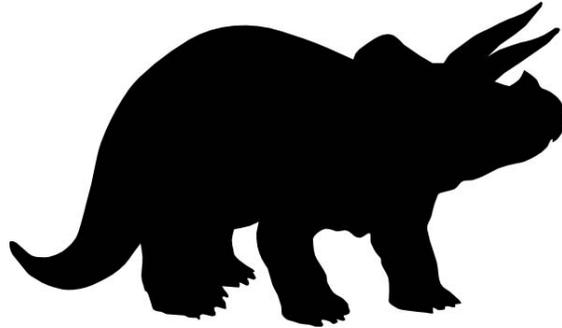


Importing Images

Dave Touretzky



1. Converting an Image to DXF

Because laser cutters cut lines (vectors), you often need to convert raster-based (bit -mapped) images (jpeg, gif, tiff, ..) to lines. One way to accomplish this is to trace the outline of the image. Inkscape has a function to do this. In fact, every vector-based drawing program includes functions to convert raster-based images to vectors.

1. Download and save the jpeg [stegosaurus image](#). Put it somewhere where you can find it again.
2. Run Inkscape.
3. **Import** the JPEG file into your Inkscape document.
4. With the image selected, enter **Path**→ **Trace Bitmap**. The shortcut for this is **Shift-Alt-B**
5. Set the number of **Scans**: to 1 and click on **Brightness Cutoff**. Press **Update** to see the result.
6. Click OK and delete the Trace Bitmap window.
7. Click and drag on the image to move it out of the way, then delete it. This leaves just the vector graphic.
8. Save the outline as a DXF file.

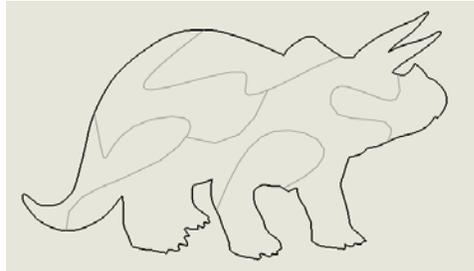
2. Importing a DXF into SolidWorks

1. Start SolidWorks and open the DXF file.
2. Select "2D" import.
3. Turn the sketch into an Extruded Base with depth of 1/8 inch.

This process can go either way. Sometimes, you may have a completed part and just want to etch an image on it. You can export your SolidWorks part into Inkscape (via DXF), import the image into the DXF file and cut the combined DXF file. Other times, you may want to make the image part of the SolidWorks part definition. In that case, you would import the DXF file into SolidWorks as above and use the **Extruded Cut** command.

3. Making Puzzle Pieces

1. Start a new sketch on the surface of the part.
2. Use the **Spline** tool to draw lines to cut up the image into pieces.
3. Make sure your cut lines define shapes that are both concave and convex.
4. Exit the sketch.
5. Make a drawing from the sketch; the cut lines will appear as gray lines in the drawing.
6. Save as a DXF file.
7. Color the DXF: outline blue, cut lines red.



4. Engraving the Pepsi Logo



1. Run Inkscape.
2. Import the Pepsi logo.
3. With the logo selected, select **Path -> Trace Bitmap (sh-alt-B)**.
4. Set the number of **Scans:** to 1 and click on **Brightness Cutoff**. Press **Update** to see the result.
5. Don't press OK because it's not OK. Why is the light blue element is missing?
6. Raise the threshold of the **Brightness Cutoff** to 0.700 and press **Update** again to get the light blue element.
7. Click OK and delete the Trace Bitmap window.
8. Click and drag on the graphic to move the traced vector off of the bitmap and into its own space.
9. Select **Path**→ **Break Apart** to Separate the contours.
10. Color different contours by selecting a contour and Objects → Fill and Stroke, then clear the Fill color and use shift-click to set the stroke color.
11. Save as a DXF file.