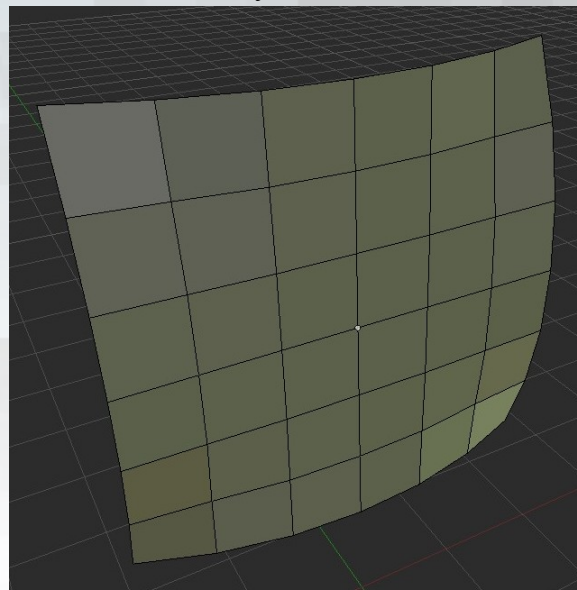


Blender Tutorial: Baking Normal Maps for Use in GLSL

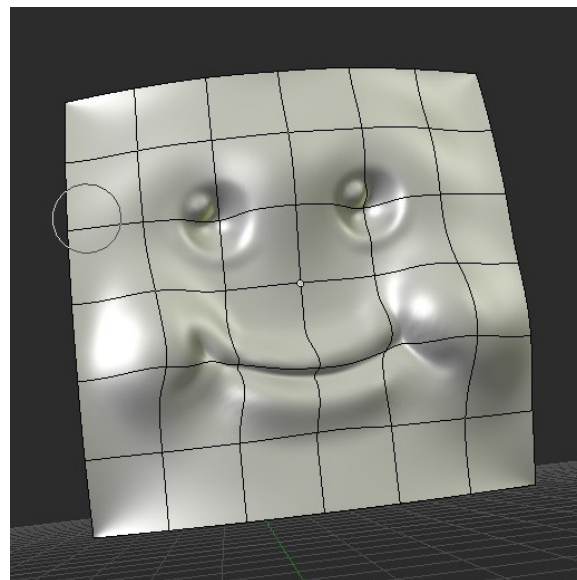
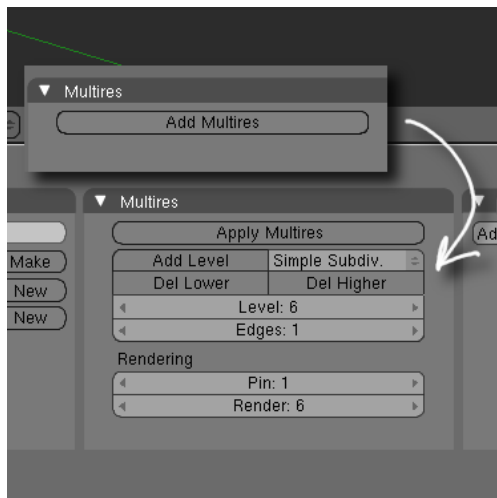
Normal maps are useful for adorning your low-res models with intricate detail at no significant cost of render time. Even more useful is the ability to transfer the detail of a high-res model directly to a normal map for a low-res model, which is called “normal map baking.” The great thing is that you can do this with any two completely unrelated models. There are no special rules to follow, but it, of course, helps if the models are relatively the same shape.

For this tutorial, we'll be baking the details of a multi-res sculpt to the original model.

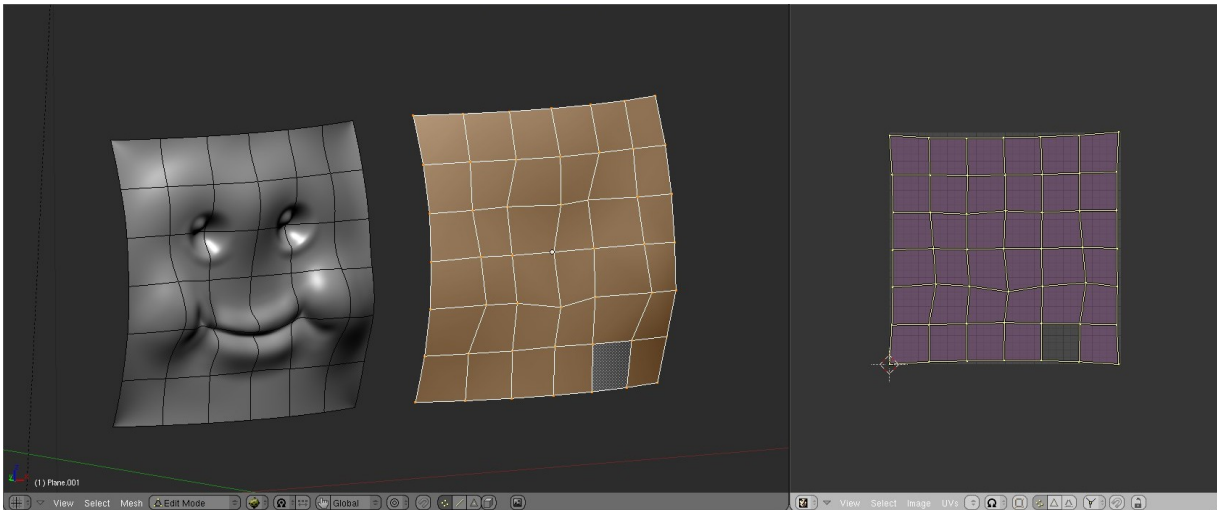
First, create your low-res mesh.



Next, add as many Multi-Res layers as needed and sculpt your stunning masterpiece.

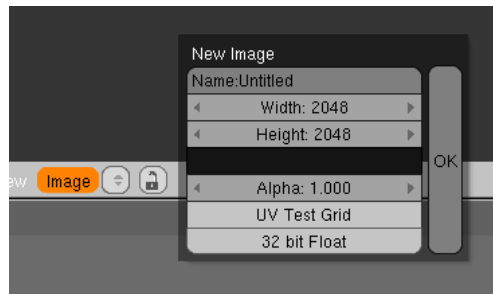


Duplicate your hi-res object, apply the desired multires level, and UV-unwrap the model.

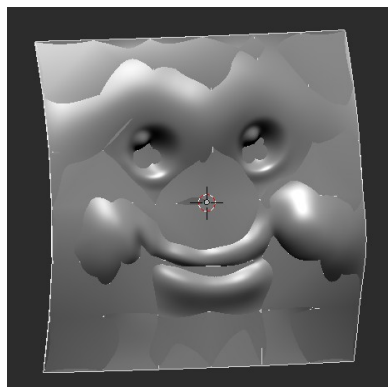


You must apply the multires for the second object, because regardless of which are currently visible, Blender looks at the highest multires levels when comparing the two meshes during normal baking. If there's no difference, no normal map will be baked. This is actually useful to remember in the case that your sculpted mesh is a high enough resolution to cause slowdown; you can just set it to a lower level while working!

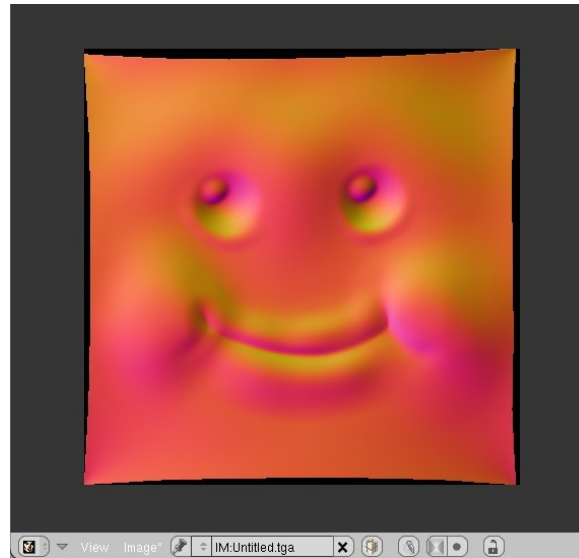
While still in edit mode, create a new image to which we will bake the normal map.



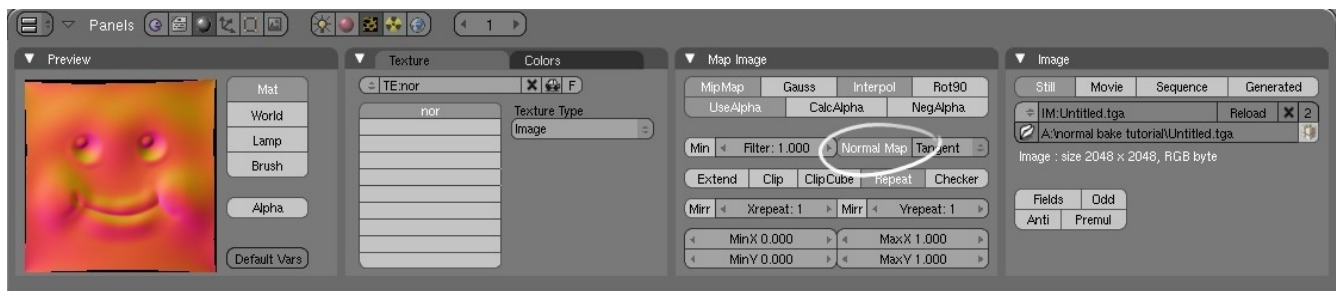
Now, place both of the models at the same location (baking won't be accurate otherwise). Select the hi-res first, and then the low-res, and proceed to the Bake tab under the Scene buttons. Check the "Selected to Active" and "Normals" buttons, and click Bake.



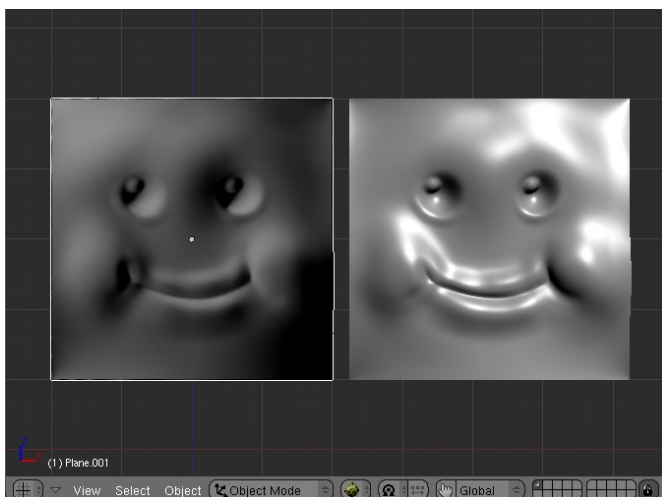
You should see your normal map appear in the UV/Image Editor. Make sure you save it, or you could accidentally reload the image and erase the changes.



Now, select your low-res model and create a new material and texture space, selecting Image and loading the normal map. Be sure to click “Normal Map” or the texture will not work in GLSL.



After switching the Map Input to UV, and turning on Nor in the Map To settings, you should see your model shining with normal-mapped goodness, like so. You'll probably have to tweak the Nor setting a bit though (in increments of .01), as the default value is .5 and GLSL materials are rather sensitive.



Thanks for reading my tutorial!

- BlendRoid