

C Raster Image Manipulation Package

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CRIMP

- Background
- What Else Is There?
- Have and Have Not
- Demo
- Future

CRIMP

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CRIMP – The Itch

- Image Processing Beyond Resize/Rotate
 - Arbitrary Point Operations
 - Filtering
 - Analysis
 - Dewarp/Rectify
 - Barcode Recognition
 - OCR
 - Keypoint Extraction, -Matching, -Stitching
- Independent of Tk

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CRIMP – Others

- Pixane – Not Free
- Tclgd – Vector Drawing, → libgd
- Tking – Tk bound, Focused on I/O
- Megaimage – Basic blitting, drawing
- Tclmagick – → Image-, GraphicsMagick
- Imgop – pure Tcl, exec ImageMagick, → Tking
- Tkpng – Tk bound, PNG I/O only
- LRIPhoto – Basic resize, rotate

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CRIMP - Limitations

- Still tethered to Tk.
 - However easily severable (just remove 2 files).
- Very basic set of image formats read/written.
- No proper build system.
- Only basic operations implemented
- Still fiddling with the API in places
 - Version 0

Alpha

CRIMP – Operations I

- Generic point functions via LUT
 - Plus convenience methods for small set of important operators
 - γ -correction
 - Solarization
 - Thresholds
- Generic convolution in the spatial domain
 - Plus small set of important kernels in the demos.
 - Gauss
 - Laplace
 - Sobel

CRIMP – Operations II

- Generic Rank-Order Filter (ROF)
 - Application: Median-Filter
- Basic (greyscale) morphology
 - Bricks \rightarrow \min | \max ROF
- Basic set of binary operators, incl. α -blending
- Reflections at axes and diagonals
- $90^\circ/180^\circ$ rotations.

CRIMP – Operations III

- Pieces for arbitrary resizing
 - Downsample / Decimate
 - Upsample / Interpolate
- Conversions
 - RGB / HSV / Grey8
- Formats
 - pnm, pgm
 - Strimj
 - Tcl matrices (nested lists)

CRIMP – Location

Where ?

- http://chiselapp.com/user/andreas_kupries/\repository/crimp
- On the USB-Stick

CRIMP

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CRIMP – Future

- Add proper build system
- Separate into Tcl- and Tk-dependent parts
- Continue extending the set of blocks
 - Transforms
 - Fourier
 - Hough
 - Resize, ...
- Start using the blocks to assemble advanced operations.
- Look into multi-threaded operation.

CRIMP Demo

- Background
- What Is There
- My Work
- Future
- **Demo**