

# The Incomplete Guide to Seahorse

## Version 3.9

A work in progress...

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# Introducing Seahorse

## Product Summary

Seashore is a professional image editor and digital art application. It contains all of the important functionality available in the market leaders in an easy to use application, at a low price, with no subscription fees.

## Technical Requirements

Seahorse requires MacOS 13 or later, or an iPad running iOS 16 or later.

## Development Notice

Seahorse is extremely stable, but if you encounter a problem or have a suggestion, use the Help menu and Report a Problem/Suggestion or send us an email.

## Seahorse's Philosophy

Seahorse prioritizes commonly used functionality over esoteric and complex rarely used features, and tries to deliver its functionality in an easy to understand and use application.

## Seahorse and the App Store

Seahorse is distributed exclusively via the Apple App Store to ensure the safety and security of our users.

# About This Guide

Although this guide discusses some important concepts in digital imaging/photography, and explains the features of the application and how to use them, it doesn't attempt to teach how to be an artist. There are many tutorials on the internet on digital artistry and Seahorse provides all of the capabilities to support your learning and unlock your potential!

# The Concepts

Seahorse is a “layer based” image editor. Understanding layers and a few other basic concepts is essential to unlocking the full power of Seahorse.

## Bitmaps (aka Raster) Layers

A bitmap image is essentially a grid made up of thousands—or even millions—of tiny squares of color called pixels.

- **Structure:** They are inherently rectangular and are defined by a specific height and width in pixels.
- **Resolution:** Bitmaps rely on resolution, measured in PPI (pixels per inch) for digital screens or DPI (dots per inch) for printers. This specifies how densely the pixels should be packed together, which is useful because different devices (like high-end printers vs. standard monitors) can fit different numbers of pixels per square inch depending on their quality.
- **Scaling Issues:** Because they are locked to a fixed grid of pixels, complex procedures are used to enlarge, shrink, or rotate them. Shrinking an image discards data, while enlarging it forces the computer to guess and fill in the missing gaps (a process called interpolation). This is why scaling up a bitmap often results in a blurry or "pixelated" image.

***Helpful Tip…*** Raster images are ideal for complex, photorealistic details (like digital photography), while vector graphics are perfect for logos, typography, and illustrations that need to be resized frequently.

## Vector Layers

While standard bitmap layers are made of a grid of pixels, **Vector Layers** are built using mathematical formulas that plot points, lines, curves, and shapes. Because they are driven by math rather than a fixed number of pixels, vector layers are resolution-independent. You can scale them up infinitely, or rotate them, without ever losing quality or getting blurry edges.

Seahorse supports four distinct types of vector layers to give you maximum flexibility:

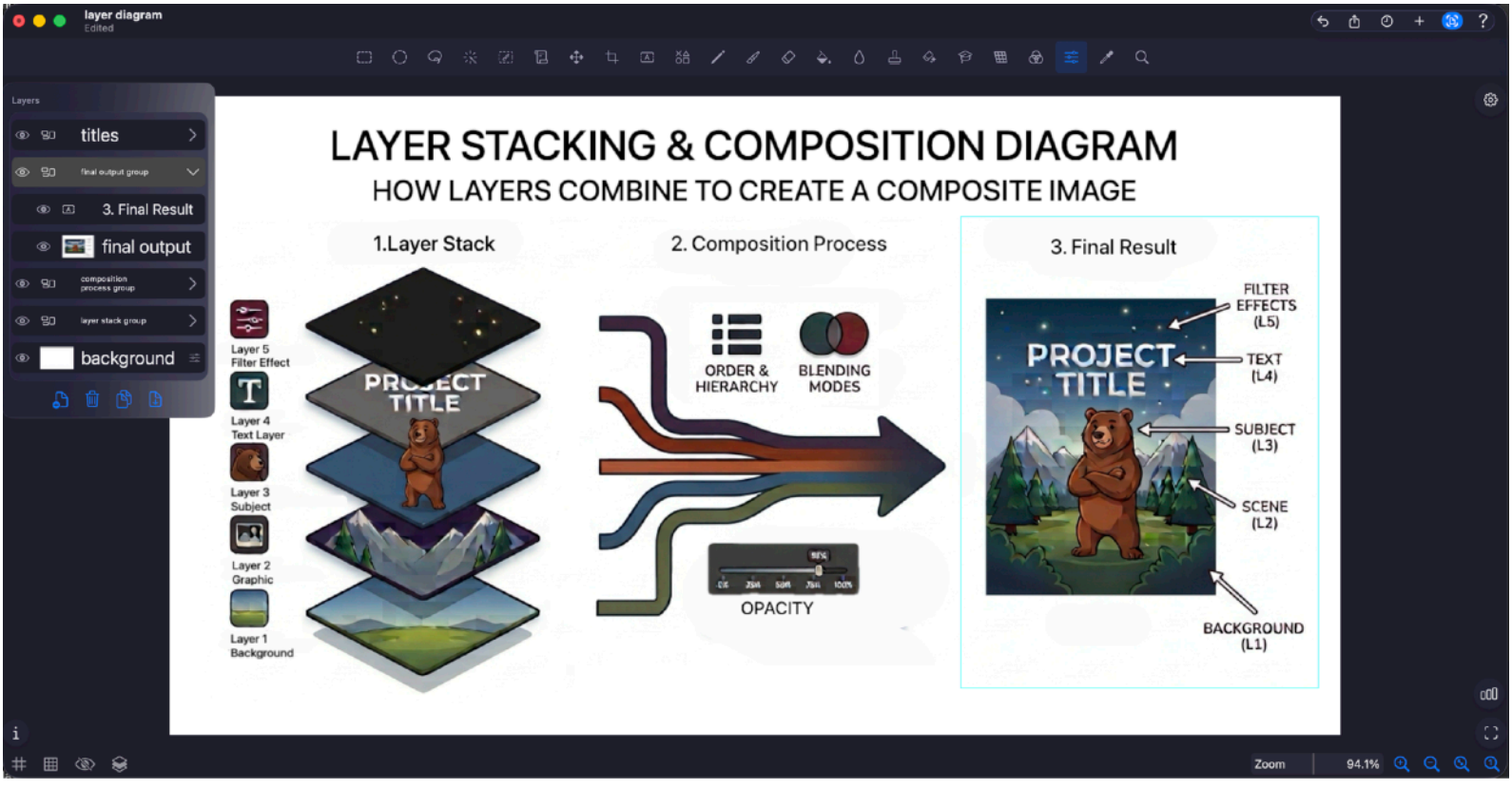
- **Shape Layers:** Geometric paths and custom shapes drawn directly within Seahorse. Each shape layer retains its properties, allowing you to easily adjust its stroke (outline) thickness, color, and fill at any time without degrading the image.
- **Text Layers:** Fully editable typography. Text layers remain perfectly crisp at any size, and because they remain active vectors, you can go back and change the font, spelling, or spacing long after you initially typed the words.
- **SVG (Scalable Vector Graphics):** A standard file format for vector art. You can import SVG files created in other vector illustration software directly into your Seahorse project as perfectly scalable layers.
- **PDF Documents:** You can import PDF files as vector layers. Seahorse will read the mathematical data within the document, ensuring that logos, diagrams, and text brought in from a PDF remain razor-sharp no matter how much you zoom in.

***Helpful Tip…*** Because vector layers are fundamentally different from pixel layers, you cannot use drawing tools (like the Eraser, Paintbrush, or Smudge tool) directly on them. If you need to paint on a vector layer, Seahorse will prompt you to "Rasterize" it first—which converts the math into a permanent grid of pixels (aka a raster layer).

## Layers and Stacking Order

The easiest way to understand layers is to imagine drawing on a stack of transparent plastic sheets.

- **Stacking Order:** The order of the layers in your panel directly controls what appears in front of or behind other elements on your canvas. The layer at the top of the list will visually overlap and obscure the contents of the layers below it.
- **Isolation:** Drawing on one layer does not affect the pixels on any other layer. This means you can erase a mistake on a subject layer without accidentally erasing the background behind them.




Meta image using multiple layers and groups

## Destructive vs. Non-Destructive Editing

Understanding how to edit safely is critical to using the Seahorse efficiently.

- **Destructive Editing:** Applying a change that permanently alters or deletes the original pixels on a layer. For example, using the Eraser tool to remove part of an image. Once you save and close the file, those pixels are gone forever. *Undo works until the file is closed or the application exhausts its undo buffers*.

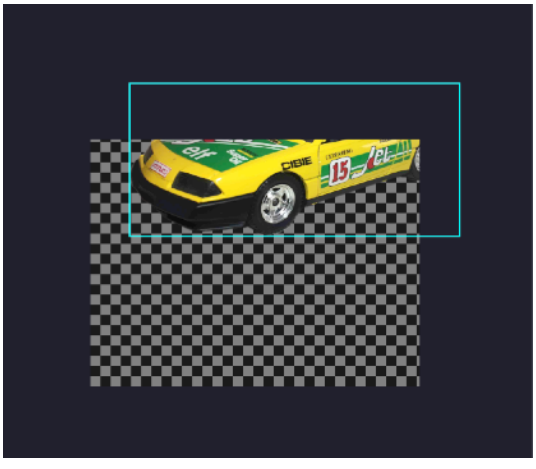
- **Non-Destructive Editing:** Applying changes in a way that preserves the original image data, allowing you to tweak or remove the effect later. Using Layers is the most basic form of non-destructive editing. Other methods include using **Layer Masks** (hiding pixels instead of erasing them) or **Adjustment Layers** (applying color/contrast changes on a separate layer).

***Helpful Tip…*** By working non-destructively you'll avoid having to completely restart an illustration if you change your mind later in the creative process.

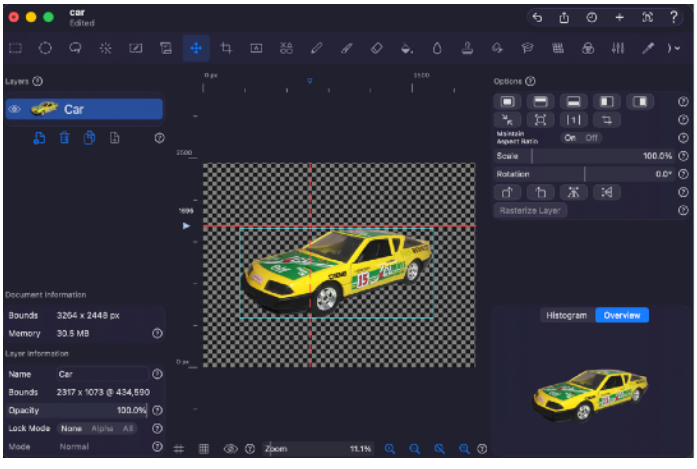
## The Canvas

Think of the canvas as the physical piece of paper or the camera viewfinder for your digital artwork. It defines the strict boundary of what will be visible in your final image.

- **The Visible Boundary:** The canvas has a specific width and height (e.g., 1920x1080 pixels). It acts as a window; you only see the artwork that falls within this designated area.
- **Rulers and Guidelines:** The canvas supports both rulers and guidelines (tap in the ruler to add a guideline, tap again to remove it).
- **Working Outside the Lines:** In Seahorse, your layers are not confined to the size of the canvas. You can have an image or shape layer that extends far beyond the canvas edges. If you drag a large element partially off-screen, the hidden portions are not deleted—they are simply waiting out of view, allowing you to easily reposition or scale them later without losing any data.
- **Exporting and Rasterizing:** The canvas size dictates the exact dimensions of your final file. When you export your project to a flat native raster format (like a PNG or JPEG) or use the Flatten Image command, Seahorse uses the canvas like a cookie cutter. Anything inside the canvas is saved into the final image, and any layer data extending beyond those borders is cropped out and discarded in the exported file.



Layer has been moved outside the canvas.




Canvas with rulers enabled and guidelines added.

## Transparency and the Alpha Channel

Digital images are typically made of three color channels: Red, Green, and Blue (RGB). Professional editing software adds a fourth channel: the **Alpha Channel** (RGBA), which stores transparency information.

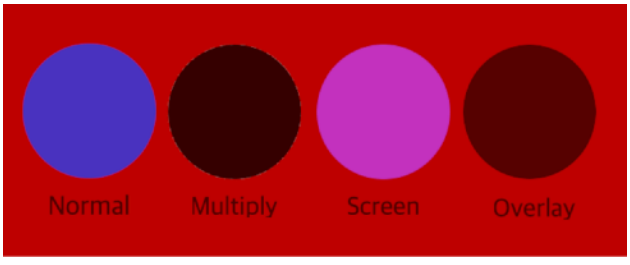
- **Opacity (0% to 100%):** The alpha channel determines how opaque or transparent a pixel is. At 100% opacity, the pixel is completely solid. At 50%, it is semi-transparent (like colored glass). At 0%, it is completely invisible.
- **The Checkerboard:** Because screens are naturally black when turned off and white when displaying a blank document, graphics software uses a gray-and-white checkerboard pattern to represent true transparency. If you see the checkerboard, it means there are no pixels there—if you export the image, the background will be clear.
- **Alpha Lock:** A layer in **alpha lock** mode will only allow modifications to non-transparent pixels, making it easier to "stay within the lines" when making color changes.

## Compositing and Blend Modes

**Compositing** is the mathematical process of combining two or more layers to create a final, single image. By default, layers use the "Normal" blend mode, meaning the top layer simply covers up the bottom layer based on its opacity.

**Compositing Modes** change the math of how the top layer (the blend layer) interacts with the colors of the bottom layer (the base layer). You don't need to memorize them all, but these core modes are essential: (see this for a detailed examples on the compositing modes).

| Blend Mode | Category | How It Works | Best Used For |
|---|---|---|---|
| **Normal** | Default | Top layer obscures the bottom layer. | Standard painting and drawing. |
| **Multiply** | Darken | Multiplies the colors of the two layers. The result is always a darker color (except where pure white is used, which becomes transparent). | Painting shadows or applying line art over a colored background. |
| **Screen** | Lighten | The opposite of Multiply. It multiplies the *inverted* colors, resulting in a brighter image. Pure black becomes transparent. | Painting glowing effects, highlights, or fire. |
| **Overlay** | Contrast | Combines Multiply and Screen. It darkens dark areas and lightens light areas, increasing overall contrast. | Adding texture (like paper or canvas grain) over flat colors. |




Blue circle composited on red background using various compositing modes.

## Brush Blending Modes

Unlike layer blend modes—which affect how an entire layer combines with those beneath it—**Brush Blending Modes** dictate how individual strokes interact directly with the existing pixels on your active layer as you paint.

### Why Brush Blending Modes Are Useful

Brush blending modes give you precise, stroke-level control over lighting, color dynamics, and tonal adjustments without forcing you to create new layers or complex selection masks:

- **Efficient Layer Management:** Paint highlights, deep shadows, or color glazes directly onto active artwork, keeping your layer panel clean and reducing rendering overhead.
- **Texture & Media Simulation:** Recreate authentic physical paint behaviors—such as wet-on-wet glazing or ink absorption—by pairing specific mediums with complementary blend modes.
- **Non-Destructive Workflows:** Perform local tonal shifts and tinting while preserving the underlying details and line art of your base layer.

### Available Blending Modes

- **Normal:** Applies standard paint strokes directly over existing pixels. This is the default behavior for most drawing tools.
- **Multiply:** Darkens the background based on the brush's color values. Painting with pure white leaves the background untouched, while painting with pure black renders as solid black. Essential for building deep shadows.
- **Color (Color Wash):** Blends the active brush color with the underlying artwork. This alters the hue while preserving the original texture and brightness values.
- **Screen (Light Filter):** Brightens the underlying image as paint is applied. This mode is designed specifically for laying down vibrant highlights, sun glares, and luminous effects.
- **Overlay (Punch Filter):** Dynamically increases contrast based on the background's luminance. It simultaneously deepens shadows and brightens highlights to make the artwork pop.
- **Erase:** Acts as a dynamic eraser, completely subtracting background pixels wherever the brush stroke is applied.

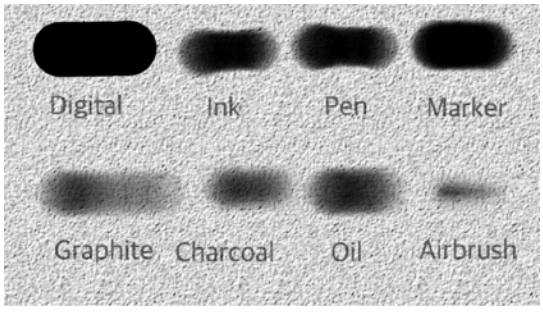
## Brush Mediums

Selecting a brush medium configures Seahorse's rendering engine to accurately simulate the physical properties, edge softness, paper grain interactions, and pressure curves of real-world materials.

- **Digital:** A synthetic, pixel-precise brush with 100% edge hardness and consistent opacity. It operates without paper grain interaction or density randomness, defaulting to a **Normal** blend mode.
- **Ink:** Delivers opaque, expressive linework where pressure naturally scales stroke width. Features crisp edges (85% intrinsic hardness) and defaults to a **Multiply** blend mode to lay down deep pigment.
- **Pen:** Produces clean, sharp technical lines (95% intrinsic hardness) with high precision. Pressure controls line width while maintaining full opacity and a **Normal** blend mode.
- **Marker:** Emulates translucent alcohol markers capped at an 80% opacity ceiling. Overlapping strokes build up tone using a default **Multiply** blend mode to simulate real ink saturation.
- **Graphite:** A soft, translucent pencil medium (60% maximum opacity) that reacts dynamically to underlying paper texture and density randomness. Pressure directly controls pigment flow under a **Multiply** blend mode.
- **Charcoal:** A soft, powdery medium (40% intrinsic hardness) featuring maximum paper interaction, high stroke wobble, and organic density variations. Requires minimal pressure to deposit dark values under a **Multiply** blend mode.
- **Oil:** Simulates thick, viscous paint with soft edge diffusion and natural pigment resistance. Pressure controls paint deposition under a **Normal** blend mode, allowing firm pushes to spread heavy color.
- **Airbrush:** Provides an ultra-soft, continuous spray (10% intrinsic hardness) where pressure controls both stroke width and pigment density. Uses a default **Color** blend mode to make tonal tinting and smooth lighting glazes seamless.

## Merging Layers

As your illustration progresses, you may want to combine multiple layers into one. This process, called merging, helps keep your layers panel organized and reduces the amount of memory your Seahorse project uses.




Showing each of the drawing mediums over a textured background.

Merging is a **destructive** action. When you merge layers together, their pixels are permanently combined into a single layer, and any text or vector layers included in the merge will be automatically rasterized (converted into pixels). Seahorse offers three primary ways to merge:

- **Merge Layer Down:** This command takes your currently selected layer and permanently combines it with the layer directly beneath it. This is useful for condensing elements you are finished editing, such as merging your line art down onto your flat color layer. The merged layer is a raster layer.

- **Flatten Group:** If you have organized multiple layers into a Group Layer, this command will compress everything inside that specific folder into a single raster layer. The original folder and its individual layers are replaced by the new combined layer, but the rest of your document remains untouched.

- **Flatten Image:** This is the ultimate merge command. It compresses your entire document—every layer, group, and filter—into a single, flat background layer. This is typically the very last step in a workflow before exporting a finalized piece of art. It is not required to flatten the image when copying or exporting, as the operation performs this operation non-destructively behind the scenes.

***Helpful Tip…*** Because merging permanently combines pixels, you lose the ability to move or edit those elements independently. It is highly recommended to save a backup of your working project file before using the Flatten Image command!

## Selection Masks

In Seahorse, a **Selection Mask** is the primary way to isolate a specific area of your canvas. Think of it like applying painter's tape to your artwork: it protects the covered areas so you can work freely on the exposed parts without worrying about making a mess.

- "**Marching Ants":** When you create a selection using any of the selection tools (like the Lasso, Magic Wand, or Select Objects), the boundary of your selection mask is represented by an animated, dashed line—often referred to as "marching ants."
- **Dimming**: Seahorse also supports dimming the areas outside of the selection mask.
- **Targeted Editing:** While a selection mask is active, any action you perform—whether it's painting with a brush, using the eraser, filling a color, or applying a filter—will **only** affect the pixels ***in the current layer*** inside the masked area. Everything outside the marching ants is completely protected.
- **Inverting the Mask:** A powerful technique is to select an object, and then use the "Invert Selection" command. This flips the mask, protecting the object you originally selected and allowing you to safely paint or edit the entire background around it.

## Filters

Filters are tools that algorithmically alter the appearance of the pixels on a layer, allowing you to blur, sharpen, distort, or adjust the colors of your artwork.

Seahorse supports a flexible workflow that allows you to stack **multiple filters** on a single layer. Crucially, Seahorse allows you to apply these filters in two different ways depending on your needs:

### Non-Destructive Filters (Live Effects)

Applying a filter non-destructively is like placing a physical glass lens over your layer. The original artwork underneath remains completely untouched.

- **Flexibility:** You can stack multiple non-destructive filters on a single layer, reorder them, or adjust their settings at any time during your editing process.
- **Stacking Order Matters:** Because filters process the image sequentially, the order in your filter stack changes the final result. (For example, adding a Blur filter *then* adjusting the Contrast will look different than adjusting the Contrast *then* adding a Blur). Seahorse filters are applied in a bottom up order, that is the last listed filter is processed first.

### Destructive Filters (Applied Effects)

Applying a filter destructively permanently "bakes" the mathematical changes directly into the pixels of the layer.

- **Permanence:** Once applied (and after your undo history runs out), you cannot remove the filter to get your original pixels back.
- **Why use destructive filters?** While non-destructive editing is safer, destructive filters are highly useful for improving software performance on very large canvases, or when you are completely finalized with an effect and want to merge it down into the base image data.

***Helpful Tip…*** You can safely experiment with complex combinations of Non-Destructive filters. Once you are 100% satisfied with the result and want to free up system memory, you can permanently apply them (Destructive). Applying filters is only supported for raster layers.

## Group Layers

As your artwork becomes more complex, your layer stack can quickly become cluttered. **Group Layers** act as folders that allow you to organize multiple related layers, composite them together, and treat them as a single unit.

- **Organization:** You can drag and drop multiple layers into a single group to keep your workspace tidy. Groups can be collapsed to save space in your layers panel or expanded when you need to edit the individual layers inside.
- **Unified Control:** Selecting a group allows you to manipulate all of its contents simultaneously. You can move, scale, or rotate the entire group on the canvas, or adjust the group's master opacity, without having to alter each layer individually. You can also add filters to the group.

### Group Compositing

When you group layers in Seahorse, the software blends them into your document using one of two methods:

- **Pass Through Mode:** The layers inside the group blend directly with the document layers underneath using their individual blend modes. This mode is active only when the group’s compositing mode is explicitly set to "Pass Through," its opacity is set to 100%, and no filters are applied to the group folder itself.
- **Isolated Compositing Mode:** The layers inside the group are first blended together into a single, isolated unit. Seahorse then applies the group’s overall opacity, filters, and designated blend mode to that combined unit before blending it into the rest of the document.

# Using Seahorse

Seahorse is designed to be intuitive and easy to use yet there are a few major elements to understand.

The Seahorse interface is designed to keep your focus on your artwork while keeping essential controls within easy reach. Understanding how to navigate the application is the first step to an efficient editing workflow.

## What's New and Helpful Tips

Always take a moment to read the **What's New** after installing a new release. Although Seahorse strives for *minimal change* releases, unfortunately this isn't always possible. Seahorse often adds new features in a release and they may not be covered in this guide.

The **Helpful Tips** lists the various keyboard shortcuts and new ones are often added. It also contains some important notes that aren't yet covered in this guide.

## Context Help Buttons

Whenever you are exploring a new tool or feature, look for the **Context Help** buttons (a question mark in a circle). These provide the most up to date *how to* information.

Tapping one of these buttons will instantly open a pop-up explanation of the specific feature, slider, or menu you are currently looking at. This built-in reference means you can learn how complex features work without ever having to leave the application or open a web browser.

The help buttons can be visually distracting, so you can toggle them on/off in the Help menu in the main toolbar.

You can also show the context sensitive help by using a *long press* on the item's label which is useful if the help buttons are hidden.

## Settings

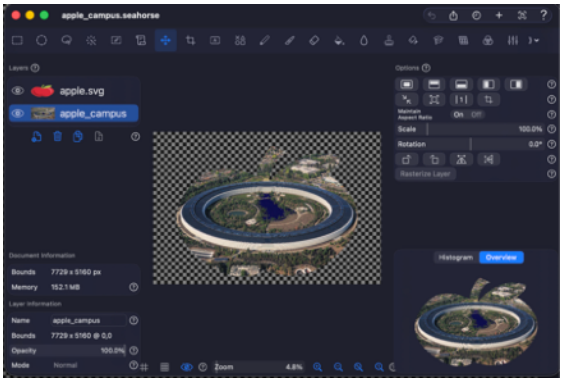
Seahorse offers extensive configuration of the user interface. The application toolbar is configurable as well.

*Settings* has a tab for assigning *hot keys* to tool activation.

## Core Panels

The workspace is divided into several key panels that provide information and control over your document:

- **Layers Panel:** The central hub for managing your artwork. This is where you will add, delete, duplicate, group, and reorder your layers. Layers can be reordered using drag and drop. Dropping a layer onto another creates a **group layer**.
- **Options Panel:** This panel is context-sensitive, meaning it dynamically changes based on the currently selected tool. Instead of cluttering the screen with every possible setting, it only displays the sliders, toggles, and adjustments relevant to what you are doing right now.
- **Document & Layer Information Panel:** This section provides crucial technical details at a glance. It displays the overall canvas dimensions and memory usage, as well as specific properties for your currently selected layer (such as its name, exact pixel coordinates and size, opacity and compositing mode).
- **Histogram:** A visual graph displaying the tonal distribution of your image. It shows the balance of shadows (left), midtones (center), and highlights (right), which is essential for making accurate color and exposure adjustments.
- **Image Overview:** When you are zoomed in closely for detailed line work or editing, the Image Overview provides a small, constantly updated thumbnail of your entire canvas. A framing box inside the overview shows exactly which part of the canvas you are currently looking at and you can tap on the image to quickly pan around your document.




Seahorse workspace

## Toolbars

There are two toolbars in the application. The fixed “main” toolbar that has global actions like Undo, Clear Selection, Share, etc.

There is also the tools toolbar, which allows the selection of the current tool. There are several configuration options for this toolbar. You can open the configuration menu using a right-click on Mac, and a press and hold on iPad.

## Immersive Mode

When you want to remove distractions and focus entirely on drawing or painting, you can activate **Immersive Mode** from the main toolbar.

Triggering this mode changes the panels into overlays, expanding your canvas to fill the entire screen. Your current tool and options remain active, allowing you to paint freely. You can also show/hide individual panels in this mode.




Seahorse workspace in Immersive Mode

## Undo

Seahorse supports *Undo* and *Redo* across the entire application. *Undo* can be invoked from the main toolbar, the edit menu, or using the standard undo/redo actions of the Mac/iPad.

The undo stack is **not saved** when the document is closed.

## Drag and Drop Workflows

Seahorse is built to take full advantage of intuitive drag-and-drop mechanics to speed up your workflow.

- **On the Canvas:** You don't need to navigate through complex import menus to add assets to your project. You can drag images, SVG graphics, or PDF files directly from your device's file browser and drop them right onto your open canvas. Seahorse will automatically import the file and place it on a brand new layer.
- **In the Layers Panel:** Organizing your file is entirely visual. You can tap and hold any layer to pick it up, then drag it up or down the list to change the stacking order. You can also drop layers directly on top of one another to instantly create a new Group Layer, or drag a layer into an existing group to keep your workspace tidy.

## Copy and Paste

Moving content between layers, or bringing assets into your document, is handled through Seahorse's copy and paste commands. Understanding how these commands interact with your selections and layers ensures precise control over your edits.

- **The Copy Command & Selection Masks:** When you use the standard **Copy** command, Seahorse respects your active workspace. If a Selection Mask (marching ants) is active, Copy will *only* capture the pixels inside that selected boundary. If no selection is active, it copies the contents of your currently active layer.
- **The Copy Image Command:** While the standard copy command retains context for internal editing, the **Copy Image** command creates a flattened snapshot of your canvas and sends it to your system clipboard. This is ideal when you want to paste a flat copy of your work directly into an external application, such as an email, document, or messaging app. Only visible layers are included in the copy.
- **The Paste Action:** Whenever you paste content into Seahorse—whether it’s copied pixels from another part of your canvas or an image pasted from your system clipboard—Seahorse automatically creates a **brand-new layer** for the pasted element. This keeps your new asset isolated from the rest of your artwork, allowing you to immediately reposition, transform, or apply filters to it without altering your existing layers.

## Application Toggles

The application has several toggles situated at the bottom left of the workspace.

# toggles the alignment grid visibility. The alignment grid spacing can be configured in **Settings**.

▦ toggles the pixel grid visibility. The pixel grid draws thin lines around individual pixels for easier pixel by pixel editing. The pixel grid is only visible when the zoom level is such that the lines can be drawn legibly. If the pixel grid is being drawn, then the alignment grid lines are not to avoid clashing.

if on, then layer decorations (borders, handles, etc.) are **not drawn.** It is often easier to make fine layer position adjustments without the layer decorations.

if on, then only the currently selected layer is drawn. When only a single layer is drawn, the compositing mode is always normal, so this allows easier editing of layers that may be distorted due to compositing effects. This does not affect the *layer visibility* setting (denoted by the 👁 in the layers list) which is used during exports and copies.

## Shadow Files (Mac only)

When performing image edits, often you'll start with a native image file (like PNG, or JPEG). The issue is that these file formats do not support layers - one of the key features that makes using Seahorse so powerful. Other editors force you to export the file, or *Save As* in order to retain the layer information but this is cumbersome.

Seahorse has the unique ability to use shadow files. So when you open a native image file and make edits and save, Seahorse will *flatten* the document automatically to save in the native format, ***BUT*** Seahorse will also save a *Seahorse Version* of the file automatically in the application cache directory.

When you open the native file in the future, Seahorse will determine that a shadow file exists and load that so all layer and other proprietary details are retained.

Seahorse will periodically purge the shadow files from your system, but it will never delete the more recent version of the shadow file. The number of days to retain old shadow files can be configured in **Settings**. From **Settings** you can click on the storage usage to open the directory where the shadow files are stored.

***Warning: If you change the location of the native file, Seahorse won't be able to find the shadow file. If this happens, you need to open the shadow file directory and copy the file from there.***

# The Tools

## Selection Tools

These tools are designed to set and alter the selection mask, isolating specific regions of your canvas so that drawing, erasing, or filter adjustments only affect the highlighted pixels.

- **Rectangle** creates rectangular or square selection masks. Ideal for framing broad areas, cropping regions, or aligning precise rectangular boundaries.
- **Ellipse** creates oval or circular selection masks. Perfect for isolating curved elements, round objects, or radial vignettes.
- **Lasso** allows you to draw freehand outlines around any area to create custom, highly flexible selection boundaries.
- **Magic Wand** allows you to set the mask by matching colors in contiguous regions. Click and drag left/right to adjust the matching tolerance down/up. Several matching methods are available.
- **Select by Drawing** allows you use to paint a selection mask onto the canvas, offering tactile and fluid control over complex edges.

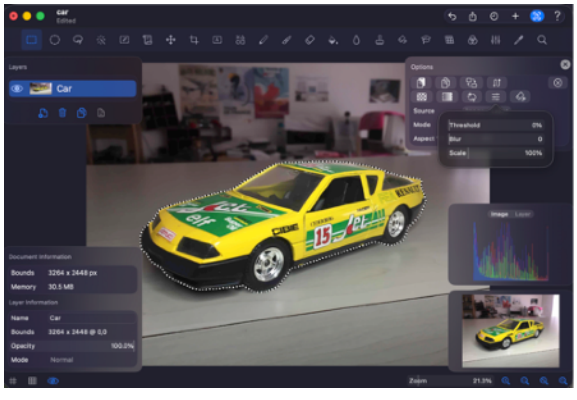
### Advanced & Automated Selection Methods

- **Select by Alpha** generates a selection mask derived directly from the opacity of the active layer. Fully opaque pixels become 100% selected, semi-transparent pixels are partially selected, and completely transparent areas are ignored.
- **Select by Grayscale** converts the brightness values of the current layer into a mask, using lightness to determine selection intensity (where brighter pixels create stronger selections and darker pixels create weaker ones).
- **Object Select** Powered by machine learning, selects the object contained in the current selection mask, or the selected layer if no selection mask is active. This can also be invoked by a long-press on the canvas.

## Common Selection Options

When any selection tool is active, the Options Panel provides controls to refine how your mask behaves:

- **Source** controls whether the selected area for copies or swaps is the layer or the entire image.
- **Selection Mode** controls how a new selection mask is applied. Choose between **New** (replaces existing selection), **Add** (combines new selections with active ones), **Subtract** (cuts areas out of the current selection), and **Intersect** (retains only where new and old selections overlap).
- **Adjustments** panel has controls to resize the mask, soften the outer edges of the selection mask (blur), or increase the minimum opacity threshold of a mask pixel.
- **Copy** the selection mask region to the clipboard.
- **Swap** the current layer with a new layer created from the selection mask. It will automatically rasterize the layer if needed. *This provides an easy to use method of cropping a layer.*
- **Invert** the current selection mask to edit everything outside the current mask.
- **Deselect** clears the selection mask entirely to return to full-canvas editing.
- **Object Erase** Powered by machine learning, erases the object contained in the selection mask. If the mask was created via Select Objects it may need to be expanded to contain any shadows to be removed.



Marching ants object selection with mask adjustments open

## Drawing Tools

These tools are designed to edit the pixels of a raster layer, allowing you to paint, blend, erase, or sample textures directly on your canvas.

- **Pencil** creates hard-edged, pixel-precise strokes without anti-aliasing. Ideal for pixel art, technical sketching, and detailed line work where sharp, crisp boundaries are required.

### Drawing Lines

The **Pencil** tool offers advanced anti-aliased line drawing using the *Lines* option. Turn on *continue* lines to rapidly draw boxes. However, the **Shape** tool is usually the better solution for diagramming, highlighting, etc.

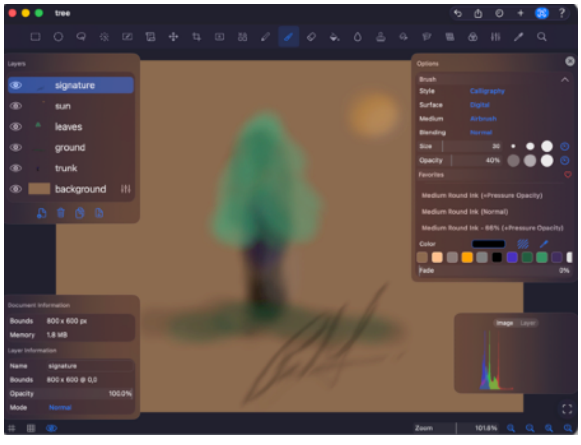
- **Paintbrush** applies smooth, anti-aliased strokes with support for pressure sensitivity, tilt, and opacity dynamics. Perfect for organic sketching, continuous-tone painting, and smooth line art.

- **Eraser** removes pixels or reduces their opacity on the active layer, exposing the artwork on the layers underneath (or revealing true transparency if working on a single layer).

- **Bucket Fill** floods a region of contiguous color with your selected color. It automatically detects edges based on your set tolerance level and respects active selection masks.

- **Blur / Blend** softens image detail or mixes existing colors together directly on the canvas. The **Blur** mode reduces pixel contrast to smooth out harsh transitions, while the **Blend** (Smudge) mode drags and smears existing colors across the canvas like wet paint.

- **Stamp** duplicates textures or details by sampling pixels from a chosen source location on your canvas and painting an exact copy of those pixels onto another area of your layer.



## Move, Scale, and Rotate

The Move, Scale, and Rotate tool lets you position, resize, and rotate any layer type across the canvas, including imported SVG files, PDF documents, text and shape layers.

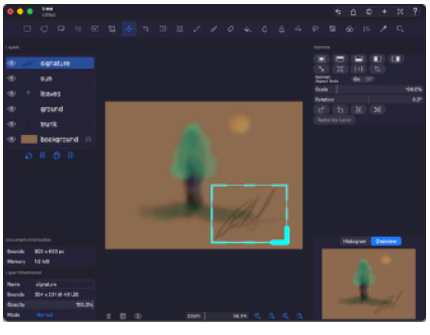
- **Non-Destructive Transforms:** By default, transformation operations are completely non-destructive. Seahorse preserves the original image data and vector paths in the background, allowing you to freely adjust, re-scale, or reset a layer's size and angle later without cumulative quality loss.

- **Rasterizing Vector Layers:** This tool allows you to manually rasterize non-bitmap layers (like text, shapes, SVGs, or PDFs) directly from the transform interface. Converting these layers to standard pixel grids makes them compatible with pixel-based drawing tools like the Brush, Eraser, or Smudge tool.

- **Re-Rasterizing Bitmap Layers:** If a bitmap layer has scaling or rotation applied, you can choose to re-rasterize it. This "bakes" the transform changes permanently into the layer's pixels and resets its bounding box alignment to the canvas. Re-rasterizing helps free up memory, improves rendering performance on complex documents, and prevents repeated mathematical interpolation when making future edits.

- **Crop to Content** When a new raster layer is added, its size defaults to the canvas size. Use this function to trim raster layers to their visible content which can make small layers easier to work with and improve performance.

- **Expand To Canvas** When a layer is rasterized it is trimmed to its opaque bounds. Often times it is helpful to expand the layer when drawing. Use this function to expand the layer to the canvas bounds.



Move tool with selected layer resize handles shown.

## Canvas Tool

This tool allows you to configure document level options, like the canvas size, the units used for display, the DPI (dots per inch).

The units are used throughout the application, from layer bounds to the optional rulers on the canvas. *Physical units* are in, cm, mm, and pt. Pixels are *digital units*.

There are also important document level actions like **Flatten Image**.

## Crop and Scale Tool

This tool allows you to modify overall canvas dimensions including the DPI, and trim the document to specific artwork regions. Individual layers can be cropped and resized using the ***Selection and Move/Scale*** tools.

### To resize the document:

Use **Target Size** to configure the final canvas size. The actual size in pixels is affected by any DPI changes and other options like *DPI Scaling*.

Then drag to select the area of the document to include in the cropped image. If a crop box is already present - which occurs with many of the **Target Size** modes - press *escape* or ⓧ to clear the crop box. Changing modes will automatically create a new crop box sized to the current canvas. The crop box can be moved and resized using the handles.

- **Target Size Modes & Presets:** Use **Freeform** or **Aspect Ratio** modes to manually draw a custom rectangular crop frame. The target size is the crop frame size adjusted for DPI. **Percentage** mode target size is calculated based on the current document size and adjust for DPI.

- **Manual Size Mode & Favorites:** Enter exact numerical dimensions for precise sizing. Any custom dimensions set in Manual Size mode can be saved as favorites, making them available as standard presets across Seahorse for both cropping operations and new document creation. *Units* are used to adjust the pixels based on the target DPI.

- **DPI** configures the dpi (dots per inch) of the resulting document.

- **DPI Scaling** forces the target size to be scaled based on DPI changes when the target size is pixel unit based.

## Crop vs Resize

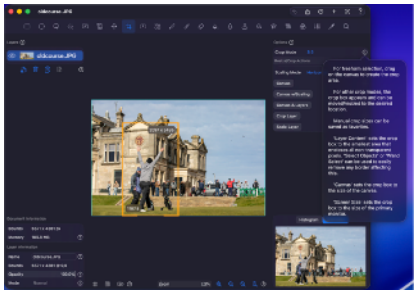
***Crop*** may destructively alter a layer's image data if the layer cannot fit completely in the destination image.

***Resize*** will never alter the layer pixel data, all layer data is retained and the layers are only scaled and positioned. This might cause the layer's bounds to exist beyond the canvas.

## Scaling Modes

The Scaling Mode controls how the the source area content adapts to the target size. Seahorse provides six distinct modes that preserve your artwork's aspect ratio without stretching or distorting image proportions:

- **Fit (Aspect Fit):** Scales content proportionally so the entire image fits completely inside the target area. This preserves the original aspect ratio but may leave empty space (letterboxing or pillarboxing) along the edges if the target dimensions differ.
- **Fill (Aspect Fill):** Scales content proportionally until it completely fills the target frame. This leaves no empty background space, preserving the aspect ratio by allowing excess edges of the image to extend past or crop out of the target frame.
- **Horizontal (Fit Width):** Locks the image width to match the target width exactly while scaling the height proportionally. Depending on the target frame's proportions, this may cause the top and bottom of the image to overflow or leave empty vertical space.
- **Vertical (Fit Height):** Locks the image height to match the target height exactly while scaling the width proportionally. Depending on the target frame's proportions, this may cause the sides of the image to overflow or leave empty horizontal space.
- **Minimum (Least Distortion):** Scales both dimensions uniformly using whichever scale factor (width or height) is closest to 1.0 (100% size). This preserves the aspect ratio while keeping the artwork as close to its original, untransformed size as possible to minimize resampling artifacts.
- **Pad:** Performs no scaling of layers, instead it pads or crops the layer retaining the original unscaled pixel data.



Crop box with mode help showing.

## Text Tool

This tool allows you to create and edit *text layers*. The full set of unicode emojis can be dragged to the text area from the ***Emoji & Symbols*** menu item.

## Shape Tool

This tool allows you to create and edit *shape layers*. The **Shape** tool is the easiest way to highlight areas of the image, add arrows, etc. Use the rectangle shape to draw a highlight box, set the fill color to partial opacity, then resize and move into place.

## Filter Tools

Filter tools allow you to apply algorithmic transformations directly to your layers. There are 3 distinct tools in the set: **Geometry**, **Visuals**, and **General Filters**.

- **Geometry Filters** allow the manipulation of the spatial layout, shape, perspective, and orientation of a layer's pixels. Instead of manually redrawing elements, you can use Geometry filters to stretch, skew, perspective-warp, rotate, or distort artwork while maintaining control over the original layer structure.
- **Visuals Filters** focus on modifying the overall visual aesthetic, lighting, and rendering of your content. This set includes color adjustments (such as hue, saturation, brightness, and contrast curves), sharpen adjustments, and artistic color grading effects.
- **General Filters** allow the manipulation of both the look and structure of a layer. This includes essential operations like warping, stylizing, gradients, color inversion, thresholding, posterization, noise addition or reduction, and channel operations. There are more than 100 filters available with more on the way.

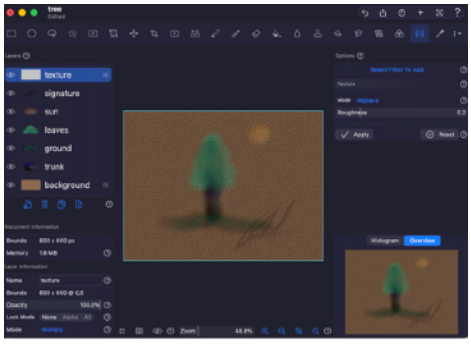
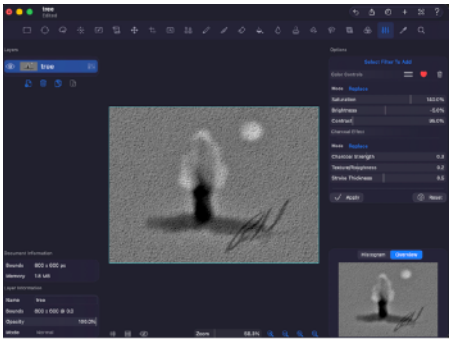
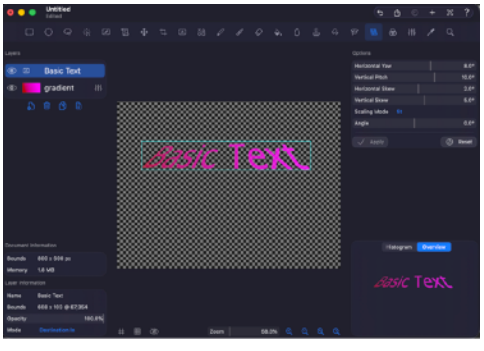



Image with texture layer applied.



Document has been flatten with charcoal effect applied.




Simple text layer with geometry adjustments composited onto a gradient layer.

## Machine Learning Tools

There is a dedicated set of intelligent tools in Seahorse powered by machine learning models, designed to automate complex image processing and asset enhancement tasks.

- **Super Scale:** Intelligently increases the resolution of low-resolution images by 4x. Instead of using traditional interpolation (which creates blurriness or pixelated edges), Super Scale uses neural networks to synthesize missing detail, producing crisp lines and sharp textures when enlarging artwork or photos. Typically, *expand canvas* should be turned on to resize the document to the new layers size.

- **Denoise:** Analyzes your layer to identify and remove digital noise, film grain, and compression artifacts while carefully preserving essential details and sharp outlines.

- **Deblur:** Analyzes your layer to identify and remove blurriness caused by camera motion or out of focus captures.

- **Low Light Enhancement:** Automatically recovers hidden detail, contrast, and color balance from underexposed or dark photos. It intelligently brightens shadow regions without introducing heavy visual noise or blowing out existing highlights.

- **Panorama Generation:** Stitches multiple overlapping images or layers into a single, seamless panoramic image. It automatically calculates alignment, corrects perspective shifts, and blends color boundaries across the seams. A minimum of two layers is required to create a panorama.

## Image Restoration

When restoring an image, applying the tools in the following order usually obtains the best results: **Denoise → Deblur → Low Light → Super Scale.** Processing in this sequence ensures that each tool receives the cleanest possible data, preventing artifacts and distortion from being multiplied at later stages.

**If the ML models fail to load after an update, delete the application completely and reinstall.**

## Object Erase

The **Object Erase** tool allows you to quickly remove unwanted subjects, background distractions, or imperfections from a layer simply by brushing over them.

Once you highlight the area to be removed, the machine learning engine analyzes the surrounding environment, synthesizing new textures and background details to seamlessly fill in the erased region as if the object was never there.

**Blemish Touchup:** Beyond removing large objects, Object Erase is ideal for precise retouching. By using a smaller brush size, you can quickly tap away skin blemishes, stray hair strands, sensor dust spots, or minor canvas imperfections. The machine learning model intelligently matches the surrounding skin tones or background textures, repairing the area without leaving behind muddy or blurred patches.

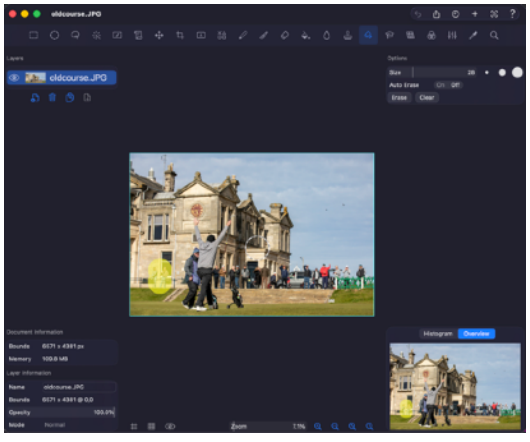


Image with people to be removed highlighted in yellow.

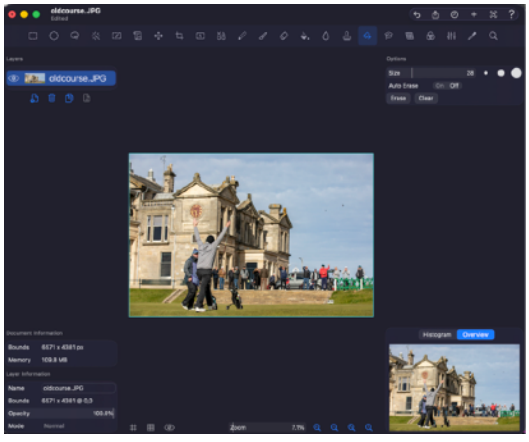


Image after people removal.

## Eyedropper Tool

The **Eyedropper** tool allows you to quickly choose a color by selecting an existing color in the image by tapping on the canvas. You can also tap and drag to select and area to calculate an *average color* of the region.

The picked color can then be selected by clicking the in the tool options.

If the **Eyedropper** is a temporary tool selection (*press 'x'*), picking a color will automatically return to the primary tool and populate the color property.

## Zoom Tool

The **Zoom** tool allows zooming in/out on the canvas. Click on the canvas to zoom in. Right-click on the canvas to zoom out. Click and drag to select an area to zoom in on.

In the workspace bottom bar, and can be used to zoom in/out as well.

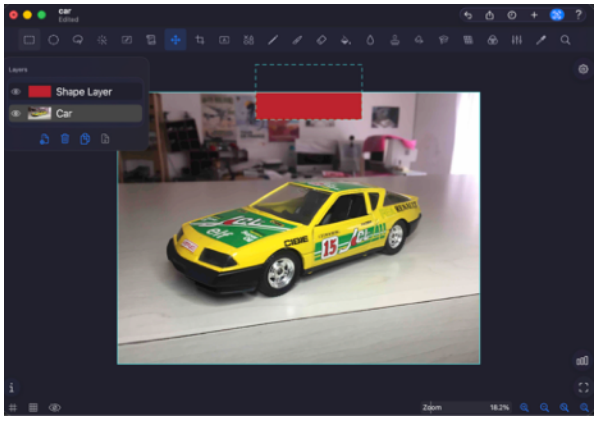
Press 'z' to temporarily select the zoom tool. Press 'z' again to return to the previous tool.

Press 'shift + z' to **zoom to fit** , which zooms the canvas so all content is shown.

Invoking **zoom to fit** consequently toggles in/out of **zoom to extent** mode - which zooms the canvas so all layers - including off-canvas regions - are visible. In **zoom to extent** mode, layers that extends beyond the canvas show the layer bounds as a dashed rectangle.

**Zoom to extent** mode is denoted by

Press to **zoom to actual size**, where the canvas is displayed without any zoom, so a single pixel in the image will be displayed with a single pixel on the monitor.




Zoom to extent mode with a layer that extends outside the canvas.

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