The art of teaching computers to see

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Select Edges

Select Edges is a free selection plug-in from Reindeer Graphics, Inc., the makers of Optipix, FoveaPro, and the Image Processing Tool Kit.
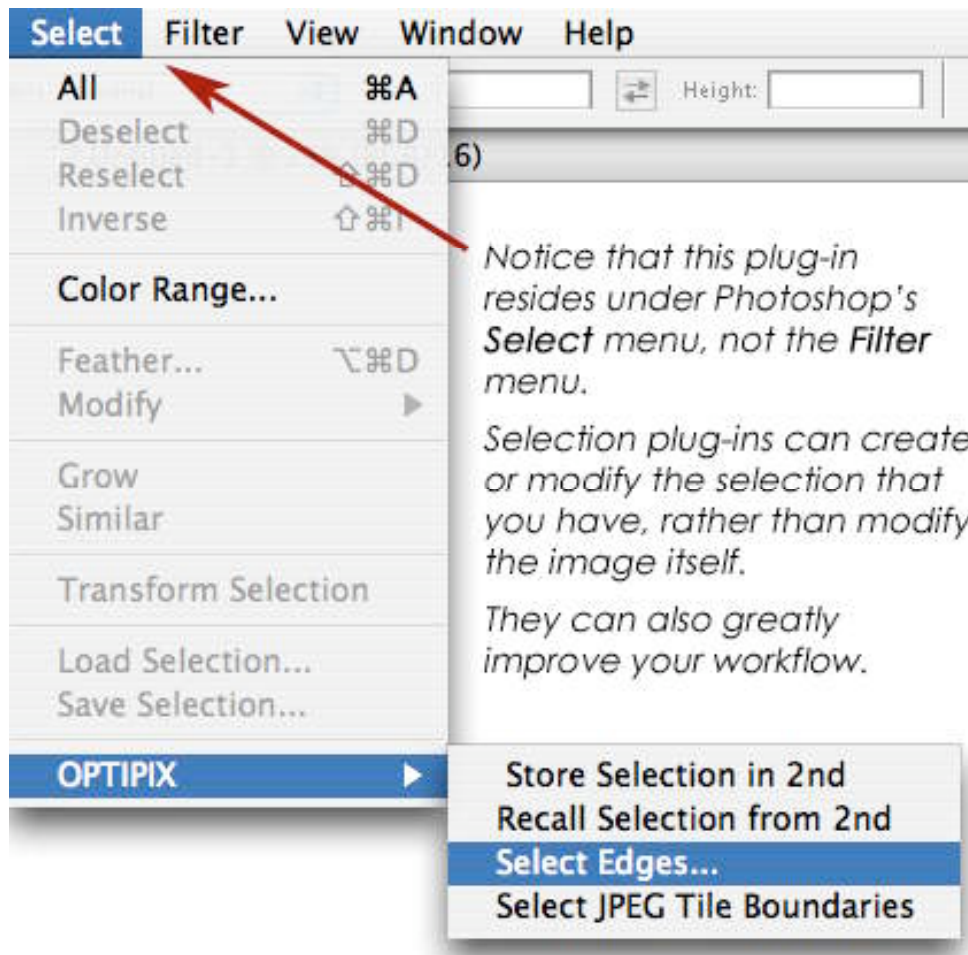
Installing

Place the Select Edges file into your Photoshop **plug-ins** folder.

On the Mac, this will be inside your Photoshop folder (typically inside of your Applications Folder).

On the PC, this will be typically inside of
c:\Program Files\Adobe\Photoshop CS

Select Edges will work with Photoshop 5.x and later (this includes CS) on the Mac (OS 9.2, X 10.1+) and the PC (Win 9x/NT/2K/XP). In some cases, you may need administrator privileges to keep your default settings.
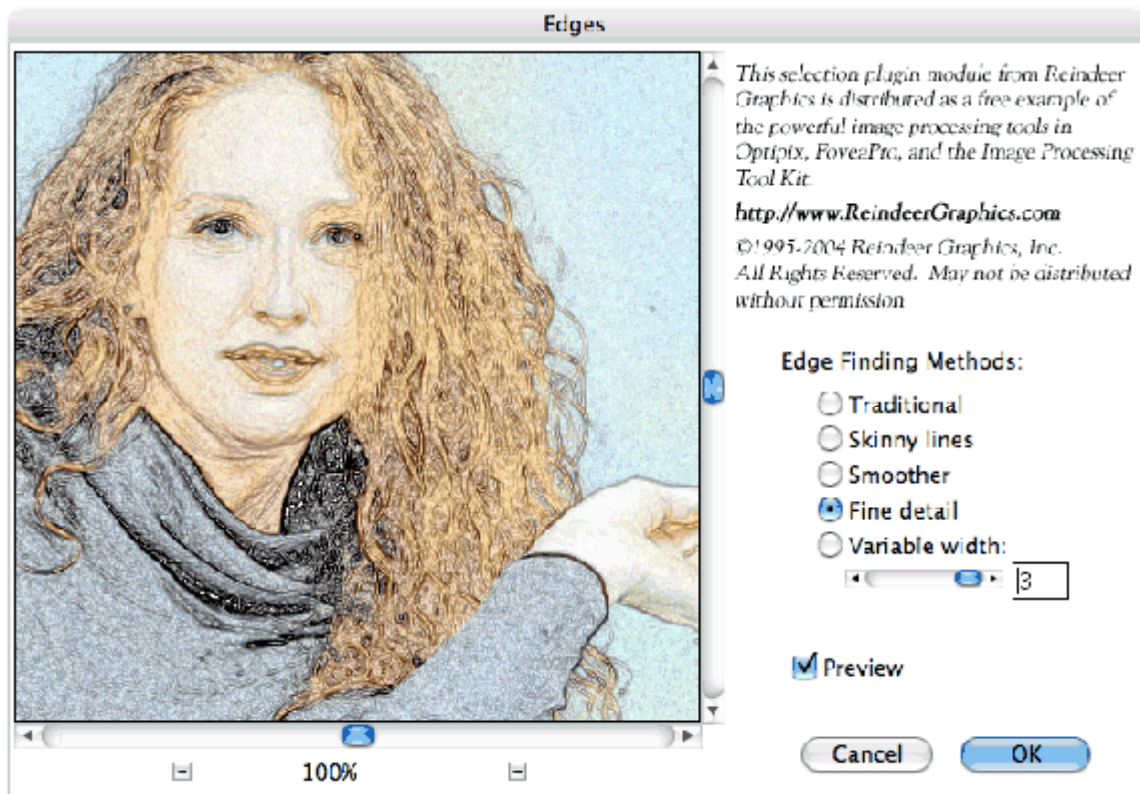
Using the Select Edges Plug-in

Notice that this plug-in resides under Photoshop's **Select** menu, not the **Filter** menu.

Selection plug-ins can create or modify the selection that you have, rather than modify the image itself.

They can also greatly improve your workflow.

The **Select Edges** plug-in will work with Grayscale, RGB, LAB, and CMYK images in both 8 and 16 bit-per-channel modes.

You invoke the plug-in from Select->OPTIPIX->Select Edges… on the menu bar. It can be recorded in an action if you like.

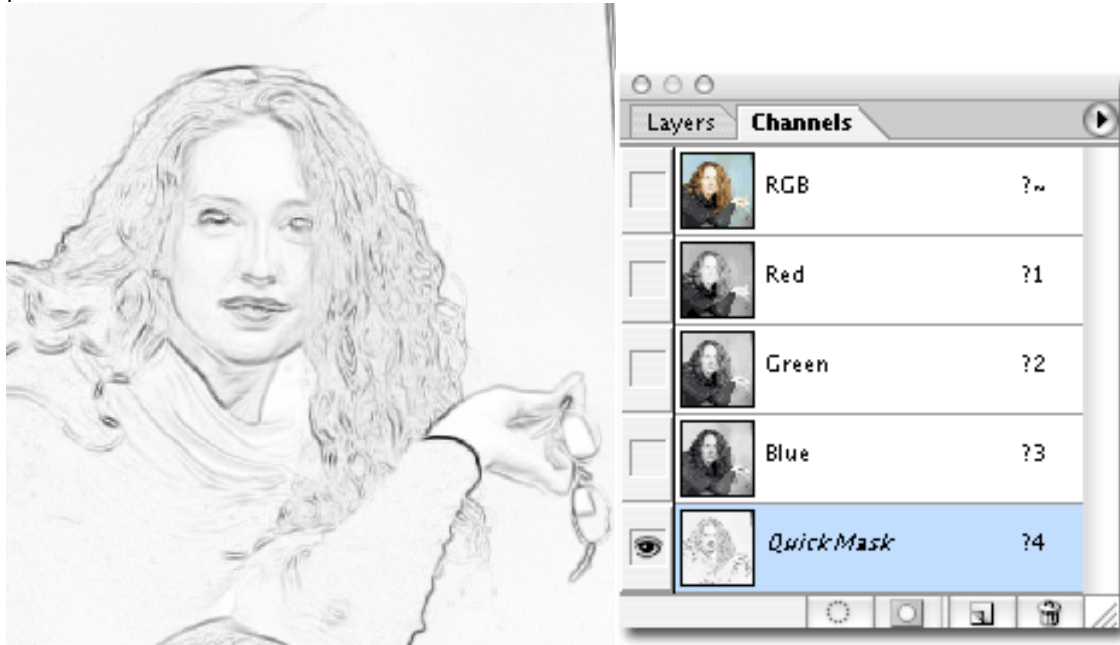When you run it, you will see something like this:

Notice that there are 5 different methods for selecting lines. **Traditional** is very similar to the **Find Edges** in Photoshop and is based upon the Sobel function. The others will locate edges in a variety of different ways.

About Selections in General

Now, you have a selection. The "marching ants" may not trace everything quite the way you would expect them to. If you enable QuickMask (type the letter Q to turn it on and off) the image will tint pink for areas insided the selection. This *tint* or selection channel is really an 8-bit image of its own. Pixels that are 100% selected would have a value of 255, and pixels that are 0% selected would have a value of 0. The

"marching ants" are actually drawn around portions that are selected at level 128 (50%) and above. This means that things can be partially selected without having an apparent selection around them.

One way to visualize this in QuickMask mode is to look at the Channels palette:

Here you can see that the selection is really a grayscale image and not strictly on or off.

Much of this subtlety is lost when using the Find Edges function in Photoshop.
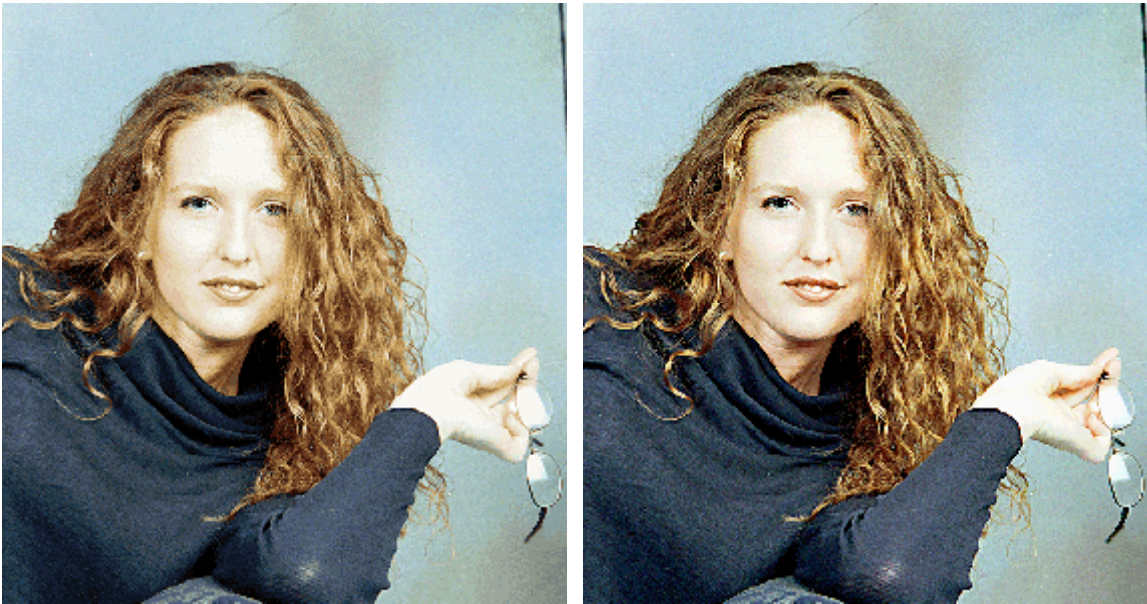

It's called "Selective Processing"

There are two things that people typically do with edge selections:

1) **Sharpen** the edge areas
2) **Blur** the non-edge areas

For Sharpening, run *Select->OPTIPIX->Select Edges…* and pick an appropriate setting. Then run *Filter->Sharpen->Unsharp Mask...* (Good settings for the two are Select Edges: Variable Width=3 and USM: 100%, Radius=3, Threshold=0. Your experience may vary.)

For Blurring, run *Select->OPTIPIX->Select Edges…* and pick an appropriate setting. Now, it is important to run *Select->Inverse*. Finally, run *Filter->Blur->Gaussian Blur…* and either lightly or heavily make the non-edge areas smoother by experimenting with different radius settings. If the blur is too strong, you can always run *Edit->Fade Gaussian Blur…* and reduce the effect.

Before and After

This example uses the Fine Detail setting from Select Edges, and an Unsharp Mask with 100%, Radius=3. It shows a marked increase in the detail in her hair without a lot of nasty halos. *Note, this image has been heavily compressed.*

The Select Edges plug-in is designed to provide more choices and yet make selective processing much easier to perform and understand.