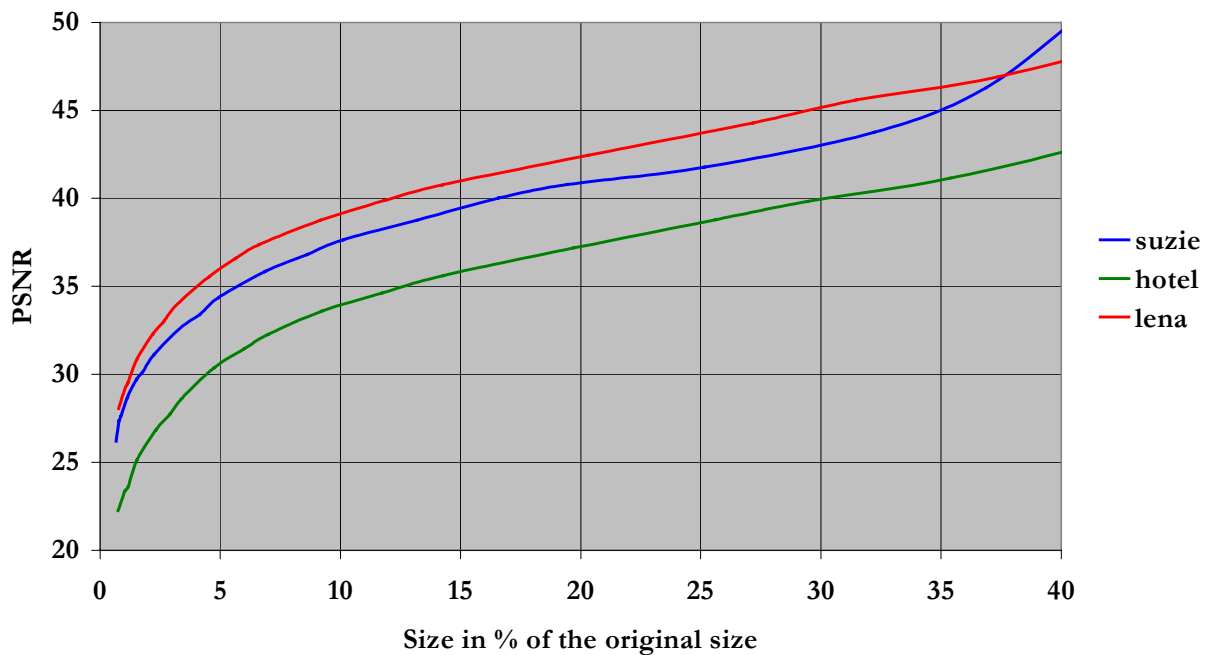
Compressed Image, Compression Rate 1:45

Original Photography: Mike Overstreet

Technical Data

Standard	JPEG2000 Part 1, ISO/IEC 15444-1:2000
Hardware platforms	Library for TriMedia, TSSA-Component for TriMedia
Compression technique	Wavelet transformation
Still image or video coding	Still image coding
Input formats	YUV420, YUV422, YUV400
Image sizes	arbitrary from 64 x 64 up to a width of 2048, height is limited only by memory resources
Compression rate control	Quality parameter, additional bit rate control for sequences
Multiple instances possible	yes
Frame rate	ca. 3-20 CIF (352x288, YUV420) on 143 MHZ TriMedia, depending on the chosen quality and the image content
Additional features	lossless coding, preview at lower resolution

Compression performance for a few well known test images



suzie:



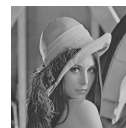
Size: 352 x 288,
Color format: YUV420

hotel:



Size: 720 x 576,
Color format: YUV422

lena:



Size: 512 x 512,
Color format: RAW GREY

The compression rate is specified comparatively to the YUV format, the PSNR has been calculated in RGB-format.

Please ask for demo versions!



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