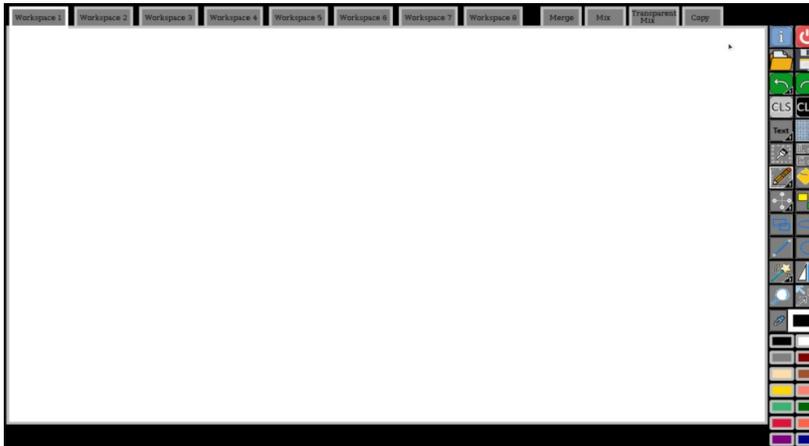


PolarPaint v1.2 by Anbjørn Myren

Program window layout

The drawing area is the visible white rectangle in the middle. Workspace tools at the top, and toolbar icons and color selection at the left side. Some of the icons have a '!' mark in the bottom-right corner. That indicates that some settings are available. Use RMB on the icons to enter these settings.



At the bottom of the window there is a status line used to display coordinates for captured brush and the size of last drawn shapes. It will also display the RGB value of picked color.(the small version of the program use part of this area for some workspace commands)

Workspaces

Above the drawing area the workspace tabs are located, by default workspace 1 is active. The workspace tab will be highlighted with a white frame to indicate the active workspace. Each workspace act as independent drawing areas and have their own separate undo/redo buffers.

Workspace Commands

- Merge -

This will copy the current workspace image on top of a selected target workspace. Current workspace image will be dominate. The background color of the current workspace will be transparent during the process.

- Mix / Transparent Mix -

Both these commands will merge current workspace into another with a mix ratio using a chosen level of transparency. The difference is that Mix will use one parameter to weight the transparency between the two workspaces, while Transparent Mix have the option to set the transparency level independently for each of the workspaces.

- Copy -

Create an identical copy of current workspace image into another workspace.

Icons and their usage:



- Info – Press the Info icon to display a simplified explanation of the program. Also while the Info icon is highlighted any icon can be clicked to display popup-info.



- Quit - A quit requestor is displayed. Additionally you will have the option to enable or disable Diskbuffer, to be applied at the next session.



- Load - Lets you load any image file into the current workspace. Most common file formats are supported.

If the image is larger than the workspace a requestor will offer the choice to either scale the image to fit the workspace, or to load just a part of the image from user set coordinates. Eg. If coordinates x and y are set to 0, the image loaded will be as many pixels as the workspace, set from the upper left corner. (1280x720 or 640x480 for the small edition). Setting x and y to values exceeding the image pixels width and height will still load the same size, but now the part will be from the lower right corner.

If the option to load a part of the image is used, then a "partloaded" flag will be set internally in the program. Note that the partloaded flag will not be retained when quitting the program.

See save section for how partloaded is handled when saving.



- Save - Will save the current workspace image into a file. RMB on the save icon brings up a file format requestor.

If the "partloaded" flag is set the user will be offered the option to merge the image into the source image and save it with the original resolution as a new filename. The partloaded flag for the current workspace will be kept until another image is loaded into the workspace. This meaning that it is possible to save the partloaded image first without merging it with the source, and then save it later again and then merge it with source.

Important: Partloading does not load the full source image into memory, but it remember the path to the source image. Therefore it is important that the source image is not moved, overwritten, renamed in case you plan to merge your image with the source image later.



- Undo - Undo the last drawing operation. By default the last 20 operations can be undone. RMB to adjust the Undo buffer size. The program will remember this setting (maxundo.txt)



- Redo - Redo the last undo operation.



- CLS - Clear the screen, either to white or black. Background color will also be set accordingly.



- Text - Click mouse to place the text on drawing, by default the word 'PolarPaint' is written. Use RMB to choose font type, size and style, and to change the text. The Hollywood inbuilt font types Sans, Serif and Monospace are available for selection, as well as the option to set a custom font. The font name must be entered as the exact name of the font. Note that not

all font types are supported and some fonts are available in certain sizes. If the font is not supported, it will fallback to use the default Serif font.



- Transparency - Click the icon to toggle transparency drawing. First time enabling transparency brings up the settings. First the level of transparency is set from 1 to 255 (zero to disable). A higher number increase the transparency.

There are two modes for how the transparency is applied, Default or Instant.

The default mode will process your whole line before applying transparency, making the transparency even throughout the line drawn. The line will appear solid while drawing and the transparency is applied when releasing the mouse.

Instant mode will apply transparency as you draw, but will leave "dots" along the line. This is because you really is drawing many short connecting lines and the "dots" appear where these lines overlap.

For Lines, Boxes and Circles the default transparency mode will be used.



– Brush Icon - Capture an area from your drawing into a brush. The mouse pointer will change into a cross while capture is active.

The captured brush can then be used as the drawing pen draw, or simply stamp copies of the brush image with a single mouse press. Brush position will be centered according to mouse position. Brush is kept in memory until another brush is captured or loaded.

Dimensions of the last captured brush will be displayed at the bottom status line.



- Load Brush - Loads a brush from an image file.



- Save Brush - Save the current brush into a file. File format will follow the save file settings.

Brush Usage

As mentioned above, the brush will retain in memory until another brush is captured or loaded from file. If you press the Brush Capture icon again the pointer change to a cross again. At this point there are two ways to abort capturing:

1. Press the ESC key. If there is a brush in memory already the program will stay in brush mode and the current brush is active. Pointer will return to normal pointer.
2. Press the left mouse anywhere outside the drawing area, or on any icon to select another action. By default the pencil will be activated unless another action is selected.

Brush mode can also be toggled by pressing Pencil button on/off if there is a brush in memory.



- Pencil - The Pencil icon is highlighted to indicate normal drawing mode. LMB draws with foreground color, RMB draws the background color. Use RMB on the Pencil icon to set the pencil size.

Technically this drawing operation works like it is drawing lines while constantly polling the mouse position. This is the reason that you might experience that drawing a curve might look not smooth if moving the mouse too fast. This is most notable on slower systems



- Flood Fill - By default this uses the regular floodfill (the in-built Hollywood command) which is the fastest method and will work well in most cases.

Flood fill does have a threshold setting to enable filling gradients of similar colors. Eg. if you have an image saved as a jpeg file you might discover that regular floodfill does not fill all areas as expected.

Use RMB to set the threshold value. If set to zero, threshold is disabled and the in-built flood fill is used. Any other value will use a custom floodfill function. It works by comparing the RGB value of the active color with the area to fill. The higher number, less similar color values will be taken into calculation.

The custom fill operation is much slower than the regular fill, specially on low end computers. The way it works it will read the color from pixel by pixel and create a table of pixels to fill.

For lower Threshold values it will process up to 1% of the image area before filling, then process the next batch until done. For Threshold values 30% and higher the processing is much slower, so it will then process only a user selectable area size all in one go.

Processing with high threshold will also consume memory. As a general rule you need a system with 64MB RAM to process sizes up to 5% of a 1280x720 image, 128MB up to 50% and so on.

Use ESC to interrupt an ongoing floodfill operation.

The setting is quite sensitive so depending on your image there could be a big difference between whole numbers. You can use decimal values, eg. 0.01 or 0.5 so just try until satisfied. In some cases you may try to fill with other colors first to gradually get the wanted result.



- Multipen drawing –

With multipen enabled the pen will also be drawn mirrored both vertical and horizontal simultaneously, so drawing 4 places at the same time. RMB on the icon allows the user to choose only vertical, only horizontal mirroring or both.



- Spray paint – same button as multipen

Use RMB to enter settings for density and size of the spray area.



- Replace Color – This will replace any instance of the selected color in the workspace image. Similar to flood fill, but the pixels do not have to be connected.



- Rectangle – Rectangles can be drawn in normal mode, filled or with gradient fill. Click the icon repeatedly to toggle the mode. For gradient fill you will have the option to set the angle for gradient fill, press RMB on the icon while gradient is active to set angle.

Click on screen to select the upper left corner of the rectangle (or bottom right corner if drawing the other way), then hold and drag the mouse button until done. A preview rectangle will be drawn while moving. Border thickness will be same as the pen size.

The shape icons (Rectangle, Ellipse, Circle and Arc) do have a XY-mode. When selected the user has the option to enter exact coordinates for the shape to be drawn.

Rectangle, Ellipse and Arc can also be drawn in a rotated state. The rotation angle is set by the XY-mode. After an angle is set once the angle is remembered for each shape type so that any other rectangle will draw in that angle. Use XY-mode again to reset it to 0. Rectangles are meant to be drawn from upper left corner to the right-lower corner to keep the coordinates of the starting corner at the correct spot. It is possible to draw a rectangle in any direction but this might result in an unexpected offset, specially if the rotation angle is large.



- Ellipse – Ellipse have the same modes and options as the rectangle. Note that the gradient fill angle setting is common for rectangle, ellipse and circle so setting either of them will apply for all. To position the Ellipse start with the mouse cursor at the center of the Ellipse and drag the mouse to adjust set the size.



-Line – Draw a straight line between two selected points.



- Circle – Circle also have the same modes as Rectangle and Ellipse. When drawing a circle the mousepointer starting point will be the center of the circle.



- Arc – The Arc is drawn the same way the ellipse is drawn an ellipse. By default the arc starts at 0 degree (3 o'clock), and ends at 270 (upwards). Eg. To draw a C-shaped arc, start angle must be 90 and end angle 270, for U-shape 0 and 180. This can be changed in XY-mode. There is also a setting for rotating the whole Arc. The Arc is positioned the same way as the Ellipse, start with center position and hold mouse button and drag to adjust the size.



- Effects – A variety of effects are available. RMB on the icon to select the active effect, LMB to apply chosen effect. Select between Emboss, OilPaint, Blur, Edge, Swirl, Gray, MonoChrome, Contrast, Invert, Pixelate, Charcoal and Rotate.

For OilPaint and CharCoal the effect level can be set from 1 to 30. Higher number takes longer time to process.

Pixelize have a pixel size setting from 1 to 100.

Contrast have the option to Increase or Decrease the Contrast.

Swirl and Rotate can be set between -360 to 360, negative values will give a right (clockwise) rotation, positive value for left.

The remaining effects have default values.

If the Brush is active, then all Effects will apply to the Brush instead of the workspace image.



- Flip – Mirror the current image horizontally or vertically. If Brush is active it is the Brush that is Flipped.



- Resize – Scale the current image up or down. New size is set in percent of the original image. (Flip and Resize are scaled down to save space, so they might look like one icon)



- Zoom – Will zoom the selected area 8 times. Click the center of the area to zoom in to, then edit details before clicking on the zoom icon again to return to normal view. When entering Zoom, the original image will be stored in a temporary brush. When exiting Zoom mode the original image will be restored with the zoomed edits. Note that the zoomed image will be scaled down to fit the original size, so small details may be lost in the scaling process.

Note. While zoom is active, you can draw and use the Undo / Redo function as normal. But if you get past the Undo buffer made from the zoomed image, then the full size image will appear. The program will still consider it is in zoom state so when exiting zoom mode it is the image in view that will be scaled down and pasted into the original image.

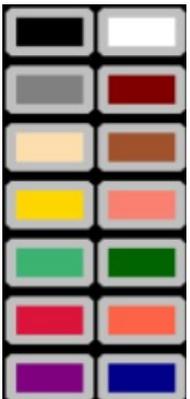
Usually you should be able to set things straight by using the Undo function, but it is better to know how this works to avoid problems. This warning also applies if quitting the program while still in zoom mode. If diskbuffer is enabled, it is the zoomed image that will be saved and not the full original image. Again you might be saved by the Undo buffer, but the best practice is to exit zoom mode before saving or quitting the program.



- Color Picker – Click the Color Picker icon and then select a new color by clicking at the image. Use RMB to select background color.



- Color indicator – This area will show the current selected fore- and background color. Clicking the this area brings up a color requestor for custom color selection. Use RMB for setting background color.



- Color icons – These are pre-set colors for direct selection of the active color, use RMB to set background color.

Keyboard Shortcuts

1 to 8 - select active workspace

O - Open image

F - Save image

Q - Quit

P – Pensize setting

R - Redo

U - Undo

C - Color requestor

B - Background Color requestor

N - CLS (White)

Diskbuffer

What is it?

The diskbuffer will store all Undo / Redo operations to disk as well as the workspace images. When activated the user may choose to keep the diskbuffer files when quitting. This way all images in the Workspaces is saved with their current undo buffers and the user can continue the work in the next session.

How to enable / disable diskbuffer?

The option to enable or disable the Diskbuffer usage is by using the Quit Requestor. The change will have effect after restarting the program.

Why diskbuffer was created.

Diskbuffer was created to save memory. If diskbuffer is disabled all undo/redo buffering is stored in memory and depending on the computer, it may exceed the available amount of RAM, causing the program to crash. Diskbuffer allows the program to store these into disk instead. Read below about memory requirements, and keep in mind that the larger undo buffer the more HDD space is required.

Requirements

The program is developed with Hollywood so the requirements for running the program are beyond the typical classic Amiga hardware.

It requires codesets.library and reqtools.library, both available on Aminet, currently in these archives: codesets-6.22.lha, ReqToolsLib.lha

Minimum free memory of 40MB is required (small version about 32MB), 64MB or more recommended. Without using diskbuffer more memory will be needed. With diskbuffer enabled some free HDD space is required.

Each brush initiated will take about 4MB of memory. Opening a new workspace consumes 4 MB (1MB for the small edition) per Workspace (unless diskbuffer is used).

The Undo / Redo system will also require memory since each Undo is a full brush stored in memory. If you set the Undo buffer to max (100) and use all 8 Workspaces you will in theory have 800 undo operations available. Needless to say this will require massive amounts of RAM.

RTG, minimum 800x600 16bit for the small version, the program window of the normal edition is 1385x820 which means it will open on a 1400x900 screen but might appear borderless. 1440x900x16 is the recommended minimum screen size.

AmigaOS4, MorphOS and Aros x86 and WinUAE should run it fine. For classic 68k a PiStorm setup is recommended. It does run on A600GS, but drawing operation performs jerky under the Aros68k environment while it works more smooth on a OS39 setup. Future A600GS updates might improve this situation. I have not tested on a Vampire setup so I do not know the performance there. WarpOS versions are available but untested by me.

About PolarPaint

The history behind PolarPaint is that I had an idea to make a online game drawing / guessing game. Soon the drawing part cathed by interest and my focus went into the drawing features which after a while evolved into a paint program.

Originally I was targeting Android so that is why there never was added a title menu bar to the program.

The name PolarPaint is inspired by the fact that the author lives close to the Polar Circle.

Please feel free to share your thoughts about the program, or if you have questions or bug reports. Contact info: anbjorn.myren@gmail.com

Changelog (internal build numbering)

r76, bugfix - quit from info window

r75, improved sprayeffect

r74, loading size detection bugfix, shortcut keys changed/bugfix,

r73, Experimental spray effect / multidot

r72, Brush RMB position fix. Corrected transparency requestor info.

r71, Bug fixes for the undo/redo system, and shortening repetitive code.

Now working on A600GS.

r70, Complete rewrite of the undo / redo stack management system.

r69

Zoom can now be active on multiple workspaces simultaneously

Partly loaded images can be on loaded on multiple workspaces simultaneously

r68

Rectangle starting point will now compensate for border, also when drawing with rotation.

Option to scale down a brush which was captured or loaded while in zoomed mode.

Rotate Text object

fix, multiple usage of same brush id (16)
r67
arc center and ellipse center gets correct center aligned at any angle, regardless of bordersize
new, draw rotated rectangles
RGB values for all color change operation shows in status area
r66
Corrected Arc centering
r65
new, Draw Arc
r64
new, draw lines, circles, ellipses and rectangles by coordinates
r63
Effects adjustment
Improved rotate effect, now centers properly
Brush now adjusts to center of brush relative to mouse position
Status line now also displays size of imported brushes and size of drawn shapes, and RGB values of pickcolor
fix, RMB to replacecolor required extra leftmouse buttonpress
fix, endselect() in threshold floodfill caused an exit-error
fix fill shape reset
r62
fix: GUI glitches after drawing shapes with gradient
fix: Transparencydraw with filled shapes now works
improved effect settings
r61
Handle load errors without force quit
r60
Brush capture aligned to center of pointer (cross)
Abandon brush capture by ESC or if LMB is pressed outside boundaries.
r59
improved scaling when loading larger images
new: ability to load parts of larger images by coordinates and save merge it with source image and save it in original size.
fixed broken brush toggle by using the pencil button
realigned right side icons, reduced window width to 1385
r58
New, circle drawing
Waitleftmouse in replacecolor function to avoid double action
bugfix, sometimes drawing small ellipse and circles did blank the drawing or rectangles vanish
r57
New 8x Zoom function to fine edit a selected area
adjusted coordinates for some RMB settings
r56
Reset textcolor after drawing text
Rename variable in drawline + rename in comment
Line draw fix (draw straight lines)
Rectangle draw improvement
r55
Merge floodfill functions
Transparent mix now can set transparency for both workspaces seperately
r54
Fix: Drawing Rectangles, Ellipses and Lines when foreground and background color is the same was not working.

Fix: Removed duplicate undos'
White CLS, If pen is White, then change pen to Black.
Drawing coordinates adjusted (near edges)
Deselect active brush capture when click to the left of the drawing area

r53

RMB For settings (icons updated)

New: Gradient fill

New: Fill box

New: ReplaceColor

New: TextObject button

Transparency settings changed.

Fixed RMB transparency draw

New: Multipen draw

Black CLS, If pen is Black, then change pen to White.

r52

FloodFill, different handling for threshold > 49

New: PickColor

Fix: Save to root (eg. RAM: failed)

r51 and earlier builds have no log