

# STEVE CAPLIN'S **A** TO **Z** OF DESIGN

## E: Extracting images

Steve Caplin walks us alphabetically through the concepts essential to success for any jobbing or aspiring designer.



### ABOUT THE AUTHOR

**Steve Caplin** is a designer and illustrator working for a range of national newspapers. His best-selling *How to Cheat in Photoshop*, now in its fourth edition, is published by Focal Press.  
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**Most Photoshop montage work involves** extracting images from their backgrounds. If an object has been specially photographed against a white background, this is an easy task, the most basic selection tool, the Magic Wand, will be capable of selecting most of the white in the image with a single click. If there are non-contiguous areas of white – with a closed loop inside the object, for instance – then it's necessary to hold down the shift key as you click in those regions to add them to the overall selection.

Once you've selected all the white areas, inverse the selection using command-shift-I so that just the object itself is selected. You can then copy it to a new layer using command-J.

The luxury of having a white background to work with isn't always available, however. If an object has been photographed outside a studio setting, the chances are that the background will be more complex and so more difficult to select. Multiple Magic Wand selections may still be able to isolate the image, but if any of the background colours are similar to those within the object, it will be a tricky task.

One solution is to select the object manually using the Lasso tool. You need a steady hand in order to follow the outline accurately. It can help to hold down the alt key as you drag, which will both enable you to trace straight lines between clicked points and to release the mouse button without the selection automatically closing off. If you make a small mistake, there's no need to start again: once you've made the selection, make an additional selection while holding down the shift key to add to the previous selection; hold down alt to subtract from it. Note that these keys must be pressed before beginning to trace with the tool.

Better still is the Pen tool, which is capable of drawing smooth curves as well as straight lines. Because the curves can be edited after they've been drawn, you can adjust the pen path until it fits your object perfectly. A further bonus is that any paths you draw can be saved within the file, so that next time you open it, you only need to turn the path into a selection with a single click in order to retrieve the cutout. The downside, however, is that the Pen tool is notoriously difficult to master.



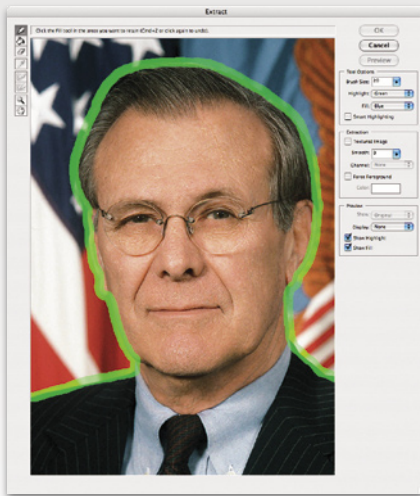
**▲ 01 MAKE NEW LAYER** Even though it's been photographed against a plain white background, this is a tricky cutout – so much fiddly hair and flowers. We begin by creating a new layer, filled with a contrasting colour, behind this one, so we can see what we're doing.



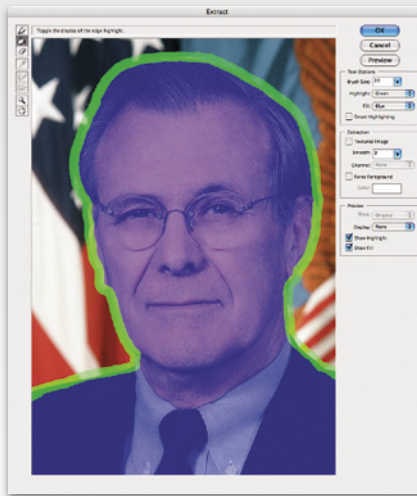
**▲ 02 ISOLATE THE HAIR** With the Background Eraser tool, sample the hair colour and click on the background, dragging around the head until all the white is removed. Notice how the fine strands of hair are retained.



**▲ 03 SAMPLE THE SHIRT** Because the shirt is a similar colour to the background, we need to sample it to make sure it isn't accidentally erased. We can now continue to remove the remainder of the background by painting it out with the tool.



▲ **01 TRICKY BACKGROUND** In the Extract filter, we begin with a brushstroke that covers the edge of Donald Rumsfeld.



▲ **02 FILL THE PORTION TO BE KEPT** We click once with the Fill tool within the outlined area to mark that as the part of the image we wish to keep.



▲ **03 PREVIEW** We can see the result by pressing the Preview button. There's a lot of unwanted transparency and scratchiness around the figure.

Photoshop artists frequently have a hard time extracting people from backgrounds – not because of their bodies, but because of their hair. Even when photographed in a studio, just how do you remove the background from a full, flowing head of hair? The reality is that this is actually a simple task using Photoshop's Background Eraser tool. This uses a tolerance setting similar to that found in the Magic Wand; the higher the tolerance, the more similar colours will be removed. For hair, choose a tolerance of between 30 and 60, depending on the complexity of the background.

You can set the tool to protect the foreground colour, so check this box and hold down the alt key to sample a typical colour for the hair. Set the tool to Sample Once (otherwise you'll run the risk of sampling the hair colour by accident), and then click and begin to drag outside the image. As you move the tool over the hair, all the background colour within the hair will be removed, leaving just the hair visible. Because it's difficult to see the result clearly

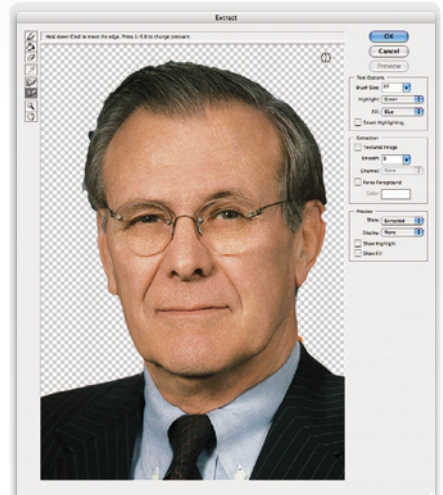
over the standard checkerboard background that indicates transparency, it's easier if you make a new layer behind the hair layer, filled with a contrasting colour – that way, you can see exactly what's been erased. This technique also works with fiddly objects such as trees, fences and so on.

The Magic Eraser tool is similar to the Background Eraser, except that you click once in the image with this tool and all pixels of a similar colour are instantly deleted. Use this one with caution, as you may well find that highlights such as the whites of eyes and teeth are inadvertently deleted in this way. One useful remedy for this situation is to set a point in the History palette before beginning any erasing. That way, you'll always be able to use the History Brush to revert missing pieces of the image later.

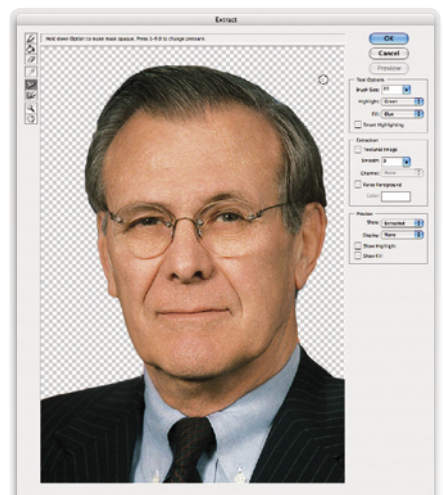
The two Eraser variants work well when the background is of a reasonably uniform colour, such as extracting trees from a blue or cloudy sky. When there's more complexity in both the foreground and background, use the Extract filter instead. It's a little fiddly to use, but does a good job of removing difficult backgrounds.

Choose the Extract filter from the Filter menu, or press command-alt-E to enter its interface window. Begin by using the Edge Highlighter tool to trace around the outline of the object you want to extract, making sure the brush covers the edge of the object. Then use the Fill tool to select the interior of the object. Press the Preview button to see the result.

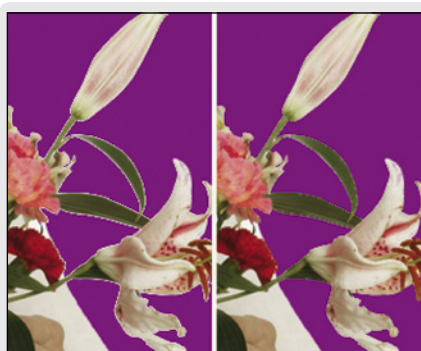
Unless you're very lucky, the result you get won't be perfect the first time. Dragging the Edge Touchup tool over the edges will smooth them, repairing a lot of the image. Finally, use the Cleanup tool to paint any extraneous elements in or out of the image. ☒



▲ **04 EDGE TOUCHUP** The Edge Touchup tool, dragged around the perimeter of the head and shoulders, does a good job of smoothing the outline, but there are still places where some background has crept in, and there's a bite taken out of Rumsfeld's ear.



▲ **05 CLEANUP TOOL** The Cleanup tool, set to maximum pressure, provides a simple way to paint out the unwanted areas. By holding down the alt key as we paint, we can also restore that missing chunk of ear.



▲ **04 DEFRINGE** We needed a low tolerance setting because the shirt is so close to the background, but this has left a fringe around the edge of the plants (left). To remove this, choose Layer > Matting > Defringe, with a value of just one pixel (right).