

Photoshop

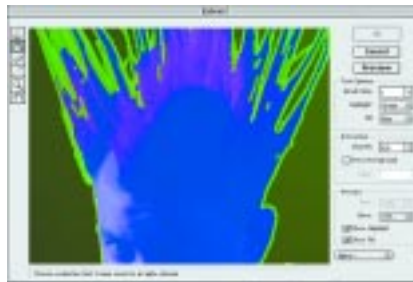


This month, we'll continue to look at great tools for removing backgrounds from complex images. Last month we covered the Background Eraser, which is designed to separate hard-edged objects from backgrounds. This go-round we'll figure out the Image>Extract command, a new feature in Adobe Photoshop 5.5.

The Extract Command

The Extract command is designed to remove backgrounds on soft-edged objects such as hair and objects in motion. Before you jump in, you should be aware that the Extract command doesn't work when your image is in one of the following color modes: Bitmap, Duotone, Indexed Color, or Multichannel. If your image is in one of those modes, be sure to change the mode before attempting to remove the background.

If you choose Image>Extract (or opt/alt-cmd/ctrl-X), you'll find a whole dialog box full of options. It might take us a while to wade through all of them, so before we dig too deep, let me fill you in on what Extract is looking for. This command needs three pieces of information before removing the background: which areas should be thrown away; which areas should be kept; and which areas contain a combination of both.



Blue means keep, green means maybe, and no color means delete.

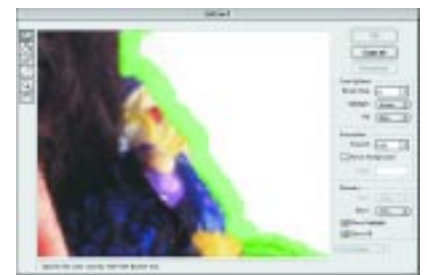
In the image above, the areas covered with blue will be left untouched and the areas with no color will be deleted. Photoshop will analyze the green-covered areas to determine which should be kept and which deleted. It will base its decision on how similar the highlighted areas are to the areas that are being deleted or kept.

Highlight the Edge

Your job is to use the Highlighter tool (upper left in the dialog box) to cover the areas that contain a combination of background and subject (where the edge of your object fades into the background). As you start using the Highlighter, green stuff will be overlaid onto your image. If this color is hard to see (perhaps your document contains lots of green), you can change the highlighting color in the Highlight pop-up menu (upper right). You can either pick a predefined color (Red,

Green, or Blue), or choose Custom to choose from a color picker.

When highlighting the edge of your object, avoid highlighting areas you really want to keep, or else Photoshop might decide to remove some of that area. If there's any "overspray," it is better to get it on the areas you want Photoshop to delete.



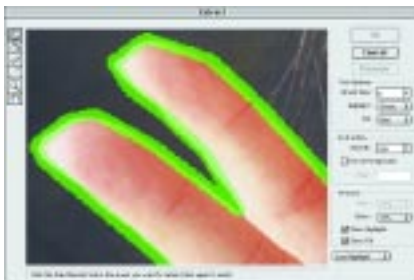
It's better to "overspray" on the background than the subject.

The brush size you are using is determined by the setting found in at the upper right of the dialog. It's not often that I need to type a number there because there are faster methods. You can use the bracket keys ("]" and "[") to increase or decrease the brush size in increments of one. Or you could simply click on the number and use the up and down arrow keys to do the same thing, and then you'd also have the option of holding the shift key to increase or decrease the number in increments of 10. You can also click

on the triangle to the right of the number to select a size between 1 and 999 pixels by dragging across the slider that appears.

Be sure to change the size of your brush based on how far out the edge of the object fades. Areas that contain hard edges should contain little highlighting (and be sure not to get too much overspray on the subject), but in areas that gradually fade out, you'll need to cover the whole fade area for Photoshop to perform well.

If it's taking you too long to highlight the entire edge of the object, hold the shift key and click in multiple areas (don't drag) and Photoshop will connect the "dots" with straight lines, which can really speed things up. If you hold shift while you drag, it will restrict your movement to horizontal or vertical.



Shift-click to create straight line segments.

Unlike other features in Photoshop, the Highlighter tool does not have an Undo capacity. If you mess up in an area, you'll grab the Eraser tool to remove the excess highlighting. If you're a keyboard shortcut junkie, just hold the opt/alt key while you paint and the Highlighter will erase rather than paint. The same thing works with the Eraser: Holding opt/alt turns it into a highlighter for as long as you hold down the key.

If you're working on a large image, you might need to zoom in to better see what you're doing. The most obvious way to do this is

to use the Zoom tool to click on your image, or opt/alt click with it to zoom out. This method means I have to look away from my image, so I'd rather use keyboard shortcuts. You can access the Zoom tool by holding the cmd/ctrl key and the spacebar at the same time. You could also hold down cmd/ctrl and type plus (+) or minus (-) to zoom in or out.

Occasionally, these commands don't work. If that happens, hold down the spacebar, click anywhere on your image, then try the command again—I bet they'll work. If you use the Zoom tool, you'll find it much faster to click-and-drag to indicate the area where you'd like to zoom in, instead of clicking multiple times.

When you've zoomed in, you can use the Hand tool to scroll around in the image, or hold down the spacebar to temporarily access that tool. Finally, if you'd like to zoom back out on the image, double-click the Zoom tool (not on your image, but on the tool itself) to return to a 100% view.

Fill the "Keepers"

You're going to end up using the Paintbucket tool to fill the area you want to keep. When you do, Photoshop will ignore your image and instead concentrate on the highlighting you created. The paint will spread out until it hits the highlighting or the edge of the document. It's important to highlight all around the image or the fill will flow into areas you wish to keep.

When the highlighting is done, grab the Paintbucket tool and click on the area of your image that you'd like to keep. If you click in the wrong place (an area you really wanted to delete), just click in the area a second time; Photoshop will remove the fill from that spot. You

might need to fill multiple areas if the first click didn't cover all of the areas you intended to keep.



Click with the Paintbucket tool to fill the areas you'd like to keep.

Preview the Extraction

Once you have completed the highlight and the fill, Photoshop has the information it needs to extract the image. You'll notice that the OK button is grayed-out (unavailable). Photoshop assumes that you'll fine-tune the highlighting, so you'll have to click the Preview button before you can click OK.

Photoshop will preview the areas that will be removed by replacing them with a checkerboard pattern.



The checkerboard represents an area that will be deleted.

At this stage, it's hard to see problem areas when you're looking at the checkerboard. To get around this, choose a contrasting color from the Show pop-up menu (lower right in the dialog box). Custom will present a standard color picker, which will make it much easier to see problem areas.



A contrasting color makes it much easier to see problems around the edge.

To touch-up problem areas, zoom into the spot, then turn on the Highlight checkbox to see where you placed the highlighting. Remember that the highlight should cover *all* the areas that contain a combination of background and subject. If you notice a spot where you messed up, use the Eraser or Highlighter tool to fix that area.



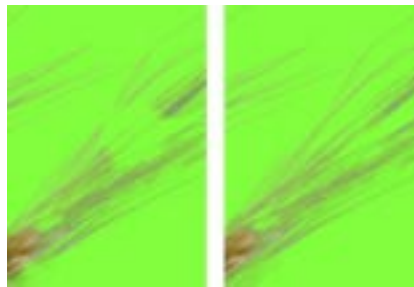
Turn on the Show Highlight checkbox to check for improper highlighting.

To bring up a new preview, you'll need to use the Paintbucket tool again to make the Preview available again—whenever you use the Highlight or Eraser the fill disappears. The Show pop-up menu will allow you to switch between viewing the extracted and original image which can help you figure out if you've correctly highlighted an area.

There's a remedy if you've been a bit sloppy with your highlighting. Maybe you've covered the whole shebang in a subject and background area instead of merely the transition

portion. You can go back and erase the highlight from the areas that really should be removed, where it really isn't a fade out. That can be difficult when your image is covered with highlighting. You can turn off the Highlight checkbox and use the Eraser, but the second you click the mouse, the highlight will show up again.

If you get into a situation where your highlighting is right on but the transition between the subject and the deleted area just doesn't look right, try increasing the Smooth setting and re-preview the image. Smooth usually increases the amount of fade-out and therefore gives a softer edge.



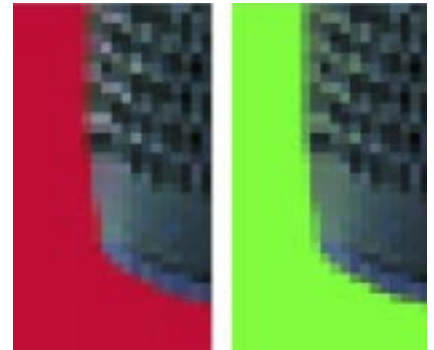
Left: Smooth=0, Right: Smooth=100.

When you're playing with the highlight and fill, you might be tempted to click OK to see how the image would look with the rest of the layers in your image—don't do it! If you click OK and then try to return to the Extract dialog box, you'll have to start over from scratch because the feature will not remember where your highlighting was. This would be a huge pain, so make sure the edge of the object looks just right before clicking the OK.

Extract

After you click OK, why does Photoshop delete the background instead of giving you a selection? Because there's more going on than background removal. Photoshop is also trying to perform edge spill

cleanup where the colors used in the background contaminated the colors of the subject. There might be shifts in the colors that show up in the fade-out areas to make sure no hint of the old background shows up.



Right: The original background color spills into the edge. Left: The spill has been replaced by the new background.

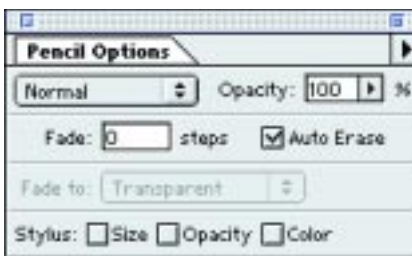
If you don't want the colors in your image to change, then duplicate the layer before using the Extract command. This way you can move the duplicate above the extracted version and then choose Group with Previous from the Layer menu to avoid color changes. The duplicate will show up only where there is information on the layer below, which results in replacing the colors underneath.



Left: The color changes can help the image blend with a new background. Right: Without the edge cleanup, you might see hints of the old background color.

If you'd rather get a selection, duplicate the layer before using the Extract command. Once you've removed the background, then cmd/ctrl-click on the extracted

If you want to remove some of the highlight, switch to the Eraser tool or try this interesting feature: Double-click on the Pencil tool to access its Options palette. Turn on the Auto Erase checkbox. Now you'll either delete or paint, depending on where you press the mouse button. Press it while you're on top of an area that doesn't contain highlighting and you'll highlight until you release the mouse button. Click on an area that already contains highlighting and Auto Erase should delete until you release the mouse button. Pretty cool, huh?



Turn on the Auto Erase checkbox to allow the Pencil tool to both paint and erase.

If you end up creating a "rim" that needs to be filled, you'll be tempted to just paint back and forth until it fills in. But there's a faster way. If you've created a closed shape you want to fill, why not use the Paintbucket tool? Just make sure your foreground color is black and it will ignore the image and spread out until it butts up against your highlighting.



Use the Paintbucket tool to fill enclosed areas of the highlighting.

Let's try a slightly different way of creating a highlight. Type "Q" to turn off QuickMask mode, then Select>Deselect to get rid of the selection you made (that's what

QuickMask really does). This time, grab the Lasso tool and make a crude selection just outside the edge of the object, in the spot where you'd want the highlighting to stop.

Now type "Q" to turn on QuickMask, then make a second selection just within the object to represent where the highlighting should start. Hit delete and see if it fills with color. If not, option/alt-delete instead. Now you should see the exact opposite of where you wanted the highlighting to be, so choose Image>Adjust>Invert, or type cmd/ctrl-I. That should put the highlighting in the correct spot.



With QuickMask Mode, you can create your highlighting using the Lasso tool.

Now that the highlighting is where you want it, let's load that information into the Extract dialog box. First, turn off QuickMask by typing "Q," then choose Select>Save Selection and give the highlighted image a memorable name.

Now choose Image>Extract and click on the Load Highlight pop-up menu. You should see the name you just typed. Choose that name and you should see the highlighting appear on top of the image. Now you can use the Paintbucket tool to fill the area you want to keep, and press the Preview button.

If the Paintbucket tool is not available, that's because you have the Force Foreground checkbox turned on. You can use either the Eyedropper (Force Foreground) or the Paintbucket, but not both.

Don't be afraid to experiment with this QuickMask idea. Try typing some text while QuickMask is turned on and then delete away some of the center to make room for the Fill tool to give the type a cool distressed look. See what happens if you use different Smooth settings on various parts of the image by starting with a selection to limit where the Extract command can delete from your image.

Before we conclude our tour of the Extract command, let me share some keyboard shortcuts that can speed things up:

- B=Switch to Brush tool
- K=Switch to Paintbucket tool
- E=Switch to Eraser tool
- I=Switch to Eyedropper tool
- Z=Switch to Zoom tool
- H=Switch to Hand tool
- Option/alt-Cancel=Reset dialog

Ben Willmore is author of the best-selling *Official Adobe Photoshop 5 Studio Techniques* (Adobe Press) and founder of Digital Mastery, a training and consulting group based in Boulder, Colorado. Find out if Ben is coming to your area with his "Master Photoshop In 3 Days" seminar by visiting www.digitalmastery.com.