



Software used: Unfold3d Magic, 3DSMax
Codecs used: Video - XviD; Audio - Lame MP3
Length: 04:56

Low Poly Character Tutorial, General Delilah: Part 7, Gun UVs

Unfold3d Magic is my UV tool of choice for complicated meshes. I find it's relax to behave exactly how I want. <http://www.unfold3d.com> is the address for this software. There is an online manual on this site that goes more in depth than this brief guide.

Viewport Navigation The LMB (left mouse button) pans the camera, the MMB (middle mouse button) zooms, and the RMB (right mouse button) rotates the view.

1. Load Navigate to your exported OBJ file and confirm. Loading brings in the mesh as if it were solid with no seams. You are literally starting from scratch with the UVs.


2. Load UV + Merge This option will bring in the seams from an obj. The UVs will still not be unfolded, but the cuts in the UVs will come in. This is useful if the OBJ has already been partially unwrapped and you don't want to start from scratch.

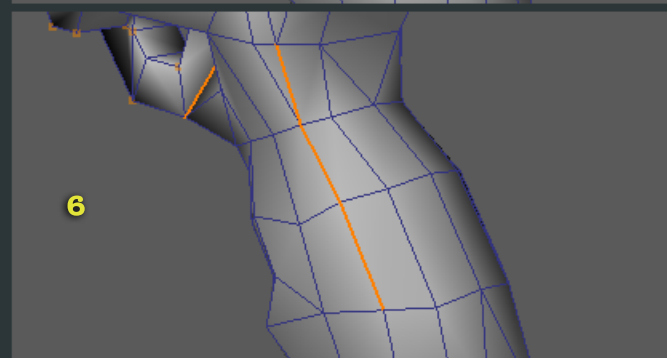
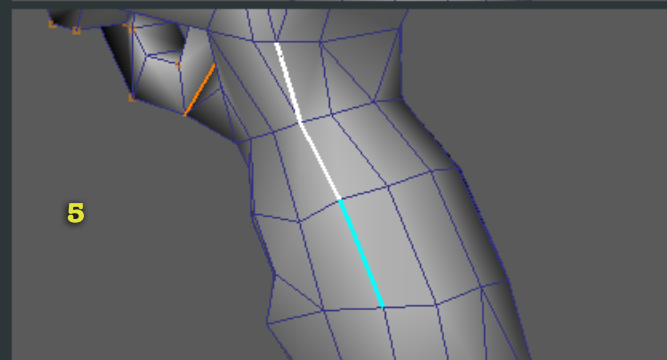
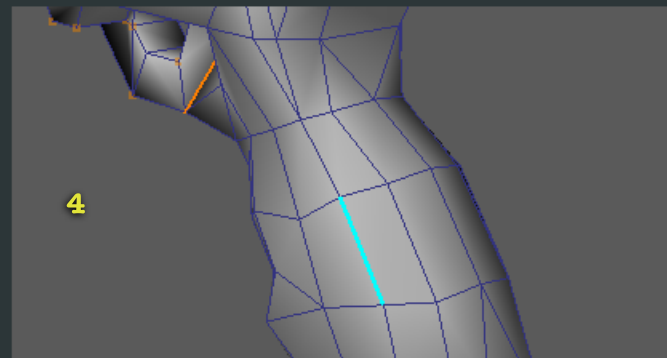
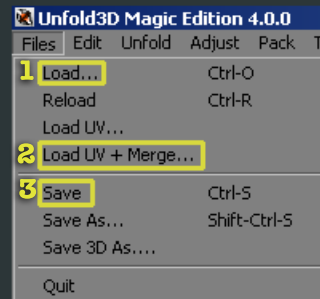
3. Save Upon completion of UV layout, click save. It will append a _unfold3d to your OBJ name, preserving your original OBJ. Import this OBJ back into your 3d package of choice.

Unfold assumes that there are no UV seams other than open edges in the model upon importing. You define where it should put seams by drawing them.

4. Shift and left click on an edge to select it. The edge will turn blue to indicate it is selected.

5. Hold down the alt key and move the mouse cursor along an edge loop. Unfold 3d will try to follow the edge loop to your mouse cursor. When the white line lies along the edges you want your seam, left mouse click to confirm. Now they will all be blue. As long as the edges are all blue, no seam has been made yet. If you want to start over, hit the space bar to clear all the blue selections.

6. To confirm the cut, hit the "x" key, or hit the cut button.  The selected blue edges will now turn orange to indicate a seam. Be wary though. In version 4, you can undo the operation, but you cannot re-weld the edges later in the process.





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The real magic happens when you go to unfold. After you have established your seam lines, you “unfold”. You can try unfolding at any point, and I do it after almost every seam cut, just to see how it has affected my unwrap.

1. The first step is the **Automatic Unfolding** button. This will attempt to relax your model using some advanced magic voodoo (faeries or something). It will attempt to lay out your model as relaxed as it can.

2. After you have unfolded the object, you want to use the **Surface Adjustment** button. This will attempt to alleviate any extra stretching by using a different algorithm. You can click it over and over till the relax is the way you want it.

Unfold 3d uses two viewports. The left viewport is your 3d view, and the right is for the flattened view. You can select and cut seams in either view, and I frequently switch based on which I find easier.

In unfold 3d, there are four ways to preview your model.

3. Smooth
4. Wireframe only (useful for edges that you can't see in smooth mode)
5. Wireframe smooth (mode I use the most)
6. Checkerboard (to check distortion)

In addition to the display modes, Unfold 3d overlays colors based on the stretching. Grey indicates areas with proper UV space. Orange indicates areas with too little space (stretching). Black areas have too much space. The goal is to have everything as grey as possible. In checkerboard mode, you can see how the squares stretch and compress based on the colors.

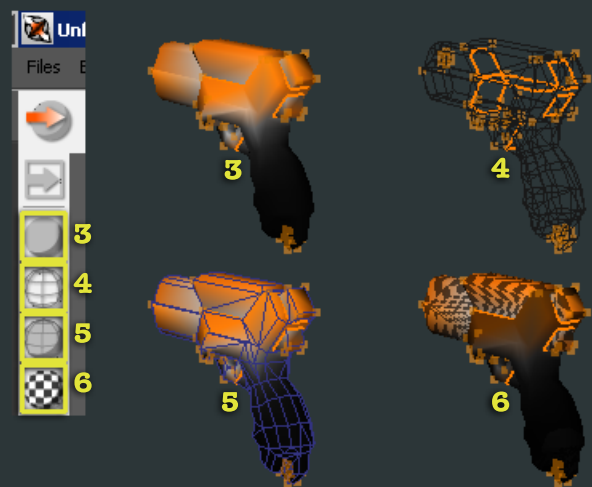
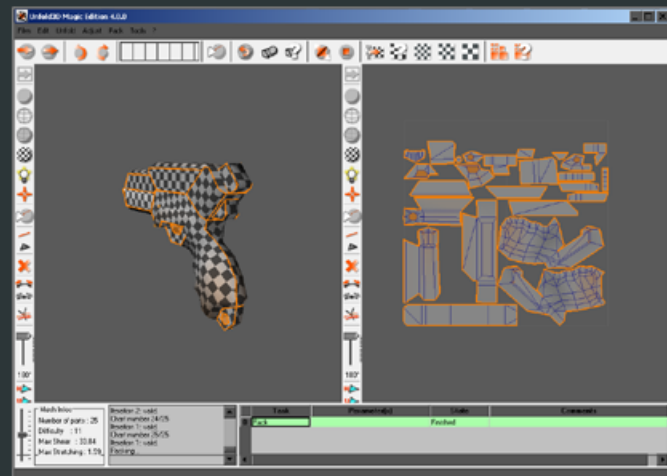
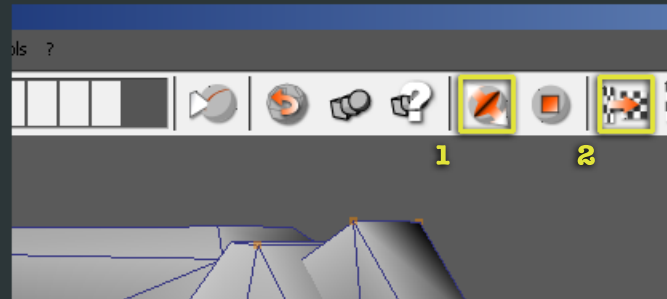
My normal workflow.

Import OBJ

Create seams, using the Automatic Unfolding button after each major seam cut.

Use Surface Adjustment button till distortion is gone

Save out OBJ





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After using Unfold 3d Magic to relax, I do my UV finalization in 3dsmax. I use Chuggnut's Unfold tools to supplement the built in Max tools. You can get his script here, <http://www.chuggnut.com/scripts/unwraptools/unwraptools.htm> Don't listen to his lies, it works with 3dsmax 5-8. He explains all the tools on his page, but I'm going to go through briefly the ones I use the most. After installed, UVtools will show up to the right of the UV editing window as shown to the right.

Align Tools I use these tools for aligning a row of verts to be averaged on a horizontal or vertical line. To use, select two or more vertices, and hit one of the buttons. It will scale them in just the horizontal or vertical axis, depending on which button, so that they are completely aligned. Pixels are in grids, so being able to make a highlight one single row in the texture is always sharper than it having to be at an angle. I always align my verts in the UVs on mechanical models.

Space Evenly Will take all selected verts and move them so that they are evenly spaced from each other. You can do this either vertically, horizontally, or both.

Transform Tools Useful for moving, scaling, and rotating UVs in precise increments.

1. Type in a U (horizontal) and V (vertical) amount, and then use Offset to move, or the Scale command. When Scaling, a value of 1 and 1 will do nothing, less than 1 scales down, more than 1 scales up.
2. Rotational tools, in 45, 90 and 180 degree increments, both clockwise and counter-clockwise.
3. Mirror horizontal and mirror vertical.
4. Nudge tools, change the Amount so something above 0, and then use the arrow keys to nudge it in that increment/direction. Useful for moving very small increments.

