How to warp images

Puppet Warp provides a visual mesh that lets you drastically distort specific image areas, while leaving other areas intact. Applications range from subtle image retouching (such as shaping hair) to total transformations (such as repositioning arms or legs).

In addition to image, shape, and text layers, you can apply Puppet Warp to layer and vector masks. When a layer or vector mask is selected, the following are available in the Puppet Warp options bar (**Figure 1**):

- *Mode* Determines the overall elasticity of the mesh. Choose Distort for a highly elastic mesh good for warping wide-angle images or texture maps.
- *Density* Determines the spacing of mesh points. More Points increases precision but requires more processing time; Fewer Points does the opposite.
- *Expansion* Expands or contracts the outer edge of the mesh.
- *Show Mesh* Deselect to show only adjustment pins, providing a clearer preview of your transformatiokns.
- *Pin Depth* Click plus or minus buttons to reveal a mesh area you've overlapped with another.
- *Rotate* The degree of rotation appears in the options bar. To rotate the mesh automatically based on the selected Mode option, choose Auto from the Rotate menu in the options bar.

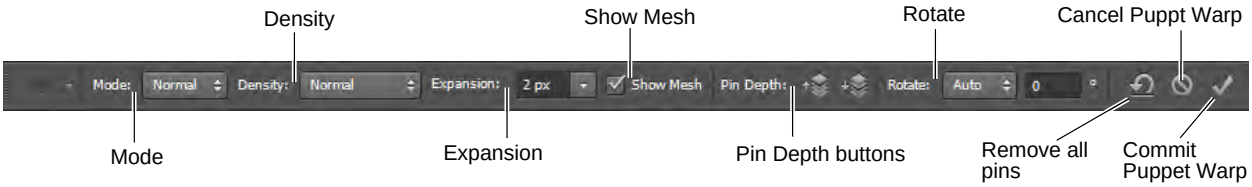

Figure 1 Puppet Warp options bar

To use Puppet Warp:

1. Start Photoshop and open an image that is suitable to be manipulated by using Puppet Warp.

   Note: It may be helpful to create a new layer and isolate the object you want to warp onto its own layer.

2. In the Layers panel, select the layer or mask you want to transform.

   If you want to edit a Background layer, click the lock icon that appears to the right of the layer name to unlock it.

3. Choose Edit > Puppet Warp.

   The figure is covered in a visual mesh (**Figure 2**).

4. In the options bar, adjust the mesh settings for Mode, Density, Expansion, and Show Mesh (**Figure 1**).

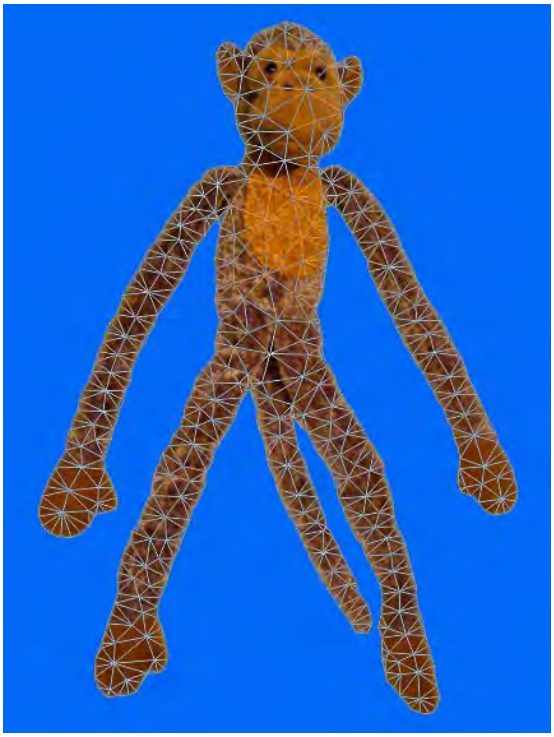

Figure 2 Figure with visual mesh

5. In the image window, click to add pins to areas you want to anchor in place and areas you want to transform (**Figure 3**).

   A black dot inside the yellow circle indicates a pin is selected and can be dragged. A yellow circle shows the pin is unselected and will not move when dragged.

6. To reposition or remove one or more pins, do any of the following:

   - Drag a pin to warp the mesh.
   - If mesh areas become overlapped during the transformation process, click the Pin Depth buttons in the options bar to change the order of overlapped mesh areas (**Figure 4**).
   - To remove selected pins, press Delete. To remove an individual pin, place the cursor directly over the pin and press Alt (Windows) or Option (Mac OS); when the scissors icon appears, click.
   - Click the Remove All Pins button in the options bar.

   Note: To select multiple pins, Shift-click them or choose Select All from the context menu. To move multiple selected pins, Shift-drag.

7. To rotate the mesh around a pin, select the pin so that a black dot appears inside the yellow circle.

8. Press Alt (Windows) or Option (Mac OS), and position the cursor near to, but not over the pins. When a circle appears, drag to visually rotate the mesh (**Figure 5**).

   Note: The degree of rotation appears in the options bar.

9. When your have added enough pins and feel the transformation is complete (**Figure 6**), click the Commit button in the options bar or press the Enter (Windows) or Return (Mac OS) key.

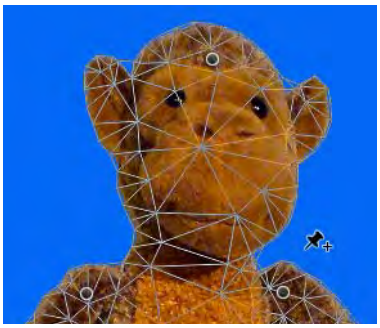

Figure 3 Click to add pins

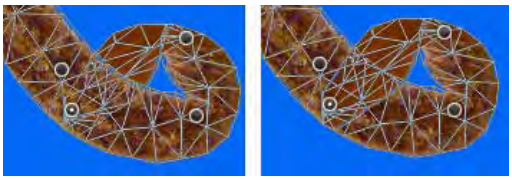

Figure 4 Reveal overlapped mesh areas

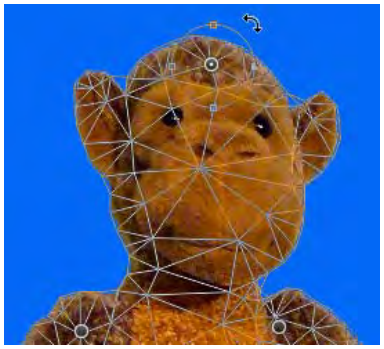

Figure 5 Drag the circle to rotate mesh around pin

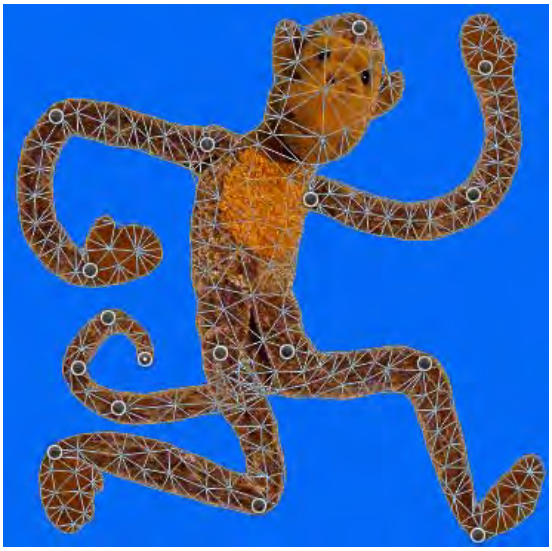

Figure 6 Puppet Warp with pins in place

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