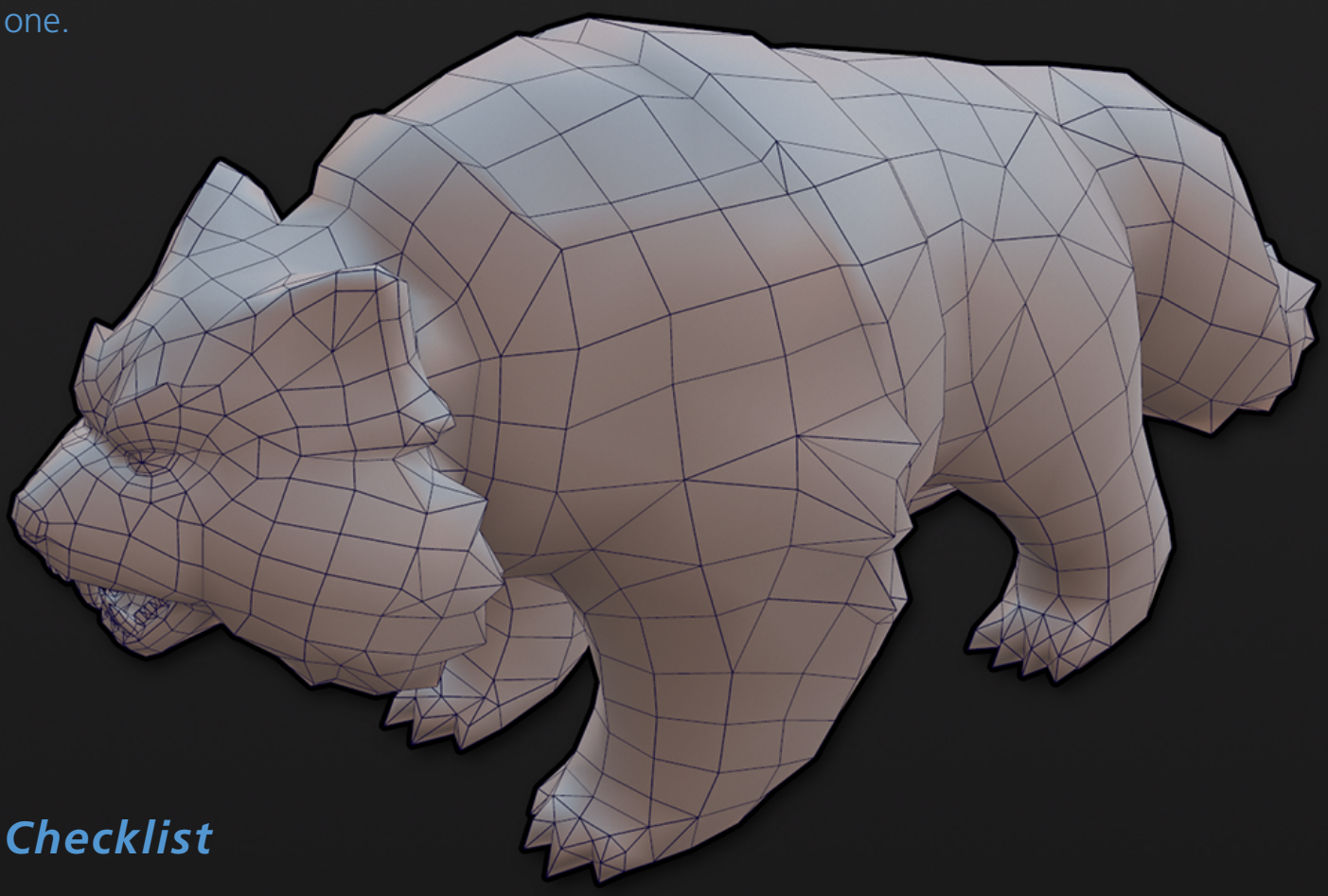
Texture Guide for 3d artists

part 2
Lightbakes

WHAT YOU WILL NEED

On the first tutorial we finished some quick bakes to start the texture.

In the end of this series we are going from the clean LowPoly to the textured one.



Checklist

- Autodesk Maya
- Any program where you created your highpoly model, in this case we are going to use Zbrush
- Your HighPoly model
- Your LowPoly model with UV Layout ready

LowPoly with UV Layout ready?

That means you will need your model with all the faces setup on a 2d layout and ready to be textured.

Normally I prefer to work on a not straightforward workflow, but the UV layout is

something that you cannot leave to make it later and is necessary to be done before going to the texture stage.

More information about the UV Layout can be found on the Part 1

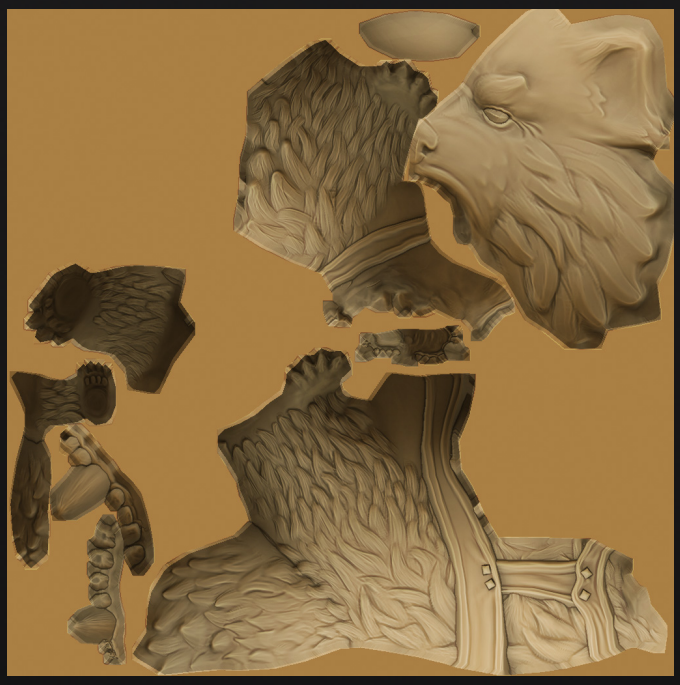
The model

On this tutorial we are going to use a model I made for Dota on the first months of 2014 called Spirit of Anger

Here are both the HighPoly and the LowPoly with the final texture we plan to achieve.

The Light bake is an extremely important stage to help showing the volumes on the model.

This at the right is the last step from the previous tutorial.The models can be downloaded on the same guide.



PREPARING YOUR HIGHPOLY ON ZBRUSH AND MOVING TO MAYA

This tutorial will cover the light bake on Maya using a model from Zbrush, but it doesn't need to be only on Zbrush, any other source will work.

First you will need to export your model to Maya. If you work with a lot of subtools like me you can export all of them separated or merge everything and export once. I personally prefer to merge everything but it is up to you.

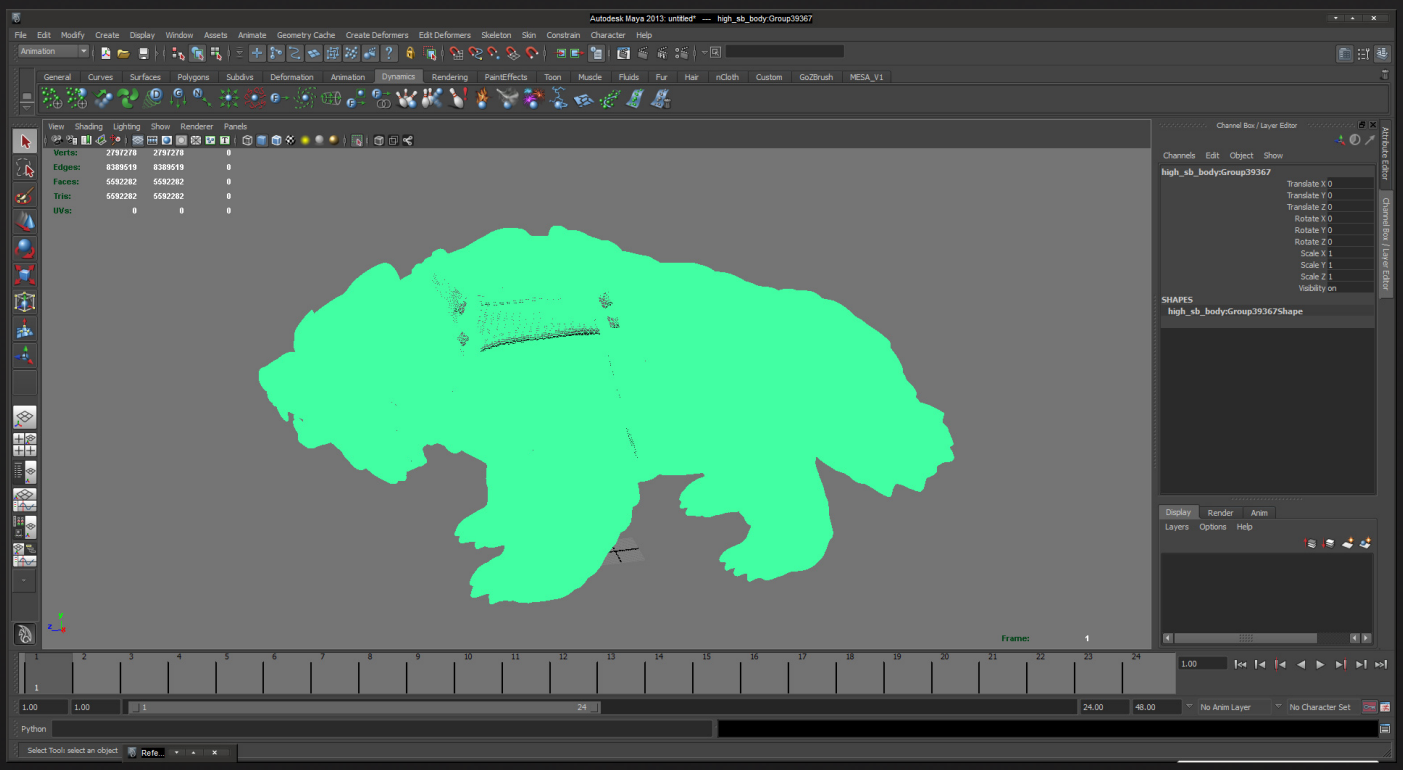
Maya is an amazing program, but it can' t hold the same amount of polygons as Zbrush, so be careful with the amount of subdivisions you use on your model.

Instead of importing the highpoly model, it is better to use it as a reference*. So you don't increase your maya file size and will be easier to handle in case you need to update the file.

To import a reference in Maya, go to File > Reference Editor.

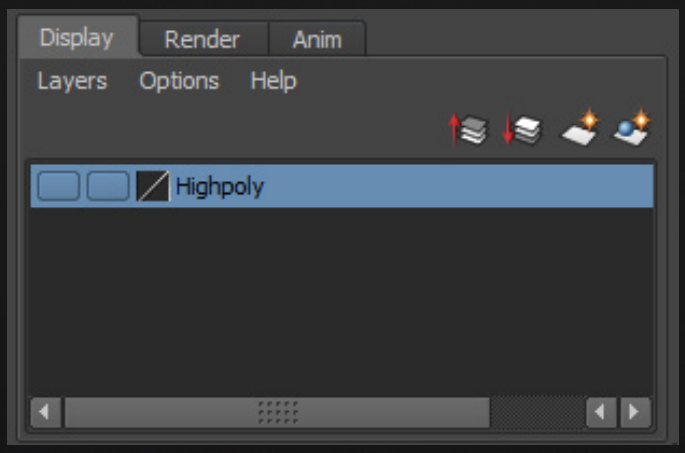
Also, if your Maya starts to crash because of the amount of polygons and you get stuck on a loop where you cannot open the file anymore, just change your original Highpoly file name and you will be able to open your Maya file again.

If you reach this amount of polygons that it becomes a flat color instead of lines, you are probably about to crash it. The save and the incremental save are your friends.

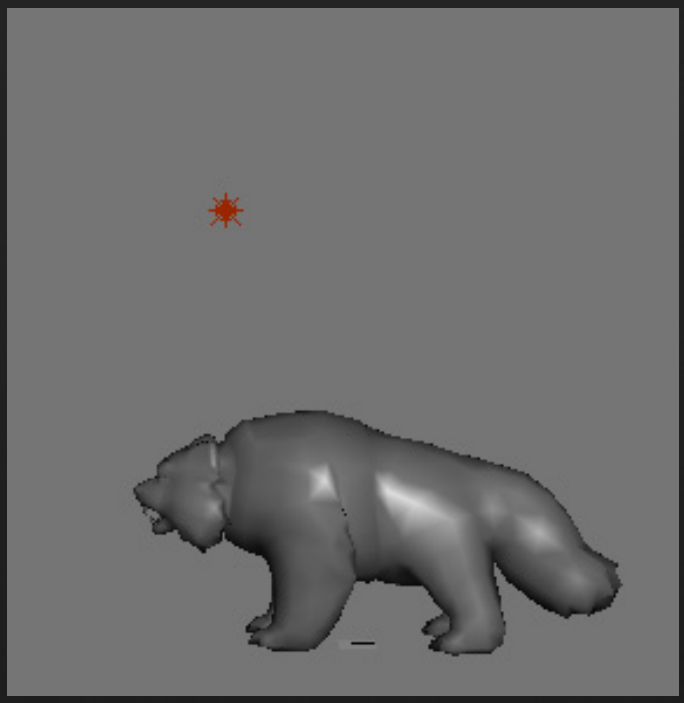


If you managed to get your highpoly on Maya, put it on a layer and hide that layer. (then save again)

If you are having problems in importing your mesh, you can isolate your lowpoly before referencing the highpoly, the you hide it inside a layer before de-isolating the low. That way Maya will never need to render it on the viewport, reducing the chances of crashing the program.



PREPARING THE SCENE AND THE BAKE CONFIGURATION



Now that you have your models in place is time to create the light(s).

I usually work with just one and if I want more light positions I animate the light's translation and bake one map for each frame.

The light position is really important. We need to attract attention on the character to the most important parts, and the values of the texture helps on that.

Position your light on the top and and a little to the front like on the example. It doesn't need to be like that all the time, but this way usually works.

Material

Now you need to set the material of your HighPoly.

A good one is the default Blinn but you can go with other ones if you want.

Later you can tweak the material paramenters to achieve the desired result.

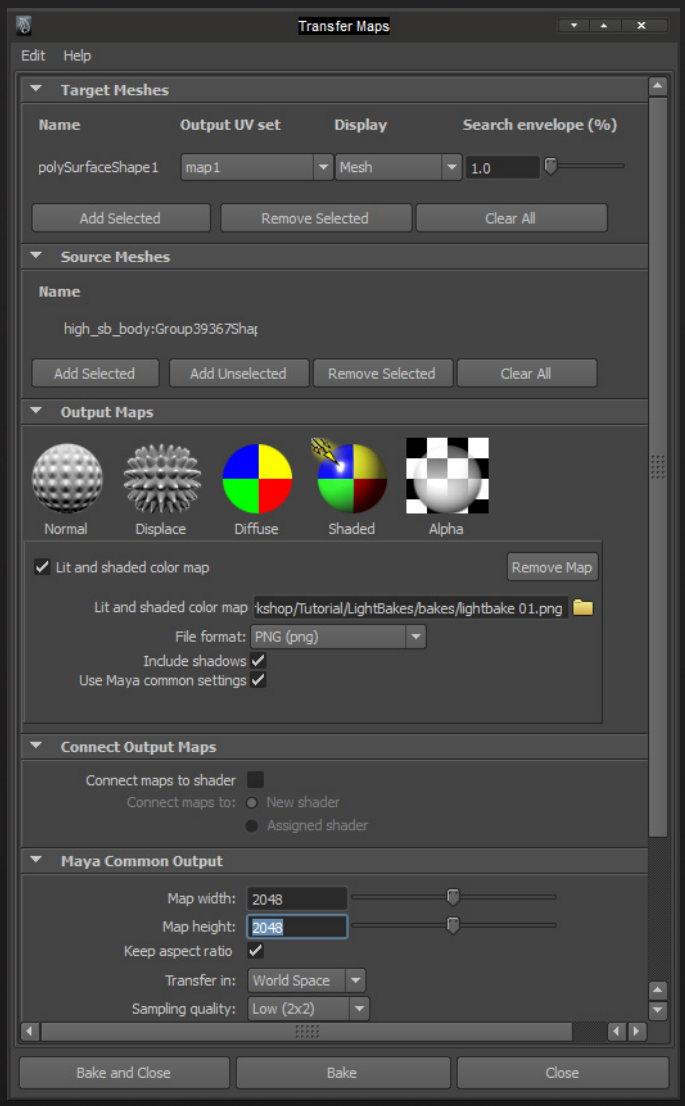
Setting the bake

1 - go to the rendering tab (or press f6 on maya)
2 - Lighting/Shading
3 - Transfer maps

Now on the Transfer Maps windows on Target Meshes you add your lowpoly.

Don't worry with the search envelope for now

On Source Meshes select your HighPoly. If you have more then one mesh just add all of them



Output Maps select Shaded

now an important step, when chosing the Lit and shader color map dont forget to add the extension of the file. If you just add the name but not .png or .jpg Maya will crash

On Maya common output you need to define the size of the texture, If my final texture is going to be 512 x 512 I work with 2048 x 2048 px. I normally use PNG or TGA

I normally work with a bigger texture size so I can use later on the promo image and promo videos.

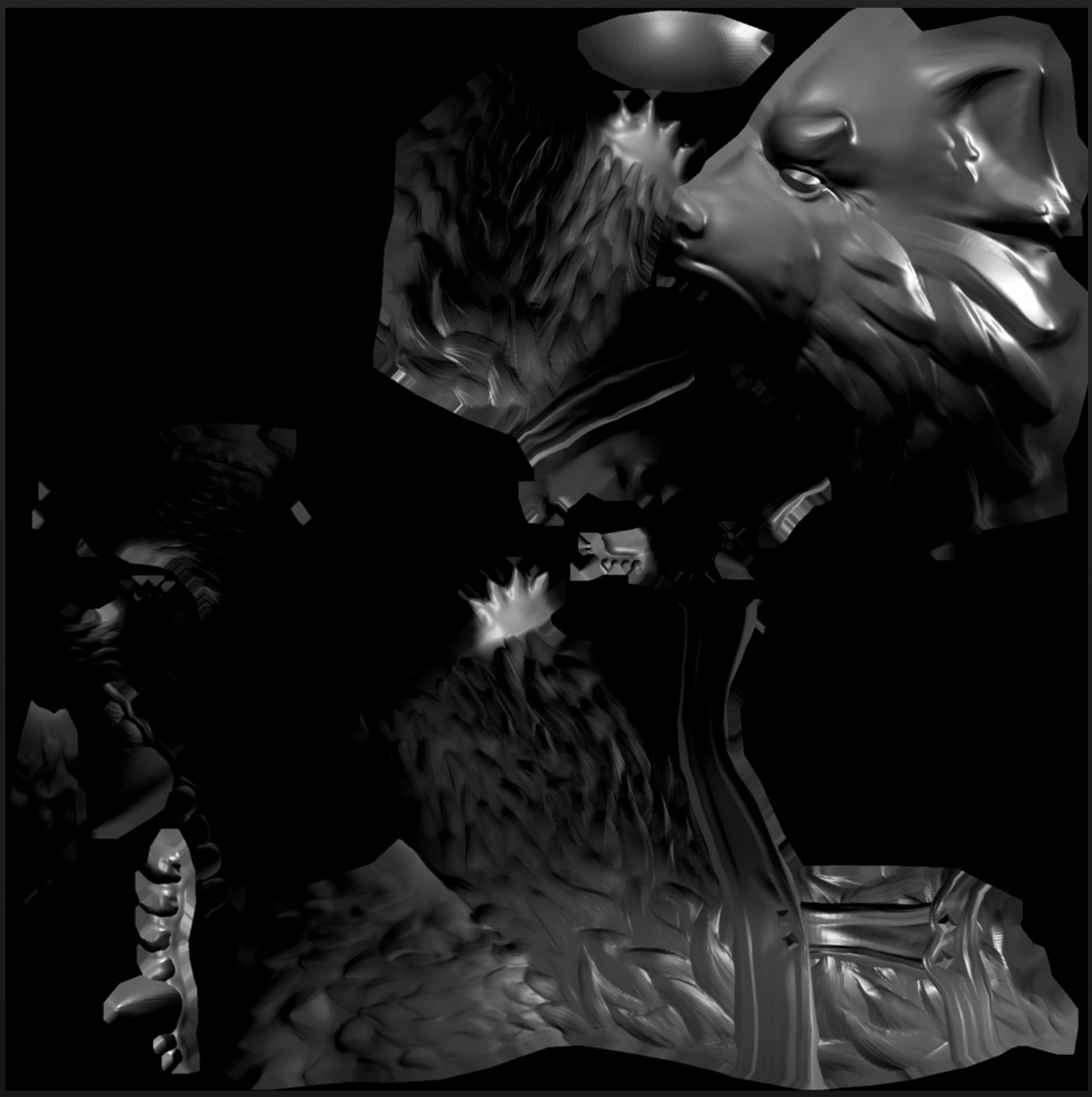
Another important part is the Fill texture seams

Right now is on 15 but you can play with this number till you find one that you like. This number will be the amount of expansion Maya will do on your textures. That will help avoid seams when the engine change the level of details of your texture and reduce the resolution.

Hit bake!

If everything went well, you will see a progress bar at the bottom left corner of Maya, this process may take a couple minutes. Be patient and don't touch Maya, remember that we are using a high resolution mesh inside it.

THE BAKED MAP



After some changes on the material and light position this is the result.

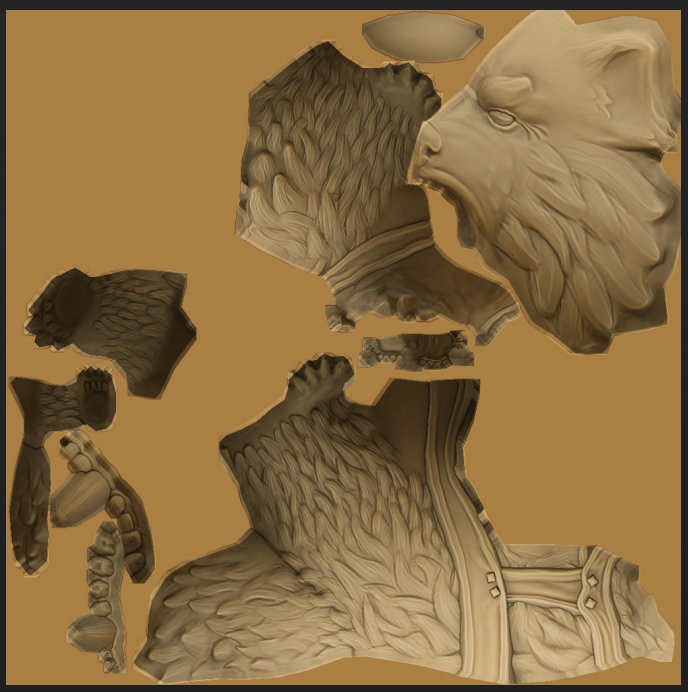
Now we are going to compose over our texture from the Part 1

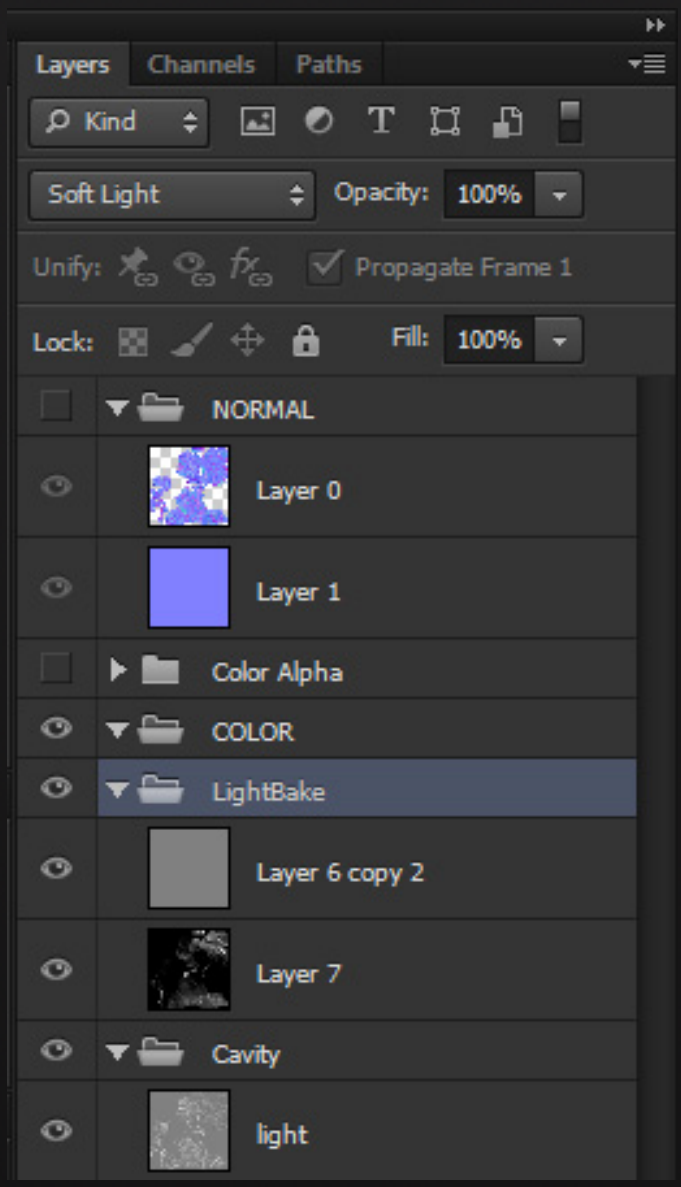
Following the same way we did the Bent normals

I added an flat gray (128 128 128) layer set up as Screen layer blending over the map, and set the Lightbake group as a softlight

After I tone down the opacity of the gray layer to about 80%

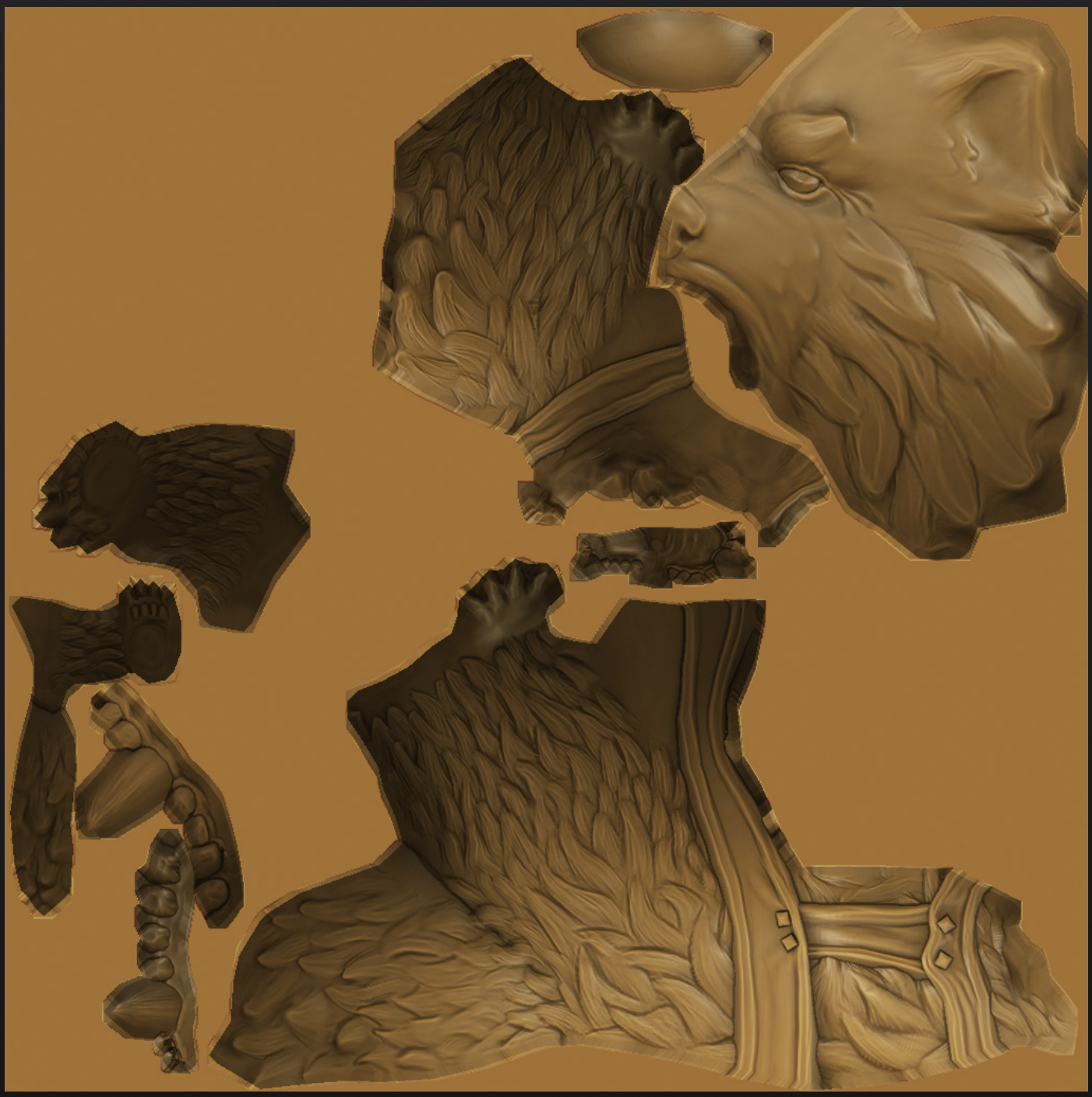
Now we have 2 light layers (Light Bake and the Bent normals) I decided to reduce the influence of the Bent normals group and set the opacity to 50%





FINAL RESULT

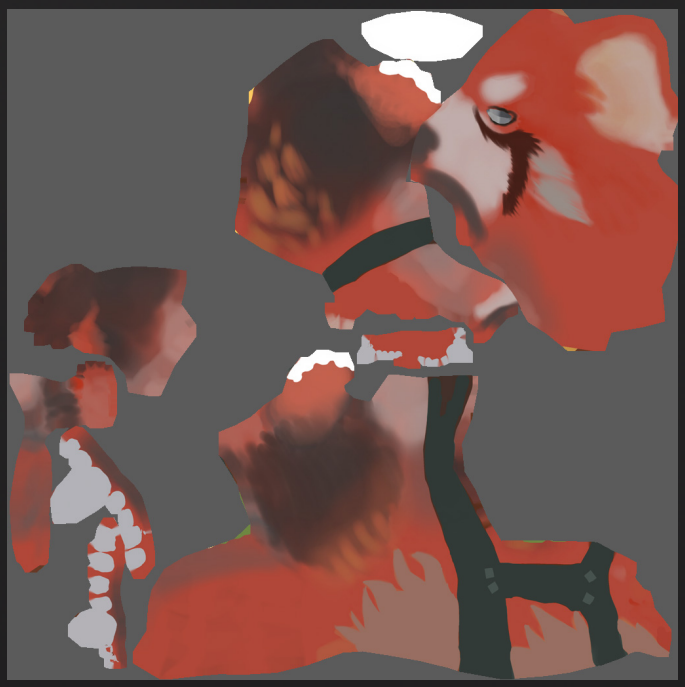
This is the final result:



As you may notice, the volumes now are more visible and it looks more real.

Just to show how useful that can be, I am adding this color pass under all the layers[1].

This color pass can be achieved by painting over another 3d program like 3D Coat, or by painting directlly on Photoshop, now that you have a guide showing the volumes, it is easier to understand what part of the model you are painting.



1 *The color pass production will not be covered on this tutorial*

Contact

The Original guide can be found at the *Steam Guide Page*

Other projects can be found at my website or at the Facebook fanpage

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My name is Thiago Vidotto, I am a freelancer Character Artist and Animator.

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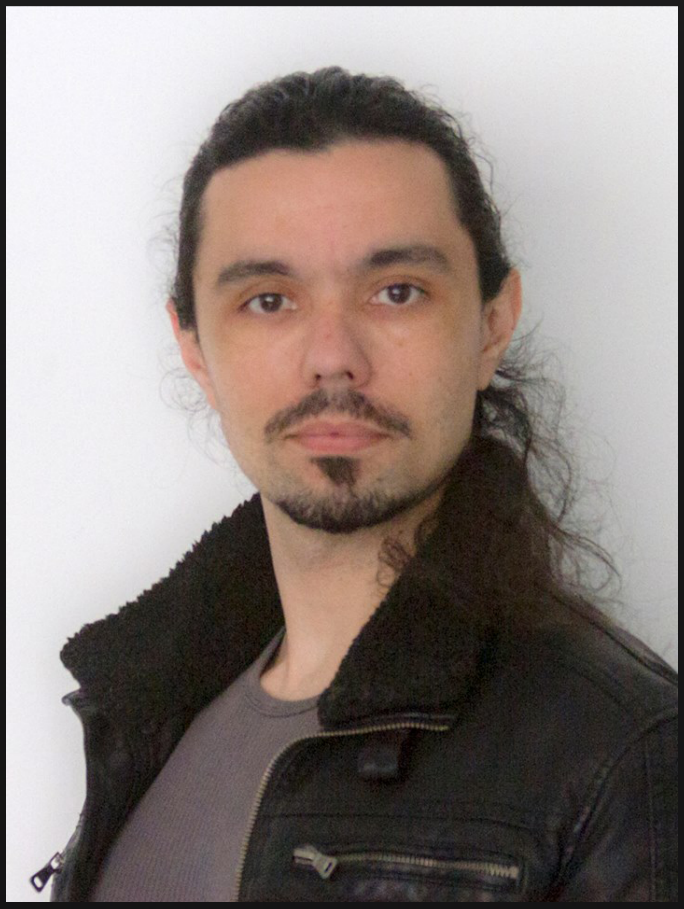
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