

POWUA GRAPHICS SOFTWARE

ale

*A tool that merges images to increase fidelity or create mosaics
ALE aligns and merges several similar images from a digitizing device
(such as a digital camera or scanner) into a single image. This operation
can create a higher fidelity image by using details from several separate
images combined into the final image. It can also be used to merge the
images into a mosaic or panoramic image.*

<http://www.ale.org>

aqsis

*Suite of applications implementing the RenderMan Interface
The Aqsis Rendering System consists of a set of libraries and
applications for creating high-quality computer imagery using the
Pixar RenderMan Interface.*

<http://aqsis.org/>

autotrace

*Bitmap to vector graphics converter
AutoTrace is a program for converting bitmaps to vector graphics. The aim
of the AutoTrace project is the development of a freely-available
application similar to CorelTrace or Adobe Streamline. In some aspects it
is already better. Originally created as a plugin for the GIMP,
AutoTrace is now a standalone program.*

<http://autotrace.sourceforge.net>

blender

*Very fast and versatile 3D modeller/renderer
Blender is an integrated 3d suite for modelling, animation, rendering,
post-production, interactive creation and playback (games). Blender has its
own particular user interface, which is implemented entirely in OpenGL and
designed with speed in mind. Python bindings are available for scripting
import/export features for popular file formats like 3D Studio and Wavefront
Obj are implemented as scripts by the community. Stills, animations, models
for games or other third party engines and interactive content in the form of*

graphics

a standalone binary and/or a web plug-in are common products of Blender use.

<http://blender.org>

dcraw

Decode raw digital camera images

This utility converts the native (RAW), format of various digital cameras into netpbm portable pixmap (.ppm) image. Supports the following models: Canon, Kodak, Olympus, Nikon, Fuji, Minolta and Sigma (see <http://www.cybercom.net/~dcoffin/dcraw/> for full list)

Note: This utility does not read directly from the cameras, only the files after they have been downloaded, use gphoto2 for that.

<http://cybercom.net/~dcoffin/dcraw>

dia

Diagram editor

Dia is an editor for diagrams, graphs, charts etc. There is support for UML static structure diagrams (class diagrams), Entity-Relationship diagrams, network diagrams and much more. Diagrams can be exported to postscript and many other formats.

<http://www.gnome.org/projects/dia>

fyre

Interactively renders Peter de Jong maps (chaotic functions)

Fyre provides a rendering of the Peter de Jong map, with an interactive GTK+ frontend and a command line interface for easy and efficient rendering of high-resolution, high quality images.

<http://fyre.navi.cx/>

gimp

The GNU Image Manipulation Program

GIMP lets you draw, paint, edit images, and much more! GIMP includes the functionality and plug-ins of other famous image editing and processing programs.

<http://www.gimp.org/>

graphicsmagick

Collection of image processing tools

GraphicsMagick provides a set of command-line applications to manipulate image files. It is a fork of the ImageMagick project and therefore offers a similar set of features, but puts a larger emphasis on stability.

graphics

The tools support a large variety of image formats from the widely used jpeg, tiff, bmp or xpm to special-purpose formats such as fits or image formats found on some photo CDs. They can convert between formats, concatenate several images into one, annotate and distort them, create thumbnails or manipulate the colormap. While all features are available from the command-line, the package also includes an image viewer that allows interactive manipulation.

Note that unlike ImageMagick, the GraphicsMagick tools are accessed through a single executable called 'gm'. Therefore, GraphicsMagick and ImageMagick can be used in parallel. Install package graphicsmagick-imagemagick-compatible to obtain a set of several executables that is compatible to ImageMagick's interface.

<http://www.graphicsmagick.org>

imagemagick

Image manipulation programs

Imagemagick is a set of programs to manipulate various image formats (JPEG, TIFF, PhotoCD, PBM, XPM, etc...). All manipulations can be achieved through shell commands as well as through an X11 graphical interface (display).

Possible effects: colormap manipulation, channel operations, thumbnail creation, image annotation, limited drawing, image distortion, etc...

This package suggests a postscript interpreter (gs) to read postscript files. It will however function happily without it (as long as you don't want to read postscript).

<http://www.imagemagick.org>

inkscape

Vector-based drawing program

Inkscape loads and saves a subset of the SVG (Scalable Vector Graphics) format, a standard maintained by the WWW consortium.

Inkscape user interface should be familiar from CorelDraw and similar drawing programs. There are rectangles, ellipses, text items, bitmap images and freehand curves.

As an added bonus, both vector and bitmap objects can have alpha transparency and can be arbitrarily transformed.

Inkscape supports multiple opened files and multiple views per file.

Graphics can be printed and exported to png bitmaps.

graphics

Some of the import and export features are provided using the packages `dia`, `libwmf-bin`, `pstoedit`, `sketch`, `imagemagick`, and `perlmagick`. Other Extensions use `libxml-xql-perl` and `python-xml`.

<http://www.inkscape.org>

inventor-clients

Open Inventor client programs

This package contains Open Inventor file viewers and converters.

Open Inventor is an object-oriented 3D toolkit offering a comprehensive solution to interactive graphics programming problems. It presents a programming model based on a 3D scene database that simplifies graphics programming. It includes a large set of objects such as cubes, polygons, text, materials, cameras, lights, trackballs, handle boxes, 3D viewers, and editors can speed up your programming and extend your 3D program's capabilities.

<http://oss.sgi.com/projects/inventor>

ipe

Drawing editor for creating figures in PDF or PS formats

Ipe supports making small figures for inclusion into LaTeX documents as well as making multi-page PDF presentations

Ipe's main features are:

- * Entry of text as LaTeX source code. This makes it easy to enter mathematical expressions, and to reuse the LaTeX-macros of the main document. In the display text is displayed as it will appear in the figure.*
- * Produces pure Postscript/PDF, including the text. Ipe converts the LaTeX-source to PDF or Postscript when the file is saved.*
- * It is easy to align objects with respect to each other (for instance, to place a point on the intersection of two lines, or to draw a circle through three given points) using various snapping modes.*
- * Users can provide ipelets (Ipe plug-ins) to add functionality to Ipe. This way, Ipe can be extended for each task at hand.*
- * The text model is based on Unicode, and has been tested with Korean, Chinese, and Japanese.*

<http://tclab.kaist.ac.kr/ipe/>

graphics

- jpegoptim** *Utility to optimize jpeg files*
Jpegoptim can optimize/compress jpeg files. Program support lossless optimization, which is based on optimizing the Huffman tables. So called, "lossy" optimization (compression) is done by re-encoding the image using user specified image quality factor.
- karbon** *A vector graphics application for the KDE Office Suite*
Karbon is a vector graphics application.
This package is part of the KDE Office Suite.
- kpovmodeler** *A graphical editor for povray scenes*
KPovmodeler is KDE's graphical editor for povray scenes. KPovModeler is a modeling and composition program for creating POV-Ray scenes in KDE. For most modelers, POV-Ray is nothing but a rendering engine. This greatly limits the innate possibilities of the POV-Ray scripted language. This is not the case for KPovModeler, which allows you to use all the features of POV-Ray through the translation of POV-Ray language into a graphical tree.
kpovmodeler uses the povray package, currently available only in Debian's non-free, unsupported repository.
This package is part of KDE, as a component of the KDE graphics module. See the 'kde' and 'kdegraphics' packages for more information.
- netpbm** *Graphics conversion tools*
Netpbm is a toolkit for manipulation of graphic images, including conversion of images between a variety of different formats. There are over 220 separate tools in the package including converters for more than 80 graphics formats.
- nip2** *Spreadsheet-like graphical image manipulation tool*
nip2 is a graphical front end to the VIPS package.
VIPS is an image processing system designed with efficiency in mind.

<http://www.kokkonen.net/tjko/projects.html>

<http://www.kpovmodeler.org>

<http://netpbm.alioth.debian.org>

graphics

It is good with large images (images larger than the amount of RAM in your machine), and for working with colour. It can perform many image manipulation tasks much faster than other packages such as ImageMagick and the GIMP and includes some special features such as creating single "mosaic" images from multiple parts.

VIPS consists of two main components: an image processing library with some command-line tools and a spreadsheet-like graphical user interface. This package supplies the graphical interface.

With nip2, rather than directly editing images, you build relationships between objects in a spreadsheet-like fashion. When you make a change somewhere, nip2 recalculates the objects affected by that change. Since it is demand-driven this update is very fast, even for very, very large images. nip2 is very good at creating pipelines of image manipulation operations. It is not very good for image editing tasks like touching up photographs. For that, a tool like the GIMP should be used instead.

<http://www.vips.ecs.soton.ac.uk>

pixelize

*Create an image consisting of many small images
Pixelize is a program that will use many scaled down images to try to duplicate, as closely as possible, another image.
Pixelize works by splitting up the image you want rendered (or duplicated) into a grid of small rectangular areas. Each area is analyzed, and replaced with an image chosen from a large database of images. Pixelize tries to pick images that best matches each area.*

<http://lashwhip.com/pixelize.html>

pngquant

*PNG (Portable Network Graphics) image optimising utility
pngquant is a command-line conversion utility to quantize and dither truecolor PNG images, especially those with a full alpha channel, down to 8-bit (or smaller) RGBA-palette PNGs. Such images are usually two to four times smaller than the full 32-bit versions, and partial transparency is preserved quite nicely. This makes pngquant especially useful both for Web sites and for PlayStation 2 development, where one of the texture formats is*

graphics

RGBA-palette-based (though not PNG-compressed). This is the same technique used for many of the images on the Miscellaneous Transparent PNGs page (<http://www.libpng.org/pub/png/pngs-img.html>), and the results are often indistinguishable from the original, truecolor PNG images.

Optimizers (like `pngcrush` and `optipng`) optimize the compression, usually losslessly, while `pngquant` quantizes colors down to 256 (or fewer) distinct RGBA combinations, which is lossy

<http://www.libpng.org/pub/png/apps/pngquant.html>

potrace

Utility to transform bitmaps into vector graphics

potrace is a utility for tracing a bitmap, which means, transforming a bitmap into a smooth, scalable image. The input is a bitmap (PBM, PGM, PPM, or BMP format), and the default output is an encapsulated PostScript file (EPS). A typical use is to create EPS files from scanned data, such as company or university logos, handwritten notes, etc. The resulting image is not "jaggy" like a bitmap, but smooth. It can then be rendered at any resolution.

potrace can currently produce the following output formats: EPS, PostScript, PDF, SVG (scalable vector graphics), Xfig, Gimp-path, and PGM (for easy antialiasing). Additional backends might be added in the future.

<http://potrace.sourceforge.net>

pstoedit

PostScript and PDF files to editable vector graphics converter

pstoedit converts Postscript and PDF files to various editable vector graphic formats including `tgif`, `xfig`, PDF graphics, `gnuplot` format, `idraw`, MetaPost, GNU Metafile, PIC, Kontour and flattened PostScript.

<http://pstoedit.sourceforge.net>

qcad

A professional CAD System

With QCad 2 you can easily construct and change drawings with ISO-texts and many other features and save them as DXF-files. These DXF-files are the interface to many CAD-systems such as AutoCAD and many others.

<http://www.ribbonsoft.com/qcad.html>

rawstudio

Open source raw-image converter

graphics

Rawstudio can read and convert RAW-images from many different cameras, including Nikon and Canon. Rawstudio uses ddraw.

<http://www.rawstudio.org/>

sam2p

*Convert raster images to EPS, PDF, and other formats
sam2p is a command line utility that converts many raster (bitmap) image formats like GIF, JPG/JPEG, and PNG into PostScript or PDF files. PS or EPS files created by sam2p are usually not much larger than the source file.*

<http://www.inf.bme.hu/~pts/sam2p>

scribus

*Open Source Desktop Page Layout - developmental branch
This is the developmental branch of Scribus - the open source desktop page layout program. This package is intended for tracking fast-paced development of scribus to make new features available to those who need them. Scribus is an open source desktop page layout program with the aim of producing commercial grade output in PDF and Postscript, primarily, though not exclusively for Linux.
Scribus can be used for many tasks; from brochure design to newspapers, magazines, newsletters and posters to technical documentation. It has sophisticated page layout features like precision placing and rotating of text and/or images on a page, manual kerning of type, bezier curves polygons, precision placement of objects, layering with RGB and CMYK custom colors. The Scribus document file format is XML-based. Unlike proprietary binary file formats, even damaged documents, can be recovered with a simple text editor. Scribus supports professional DTP features, such as CMYK color and a color management system to soft proof images for high quality color printing, flexible PDF creation options, Encapsulated PostScript import/export and creation of 4 color separations, import of EPS/PS and SVG as native vector graphics, Unicode text including right to left scripts such as Arabic and Hebrew via freetype. Graphic formats which can be placed in Scribus as images include PDF, Encapsulated Post Script (eps), TIFF, JPEG, PNG and XPixmap(xpm), and any bitmap type supported by QT3.
Printing, PDF and SVG creation are done via custom driver libraries and plug-ins, giving Scribus inventive features: the abilities to include*

graphics

presentation effects with PDF output, fully scriptable interactive PDF forms, SVG vector file output. The internal printer drivers fully support Level 2 and Level 3/PDF 1.4 postscript features including transparency and font embedding.

When run from KDE, Drag and Drop, for example from desktop to the canvas, is enabled. There is easy to use drag and drop scrapbook for frequently used items such as text blocks, pictures and custom shaped frames.

<http://www.scribus.net>

tclmagick

Tcl bindings for ImageMagick

TclMagick is a Tcl extension that works with both the GraphicsMagick and ImageMagick image manipulation libraries. TkMagick is a small, simple extension that lets you pass images back and forth between Tk and the TclMagick extension.

<http://tclmagick.sourceforge.net>

tcm

Toolkit for Conceptual Modeling (TCM)

The Toolkit for Conceptual Modeling is a collection of software tools to present conceptual models of software systems in the form of diagrams, tables, trees, and the like. A conceptual model of a system is a structure used to represent the requirements or architecture of the system. TCM is meant to be used for specifying and maintaining requirements for desired systems, in which a number of techniques and heuristics for problem analysis, function refinement, behavior specification, and architecture specification are used. TCM takes the form of a suite of graphical editors that can be used in these design tasks. These editors can be categorized into:

- * Generic editors for generic diagrams, generic tables and generic trees.*
- * Structured Analysis (SA) editors for entity-relationship diagrams, data and event flow diagrams, state transition diagrams, function refinement trees, transaction-use tables and function-entity type tables.*
- * Unified Modeling Language (UML) editors for static structure*

graphics

diagrams, use-case diagrams, activity diagrams, state charts, message sequence diagrams, collaboration diagrams, component diagrams and deployment diagrams (only the first three UML and last two editors are functional at this moment).

** Miscellaneous editors such as for JSD (process structure and network diagrams), recursive process graphs and transaction decomposition tables.*

TCM supports constraint checking for single documents (e.g. name duplication and cycles in is-a relationships). TCM distinguishes built-in constraints (of which a violation cannot even be attempted) from immediate constraints (of which an attempted violation is immediately prevented) and soft constraints (against which the editor provides a warning when it checks the drawing). TCM is planned to support hierarchic graphs, so that it can handle for example hierarchic statecharts. Features to be added later include constraint checking across documents and executable models.

<http://wwwhome.cs.utwente.nl/~tcm>

transfig

Utilities for converting XFig figure files

This packages contains utilities (mainly fig2dev) to handle XFig (Facility for Interactive Generation of figures) files.

It can convert them to box, cgm, epic, eepic, eepicemu, emf, eps, gif, ibmgl, jpeg, latex, map (HTML image map), mf (MetaFont), mp (MetaPost), mmp (Multi-Meta-Post), pcx, pdf, pdftex, pdftex_t, pic, pictex, png, ppm, ps, pstex, pstex_t, ptk (Perl/tk), sld (AutoCad slide format), textyl, tiff, tk (Tcl/Tk), tpic, xbm and xpm.

<http://www-epb.lbl.gov/xfig>

tulip

A system dedicated to the visualization of huge graphs

Tulip is capable of managing graphs with up to 500,000 nodes and edges on relatively modest hardware (eg. 600MHz Pentium III, 256MB RAM).

It includes the following features:

- * 3D visualizations*
- * 3D modifications*

graphics

- * *Plug-in support for easy evolution*
- * *Building of clusters and navigation into them*
- * *Automatic drawing of graphs*
- * *Automatic clustering of graphs*
- * *Automatic selection of elements*
- * *Automatic metric coloration of graphs*

<http://www.tulip-software.org/>

view3ds

Simple viewer for 3D Studio files

This is simple realtime 3DS file previewer based on the lib3ds library by J.E. Hoffmann. It won't display any 3DS model, but it can properly display 3DS scenes. lib3ds was developed as part of the support libraries for FAMP, the Free Animation and Modeling Project

<http://famp.sourceforge.net>

wings3d

Nendo-inspired 3D polygon mesh modeller

Wings 3D is a polygon mesh modeller written entirely in Erlang. The user interface was designed to be easy to use for both beginners and advanced users alike. It was inspired by the famous Nendo modeller (from Izware.)

Unlike similar modelling programs (such as Blender), this program does not provide native support for doing animations (though you can output its models to an animation tool.)

Wings 3D supports the following import formats: Nendo (NDO), 3D Studio (3DS), Wavefront (OBJ), and Adobe Illustrator 8 (AI).

Wings 3D supports the following export formats: Nendo (NDO), 3D Studio (3DS), Wavefront (OBJ), VRML (WRL), Renderman (RIB), Hash:Animation Master (MDL), Renderware (RWX), Yafray, Toxic, and FBX via a third-party plug-in.

Open Source Erlang is a functional programming language designed at the Ericsson Computer Science Laboratory.

<http://www.wings3d.com>

xaos

Real-time interactive fractal zoomer

XaoS allows you to zoom and pan around a fractal in

graphics

real time. It can display the animated fractals in graphical or even plain text mode.

It displays the Mandelbrot set or many other fractals and allows you to zoom smoothly into the fractal. Various coloring modes are provided for both the points inside and outside the selected set. In addition, switching between Mandelbrot and Julia fractal types is provided.

Other features include autopilot mode, palette changing, image saving, fractal inversion, filters, and a built in fractal tutorial.

<http://xaos.sourceforge.net>

xaralx

Heavyweight vector graphics, illustration and DTP Program Xara LX is a very versatile and mature piece of graphics software, tailored for web, print and publishing. Xtreme combines advanced and powerful vector illustration with integrated photo manipulation and DTP features. Saving and, due to the XaraDraw 2D rendering library, are fast enough to not interrupt the work flow.

After 15 years of development, Xara Xtreme offers a very slick, easy-to-use and easy-to-learn approach. It can import and export to a large number of formats, including SVG, EPS, PNG, GIF, JPEG, PDF, PostScript, Adobe Illustrator, Adobe Photoshop and, via plug-ins, even more.

<http://www.xaraxtreme.org>

yafray

A modern, xml-speaking raytracing-based rendering system Yafray (Yet Another Free RAYtracer) is an advanced raytracing rendering system with many modern features including full radiosity and High Dynamic Range Imaging (HDRI) for scene lighting. It reads a simple XML-based scene definition file, and can be used as a renderer for Blender.

<http://www.yafray.org>