

# KRITA 2.8

DIGITAL PAINTING, CREATIVE FREEDOM



[HTTP://WWW.KRITA.ORG](http://www.krita.org)

Artwork: Muses, by  
Ramon Miranda



"About Krita 2.8" was produced by Boudewijn Rempt for the Krita Foundation.

Cover Illustrations: "Kiki the Krita Mascot" by Tyson Tan

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Krita is free software released under the GNU Public License V2 or later.

The Krita project is part of the KDE community

Krita is supported by KO GmbH

Produced using Scribus 1.4.2 on openSUSE 12.2 using the Liberation Sans Narrow font.



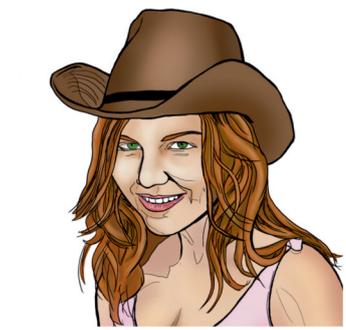
David Revoy  
Snouphilou  
Boudewijn Rempt



Enrico Guarnieri  
Alexey Guranov  
Timothée Giet



Ramon Miranda  
Kargall Lefou  
Fernando Michelotti



## About Krita

Krita is an innovative, free and open source painting application for professional artists. Krita is a complete digital art studio, making it possible to create great artwork from start to finish. Krita supports the creation of comics, illustrations, concept art, mattes, textures and more.

Krita is created by a community of developers and artists in the KDE project.

Krita development is supported by the Krita Foundation (<http://www.krita.org>) and KDE e.V. (<http://www.kde.org>).

Commercial support for Krita is available from KO GmbH (<http://www.kritastudio.com>).

# Summary

Krita is a robust, fast and flexible painting application that makes creating art from scratch or existing resources a fun and productive experience. With many powerful brush engines and unique features such as multi-hand, mirrored and wraparound painting, Krita explicitly supports creating illustrations, concept art, storyboards, textures, matte paintings and comic books.

Krita 2.8 is not only a full featured and fun painting application for digital artists, it also offers compelling functionality for digital effects artists, with full support for the movie industry's standard OpenColorIO color management solution and much improved HDR painting and image editing abilities, in addition to many performance improvements, improved Photoshop compatibility and more.

New in Krita 2.8 is rewritten support for more graphics tablets, thanks to support from Huion and Wacom, high-quality OpenGL-based zooming, a wrap-around mode for texture painting, array clones for working on tile-based games and more than five hundred performance improvements and bug fixes.

Krita 2.8 is now fully supported on Windows, too.

## What Users Say

*"Krita has been instrumental to my work in high-end visual effects for the last year. It was an important part of my team's tool-set on upcoming Hollywood blockbusters. With the support provided by the community and the main developers, I believe Krita will soon become the standard in 2D image editing and painting on the Linux platform in feature film visual effects."* — Simon Legrand, Senior TD, Reliance Mediaworks, Digital Domain London.

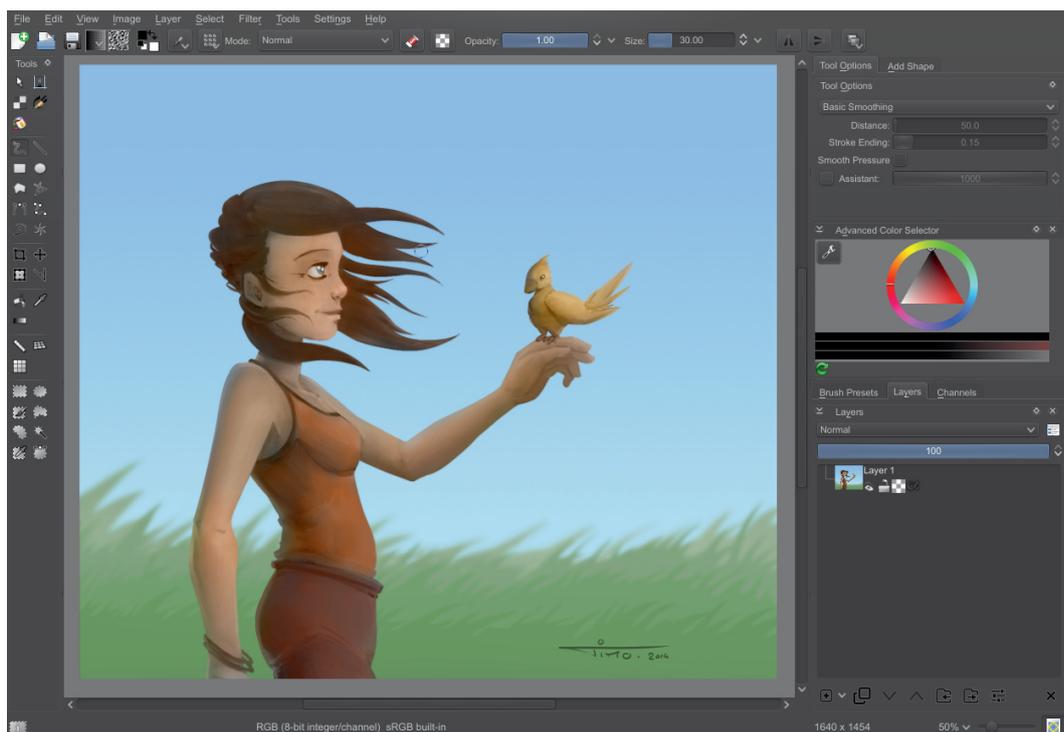
*"Krita is a production beast"* — David Revoy, illustrator and concept artist.

*"Krita's brush interface is wonderful ... it has several great features that Photoshop still lacks"* — Oscar Baechler, illustrator, 2D and 3D animator, rigger and designer.

*"... Krita broke a 12 year imagination drought for me and now the ideas are coming thick and fast. I have no idea how that happened but the brushes just let me be so loose and free with my strokes that art is a joy again. I've been using Photoshop since 1997 and thought I would never switch to another program because there's always a learning curve, but it's been no problem at all for me to pick up"* — Eo Fenstalker, artist.

*"Krita is one of the best-kept secrets among Linux applications."* — Nathan Willis, journalist

Krita, the full-featured digital art studio  
(Image by Timothee Giet)



# Krita is Great for

## Illustrators

With the availability of all the painting tools, and support for large page sizes in high resolutions, Krita is very suitable for creating illustrations and book covers. Krita supports CMYK, making it possible to convert an image from a working RGB colorspace to CMYK in order to tweak channel components before saving to industry-standard TIFF or PSD files that can be accepted by any publisher.

## Concept Artists

The Experiment and particle brushes make it easy to dump shapes on the canvas to get inspiration from; then with the mirrored and multihand painting tools it becomes easy to create polished model sheets. The incremental save feature helps saving all the stages of creating the concept.

## Comic book Artists

The combination of vector and pixel layers makes it easy to create pages with frames and balloons. The sketch brush engine helps creating lively sketches of the action in the comic. Coloring finally is supported by the many blending modes. The filter layers and masks can add effects non-destructively.

## Matte Painters

With advanced filters that can be used as dynamic masks or layers, it becomes easy to combine source material into a striking whole, ready for overpainting to prepare the matte. Support for high bit depths and high dynamic range images makes it possible to use images created in Krita directly in your scenes.

## VFX Artists

With support for OpenColorIO, OpenEXR and HDR painting and image manipulation, Krita is a natural choice for all the 2D painting work in a movie or game studio. Commercial support is available from KO GmbH.

## Game Artists

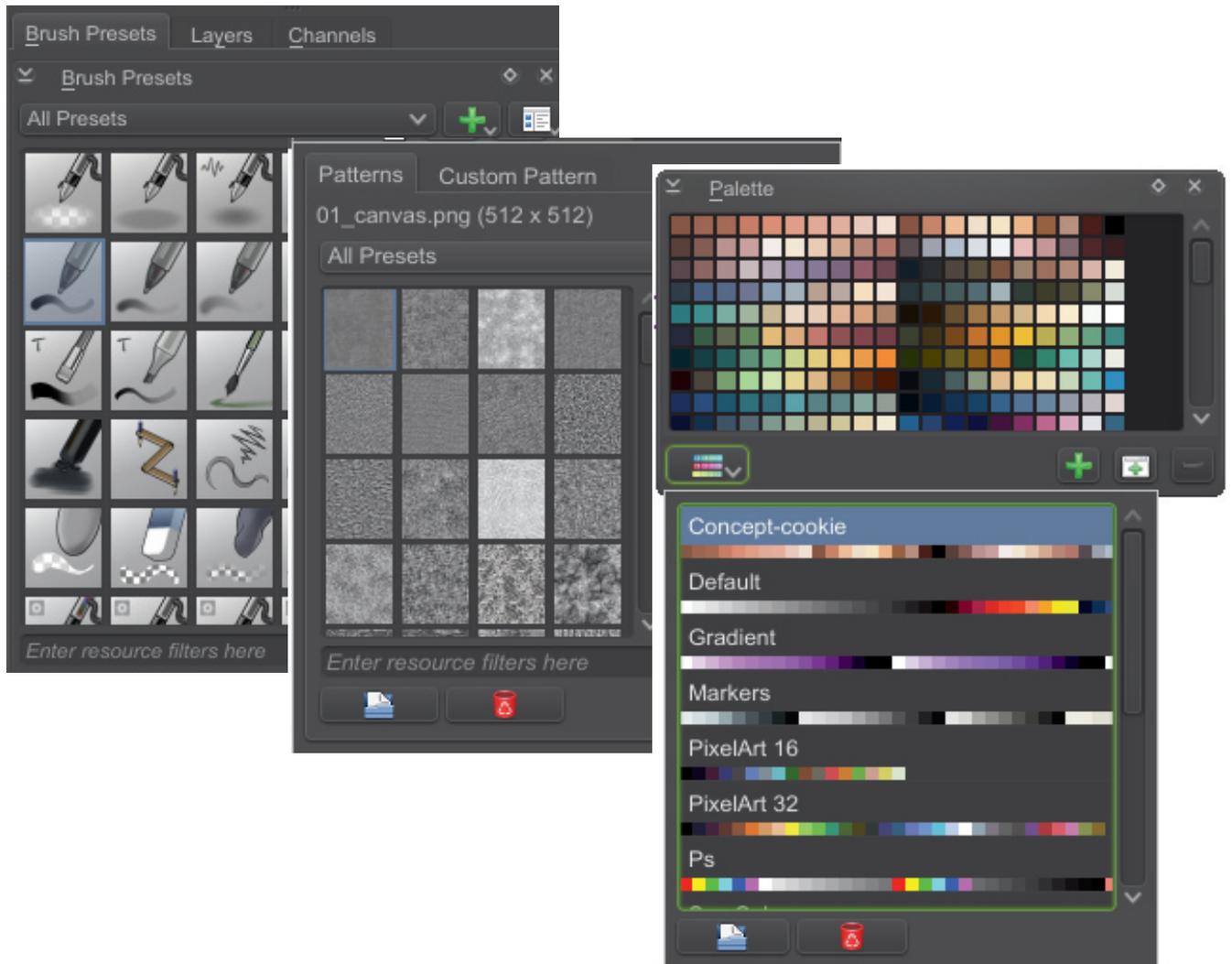
The new clone-arrays and wraparound mode make Krita the best choice for artists working on games. With wraparound mode, creating complex textures that seamlessly tile together is easier than with any other application, while clone arrays lets you clone a base layer many times as editable tiles.

*Krita 2.8 Splash Screen by  
Tyson Tan*



# Fully Loaded

Krita comes with a full set of brushes, brush tips, patterns, palettes and gradients. The brush set in Krita 2.8 has been redesigned from scratch by Timothee Giet, David Revoxy and Vasco Basque. David Revoxy has carefully assembled a set of great color palettes. Krita is color-themable independent of your desktop theme. There are many plugins available, ranging from advanced filters to painting assistants for perspective work.



## System Requirements

Krita is pervasively multi-threaded and can use all cores in a multi-core machine. Krita is not particularly memory-efficient, eschewing savings on memory usage for speed. A dual core CPU plus 4GB of memory is the recommended minimum for serious work.

The minimum recommended screen resolution is 1280 × 1024.

Krita is available for Linux and Windows.

Krita supports color management: a calibrated and profiled monitor is preferred for dependable results.

Krita supports OpenGL to improve graphics performance. In OpenGL mode, Krita can use monitors that support 12 or 16 bit channel depths.

Krita has a customizable GUI where all GUI elements can be undocked and moved to a second monitor. Krita can show an image in more than one window at a time.

In order to make the best use of Krita's brush engines, use of a graphics tablet is recommended.

# Community

A strong part of Krita is the community of developers and users. Developers and users meet on the forum, chat on irc or discuss new features on the mailing list. Krita is an open and friendly project and welcomes new contributors and users and encourages interaction between developers and artists.

## Foundation

In 2012, the Krita community created the Krita Foundation ([foundation@krita.org](mailto:foundation@krita.org)) with the goal to support and accelerate development of Krita. Donations to the foundation are used to sponsor development in particular areas or towards a particular goal.

## Website

News about Krita is disseminated through the blog at the Krita website. The Krita website also provides installation how-tos, answers to frequently asked questions and a press page.

<http://www.krita.org>

## Tutorials and Manuals

Tutorials and resources are available from the Krita website: <http://krita.org/resources>.

A manual is being written on KDE's userbase wiki: <http://userbase.kde.org/Krita>

The "Comics with Krita" DVD tutorial can be watched on Youtube:

<http://www.youtube.com/watch?v=FiOvekdqC9Q>

The "Muses" tutorial DVD by Ramon Miranda is available through the Krita Foundation.

## Forum

The forum provides news, a user gallery and a help form.

<http://forum.kde.org/krita>

## Chat

Developers and users discuss Krita on irc: #krita on [irc.freenode.org](http://irc.freenode.org)

## Mailing List

<https://mail.kde.org/mailman/listinfo/kimageshop>

## Deviant Art Group

<http://krita-free-art-app.deviantart.com/>

## Tumblr

<http://krita-foundation.tumblr.com/>

## Maintainer

For any questions about the project, please contact Krita maintainer Boudewijn Rempt at the Krita Foundation: [foundation@krita.org](mailto:foundation@krita.org), Korte Assenstraat 11, 7411 JP Deventer, the Netherlands, telephone: +31-570-635570

## Commercial Support

Commercial support is available from KO GmbH: <http://www.kritastudio.com>. There are several options available for a support contract or custom development. KO GmbH also develops Krita Gemini for convertible ultrabooks and Krita Sketch for tablets.

# What's New in Krita 2.8

Krita 2.8 presents a major step for the Krita project: from this release on, Krita is fully supported on Windows.

The 2.8 release also brings many new features:

Krita 2.8 benefits from a complete rewrite of the graphics tablet support. Both Wacom and uc-logic based tablets are now supported, thanks to Huion, Wacom and Intel who provided hardware to test with. Both on Windows and on Linux, the drawing experience is better than ever.

Thanks to the Krita user community who raised funding for test hardware, Krita's OpenGL canvas has been enormously improved. The new High Quality Filtering option uses shaders instead of hardware to perform display zooming, giving clean, clear, crisp and accurate lineart, also at lower zoom levels. The OpenGL based canvas also supports a wraparound mode where the image is displayed as tiles, making creating seamless textures easier than ever before.

Krita can now use external files as display-only file layers, for instance for adding inking layers for comics for better integration with content created in compositors like The Foundry's Nuke. If the file gets updated, Krita will automatically update the image you are working on.

In addition to the native filters, Krita now has a g'mic plugin, which makes available all the weird and wonderful effects g'mic brings.

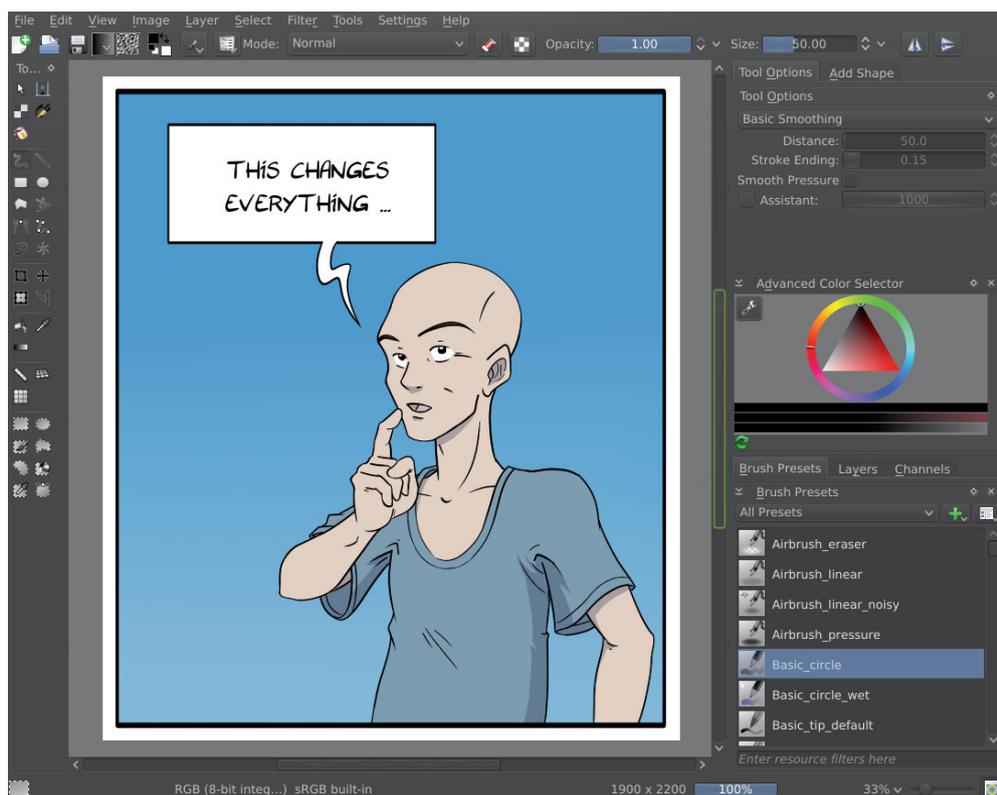
The clones array feature lets you create a set of tiled clones from the current layer, at specific offsets. This is particularly useful when creating 2D tiles for games.

The borders of the canvas now have buttons that make it easy to expand your image in a particular direction.

Krita 2.8 has also received hundreds of performance improvements, usability improvements and bug fixes, making Krita more stable and more fun to use than ever. Krita supports the latest version of the OpenRaster specification for interoperability with GIMP and MyPaint.

Line stabilization, textured brushes, improved transform tool, grayscale selections and masks, drag & drop, the color-to-alpha filter, compositions dock, alpha channel curves filter, seamless images, offset tool, stroke vector shapes, isolate layer, new shortcuts, improved smudging... The list is nearly endless!

*The new High Quality zooming: crisp, clean lines at 33% zoom. Artwork by Timothee Giet.*



# Funding Krita

Great software does not appear out of thin air. Volunteer contributions are essential to keep a free software project healthy.

As we recognized in 2009, more than spare-time volunteer hacking is needed to take Krita to the next level.

In 2009, we ran our first crowdfunding campaign -- before anyone knew what crowd-funding was. This made it possible to have Lukas Tvrđy work on Krita full-time for nearly a year and resulted in Krita 2.4, the first really end-user ready version of Krita.

Since then, funded development has been vital to the project.

## Krita Foundation

For the past six months, the Krita Foundation has sponsored Dmitry Kazakov to work full-time on Krita. The result is Krita 2.8, a major step in performance, quality and features. To continue, the Krita Foundation has instituted the Krita Development Fund.

If you use Krita professionally, please consider subscribing to the Krita Development Fund:

**<http://krita.org/support-krita#general>**

Funding Dmitry has resulted in over 250 bug fixes, many new features and performance enhancements. A small monthly subscription can make a huge difference!

## Commercial Support

Larger organizations should consider the commercial support offering KO GmbH, co-founded by Krita maintainer Boudewijn Rempt. KO GmbH funds a number of Krita developers who are engaged in bringing Krita to VFX and Game studios. Commercial support provides priority bug fixing, feature implementation and training.

**<http://www.kritastudio.com/support.html>**

KO GmbH has also done most of the work of bringing Krita to Windows and is now working on publishing Krita Gemini, the tablet/desktop/big picture mode hybrid version of Krita, to Valve's Steam platform.

*The "SuperCity",  
game by Playkot.  
Over four million  
users, made with  
Krita and other  
free software.*



# Key Features

## Workflow and Customization

From job to job, from artist to artist, different parts of a studio application like Krita will be used. Krita makes it easy and enjoyable to define workspaces for particular jobs. The currently used palette is remembered, as well as the entire configuration of toolbars and dockers.

The canvas-only feature can be tweaked to show only the elements the artist needs to see, creating a customized distraction-free sketching and painting mode.

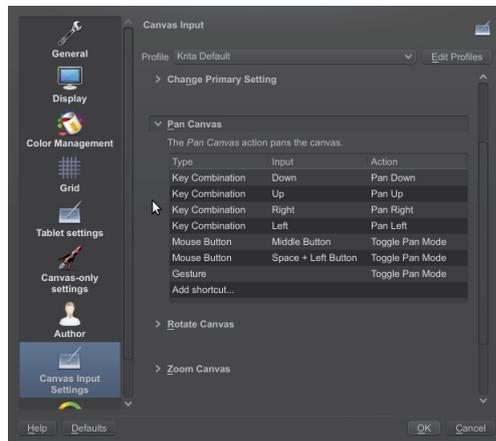
Artists can keep intermediate versions of their work with the incremental saving feature. This is both handy for saving different versions of the work, as for keeping a permanent backup trail.

The default set of shortcuts has been designed by professional artists to be both comfortable and compatible with other applications, but changing the shortcuts is easy and changes to shortcuts are remembered from version to version. See the shortcut sheet at the end of this booklet!

Artists can save templates for re-use, for instance for comic book pages with complex frame layouts.

Every feature in Krita is carefully considered and designed to make painting more fun and more productive!

Configuring the shortcuts for panning the image



Workspace selector. Every workspace definition defines the current set of GUI elements.  
Artwork: "Swimming Pool" by "Bollebib"



# Key Features

## Paint with abandon

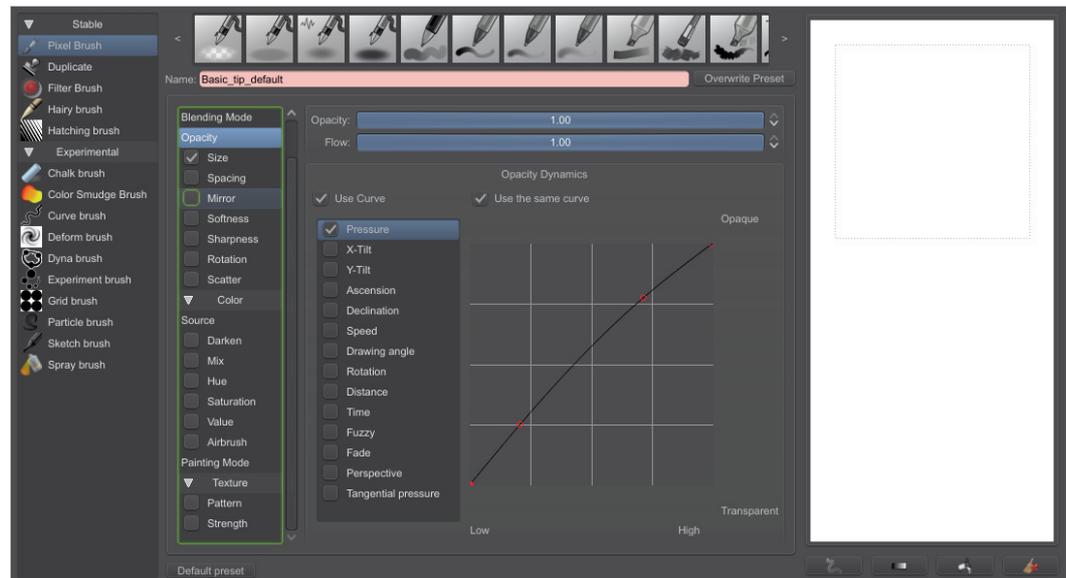
Krita's brush engines make it possible to achieve unique results quickly. For many brush engines, use can be made of Gimp (gbr), Gimp animated (gih) and Photoshop (abr) brush tips, as well as generated brush tips.

For most brush engines, there is a wide variety of settings that can be tweaked and saved into presets for easy re-use. It is possible to combine any brush setting, like rotation or scatter or opacity with any number of inputs, from tablet pressure to fuzzy random, making it possible to create an infinite number of uniquely expressive brushes. Krita comes with a set of brush presets created by professional artists: Timothée Giet, Ramon Miranda, Paul Geraskin, Vasco Basque and David Revoy.

Brushes are compatible with the mirrored painting feature, as well as with the multibrush tool. Krita has magnetic assistants that help creating complex constructions with perspective grid, ellipses, lines and more.

Krita doesn't stop at painting, however, with a full set of filters, many of which can be used dynamically in the filter layer and filter mask feature, trying different color schemes or adjustments is easy and fast. And if some part of the image isn't quite right, the transform tool with transform, 3D and warp mode makes it possible to do quick on-the-spot fixes.

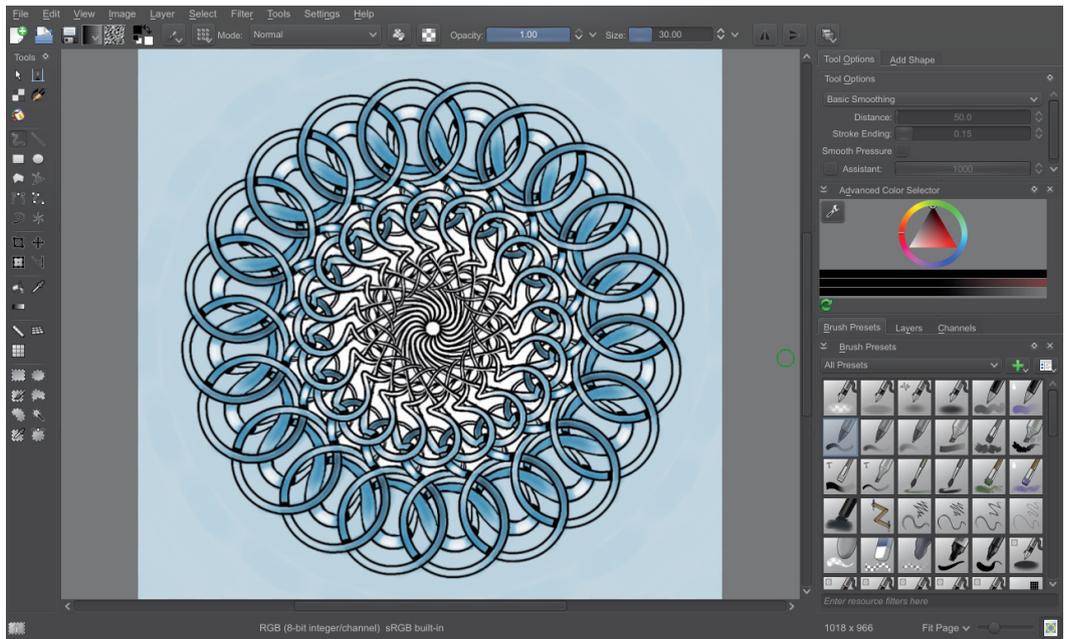
*Krita's powerful brush engine editor: combine any input to any kind of output.*



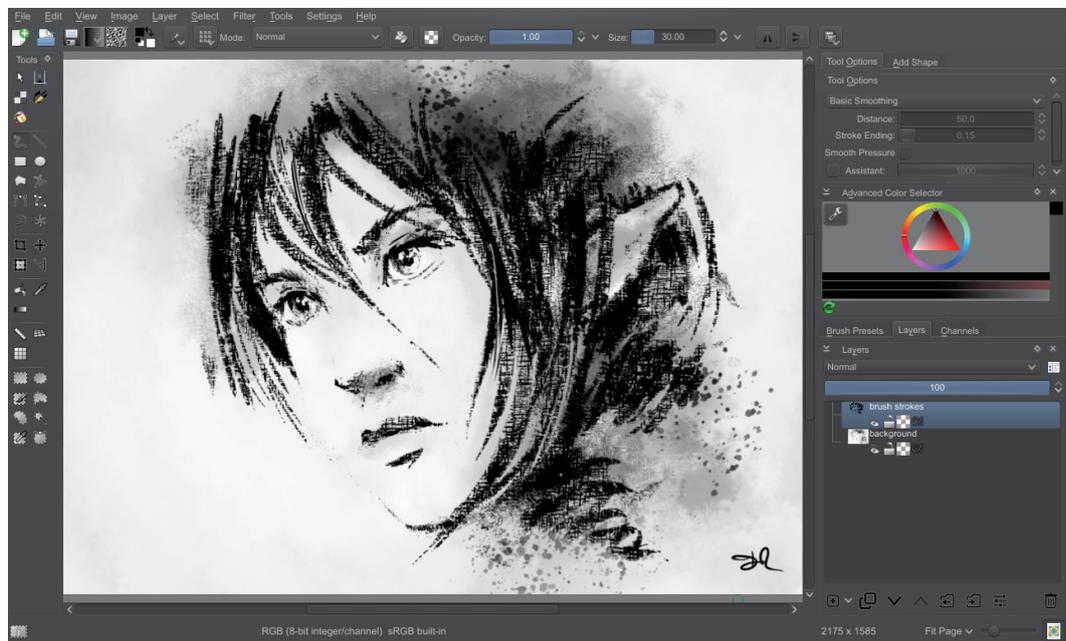
*Krita comes with a carefully selected set of brush presets*



Instant mandalas with the multibrush.  
Artwork by David Revoy.



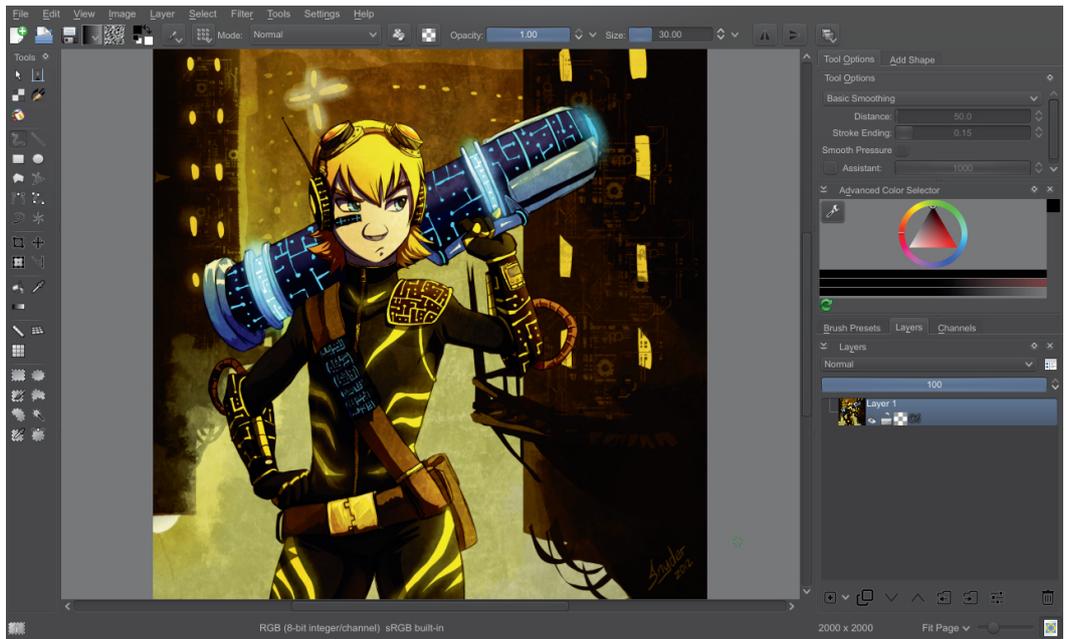
In Krita 2.8, the textured brush has been significantly improved and is more fun than ever.  
Artwork by David Revoy.



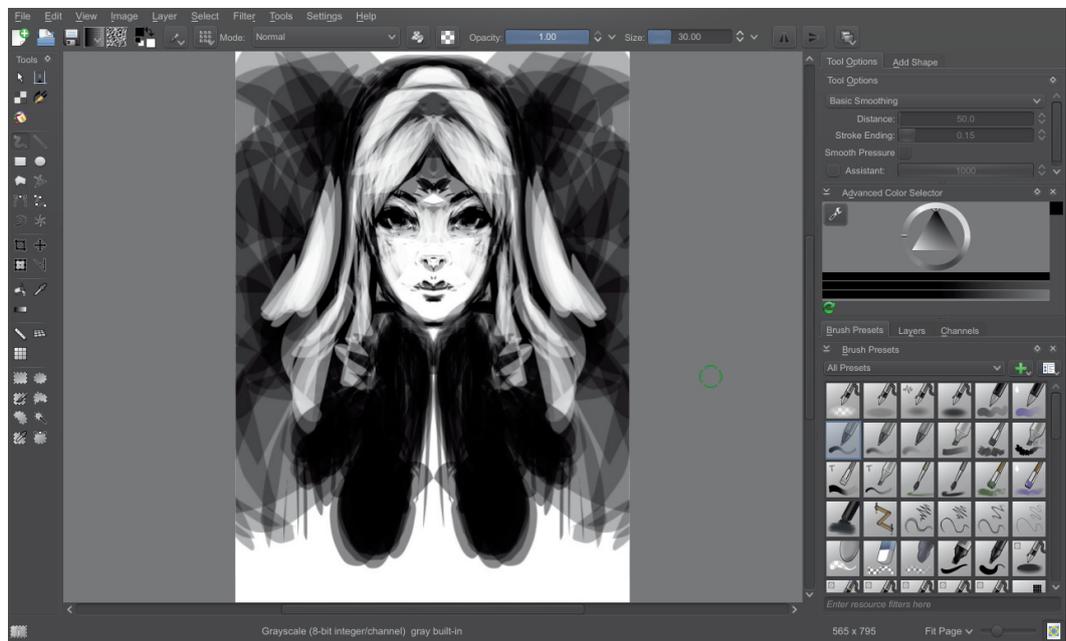
Take the step from traditional to digital with Krita: this work started as a traditional oil painting, to be finished in Krita  
Artwork by Andreas Raniger.



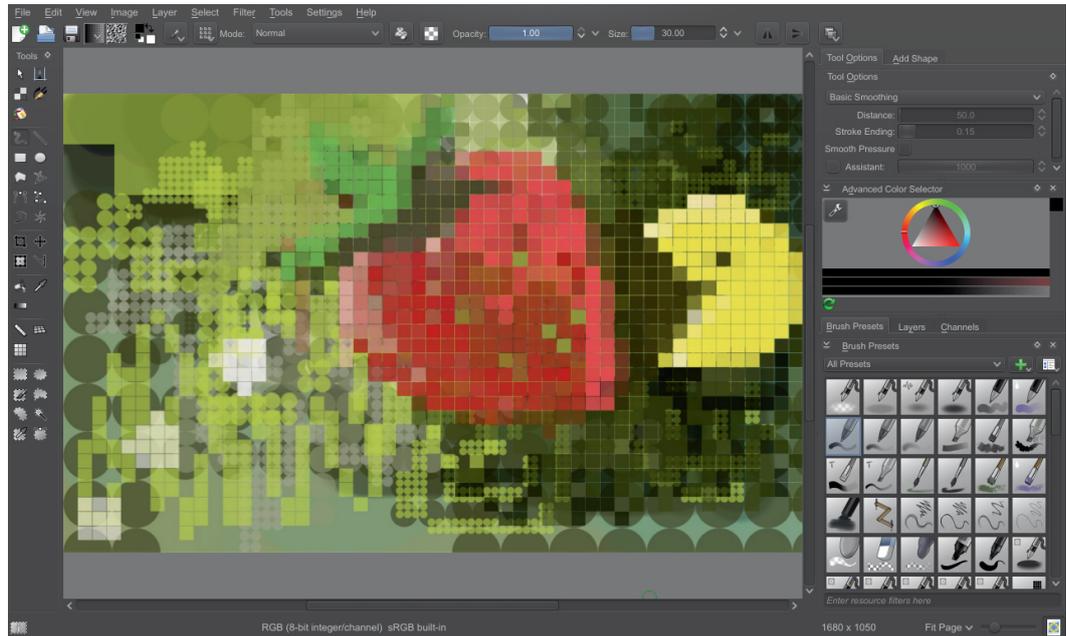
The Experiment brush is also suitable to create distinctive looking comic book style images. Artwork: "Vigilante" by Crys Snyder.



Or the experiment brush can be used to quickly throw together shapes in the sketching phase. Artwork by David Revoy.



For a quick and quirky look, the grid brush is perfect. Artwork by David Revoy.



# Key Features

## Work together

Krita has great interoperability with other applications through support for OpenEXR, OpenColorIO, export to Photoshop's file format and improved OpenRaster support. In the libre graphics world, use of OpenRaster is preferred.

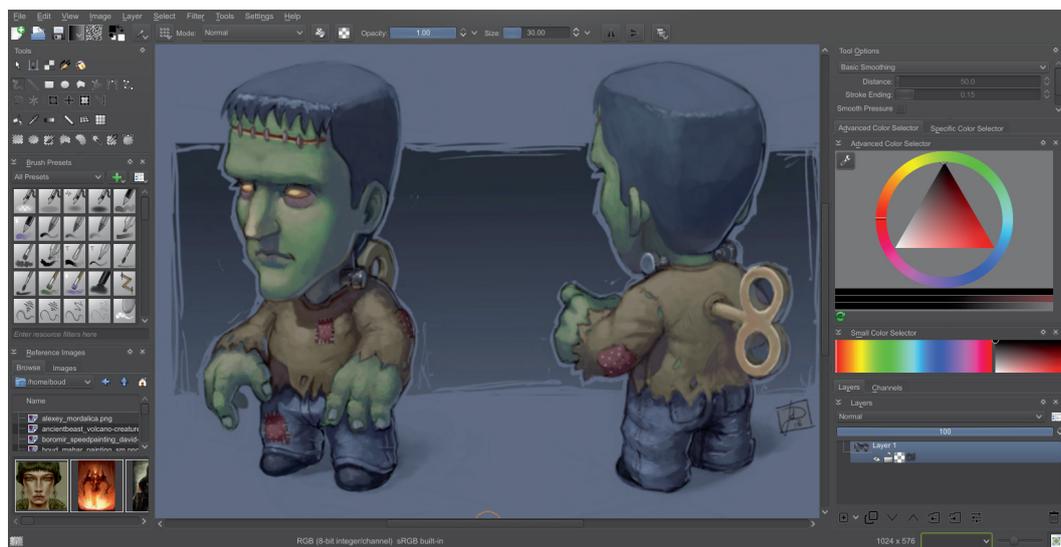
Integrate Krita into your workflow to create unique art.

*Krita works well together with other applications in the concept artist's workflow. "Chitinous Grimstone" by Raben Wulf, made with Krita and Modo, winner of the Modo Steam Art Contest.*



*Krita's user interface is very flexible and can be configured to suit any workflow.*

*Artwork: "Frankie Concept" by Jason Lee.*



# Key Features

## Tiles and Arrays

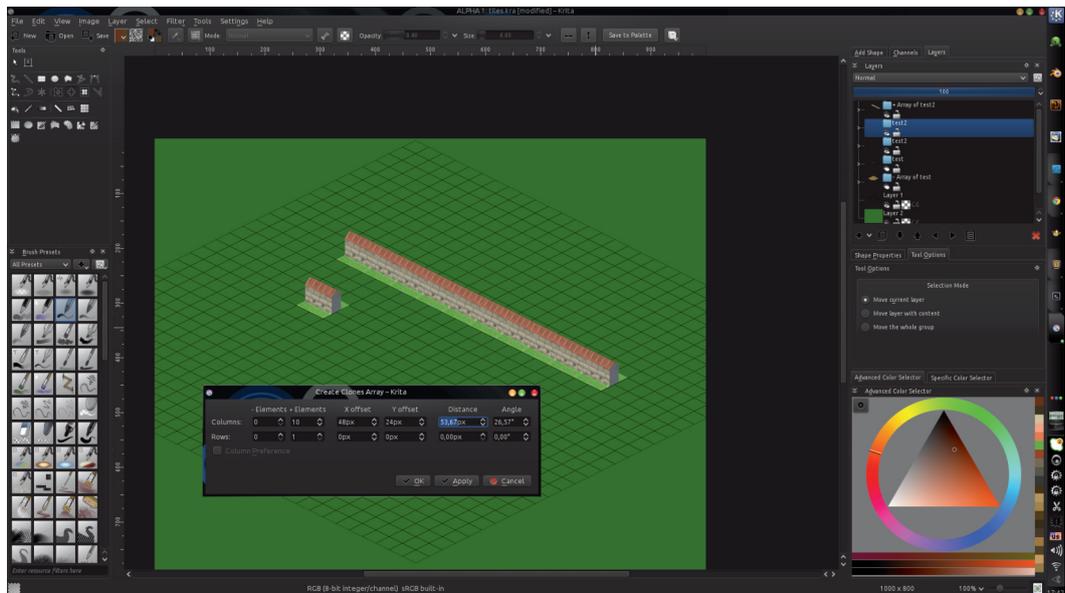
The new wrapped canvas mode is perfect for creating smoothly tiled textures and images, and the display is dynamically updated, too!

Repeating tiles make for easy textures!  
Artwork by David Revoy



The clone array tool creates a number of clones of the current layer, making it possible to paint on them as if the tiles were repeated. This feature is essential for the creation of isometric tiles for games like Playkot's SuperCity.

Creating an array of clone layers.  
Artwork by Paul Geraskin



# Full Feature List

## Tools

Krita has both raster graphics and vector tools. Supported vector tools are: path, selection, text, artistic text, calligraphy, fill, gradient. Raster tools are: freehand, line, rectangle, ellipse, polygon, polyline, star, path, dynamic movement, multihand, crop, move, transform and warp, measure, fill, gradient, color picker, assistants, perspective grid, grid, select rectangle, select ellipse, freehand selection, select polygon, select outline, fill select, select similar colors, path select, zoom and pan.

## Canvas

The canvas can be dynamically mirrored and rotated. The OpenGL canvas supports high-bit depth monitors. There is a large set of options available to create a no-distractions canvas-only painting mode.

## Painting

Krita has over a dozen innovative brush engines. Brush settings can be saved as presets and shared with other artists. Krita has a pixel brush, smudge brush, duplicate, filter brush, a hairy brush that simulates brush bristles, hatching brush, chalk, color smudge, curve, deform, dyna, experiment (make "Alchemy"-like shapes), grid, particle, sketch and spray.

Artists can use guides to paint straight or nearly straight lines or even have the parameters of the brush changed following a perspective system.

There is a full set of blending modes available when painting.

Brush presets can be managed and exchanged with other artists and there is a right-click menu that artists can populate with their most favoured brush presets.

## Dockers

Dockers or palettes are basic gui building blocks. Krita has the following dockers available:

preset selector, layer management, channel management, various color selectors, tool options, shape selector, compositions, undo history, pattern selector, task sets, scripts and various dockers for working with vector objects.

## Recording

Painting in Krita can be fully recorded. Recorded macros can later be edited.

## Layers

Krita has raster layers, vector layers, filter layers, clone layers, file layers, programmatically generated layers and group layers. Layers can have transparency, filter and local selection masks. Layers can be dragged and dropped within Krita, between instances of Krita or as images to and from other applications.

Vector layers support text, vector shapes and filters on vector shapes.

## Filters

Filters can be used directly on a layer, or as filter masks or layers. The effect of a filter is previewed on the image itself.

Krita has the following filters: levels, color adjustment, brightness/contrast adjustment, desaturation, invert, auto contrast, hsv adjustment, pixelize, raindrops, oilpaint, gaussian blur, motion blur, blur, lens blur, color-to-alpha, color transfer, minimize channel, maximize channel, edge detection, sobel, emboss, emboss with variable depth, sharpen, mean removal, unsharp mask, gaussian noise reducer, wavelet noise reducer, small tiles, phong bumpmap, round corners, wave, noise random pick.

Krita also offers a large set of G'Mic filter actions.

## Generators

Generators create pixels and can be used in generator layers.

# Full Feature List

## Color management, color models and channel depths

Krita supports the following working color models for creating and editing images:

RGBA, Gray, CMYKA, Lab, YCbCr, XYZ in 8 bits integer, 16 bits integer, 16 bits floating point, 32 bits floating point (some color models depend on OpenGL which may not be present).

Krita always uses color management. On Linux, if the monitor is correctly setup with colord or oyranos (gui settings applications available for Gnome and KDE), the display calibration will be used automatically.

## File Format Support

*Import:*

Photoshop PSD, PNG, BMP, GIF, JPEG, JPEG-2000, EXR, PNM, EPS, PDF, OpenDocument ODG, OpenRaster, Camera RAW, TIFF, XCF

*Export:*

Photoshop PSD, PNG, BMP, JPEG, JPEG-2000, EXR, PNM, OpenDocument ODG, OpenRaster, Camera RAW, TIFF

For working together with MyPaint and GIMP, we recommend the OpenRaster interchange format. For delivering print-ready artwork to publishers, TIFF or PSD is recommended. Only Krita's internal file format (.kra) supports all of Krita's features.

## Training

There are many tutorials, text and video available for Krita.

The Krita Foundation has published two training DVD's: Creating Comics with Krita by Timothee Giet (sold out) and Muses: Krita Training DVD 2 by Ramon Miranda, which is available from the krita.org website.

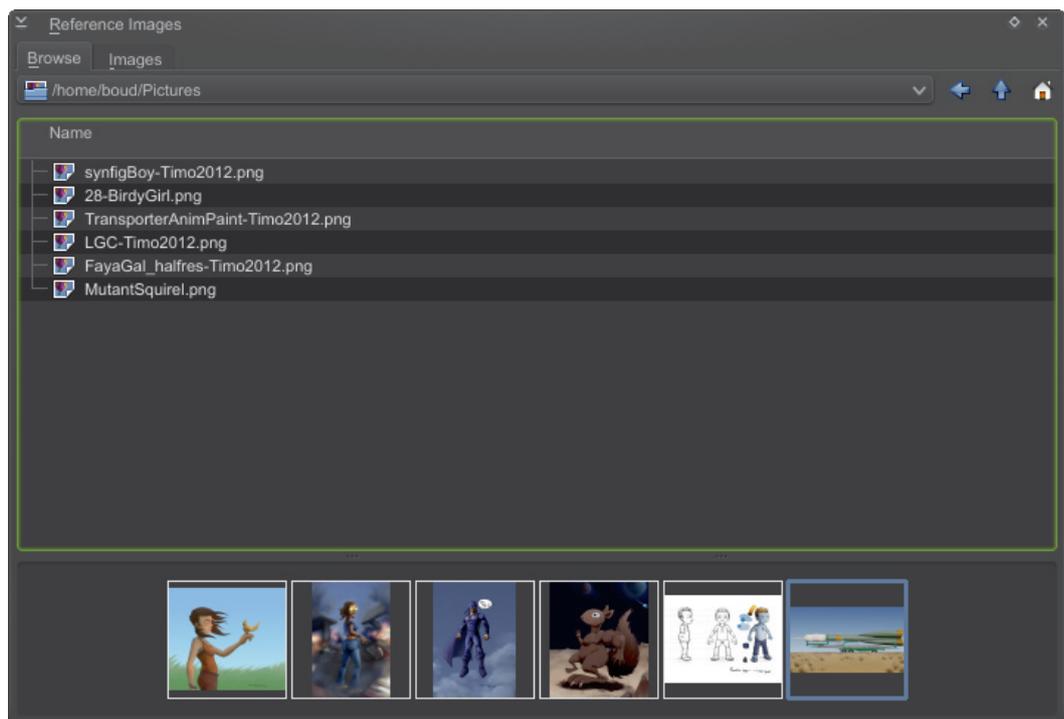
The Muses training DVD offers over five hours of in-depth tutorials.

The Basic Usage introduction ([http://krita.org/Basic\\_Usage-v4.pdf](http://krita.org/Basic_Usage-v4.pdf)) makes it easy for Photoshop users to find their way in Krita.

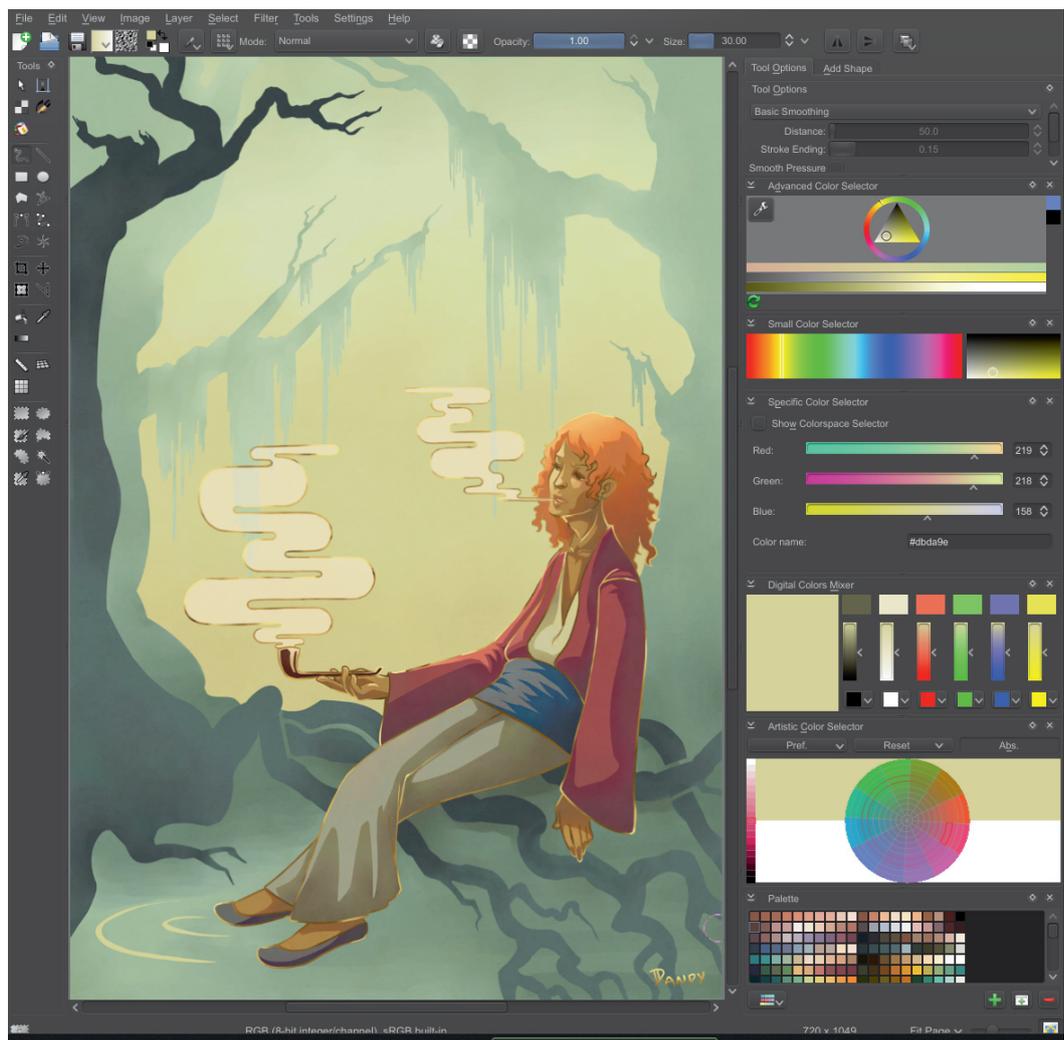


# More Screenshots

Browse your references with the references docker  
Artwork by Timothée Giet.



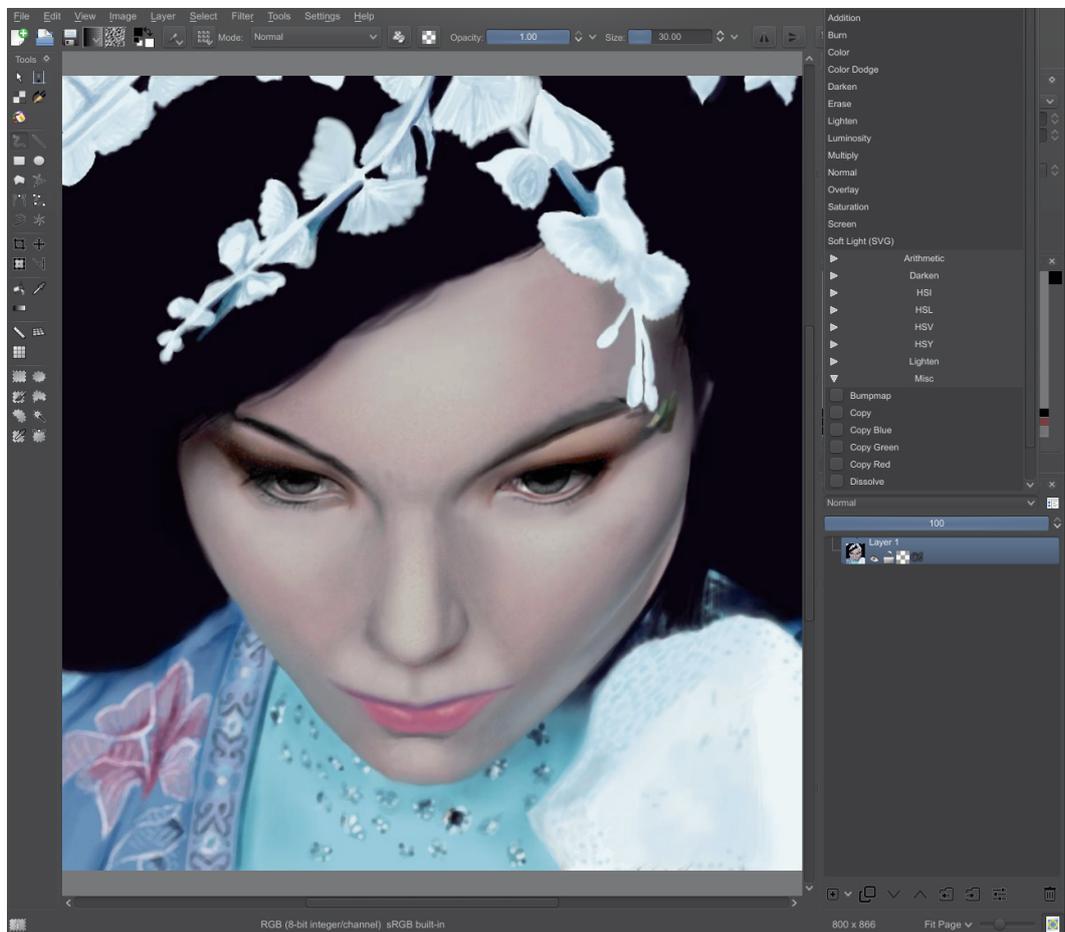
Krita has a great choice of configurable color selectors.  
Artwork: "Pressed Leaves" by Dandy



*In addition to pixel brushes, Krita has a set of vector tools, including a calligraphy tool.*  
Artwork: "Baloo von Bruinwald" by Eric



*Krita provides a very full set of blending modes for layers and for painting.*  
Artwork: "Bjork" by Egberto Fuentes



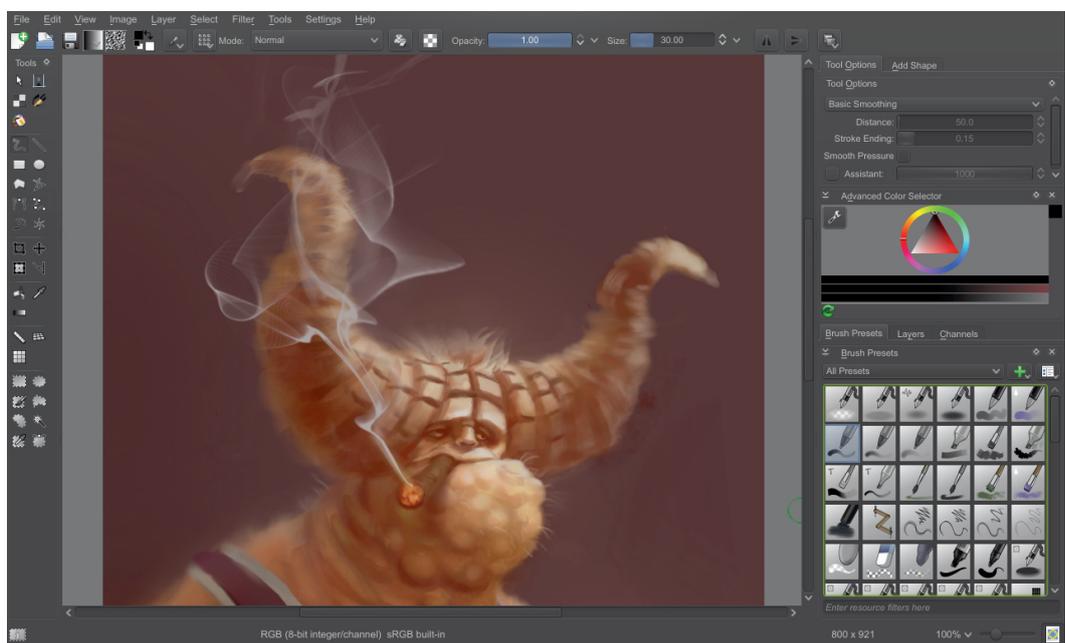
Showing off the variety of brush work achievable with Krita.  
 Artwork: "Mulle", by Henri Stahle



Right-click opens the quick access palette, with favourite brushes, recent colors and a color selector. Ideal in canvas-only mode!  
 Artwork: Jens Reuterberg

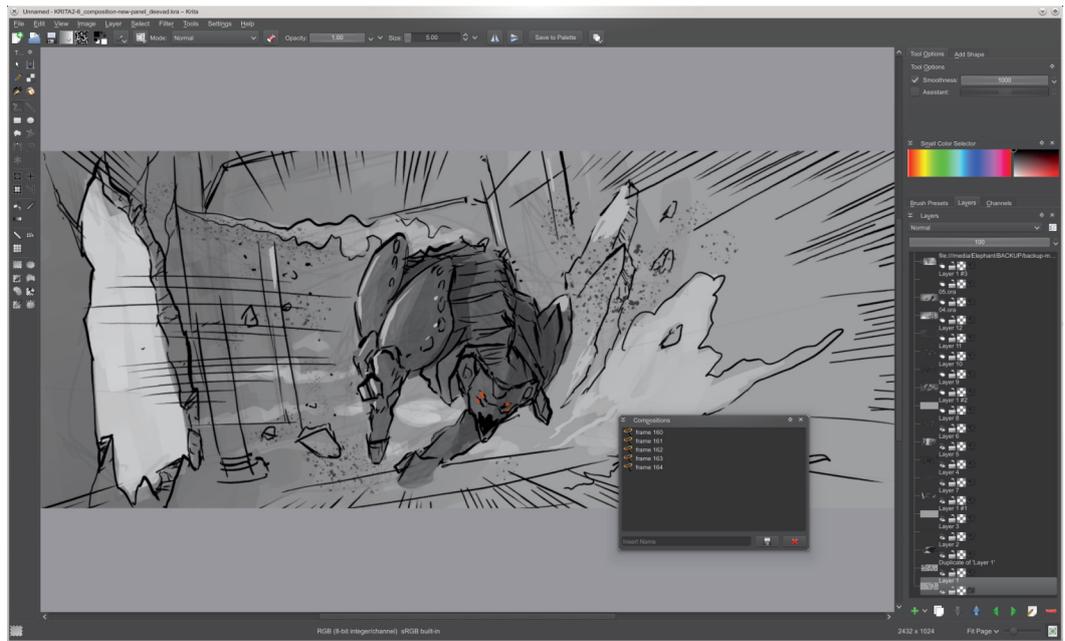


The particle brush, used by Jose Conseco in "Smoking"



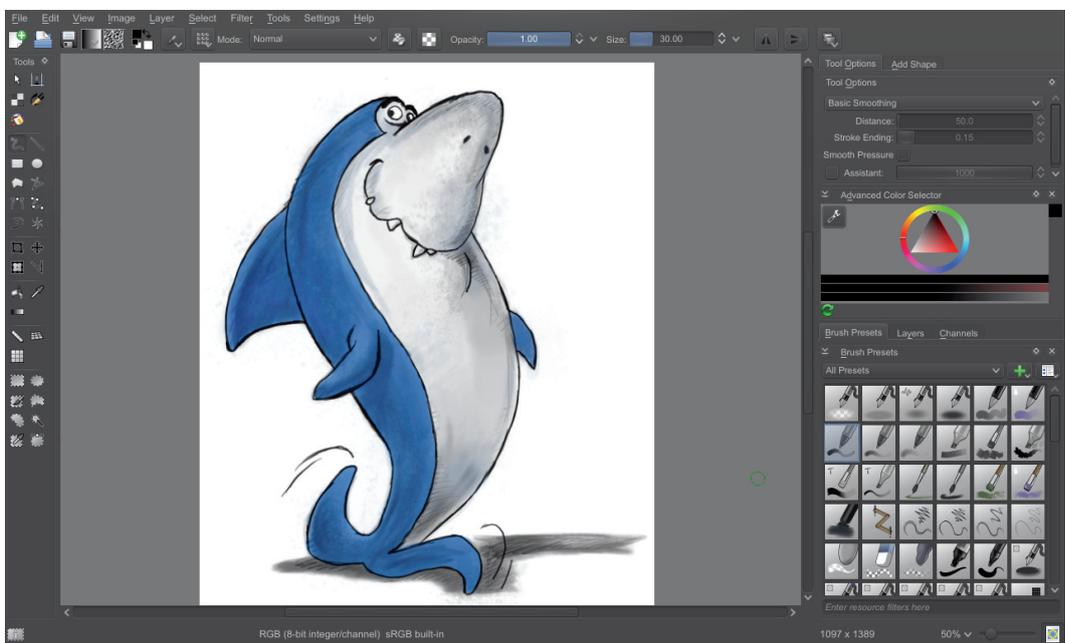
The compositions dockers saves sets of visible/invisible layers in a single krita file. This can be used for storyboarding.

Artwork: storyboard for "Tears of Steel" by David Revoy.



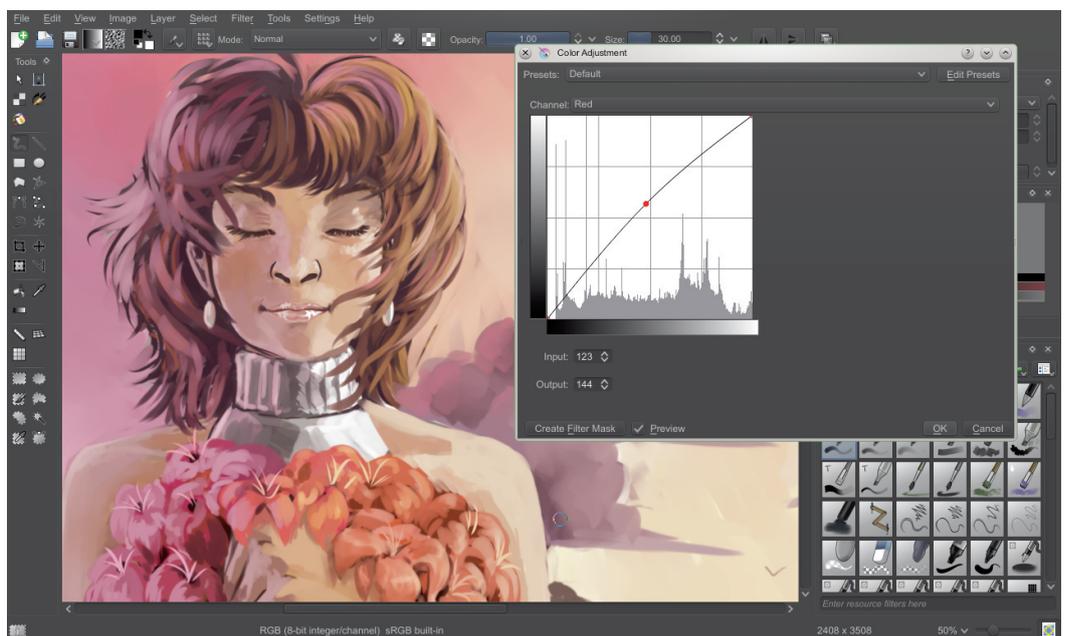
The variety of styles you can paint with in Krita is infinite.

Artwork: "Jabberjaw" by Miftherion



Preview filters directly on the image.

Artwork: "Bathing in Light" by Wolthera van Hövell tot Westerflier



# Awesome Artists

This guide to Krita features work by the awesome artists in our community. Visit their websites!

Abraham/Miftherion <http://mithferion.deviantart.com/> Mexico

Alicia Robinson: <http://sturzstrom.deviantart.com>

André Vaz: <http://andre-vaz.deviantart.com>

Andreas Raniger: <http://endoraniendo.deviantart.com/>

Bollebib: [Bollebib.deviantart.com](http://Bollebib.deviantart.com)

Fernando Michelotti: <http://artista-frustrado.deviantart.com>

Cesar Tellez Jacome: <http://cesar-fps.deviantart.com>

Crys Snyder: <http://stalcry.deviantart.com/>

David Elliott: <http://ozhaggis.deviantart.com>

David Revoy: <http://www.davidrevoy.com>

Daniel Reszka: <http://daanil.deviantart.com>

Enrico Guarnieri: <http://www.turnangel.com>

Giovanny Arce: <http://www.artsymptom.com>

Henry Ståhle <http://pennaochpensel.blogspot.se/>

Jason Lee: <http://xrg-artwork.deviantart.com/>

Jens Reuterberg (<http://www.phyran.se/>)

Jose Conseco <http://joseconseco.deviantart.com/>

Juan Carlos Montes: <http://cargocollective.com/moxstudios>

Eric Basiletti: <http://www.kargall-lefou.com/>

Nanique: <http://nanique.deviantart.com/>

Odysseas Stamoglou <http://www.odysseus-art.com/>

Paul Geraskin <http://playkot.com/en/>

Phillip Koops: <http://peileppe.deviantart.com/>

Raben Wulf <http://ninjitsunami.deviantart.com/>

Ramon Miranda: <http://www.ramonmiranda.com>

Sfepan: <http://sfepan.deviantart.com/>

Slawek Klaja (no current website)

Silwia Malon: <http://canitiem.deviantart.com>

Steven Calwas <http://calwas.blogspot.com>

Timothée Giet: <http://www.timotheegiet.com>

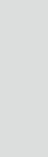
Tyson Tan: <http://tysontan.deviantart.com/>

Wolthera van Hövell tot Westerflier <http://wolthera.info/> Netherlands

Krita provides quick and easy access to the most used functions with an extensive and configurable set of shortcuts. (Overview by Ivan Yossi)



# Krita 2.8 Shortcuts



esc	Help Who's this F1	Save Incremental History F4	Export... F5	F6	F7	F8	F9	F10	F11	Toggle Full Screen F11	New Paint Layer ins	Clear del
Zoom 1.1 Reset View	Zoom to Fit 2	Zoom to Width 3	Rotate left 4	Rotate right 5	Rotate right 6	7	8	9	0	Zoom In +	Zoom Out -	Fill w/Background Color Fill w/Foreground color backspace
Canvas Only Mode tab	Multibrush Q	Wrap around mode W	Eraser Mode E	Pick layer * R	Move Tool T	U Disaturate Hue Sat Lumin	O Open	Color Picker P	Increase Brush Size Increase J	Decrease Brush Size Decrease [	Rotate left ]	Activate Next layer Pg up
caps lock	Reset A	Incremental Save S	Reset Picker - BW D	Palette F	Gradient Tool G	Y Elliptical Selection J	L Lighten Color	Next Few Preset .	Switch to Previous Preset /	Activate Prev layer Pg dwn	enter	end
shift	Undo Polygon Z	Swap fg/bg Colors X	Show Common Colors C	Show V	B Brush Tool	N Minimal N	M Mirror M	Next Few Preset .	Switch to Previous Preset /	shift	ctrl	pan
ctrl	<	alt	>	pan	pan	pan	pan	pan	pan	pan	pan	pan

## Mouse Shortcuts (Navigation)

\* left click mouse to select



Click & Drag



Roll wheel



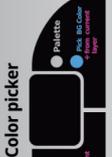
Panning



Zooming



Rotating



Color picker

## Numpad

num	7	8	9	0	Intro
num	7	8	9	0	Intro
num	7	8	9	0	Intro
num	7	8	9	0	Intro

## Transform Tool

(While scaling) Constrain proportions ..... **shift** **ctrl**

Perspective Transform ..... **shift**

(While rotating) Rotate in steps ..... **shift**

## Selection and Shapes

(draw/select ellipse, draw/select rectangle) (Press & hold) **shift** **ctrl**

Constrain proportions ..... **shift** **ctrl**

Grow from centre ..... **alt**

Re-position ..... (can be combined)

