


UV Straightening

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Note: Nov2018 I have updated MED_Male and MED_Female with straightened UVs in Max, Maya and ZBrush ,so you can use these as a base for your skins.

- [Why Do we straighten UVs?](#)
- [Straightening UVs in 3dsmax](#)
- [Common Issues with straightening](#)

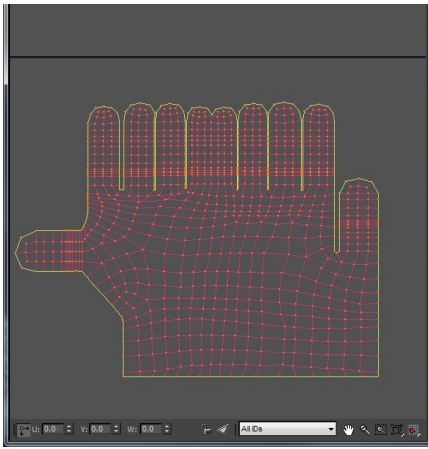
As we had cases where we still have quite some curvature inside our meshes before delivery. I will show you briefly why we straighten UVs and then explain how I do it in 3dsmax.

Why Do we straighten UVs?

So people have been wondering why we are so anal about straight UVs, and it basically comes down to LODs. LODs could be used for various things, the obvious is that a mesh gets lower poly over the distance that it is drawn. The further away a model is, the lower the polycount. But they will also jump into action when you have a version of your game running on lower end specs, say Fortnite running on Mobile, or spyro running on Switch. While we usually do not create the LODs ourselves, they will be created after we delivered our work.

For the Level of Detail meshes we need to keep things straight to avoid texture breaks when loops get deleted. It doesnt really matter if this is done by algorithms like Simplygon or other automatic/semi automatic solutions, or if you do it by hand. ideally we want to keep everything between majore landmarks on a model straight. On a character that would be joints. On a prop this would be defining angles. But straight doesn't mean it has to be perfectly horizonatly or vertically aligned. diagonally would work too!





here is an example of hand UVs that will work nicely with Lodding.

Straightening UVs in 3dsmax

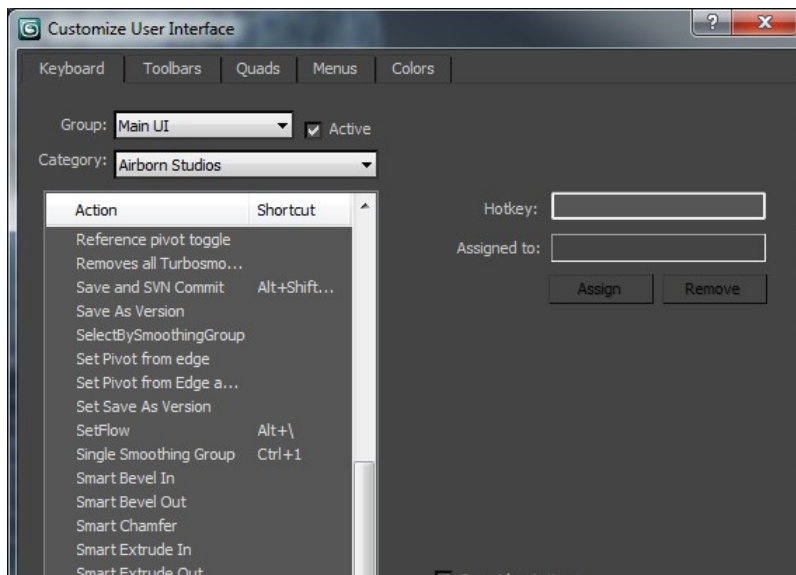
As Sandro was sort of mind blown when i showed him how i straighten stuff. Here is a little guide on how i use a feature inside 3dsmax to straighten parts on the Unwrap.

It might be that your version of max doesnt allow you to do it anymore. UNLESS you install our tools which you can find here. Confluence Tools : [3ds Max](#)

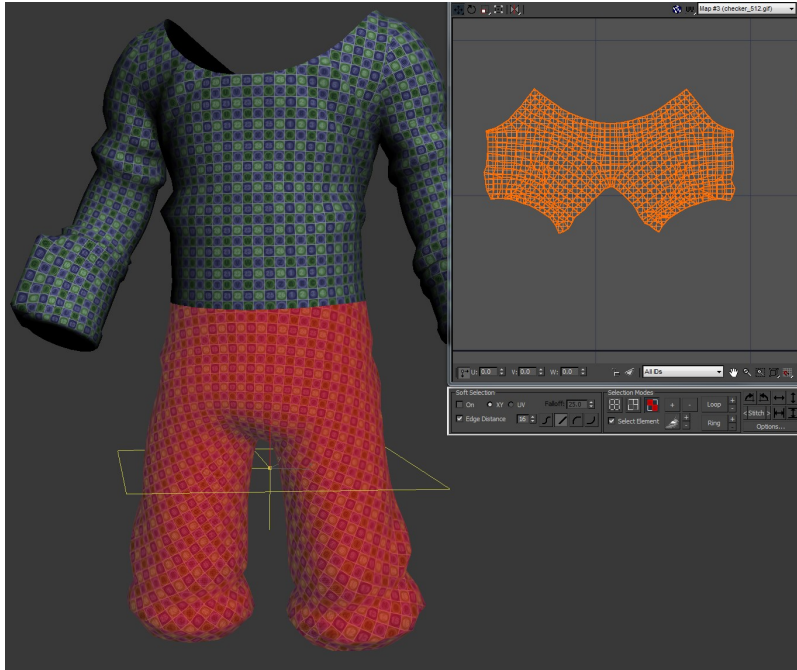
So my main tool of choice is welding verts that are not connected.

When asked why that feature was removed from 3dsmax, support told me, that it was never part of max and should by definition not work. If it did... it was a bug.

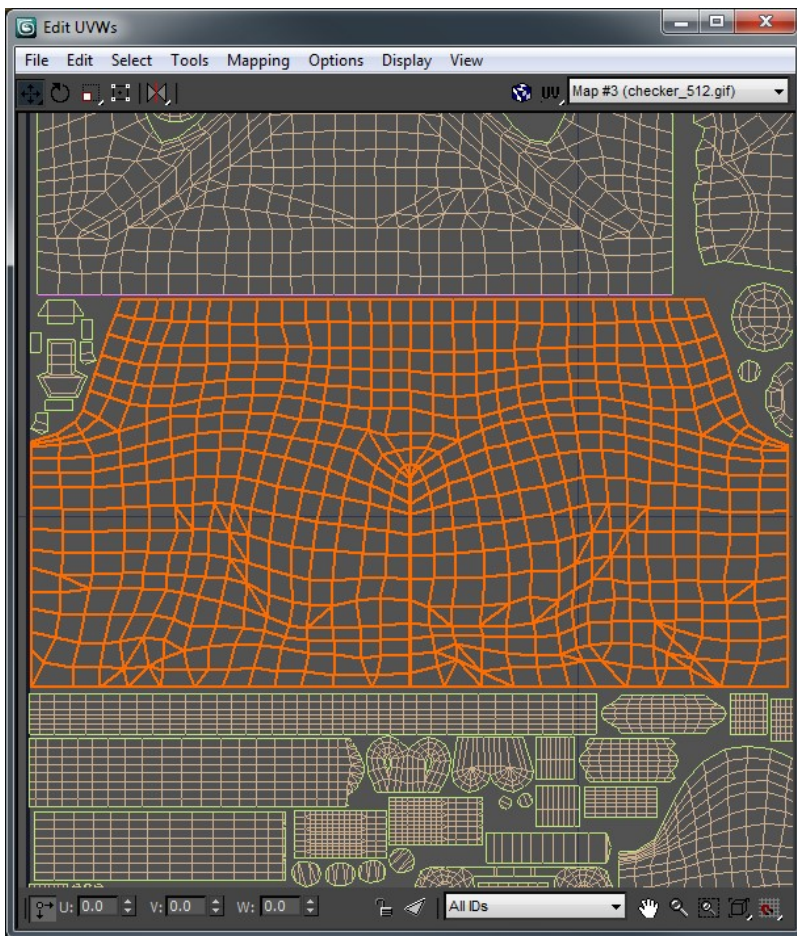
OH WELL...



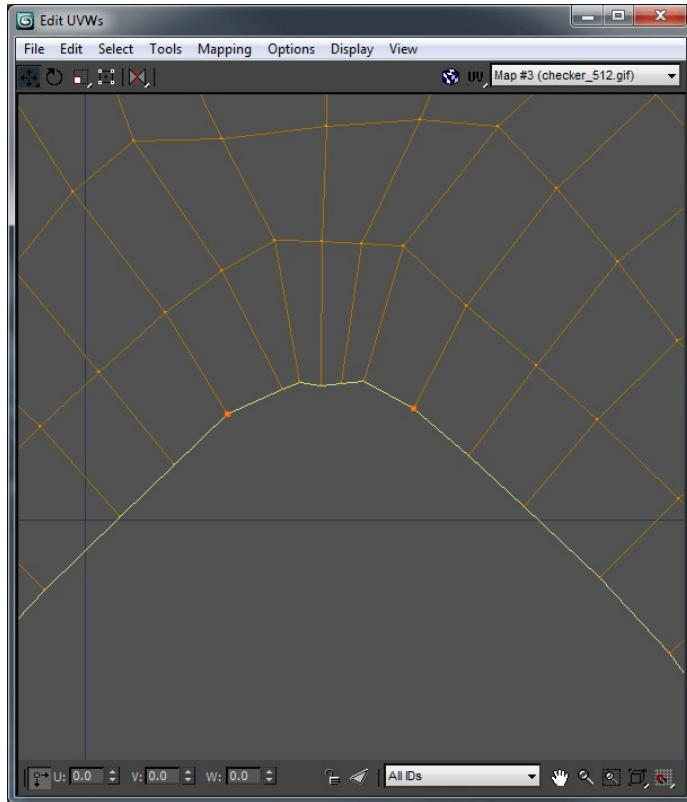
this is the script you need to run to enable it in your version of max if it doesn't work what i am about to show you.



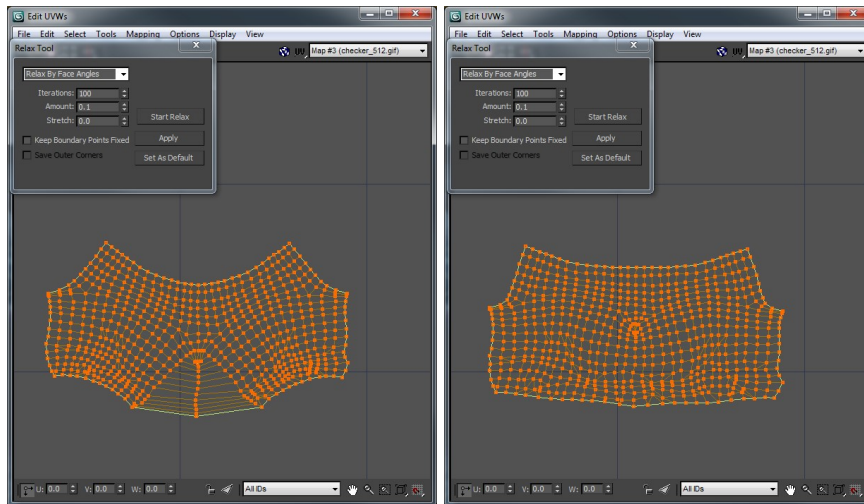
a normal relaxed UV layout like you would get from many apps nowadays. It's mathematical accurate. most faces are in line scale wise, there is little stretching. all cool. But this doesn't LOD well and it doesn't stack well inside the UVs puzzling phase.



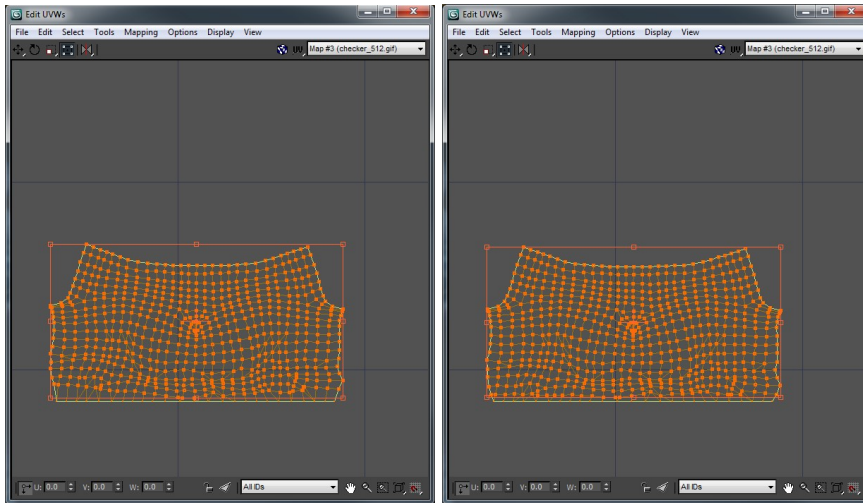
set your weldthreshold higher than the usual 0.01 UV units. doesnt matter what value it is, as long as you can weld together stuff thats further apart than 0.01 units.



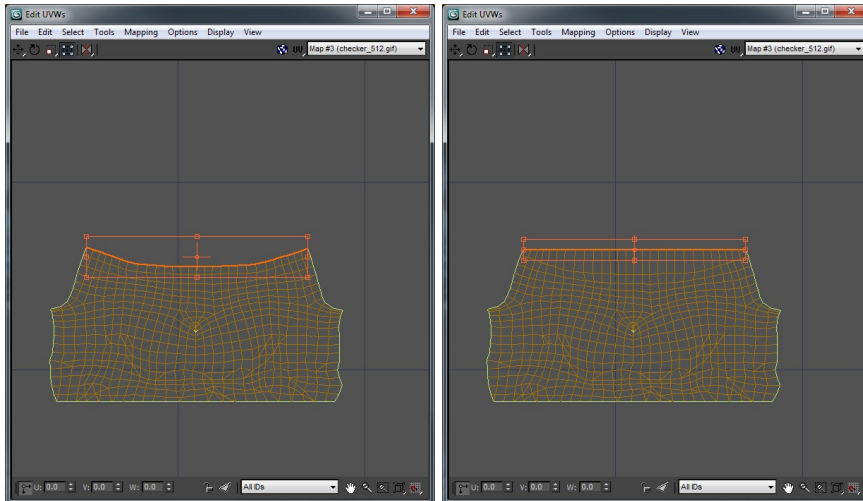
Weld all the verts on the centerline

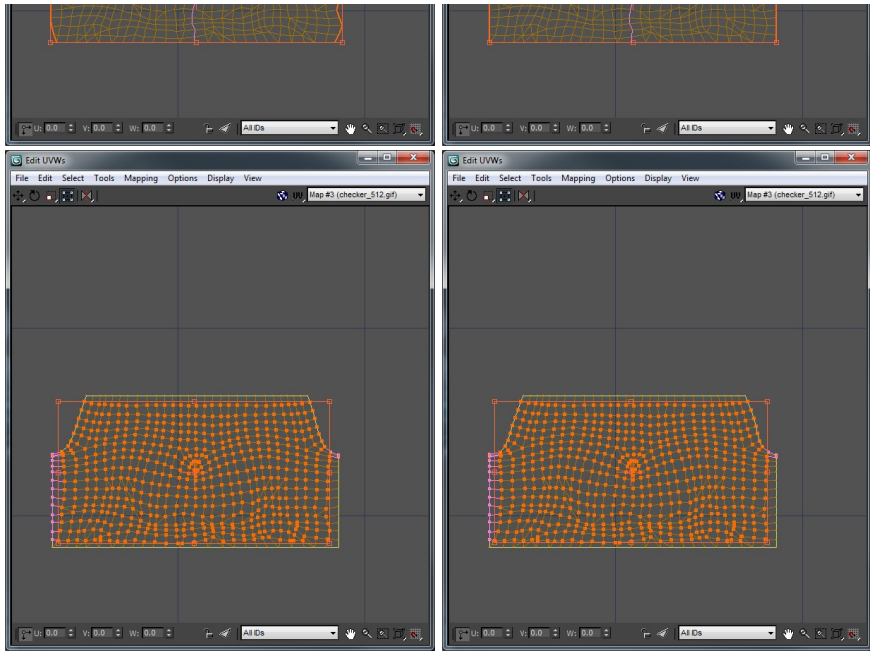


select the bottom edge and straighten it

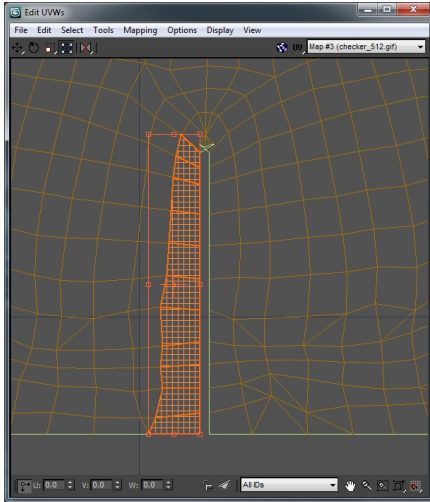
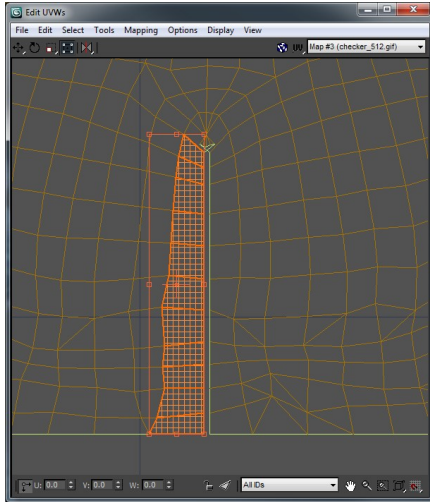
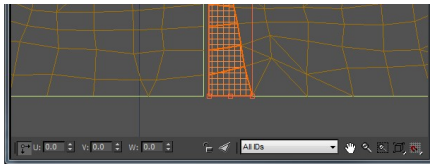
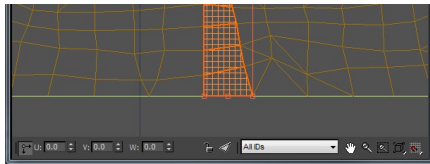


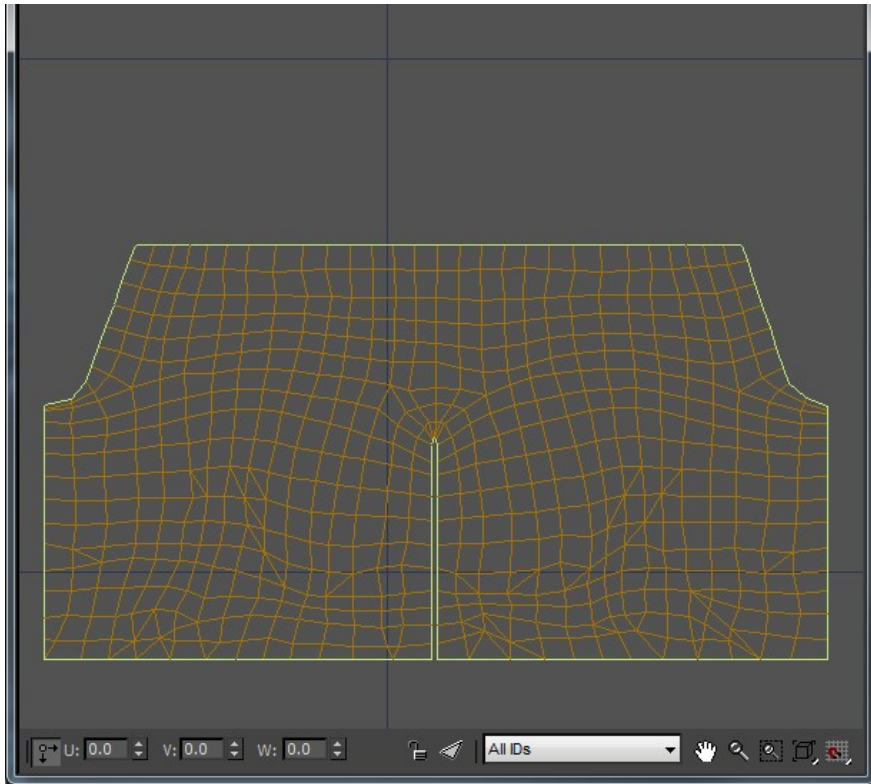
invert the selection and relax all the other points but the just straightened line





and the same for the side lines





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Syndrom

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