

Layers, Zooming, Styles, Transform, File Formats, and Exporting Images

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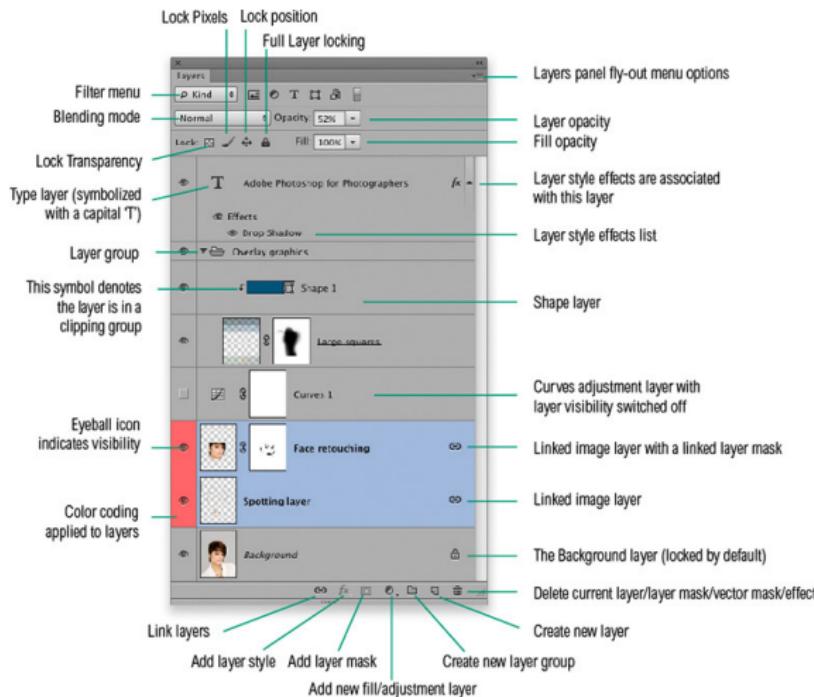


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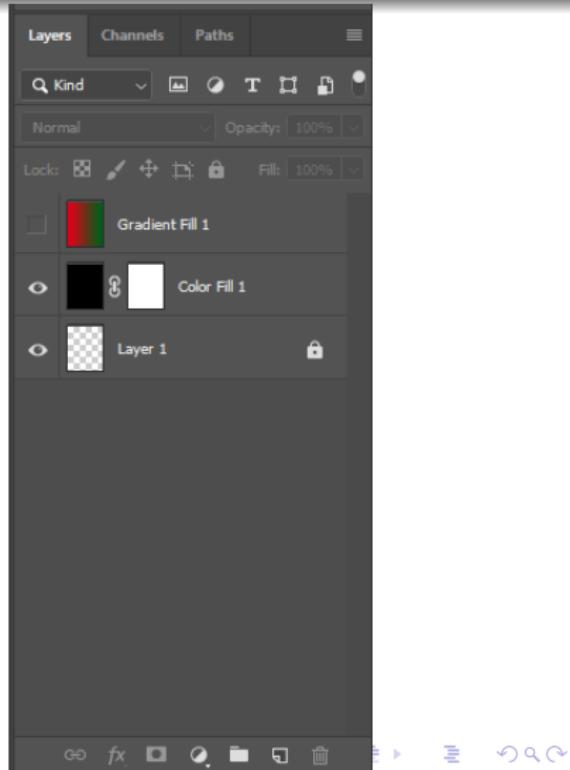


Layers



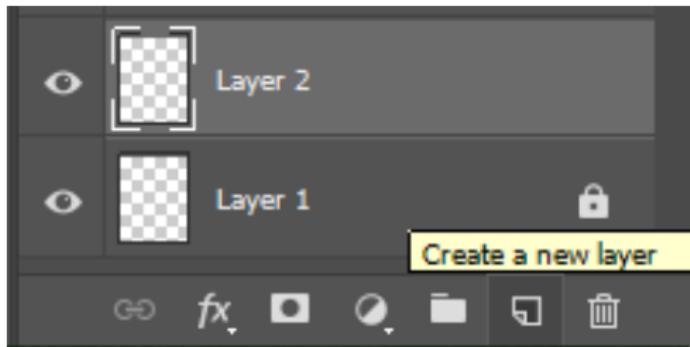
Layers Tab

- Layers contain the images, text, or objects that make up a layered file.
 - They let you move, edit, and work with content on one layer without affecting content on other layers.
- If the Layers panel is not visible, choose Window - Layers.
- A layer must be selected in order to make changes to it.
- To add more layers to your selection, hold Control as you click other layers.



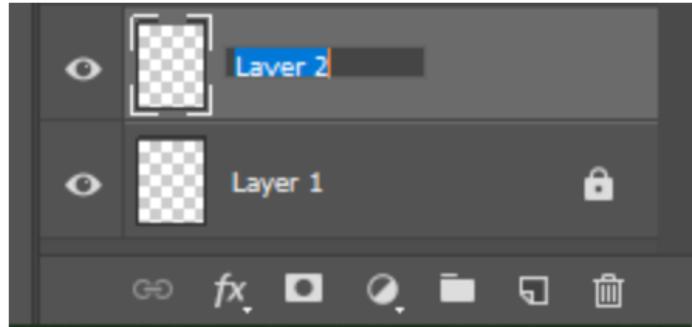
Creating a New Layer

- Click the Create a New Layer icon at the bottom of the layers panel to make a new layer.
 - This layer is transparent until something is added to it.
- To import a pre-existing image as a layer:
 - Drag the image file into the workspace for your image in PhotoShop.



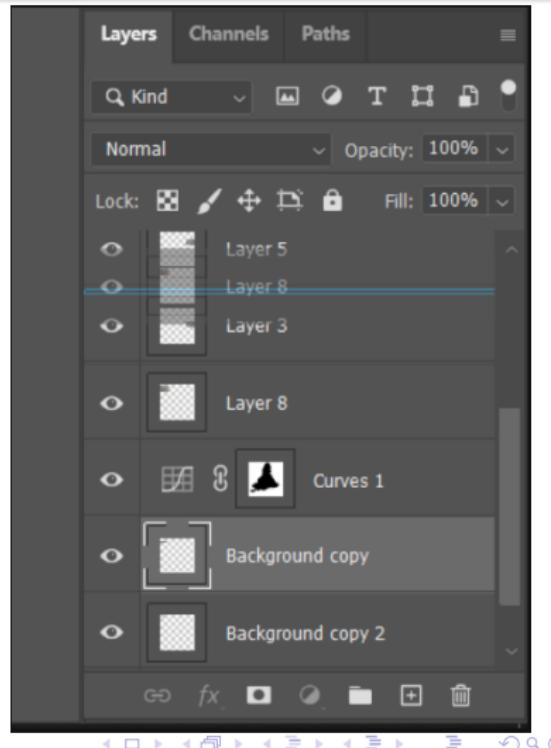
Renaming a Layer

- To name a layer, double-click the current layer name.
- Type a new name for the layer.
- Press Enter



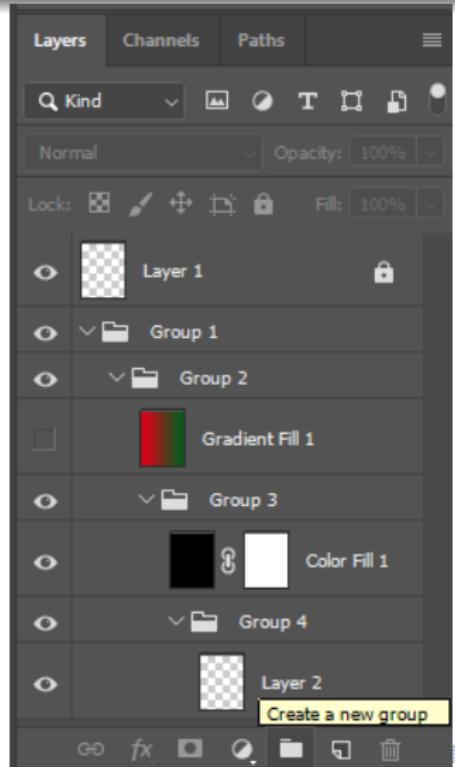
Stack Order

- Layers are arranged in a stack in the Layers panel, which is usually located in the bottom right of the work area.
- Drag a layer up or down in the Layers panel to change the order of layered objects in the image.



Groups

- Groups allow you to organize your layers.
- A new layer appears either above the selected layer or within the selected group in the Layers panel.
- To create a layer from an existing file, Drag the file onto an open image in Photoshop.



Opacity

- To change a layer's opacity, select a layer in the Layers panel and drag the Opacity slider located near the top of the Layers panel to make the layer more or less transparent.
- Opacity is the extent to which something blocks light.



Fill

- Both the Opacity and Fill options control a layer's transparency.
- Fill will change the transparency of any added effects (styles) to your layer, such as: stroke, drop shadow, bevel and emboss, outer glow.



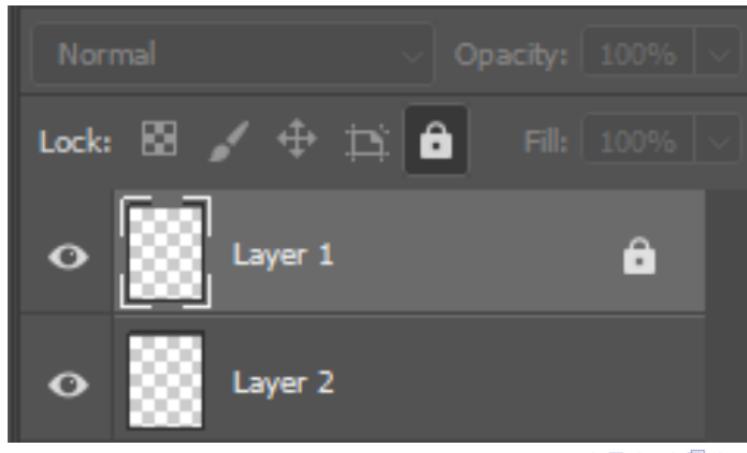
Hide/Reveal

- In the Layers panel, click the eye icon to the left of a layer to hide its content.
- Click again in the same spot to reveal the content.



Locking Layers

- You can lock layers fully or partially to protect their contents.
- Lock a layer to avoid making unintended changes to your work.
- The lock icon appears solid when the layer is fully locked and hollow when the layer is partially locked.

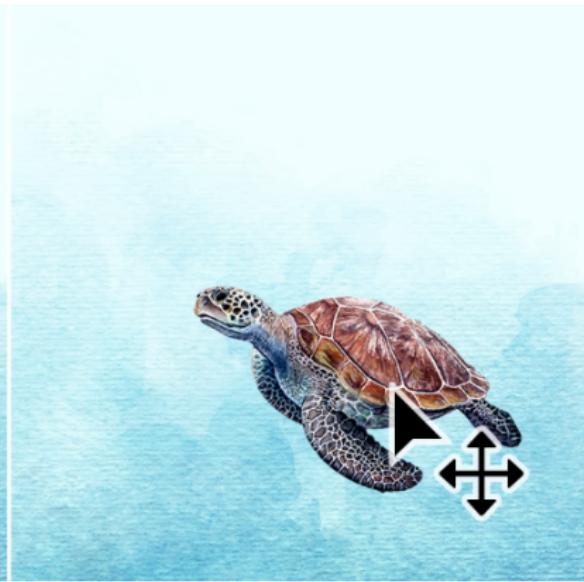


Move, Zoom, and Hand Tools



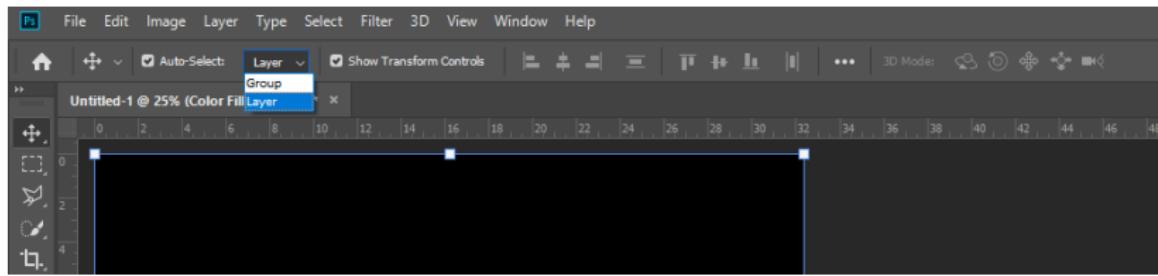
Move Tool

- The Move tool helps you position selected content or layers when customizing your work.



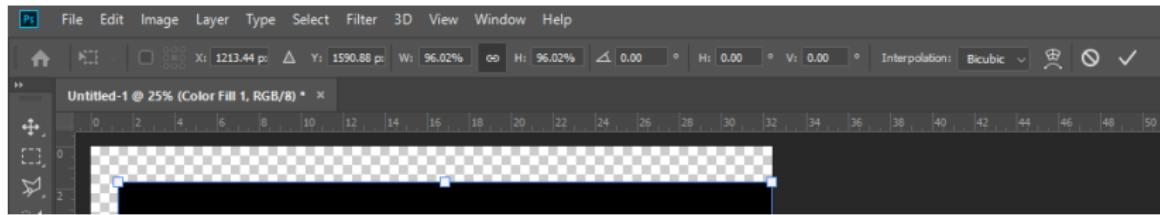
Auto-Select

- Auto-Select allows you to automatically move the selected layer wherever you click on the image.
- Group allows you to automatically move multiple layers together.



Transform Controls

- Transform Controls allows you to scale the image, while moving it.
- Use the boxes at the corners to scale the image.



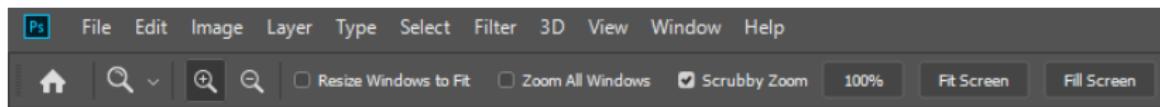
Zoom Tool

- Magnify or reduce the view of your image with the Zoom tool.



Scrubby Zoom

- Click the + and - magnifying glass icons below the menu bar.
 - Then on the image to either zoom in or zoom out
- The mouse wheel inbetween the left and right mouse buttons will scroll the window up and down.
 - If you hold down ctrl button, then you will scroll left and right.
- Scrubby Zoom lets you zoom in and out clicking the left mouse button and holding it, then moving your mouse left and right to zoom out and in.



Hand Tool

- The Hand tool allows you to move your image while you're zoomed in to more than 100% and part of the image is out of view.
- Double-click the hand tool to center the image within your current window.

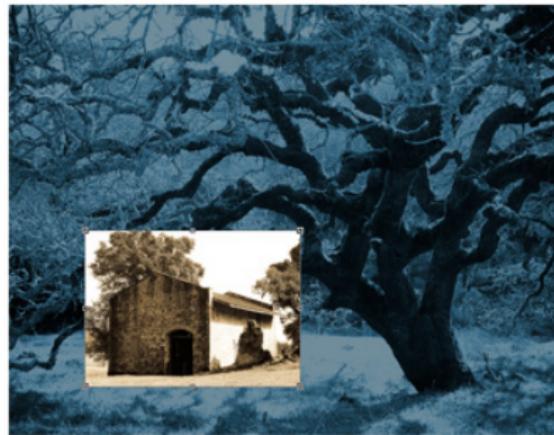


Transform Tools



Scale

- To change the proportions of an image. For example, to make an image one-half of its original size.



Content-Aware Scale

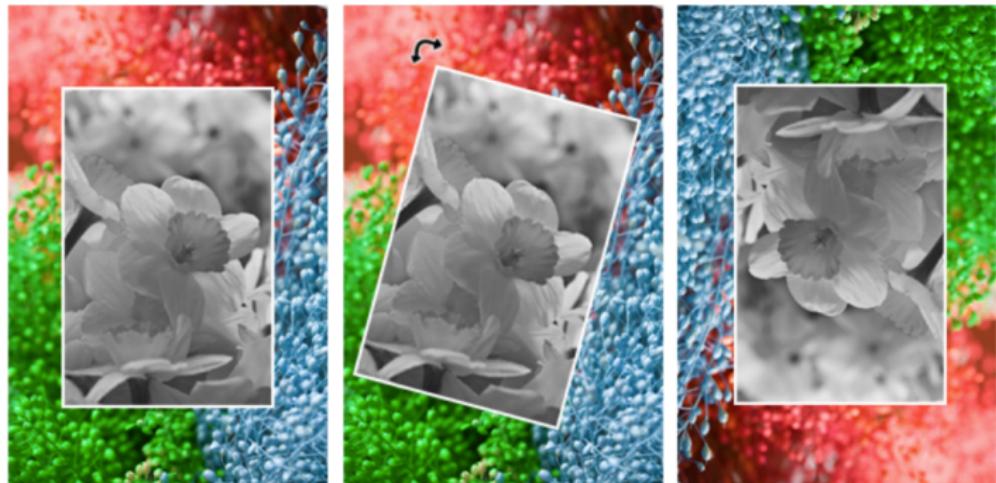
- Content-Aware Scale resizes an image without changing important visual content such as people, buildings, animals, and so forth.
- While normal scaling affects all pixels uniformly when resizing an image, content-aware scaling mostly affects pixels in areas that don't have important visual content.



A. Original image B. Scaled narrower C. Scaled narrower, using content-aware scaling

Rotate

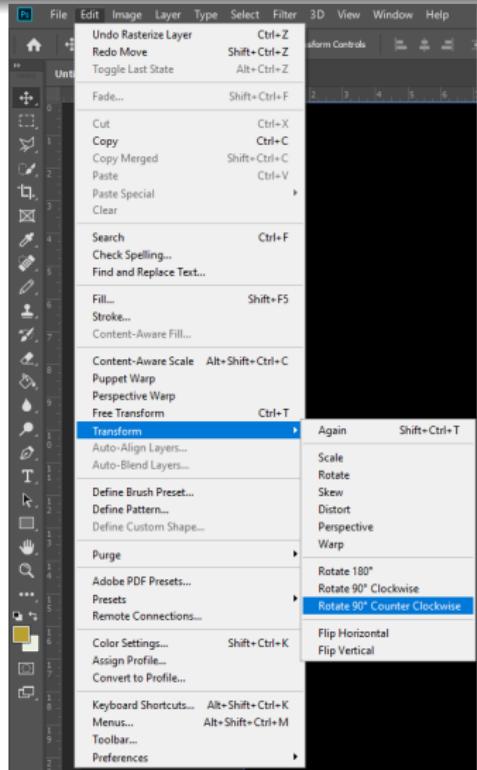
- To change the orientation of a selection, a layer, or an entire image (that is, the image canvas). For example, to make a vertically oriented image horizontal.



The original image (left) has two layers. In the center image, the top layer is rotated, while the background layer remains static. The image at right shows the canvas, and therefore all layers, rotated 180°.

Rotate by Degrees

- 180 degrees
 - Rotates the entire image by rotating the top to the bottom.
- 90 degrees - Clockwise
 - Rotates the image from the top to the right.
- 90 degrees - Counter-Clockwise
 - Rotates the image from the top to the left.



Skew

- To apply a horizontal or vertical slant to an image.



Warp

- To distort an image, often text, to conform to a variety of shapes. For instance, a line of text can be warped in the shape of an arc or wave.
- How to Warp an Image:
 - Edit - Transform - Warp
- How to Warp Text:
 - Layer - Type - Warp Text

Technology
Technology
Technology

Distort

- We are able to drag each corner in any direction separately.
- Photoshop adjusts the image to fit within the new frame.



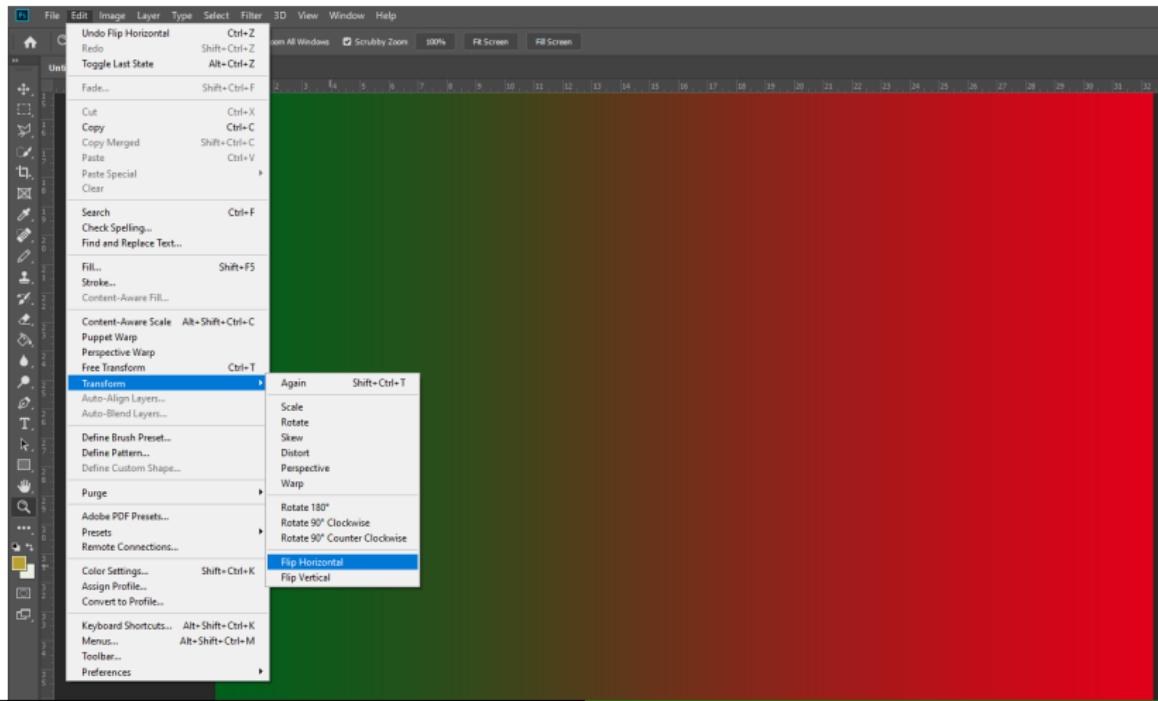
Perspective

- Similar to Distort
- Used to make text look like its tilting back towards the horizon, similar to the scrolling text at the beginning of Star Wars movies.
- When you draw a corner, its opposing corner will move in the opposite direction.



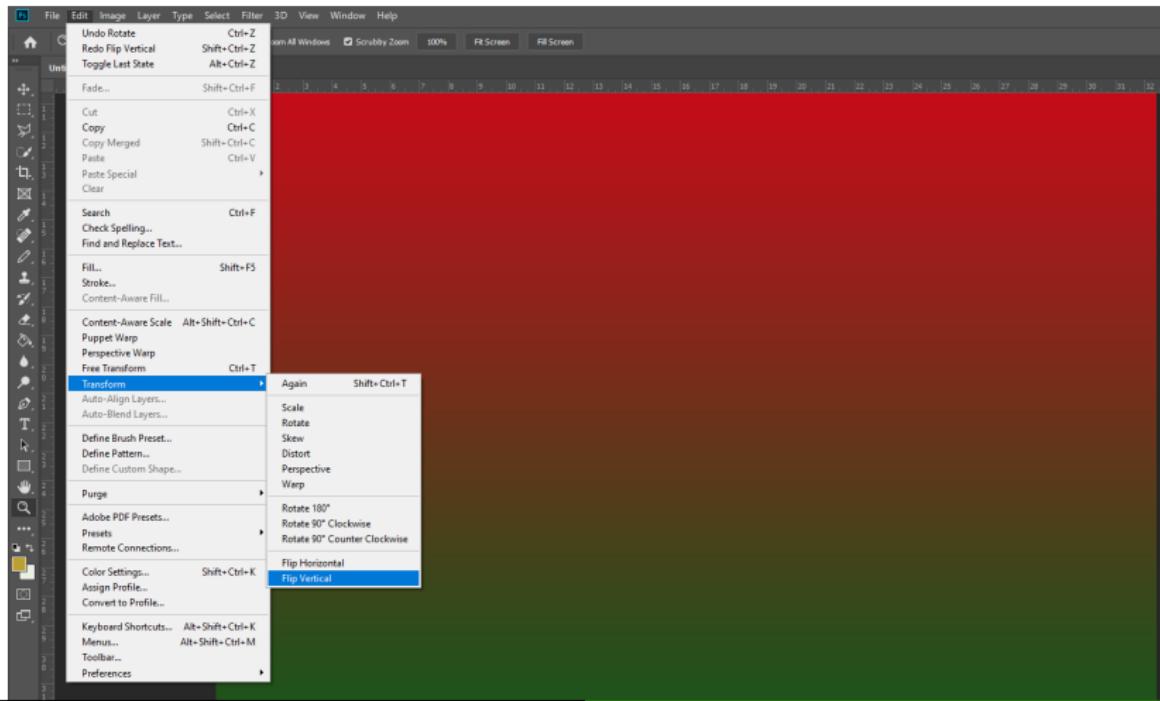
Flip Horizontal

- Flip the image from left to right.



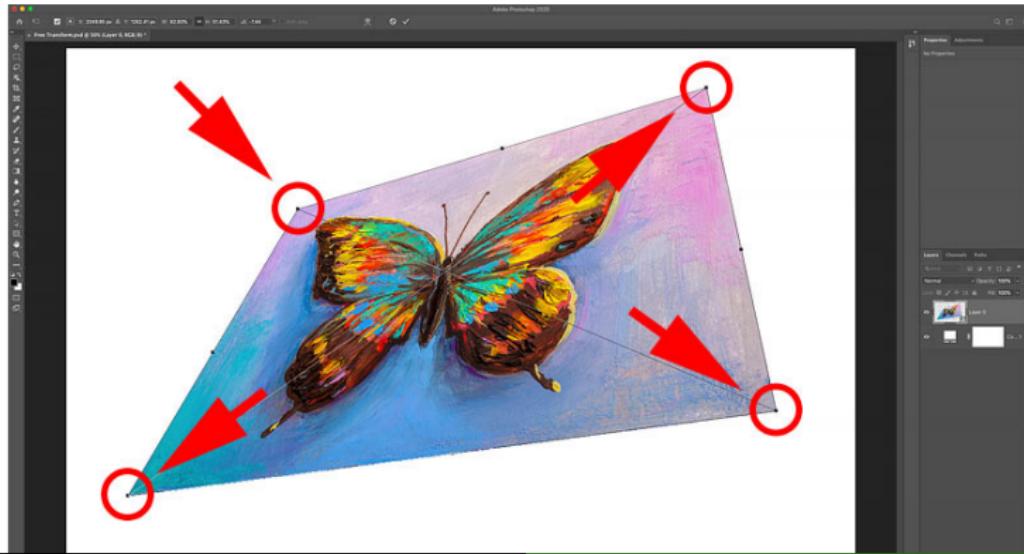
Flip Vertical

- Flip the image from up to down.



Free Transform

- The Free Transform feature allows you to make several transformations at once, rather than one at a time.
- To use the Free Transform feature, select a layer, then choose Free Transform from then Edit menu.



Graphic File Formats

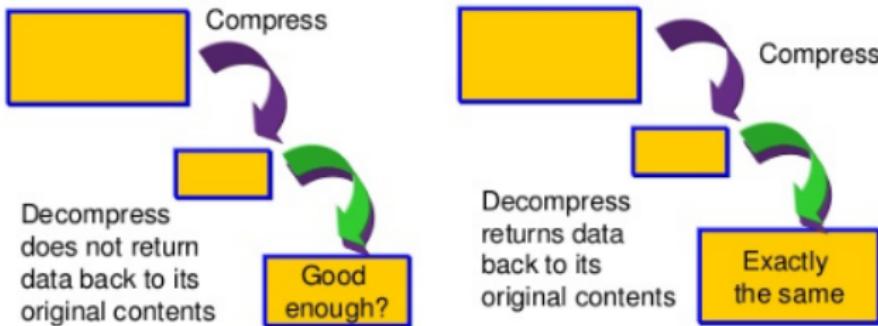
Graphic File Formats

Where, When and How To Use Them



Graphic File Formats

Lossy vs. Lossless Methods



- **Lossy**

- Used with music, photos, video, medical images, scanned documents, fax machines

- **Lossless**

- Used with databases, emails, spreadsheets, office documents, source code

Lossy Compression

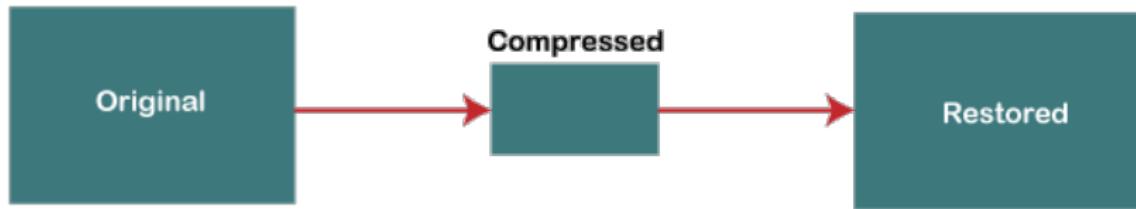
- Lossy Compression:
 - An algorithm which preserves a representation of the original uncompressed image.
 - It can appear perfect to the human eye, but it is not a perfect copy.
 - Lossy compression will generally produce an image with a smaller size compared to lossless compression.
- File Extension Examples:
 - .jpg, .jpeg, .heif



Lossless Compression

- Lossless Compression:
 - An algorithm which reduces an images file size while preserving a perfect copy of the original uncompressed image.
 - Lossless Compression will generally result in a larger file size compared to Lossy Compression.
 - It is best to work with lossless files, then export a final lossy image to avoid loosing quality do to re-compression.
- File Extension Examples:
 - .png, .webp, .gif, .bmp

LOSSLESS

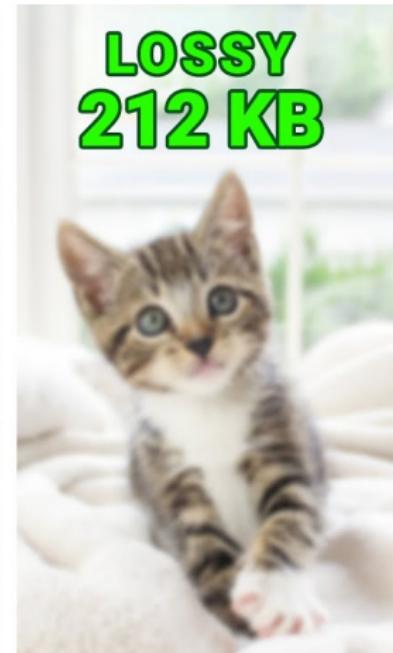
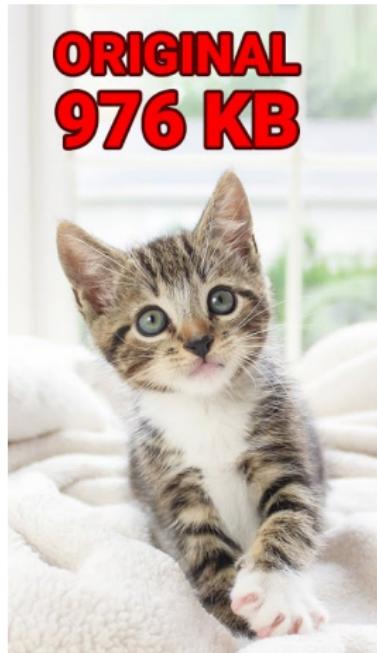


Raw Format

- Raw Image Format:
 - Not an actual image file
 - Contains minimally processed data from the image sensors.
 - Must be processed by a raw converter to a file format such as jpg or png for displaying, printing and manipulation.
- Analogous to undeveloped (or "exposed") film.
- File Extension Examples:
 - .dng, .arw, .crw, .orf

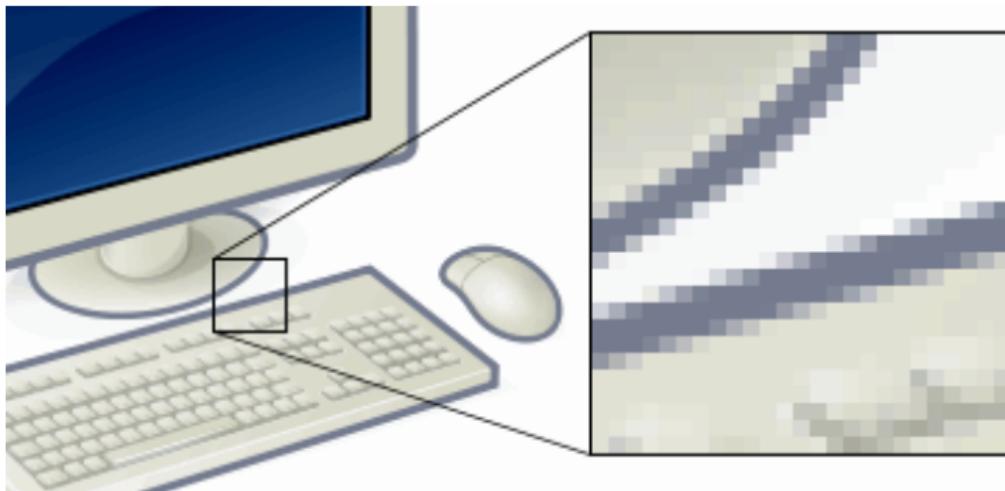


Compression Example



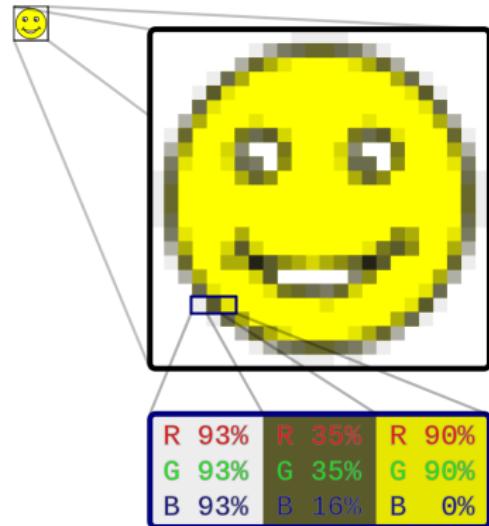
Pixels

- The smallest controllable element of a picture represented on the screen.
- For imaging sensors, a pixel refers to a single sensor element, in an array of elements. Also called a sensel.
- A resolution of 1920×1080 is 2.07MP (Megapixels)



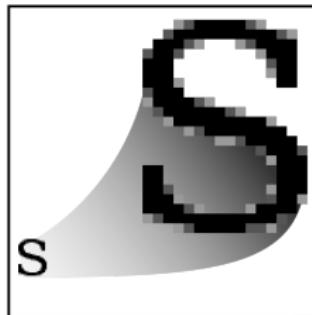
Raster Graphics

- Represents a two-dimensional (2D) picture as a grid of pixels.
- Typically measured in width and height of pixels.
- This is what we will be working with in Photoshop.
- We will always export our images as .png in this class.
- File Extension Examples:
 - .jpg, .png, .gif, bmp



Vector Graphics

- Vector graphics are based on the mathematics of analytic or coordinate geometry.
- They are scalable and offer a high degree of accuracy
- Computationally intensive, as the computer must calculate and render the graphic each time.
- File Extension Examples:
 - .svg, .wmf, .eps, .cdr, .ai



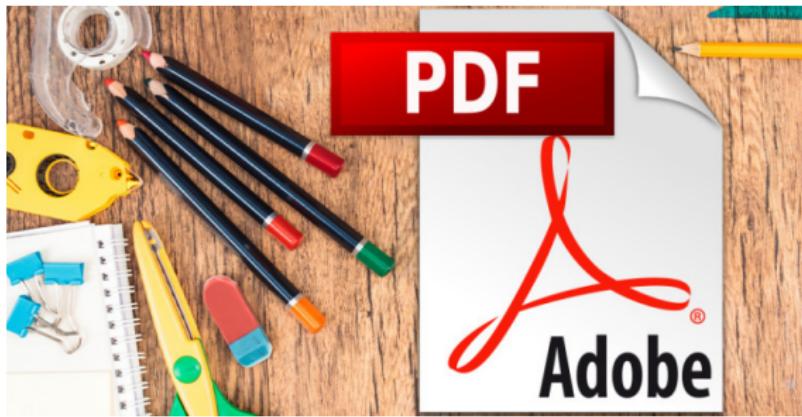
Raster



Vector

Container (Wrapper) Format

- Contains both Raster and Vector graphics.
- Utilizes metadata to embed multiple streams of data into a single file.
- File Extension Examples:
 - .pdf, swf, eps, xaml, wmf



Exporting Your Images



JPG File

- Smaller file sizes
- Faster Loading Time
- May Not Be As Clear
- No Transparency
- Different Levels of Compression Available

VS



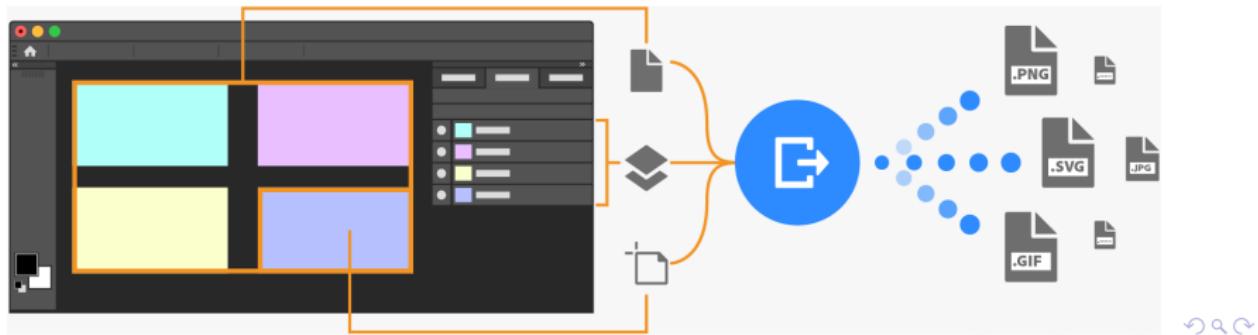
PNG File

- Larger File Sizes ("Weigh More")
- Slower Loading Time
- Supports Transparency
- Clearer & Higher Quality



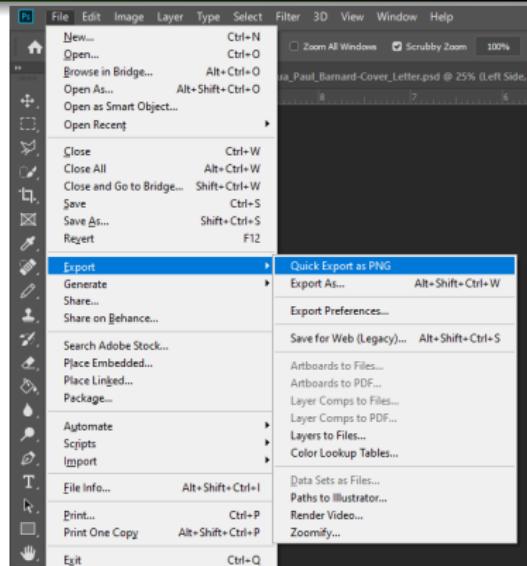
Export vs Save

- If you have only a single layer:
 - The Save option will save your edited image directly (potentially over-writing the original image)
- If you have 2 or more layers:
 - The save option will save the Photoshop Project file, which contains all the layers within it.
 - File Extension: .psd
- Export will create a new image file based on all your visible layers.



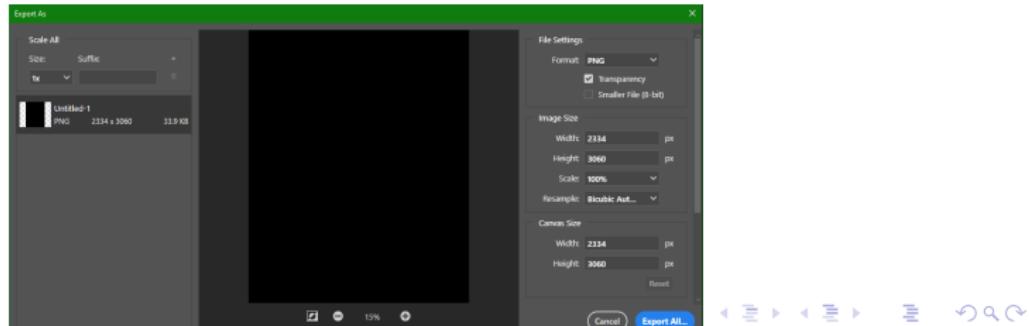
Quick Export as PNG

- Fastest way to save your image.
- Saves a png to your default (or preset) settings.
- This will usually suit your needs



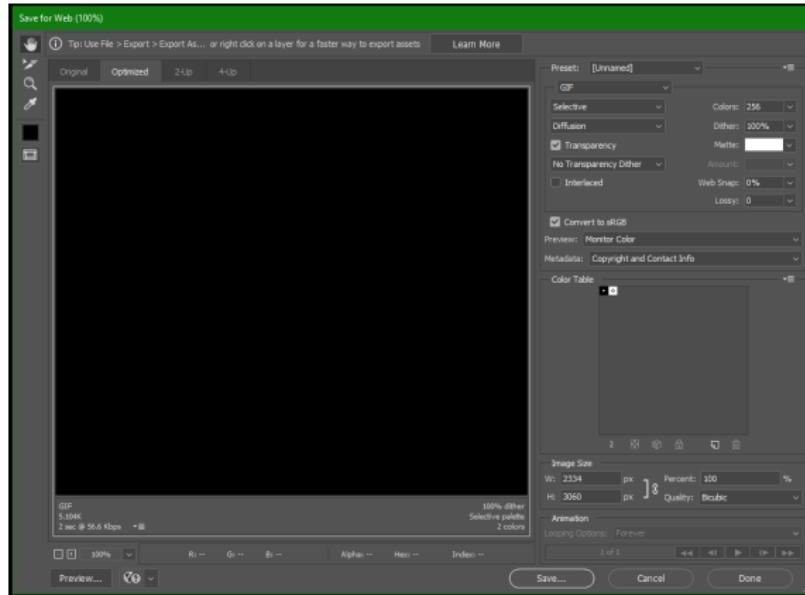
Export As...

- The Export As option gives you way more control over your final image.
- You can manually set:
 - Image and Canvas size (in pixels)
 - Scaling and Resampling Method
 - Transparency and bit-map
 - Format and Metadata
- File Extension Formats available:
 - .png, .jpg, .gif, .svg



Save for Web (Legacy)

- More Options than Export As...
- Typically used for animated gifs.
- Will not be used in this class.



End Card

- Joshua Paul Barnard
- Computer Science Instructor
- Mendocino College
- This Presentation was made in \LaTeX
- For DAM 110 - Digital Media with Photoshop.
- In the Fall 2022 semester.
- jbarnard@mendocino.edu
- github.com/JoshuaPaulBarnard

