

The GIMP hits 2.0!

The GIMP team

March 14, 2004

1 Release announcement

1.1 The GIMP hits 2.0!

The GIMP developers are proud to release version 2.0 of The GIMP, the leading free software tool for image manipulation.

This release is a major event, marking the end of a three year development cycle by a group of volunteers and enthusiasts who have made this the most professional release of the GIMP ever. It is the first stable release that is officially supported not only on Unix-based operating systems, but also on Microsoft Windows and Macintosh OS X.

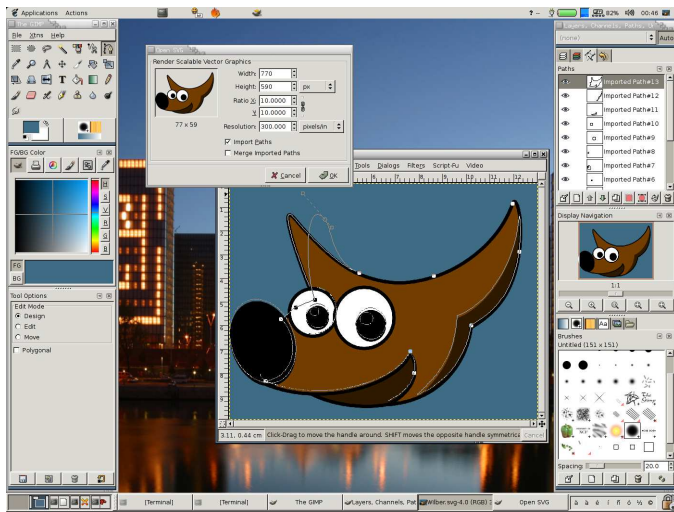


Figure 1: The all-new GIMP 2.0

The GNU Image Manipulation Program (GIMP) is ideal for amateur photographers, web designers, and many other people who want to create and edit digital images. It is a very powerful application, with features including: channels and layers; colour operations such as levels, curves and threshold; advanced selection operations using intelligent scissors and selection channels; and much more.

GIMP is free software, which means it can be freely distributed and modified. This makes it well suited to be included on coverdisks of magazines dedicated to digital photography or image editing, or to be included with digital cameras, scanners, printers etc. As free software, its capabilities are ultimately limited only by the collective

imagination of the community of free software contributors.

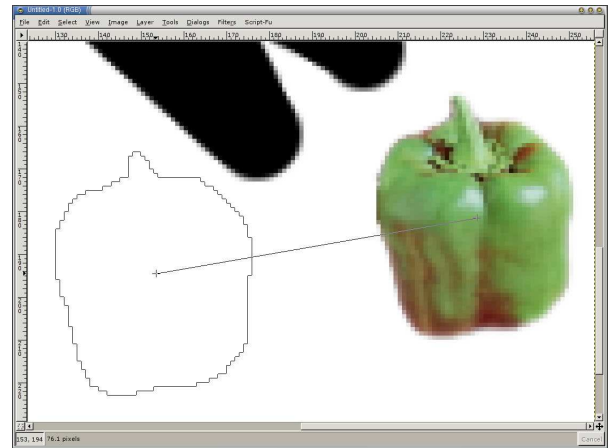


Figure 2: Brush outlines

Started in 1995 by Spencer Kimball and Peter Mattis, the GIMP has evolved into a mature and powerful application. The latest release has major improvements in the user interface, making the GIMP more accessible for casual users as well as graphics professionals. The quality of the code base has also been substantially improved, making it easier for the open source community to contribute useful and high-quality add-ons to the GIMP.

The GIMP continues its tradition as a testbed for technologies that have proven to be useful for other applications as well. The popular library GTK+ (Gimp Toolkit, <http://www.gtk.org/>) started as a part of the GIMP and now is in wide use on Linux as well as Win32 platforms. Gimp-Print (<http://gimp-print.sourceforge.net/>) has evolved into a set of high-quality printer drivers.

1.2 Quotes

Linux Magazine France, March 2004: "This new version... fulfils its promise." "In general, the user interface is easier to use [and] more coherent... To save screen real estate, all dialog boxes ... can now be grouped together in one window using a tabbed interface... Soon you will have no more excuses for using Photoshop"

Newsforge, Bruce Burgess, Feb 25, 2004: "When you launch version 2.0 you'll see a new

look that's a huge improvement over the previous version's mundane and purely functional interface. The new design not only provides a polished and comfortable feel, it is also far more intuitive and friendly than its predecessor.”



Figure 3: The text tool

1.3 Availability

- The GIMP is available as a free source code download at <ftp://ftp.gimp.org/pub/gimp/v2.0/gimp-2.0.tar.gz>
- GIMP GAP is available for download at <ftp://ftp.gimp.org/pub/gimp/plugins/v2.0/gap/gimp-gap-2.0.tar.gz>
- GIMP Freetype is available at...
- GIMP-perl is available at...
- GIMP help files are available at...
- The GIMP plug-in template is available at...

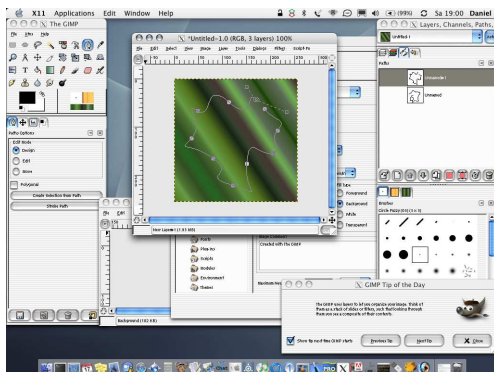


Figure 4: The GIMP on OS X

2 What's new in GIMP 2.0

2.1 Introduction

GIMP 1.0 evolved gradually into the very stable and widely used 1.2 release. Three years later, as GIMP development came closer to the next stable release, the development team decided to call the new version 2.0. Here are a few of the changes brought by the new Gimp release.

From the user's point of view, Gimp 2 is fundamentally similar to Gimp 1; features available in the older version are still available in the GIMP 2.0. However, a huge amount of work has led to a complete restructuring of the GIMP internals. The Gimp 2 code base is significantly better organized, more maintainable and more easily extended than was the case for Gimp 1.2.

2.2 Basic tools

The basic tools in GIMP 2 are not very different from their predecessors in Gimp 1. The select regions by color tool is now shown in the GIMP toolbox, but was already included in Gimp 1 as a menu option in the Select menu.

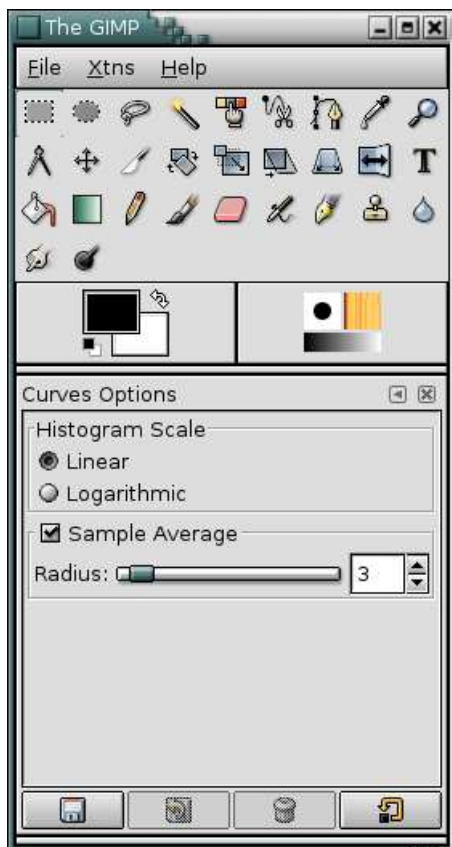


Figure 5: The GIMP toolbox

The Transform tool has been divided into several specialized tools: Rotation, Scale, Shearing and Perspective. Color operations are now associated with layers in the menu "Layer->Colors", which is their logical place: in

previous versions they were in the Image menu, despite the facts that they are layer operations.

Thus no completely new tools appear in this release, but two of the tools have been totally rewritten: the Text tool and the Path tool.

2.3 The Text Tool

The big problem with the standard text tool in Gimp 1 was that text could not be modified after it was rendered. There was a "dynamic text" plugin that allowed you to create special text layers and keep them around indefinitely, in a modifiable form, but it was buggy and awkward to use.

The second generation Text tool is an enhanced combination of the old Text tool and the Dynamic Text plugin. Now all options are available in the "Tool Options": font, font size, text color, justify, antialiasing, indent, spacing.

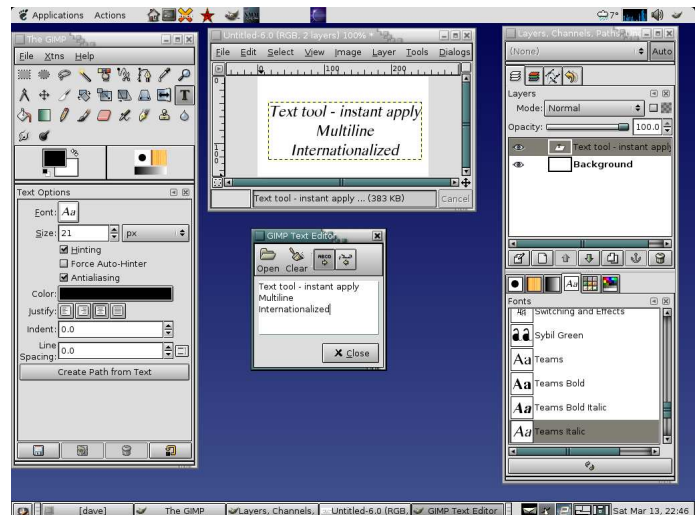


Figure 6: The Text tool in action

To create a new text item, click in the image and a little editor pops up. Text appears on the image while you are editing (and carriage returns are handled properly!). A new dedicated layer is created; this layer resizes dynamically to match the text you key in. You can import plain text from a file, and you can even do things like writing from right to left in Arabic or Hebrew. If you select a text layer, clicking on it opens the editor, and you can then modify your text.

2.4 The Path Tool

The next generation Path tool has a completely new interface. The first major difference you notice is that paths are no longer required to be closed. A path can be made up of a number of disjoint curve segments. The next major difference is that now the path tool has three different modes, Design, Edit and Move.

In Design mode, you can create a path, add nodes to an existing path and modify the shape of a curve either by dragging edges of the curve or dragging the “handles” of a node.

In Edit mode, we can add nodes in the middle of curve edges, and remove nodes or edges, as well as change the shape of the curve. You can also connect two path components.

The third mode, Move, is, as you might expect, used to move path components. If your path has several components, you can move each path component separately. To move all components at once, use the Shift key.

All of the Path tool functions are available via the keyboard, using some combination of Alt, Shift and Ctrl. Keep an eye out on the information bar at the bottom of the information window for helpful hints on how to access the various modes using these buttons.

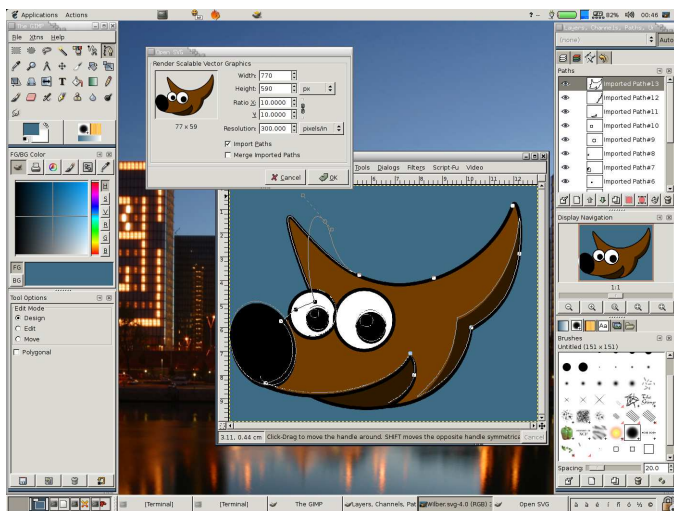


Figure 7: The Path tool, working on an imported SVG image

Two other path-related features are new in the GIMP 2.0. The GIMP can not only import an SVG image as a raster image, but can also keep SVG paths intact as GIMP paths. This means that the GIMP is now more able than ever to complement your favourite vector drawing tool.

The other feature which has made the path tool much better is the introduction of vector-based stroking. In previous versions, stroking paths and selections was a matter of drawing a brush-stroke along the path. This mode is still available, but it is now possible to stroke a curve accurately, using the vector library libart.

2.5 User Interface

The most visible changes in Gimp 2 concern the user interface. Gimp now uses the GTK2+ graphical toolkit in place of GTK+. One of the nice features brought by the new libraries is dockable dialogs, and tab navigation

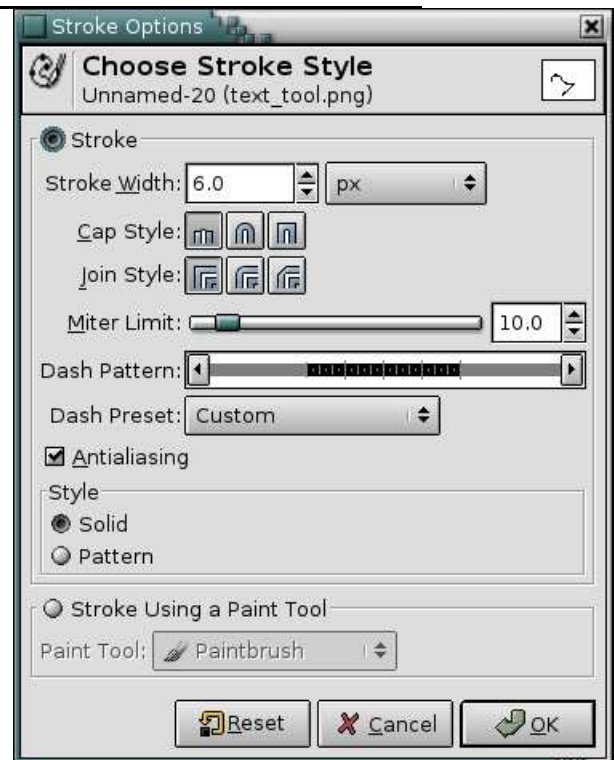


Figure 8: Stroking paths is now much more flexible

between dialogs docked in the same window – this feature gives you maximum flexibility in organizing your workspace.

The Image window has some interesting new features. These are not necessarily activated by default, but they can be checked as options in the “Preferences-Interface-Image Windows” menu. “Show Brush Outline”, for example, allows you to see the outline of the brush when using drawing tools.

A welcome new addition for many users is a menu on the top of each image window. For people who prefer screen real estate, this (and all the other window decorations) are optional, and can be turned off per-image or by default.

Also making an appearance for the first time is a full-screen editing mode. This mode can be toggled using F11, or via the View menu. This mode has its own set of preferences for things like selection outlines and the menubar - so that you can turn off all distractions and concentrate on what’s important, the image.

To ease access to your most commonly used menu items, the GIMP has provided dynamic shortcuts for many years. When a menu is open, you can hover over the desired menu item and hold down your shortcut combination. This feature is still present, but is deactivated by default in the GIMP 2.0, to avoid accidental re-assigning of existing shortcuts.

The GIMP also ships with a number of sets of key-bindings for its menus. If you would like to replace the default GIMP keybindings by Photoshop bindings, for

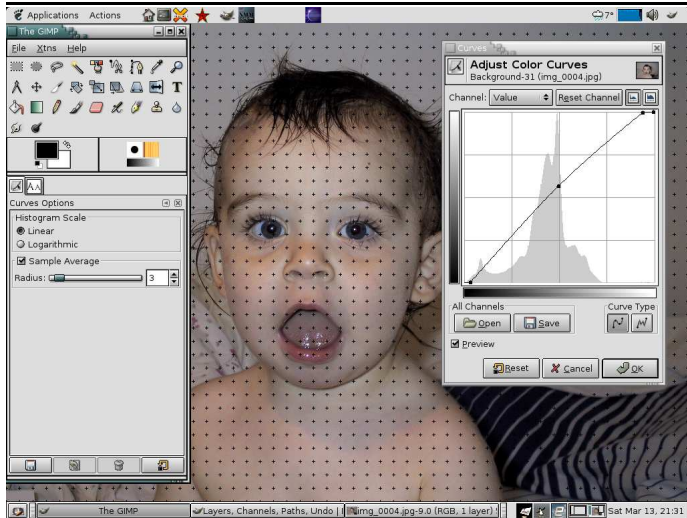


Figure 9: Full screen mode with the grid enabled

example, you can move the file "menurc" in your user data directory to "oldmenurc", and rename "ps-menurc" to "menurc".

2.6 Handling Tabs and Docks

The GIMP 2.0 introduces a system of tabbed dialogs to allow you to make your workspace look the way you want it to be. Almost all dialogs can be dragged to another dialog window and dropped to make a tabbed dialog set.

Furthermore, at the bottom of each dialog, there is a dockable area: drag and drop tabs here to attach dialogs beneath the bottom tab group.

2.7 Scripting

"Python-fu" is now the standard external scripting interface for Gimp 2. This means that you can now use Gimp functions in Python scripts, or conversely use Python to write Gimp plug-ins. Python is relatively easy to understand even for a beginner, especially in comparison to the Lisp-like Scheme language used for Script-fu in Gimp 1. The Python bindings are augmented by a set of classes for common operations, so you are not forced to search through the complete Gimp Procedural Database in order to carry out basic operations. Moreover, Python has integrated development environments and a gigantic library, and runs not only on Linux but also on Microsoft Windows and Macintosh OS X. The biggest drawback, for Gimp 2.0, is that the standard user interface offered in Python-fu does not use the complete power of the Python language. The interface is currently designed to support simple scripts, but a more sophisticated version is a goal of future development.

Gimp-Perl is no longer distributed with the standard Gimp 2 distribution, but is available as a separate package. Currently, Gimp-Perl is supported only on Unix-like



Figure 10: Dockable dialogs

operating systems. It includes both a simple scripting language, and the ability to code more polished interfaces using the Gtk2 perl module. Direct pixel manipulation is available through the use of PDL.

Script-fu, based on Scheme, has the same drawbacks as before: not intuitive, hard to use and lacking a real development environment. It does, however, have one major advantage compared to Python-fu: Script-fu scripts are directly interpreted by Gimp and do not require any additional software installation. Python-fu requires that you install a package for the Python language.

2.8 Other improvements

Some other improvements in brief:

- Menus that don't fit on the screen can scroll.
- Higher-quality antialiasing in some places – most notably in the Text tool.
- Icons and menus are skinnable. You can create your own icon set and apply it to the toolbox using the "Preference->Interface" menu option. A theme called "small" is included with the standard distribu-

tion, and you can see below the appearance of the toolbox in it (ideal for low resolutions):

- An image can be saved as a template and used to create new images.
- There are four new combination modes for layers that lie one on top of another within an image: Hard Light, Soft Light, Grain Extract and Grain Merge.
- The Alpha channel, used for the transparency, is now available in the Channels dialog as for primary colors red, green and blue.
- The Fill tool behaves a bit differently than before. Now, by default the selection is not filled completely; when you use the fill tool with an active selection, the part of the image filled is the intersection of the active selection and the region in which you click. This makes the fill tool behave similarly to other tools with respect to selections. There are, however, two ways to fill a full selection - use the menu entry "Edit->Fill", or change the behaviour of the fill tool to "Fill Whole Selection", which has the same behaviour as in GIMP 1.2.
- If there is an active selection, you can crop the image directly to the selection size using image menu "Image->Crop".
- As well as being able to create guides, there's now a grid functionality in GIMP. It is complimentary to the guides functionality and makes it easier to position objects so that they align perfectly.
- The Layers dialog is more coherent, in that there are no more hidden functions accessed only with right click on the miniature image of the layer that appears there. You can now handle layer operations directly from the image menu: Layer Mask, Transparency, Transformation and Layer Color operations are directly in Layer submenu.
- Color display filters are now available from the image menu "View->Display Filters". Using them, you can simulate different gamma values, different contrasts, or even color deficient vision, without altering your original image. This actually has been a feature of the GIMP developer versions for a long time, but it has never been stable enough to appear in a stable version of the GIMP before.
- The color selection dialog has a new CMYK mode, associated with the printer icon.
- Path rendering has been considerably improved. New libraries (libart) are used to render paths, and they are obviously more effective. A new dialog is available using the image menu "Edit->Stroke path"; this new dialog allows you to choose any paint tool, or any of the standard stroke styles. In the latter case, you can set different dash patterns, as well as the cap and join style. You can even stroke the edge of an active selection using "Edit->Stroke Selection", which allows same stroke options as for paths.
- Data stored in EXIF tags by digital cameras are now handled in read and write mode for JPEG files.
- The Scalable Vector Graphics (SVG) format can be imported by Gimp 2. The SVG format is a standard for the web; it is natively handled by Sodipodi, via filter by Sketch and by numerous other vector oriented graphic tools. It's now possible to work comfortably with vectorized objects and import them into Gimp to paint them, as can be done with Adobe Illustrator and Photoshop. When opening a SVG files, GIMP rasterizes the content in a given resolution but it also allows to import SVG paths. You can then finalize the shapes in Gimp or trace them using the "Stroke Path" operation. Gimp paths can also be exported as SVG files, so you can reuse at least some of your Gimp work in any vector graphic tools.
- MNG animations are now supported. The MNG file format can be considered as animated PNG. It has all the advantages of PNG over GIF, such as more colors, 256 levels of transparency, and perhaps most importantly, lack of patent encumbrance. The format is a web standard and all recent popular web browsers support it.
- The Animation package now does onion-skinning, a bluescreen feature was added as well as audio support.
- A channel mixer filter, previously available from the web as an add-on, appears in "Filters->Colors".