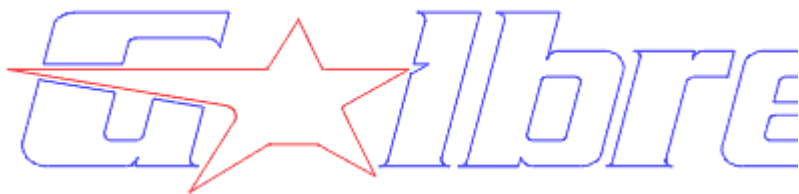


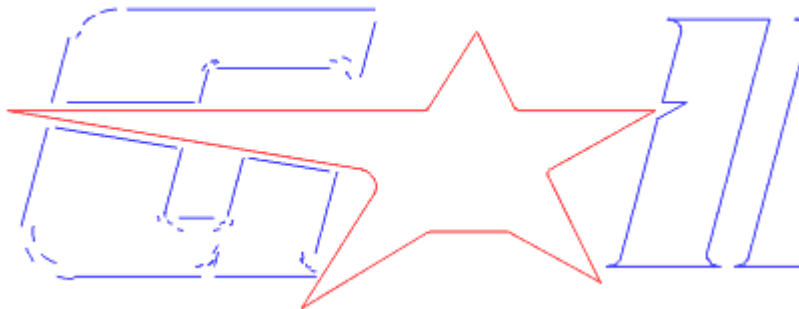
## Tracing a Logo with Bezier Curves

Software Used: CorelDRAW 9 (should work in later versions too.)

This tutorial is inspired by a post in the [graphics software forum](#). The logo was created in AutoCAD and then exported to WMF format. The member wanted to fill the logo with solid colors and save it as a WMF in order to retain the sharp edges and small file size inherent in vector images. Several suggestions from forum members proved unsuccessful, so I asked the member to send me the file so that I could take a look.



At first glance it looks like there should be no problem, but on closer inspection it became clear what the problem was. The exported file consisted of many disconnected line segments. You can see this in the image below where I've pulled apart the various segments.



At this point, I thought it would be a simple matter of connecting the individual line segments and converting them to closed object that could be filled, but in fact it was not that simple. After quite some time trying to do this I realized that what I thought were lines were actually curves and, therefore, could not be connected and converted to a closed object.

Now I was beginning to think it would be simpler to redraw the entire logo from scratch using the bezier curve tool, and that's what I set out to do. I've seen this subject come up from time to time in various discussion groups, and I thought it would make a useful tutorial. Most people don't believe me when I tell them they would be better off hand tracing a logo instead of trying to use a tracing program, and I hope this lesson proves to you just how easy it can be.

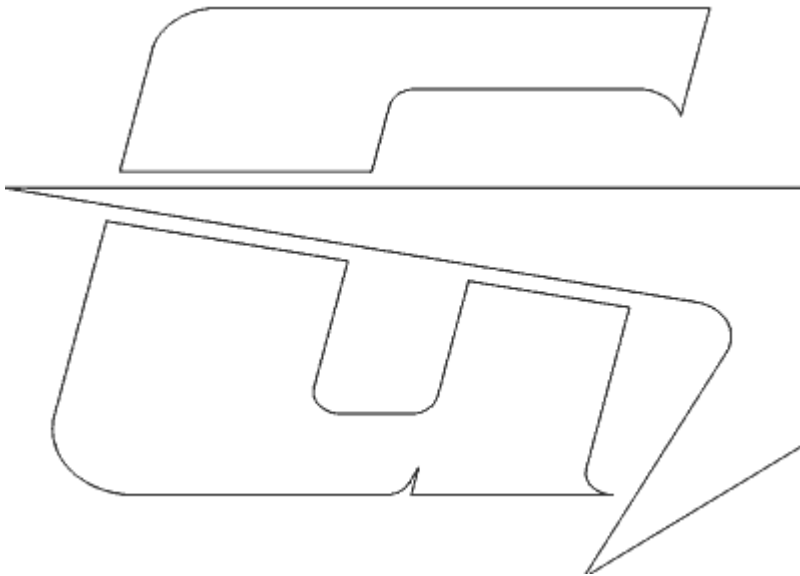
1.) To prepare for recreating the logo, I changed all the outlines to black so they would be easier to see. Next I inserted a new layer and locked the bottom layer so I wouldn't inadvertently select the logo.

2.) Next I went through my font collection to see if I had anything that would be a close match. Indeed, I did have a close match, but it wasn't quite exact so I decided it would be faster to draw the shapes from scratch than trying to manipulate the font to get an exact match.

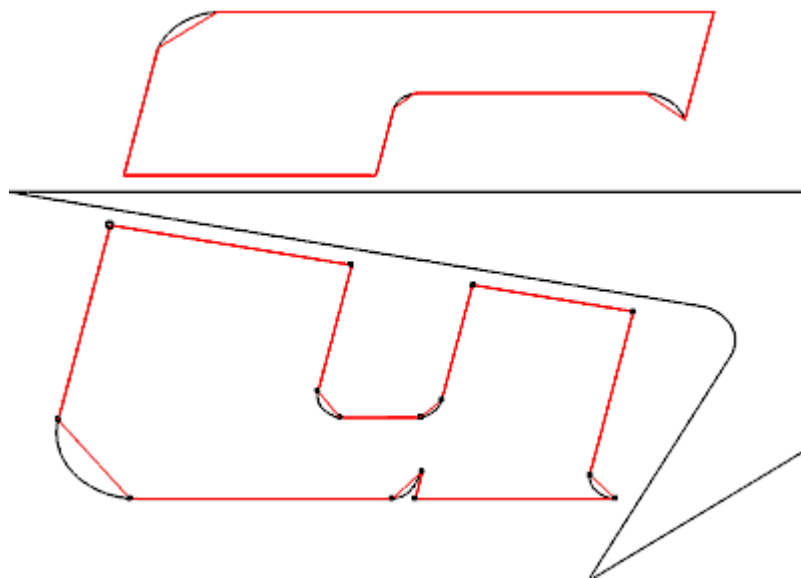




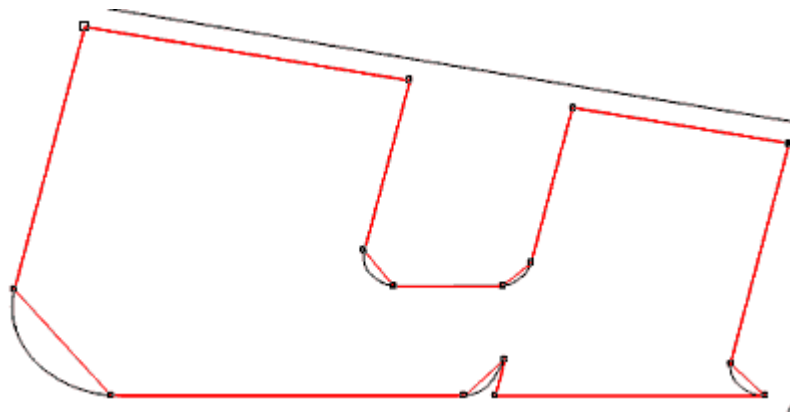
3.) I started by zooming in as close as I could get, selected the Bezier curve tool, and set the line color to red (clicking with the right mouse button on the red color swatch sets the default line color for new objects).




4.) I enabled *snap to objects* on the view menu, and proceeded to place points all the way around the shapes.



You'll notice that I only placed points at the beginning and ending points of a curve. I'll be going back to the curved segments later and node-editing them to create the curved segments. Here you can see the results of tracing the letter G in the logo.



5.) The next step is to zoom in on each curve and edit the nodes to create the curve. Using the shape tool, I'm able to select the two nodes at either end of the curve. On the property bar, I select the button to convert line to curve. 

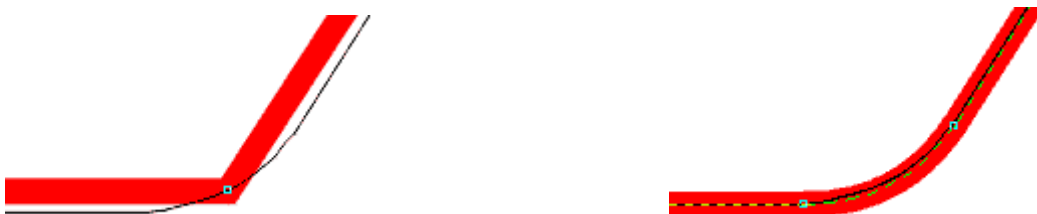


6.) Now when I select a node, you'll notice it has control handles. These handles control the curve of the line. I can manipulate the handles until it closely matches the line of my original image below.



At this stage it's helpful to go to the object manager and drag the original image above the new image to see how close the two match. You can also manipulate the curved section by clicking and dragging it with the shape tool instead of using the control handles. This is often easier, especially with snap to object enabled. Then the control handles can be used to fine tune the shape.

This process is repeated for each curved section of the traced shapes. In a few areas it was necessary to add nodes and nudge nodes around once I was zoomed in close. In the area shown below, you can see where the line appeared to be a straight intersection when I was zoomed out, but when zoomed in it was apparent that this was a curved intersection.




Using this method the entire tracing process took about 30 minutes.

7.) The original logo has a registered ® symbol. To recreate this, I simply used the Windows character map to copy the registered symbol in Arial font, pasted it into DRAW, sized it, and converted it to curves.

8.) Now that I've got all the shapes traced, I can go ahead and hide my original layer that I was using as a tracing template by clicking the eye icon in the object manager.

9.) Now all that's left is to solid fill the shapes. But first, we have to fine tune a few of the letters. The b, e, and a all have center portions that need to be cut out. To do this I select the outer portion of each letter and fill it with a solid color. (For now I used a color other than red so I could still see my outlines. Yellow worked well.)

Then I selected both the outside and the inside outline, and use the trim button  to punch out the center.

The center sections become a separate object and can be deleted.

10.) Finally, I select all the letters and change the fill to blue and remove the outline, then select the star, fill it red, and remove the outline.



The finished logo! When exported from CorelDRAW to WMF format the file was a mere 9KB in size. And it's a vector format so it can be enlarged or reduced to any degree with no loss in quality.