A Quicky Tutorial on Mapping Armor Using Planar mapping and Select Face

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I've read through the tutorials on max which taught me everything I needed to know (thank you) but I didn't figure out how to properly use uvw mapping until recently, or more precisely how to get really clean quick maps without spending hours moving vertices. So here are some of my insights for getting a good map quickly. Several things to consider:

You can map your model several ways in uvw unwrap. you can select edit and then see how well the map came out by default (it usually is a jumbled mess) then you can click on mapping in the uvw edit window and you'll see several options: normal mapping, unfold mapping, and flatten mapping. flatten mapping is the absolute most precise because it will separate everything into a flat surface but if your model is really complex this is a nightmare. Normal mapping is good because it tries to make an approximation of the shape of it in the least amount of separated parts but these are both poor options if your model is complex and normal mapping is imprecise.

So the alternative: Use "select face" and "planar mapping". In the stack above your mesh you will see the modifier you applied Unwrap UVW. If you expand this you have the option "select face" now you can open the edit window and when you click on your model it will show you which verts in the map are that face and we can flaten groups of faces into neat clean planar maps.

Let me give you an example: let's say you're making armor. Now you're going to map it in several steps. 1. the torso 2. the thigh guards 3. the arms 4. the hands 5. the neck 6. any little ornaments like the big bulbous shoulder guards.
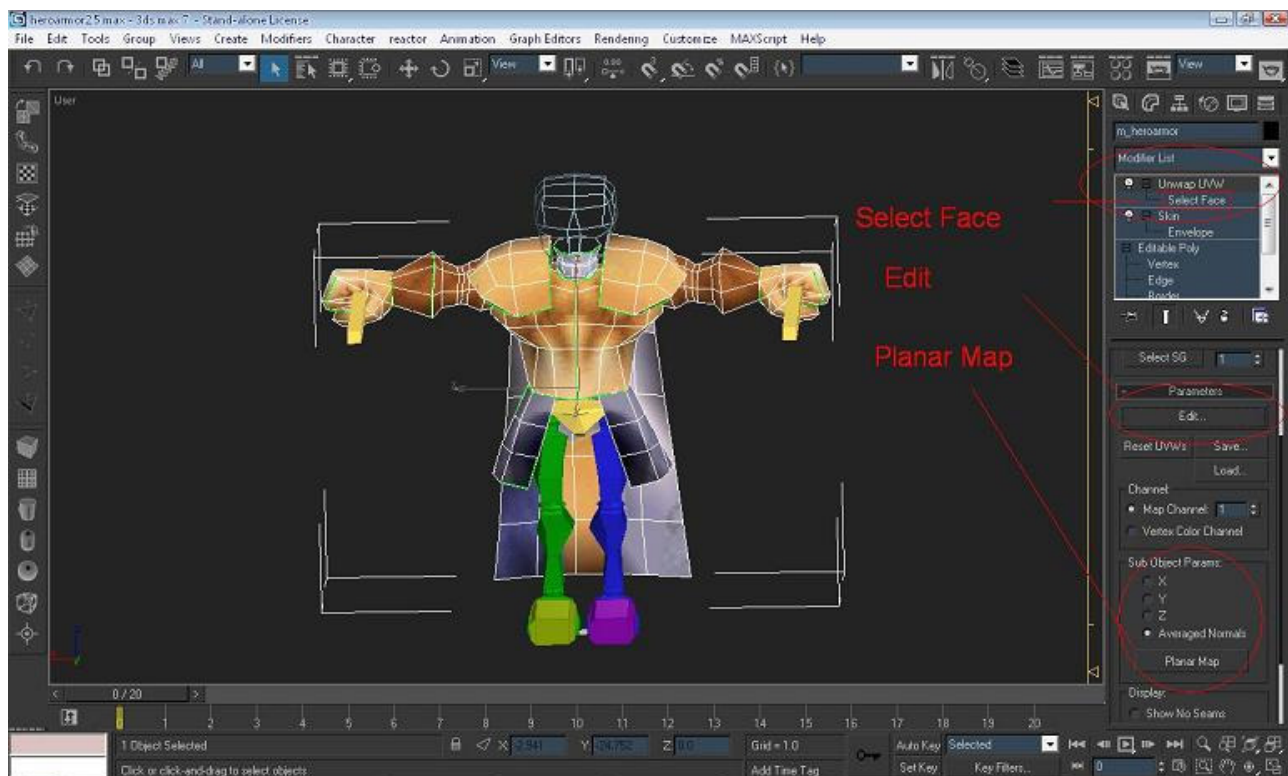
So you click select face, then you highlight just the polys in the torso. In the rollout on the right there is an option "planar map" and the options x,y,z or normal. as you select each of these you will see a slice plane go through your model along the x,y,z axis. the shape of your model will get compressed against this plane making a flat representation of the model.
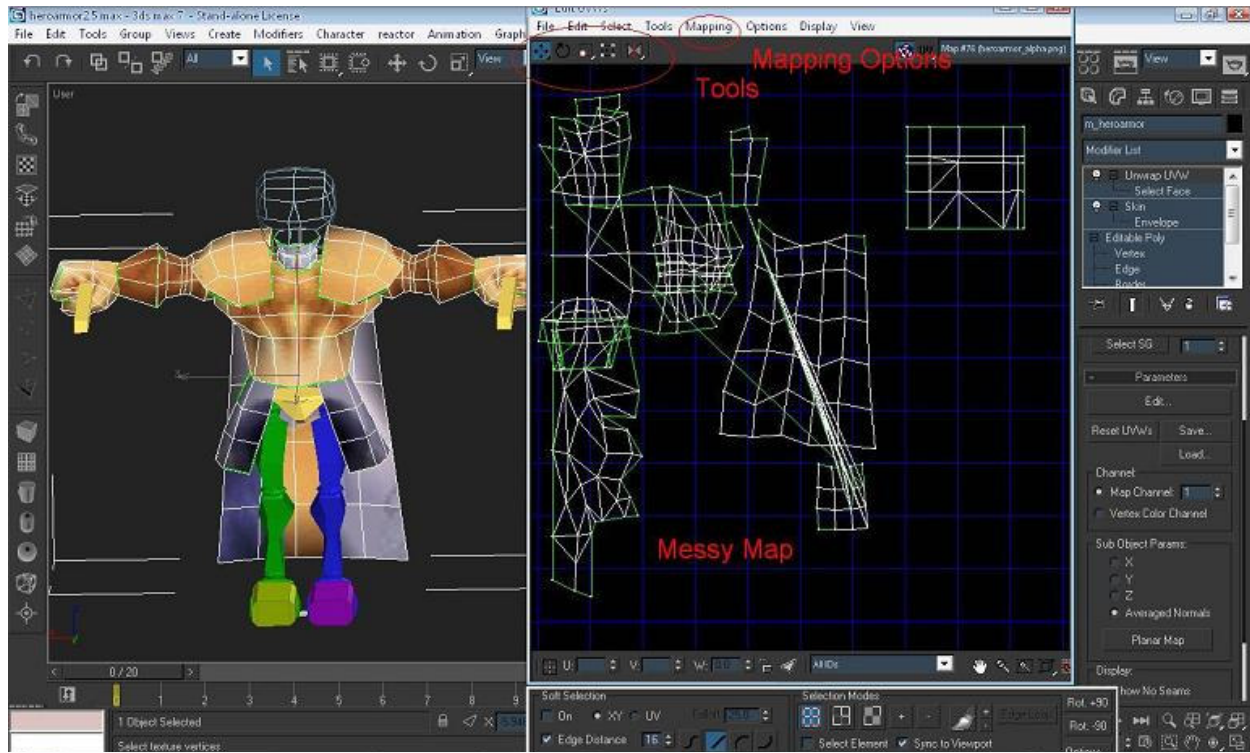

Now you could put the plane down the x axis so it separates the left and right torso or you could put it on the y axis so it separates the back and front. If you look at the texture files in the PLAYER folder you notice that some armors divided it one way and some the other. We'll say x now hit planar map and you'll see that just those vertices in the edit window will now separate themselves into a nice neat planar map. zoom out the edit window and move the torso off to the side. because both halves of the torso are the same having the left and right on top of each other will make a perfect mirror image so this is perfect.
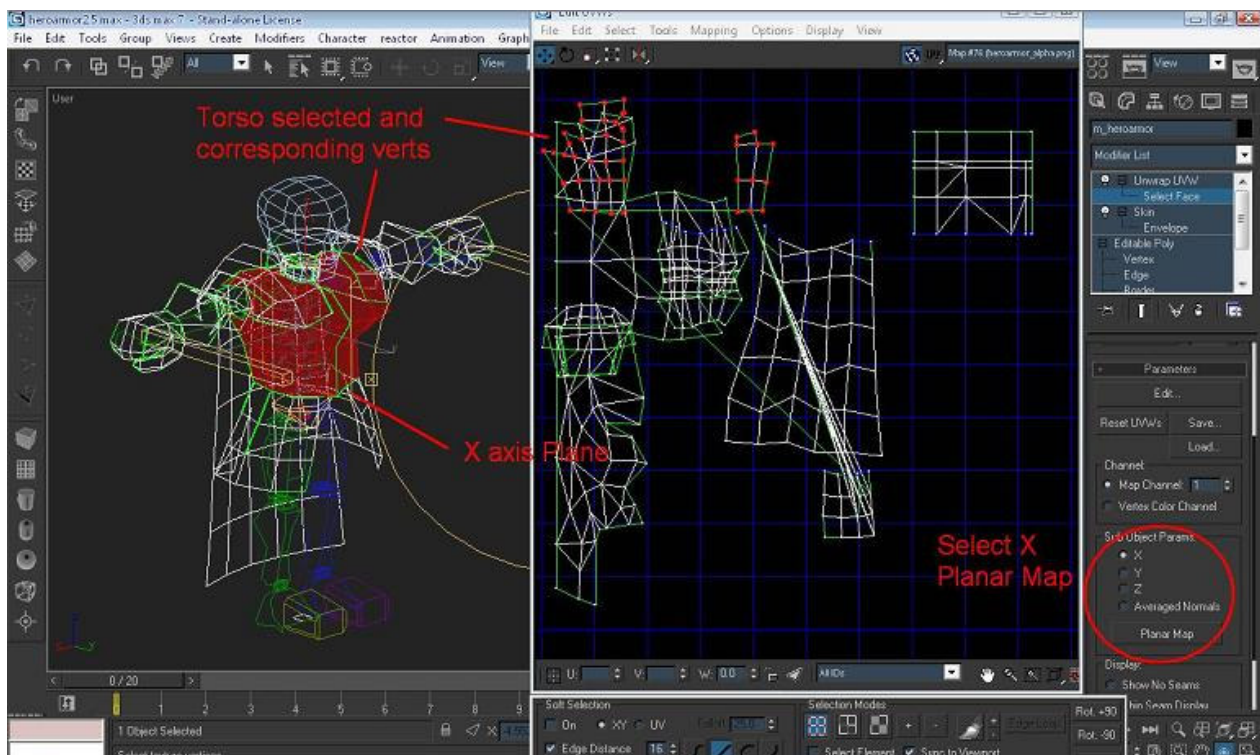
Now you just have to do some adjusting. The line that separates the left and right is straight so you just have to move the vertices so that you have a square representation of the torso.
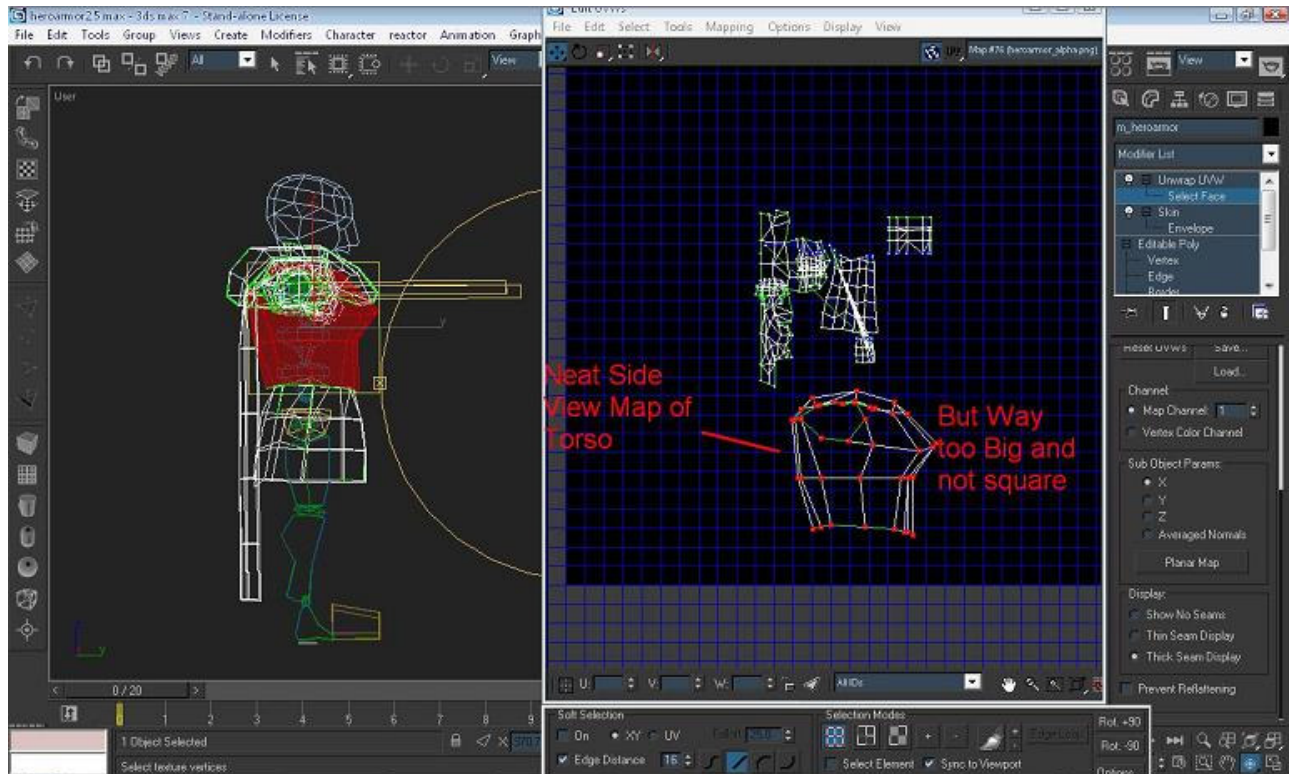
You have several options: you can use the move tool the rotate tool and the scale tool. the scale tool is essential, because when you do planar mapping it will map out each section really large. To get it to fit you will need to move it to the side tidy up the vertices however you need to and then scale it down to the right size.
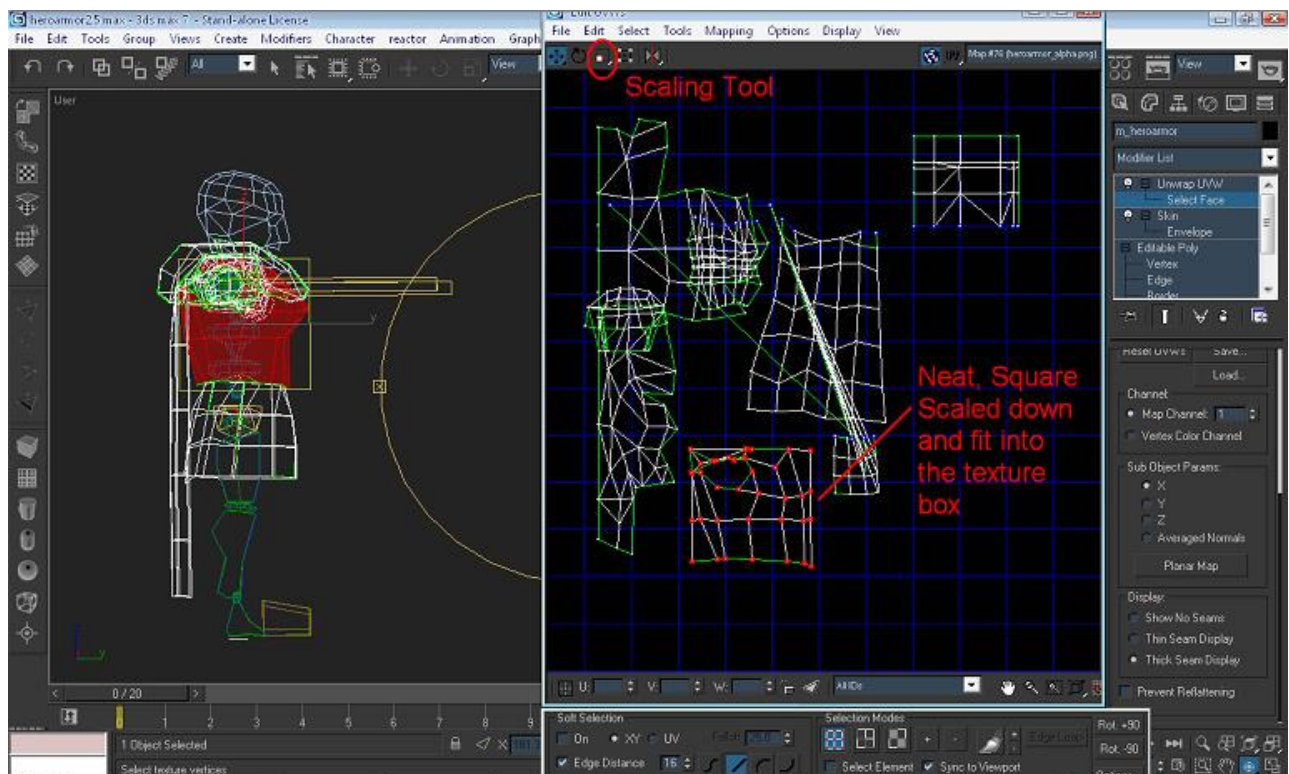
Now in your workspace selct the thigh guards on both sides select the x axis again and press planar map. Again in the edit window it will separate the thigh guards into a neat flat representation. This should look perfect since it is very simple, move to the side and scale it down.

Select the neck and here you could use x or y axis since it doesn't matter make a planar map and it will separate those verts neatly. now in those verts for the neck select just the top portion that represents the skin and select planar map again and it will separate those so that you can make it the separate color. You could also in the uvw edit window go to tools and select detach vertices, either way.

Now the arms you have 2 choices on. You can make a flat representation of them using planar mapping but then you won't be able to make one side unique from the other. In this case you want the mapping to be cylindrical and unfolded. There is a great method for doing this using edit mesh modifiers, selecting at the sub object level, applying uvw mapping, picking the cylinder and then applying unwrap uvw. It makes a subobject level uvw map that is usually really good and this is really fast. There's a great tutorial on it [here](). Again you could do this manually using flatten mapping, welding, and stiching but these methods are fast and look good.

Do the same with the hands using flatten or the above procedure.

Now select any ornaments you have. If if is shoulder guards like in most of the mails then you will want to do a z axis planar map.
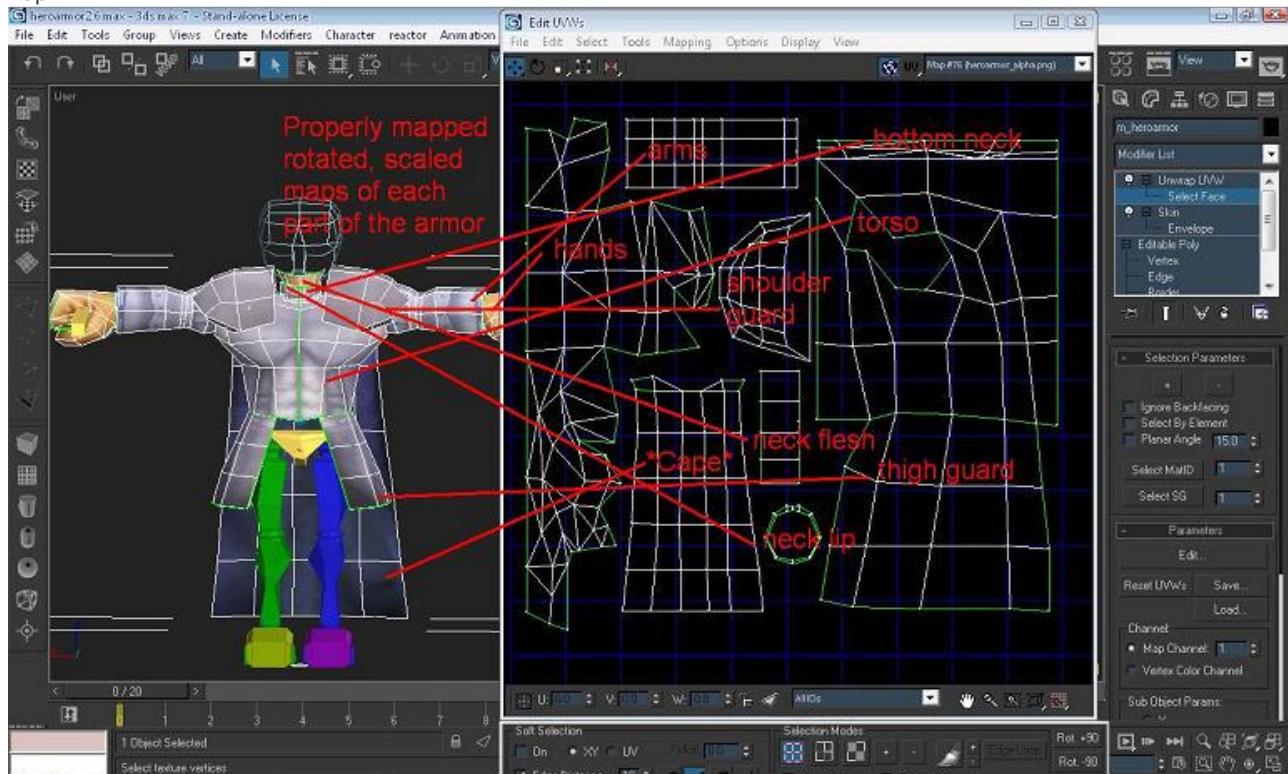
Now everything should be separated and neat. You have to scale and rotate the various pieces around so you can fit everything neatly into the texture. You'll see that your texture is tiled if you zoom out. but you want to fit all your pieces inside the center box with the bold line around it. You can also use "Pack UVW's" under tools and it will fit it for you though less precisely (it doesn't know which parts of the mesh you'll want a little bigger for more detail and which ones are negligible and can be scaled way down).

The last step is to play around with the verts to get the best mapping. Look at your model does any part of the texture look stretched or unnatural? just click on that face and in the edit window those verts will be selected. now move them around until it maps the way you want it. because you can move every vert in the edit window you can play with it until you get the exact look you want.

As for the texture you can either make it first and then organize your map to fit exactly into your texture. Or you can organize your map first and then hit "print screen". paste this into paint or photoshop and crop it down to just the size of the thick texture box. Resize the picture to exactly 512x512 and now the uvw map is a guidline overwhich you can make your texture (much easier if you're using layers in photoshop or gimp). There's also a good tool that turns the uv map into a picture called [Texporter]() a 3ds max plugin. If you organized your map well, your texture will look as neat and professional as the ones in the game.
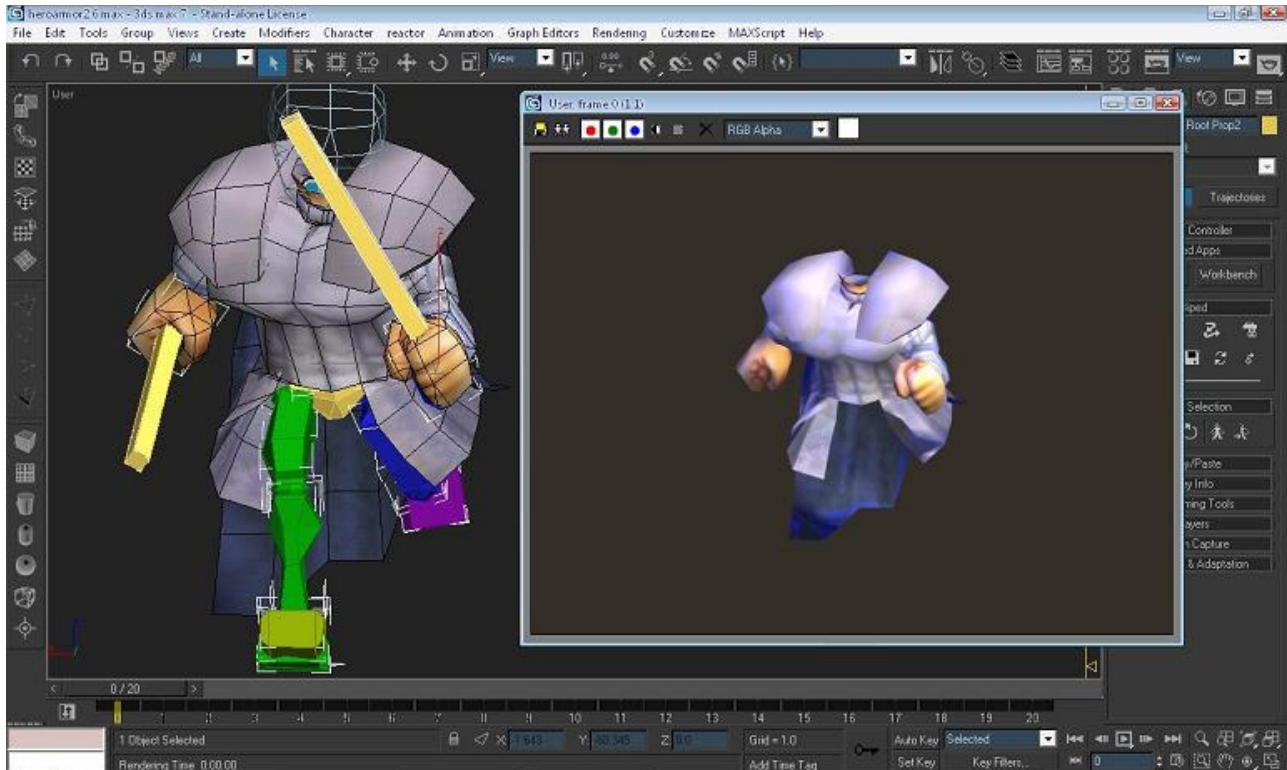
If you still think it looks bad, if may be the texture file you're using is too small. eg: trying to make a suit of armor with a picture that is 50x50 pixels will look really poor whereas all the armor files are usually 512x512 for crisp high resolution.

Another really great method of checking where stretching/distortion is happening in your map is to apply a checkerboard texture to your whole model and then see where the boxes are getting stretched/distorted.

Now you may not be making armor, but I picked the most complex model so that I could show the full extent of the tricks you can use to get a good neat map that you can then have total contol over. If this seems to complex you can just use the flatten map, but be ready to be organizing the hundreds of little pieces for hours...

Sorry this is so long but I hope it gives you a thorough understanding of mapping. There are several things you **MUST HAVE WHEN WORKING WITH MAX: GET THE MAX 8 TUTORIAL AND MANUAL FROM THE DISCREET** WEBSITE (EACH IS 3 PDF'S) these are your first go to everytime you're stuck and 9/10 it'll give you way more info than you need. **GO TO CGTALK FORUM WHEN YOU CAN'T FIGURE OUT OUT FROM THE MANUAL** (just make sure it's not a dumb question, they're not anywhere near as polite as us, they just delete dumb questions or ones they think you can just figure out, they also have loads of tutorials)

Good Tutorials:
http://merlin.zsnes.com/tutorials/mapping/index.html
http://www.waylon-art.com/uvw_tutorial/uvwtut_01.html