

Character Texturing Technique:

A replication of DOTA 2's texture style without
a high resolution sculpted source



Official DOTA 2 - Character Color Texture Guide

<http://media.steampowered.com/apps/dota2/workshop/Dota2CharacterTextureGuide.pdf>

Developed by Aaron Morse(Three9)

Why am I making this?

How I came about creating this and why

First, I'd like to start out explaining why I'm creating this. DOTA 2 has a very vibrant, and in my opinion genius way of creating consistent characters that pop off their environments very well. Their rules are simple and easy to follow, and the end result is just vibrant and great. While working on a personal project, I began utilizing their style process loosely but through several iterations of texturing, lost the composition I originally created.

Through a lot of experimentation I believe I developed a technique that emulates the texturing style and rules of DOTA 2 that can be applied in an alternative manner that does not require a high resolution mesh source for the results. All it requires is some creativity and understanding what you are trying to accomplish.

I'm not trying to say in any way that my method is better than DOTA's, or even that you will get exact 1-1 results, but I am offering an alternative method that I hope people might be interested in.

Texture Base

Setting up textures

This method requires your texture to pretty much be complete by this point. I was using a style that was very hand-painted with a couple texture overlays, so your piece may or may not benefit from these three different texture bases as follows:

- Base Colors
- Diffuse
- Flat Diffuse



Creating the AO

Using your texture to create your AO

As long as their sufficient “lighting” data from what you’ve painted, this shouldn’t be too difficult. Start out by using a **Hue Saturation filter** to completely desaturate and grey-scale your texture. Follow that with a **Levels filter** and start crunching those brights and darks. Remember that the goal of this process is to create an AO as if it were baked from a high poly mesh.

Personally, I found it acceptable for some details to be blown out white, but tried to keep away any large zero black areas so I could retain the detail. This required me to create a layer underneath my levels layer, set to 50% Color Dodge, and using a brush at 50% opacity and pure white, began to pull out the darks to what I found acceptable. After I brightened up areas, such as the boots, I used a **Reduce Noise filter** to blur the detail a bit. To me i thought it replicated an AO a bit better by doing this. You can see the results here.



You can still bake an AO from your mesh!

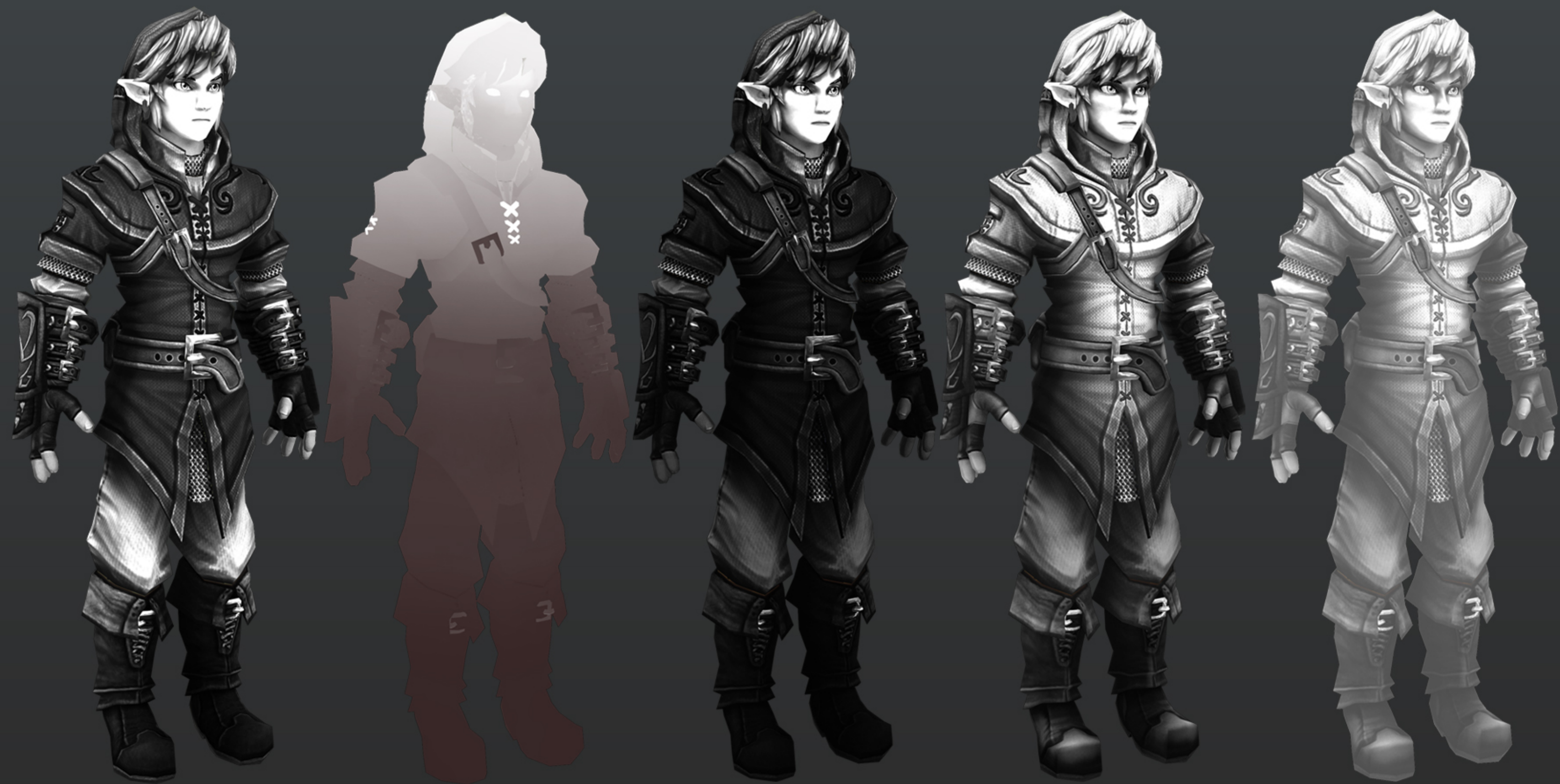
Smoothing your mesh and baking a quick AO will help with the texturing process and can be applied again to this step too for a better result

Creating the Point Light

Using your texture to create your Point Light map

Creating the **Point Light map** is essentially the same process, however, with a different mindset to the approach. To replicate this effect, remember that your light source should be coming from the top of the character, so pay attention to what would be lit and what wouldn't be as lit, or lit at all.

Make your texture greyscale using the **Hue Saturation filter** again, with a **Levels filter** that really crunches the colors dark ontop of that. Creating a **Gradient Texture**, using Mudbox, underneath this really helped keep the lighting towards the top of the character as you can see in the renders. Underneath that, I had that color dodge layer again to start brightening up areas towards the top of him, as well as other areas such as the tops of his boot. In the same way, it may be required to darken areas too. Just like with Dota's stuff, a 90 RGB layer was thrown ontop as a screen layer at 85%



Render order is from left to right

Following the text above, the render order is essentially the application process of these steps. The gradient texture render just shows how the gradient looks on the character

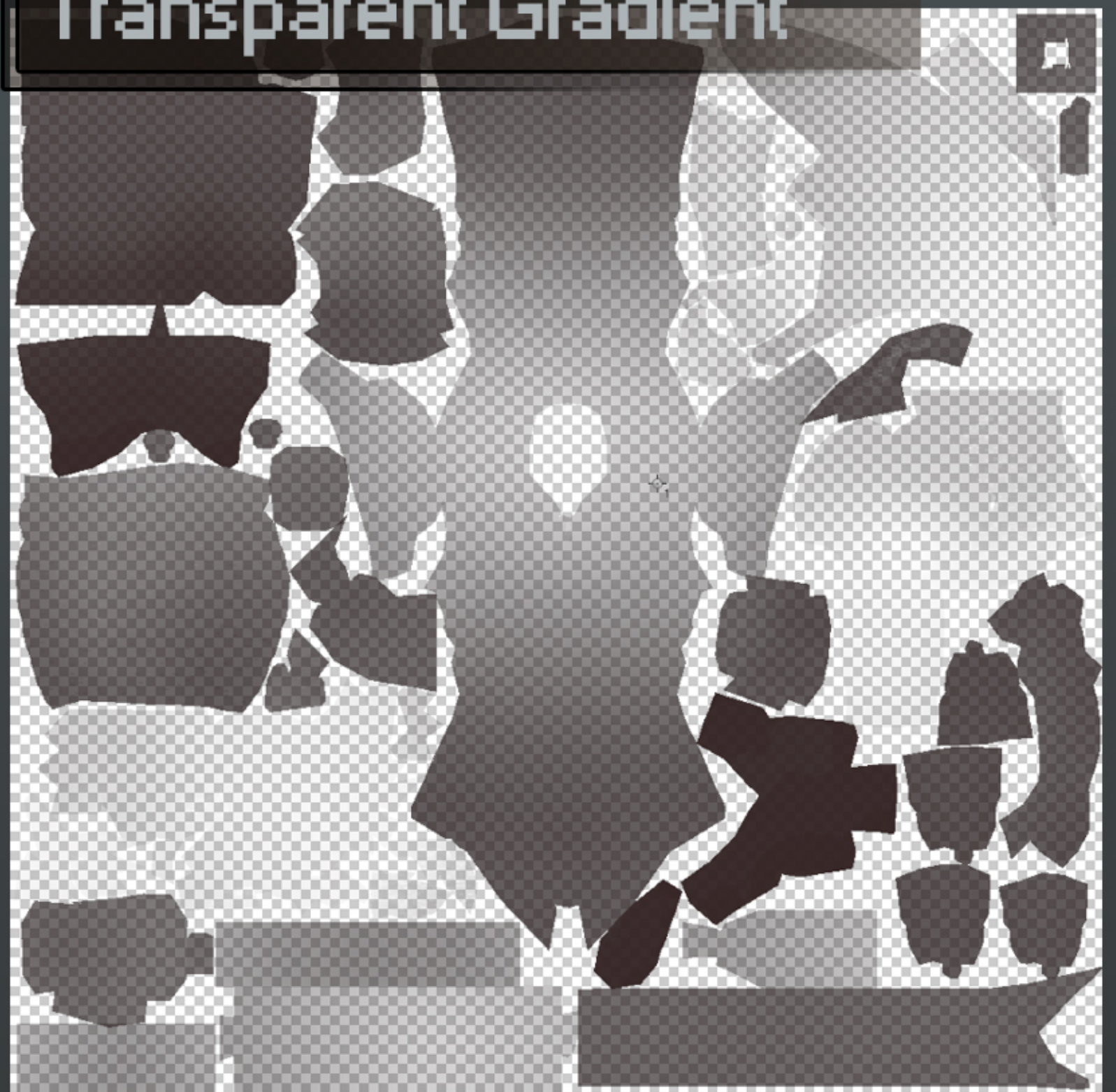
Creating the Point Light

Texture flats

Before tweaks



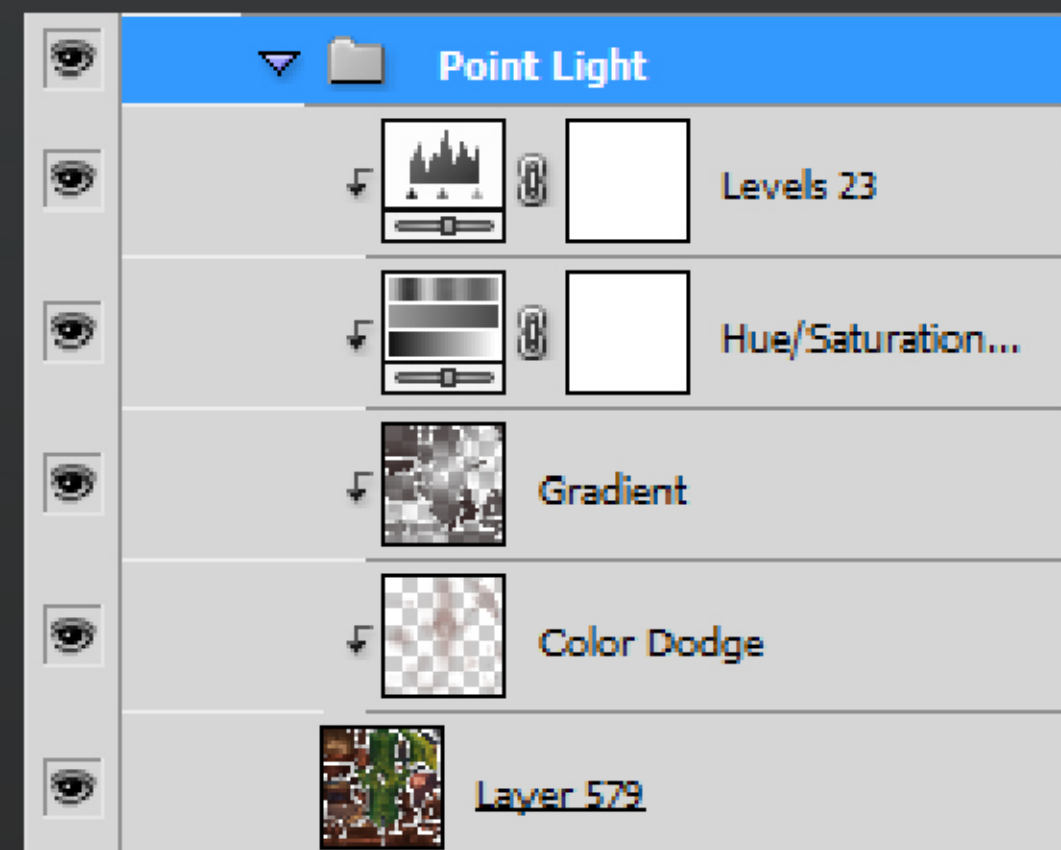
Transparent Gradient



After tweaks



Layer setup



Application of textures

The final steps

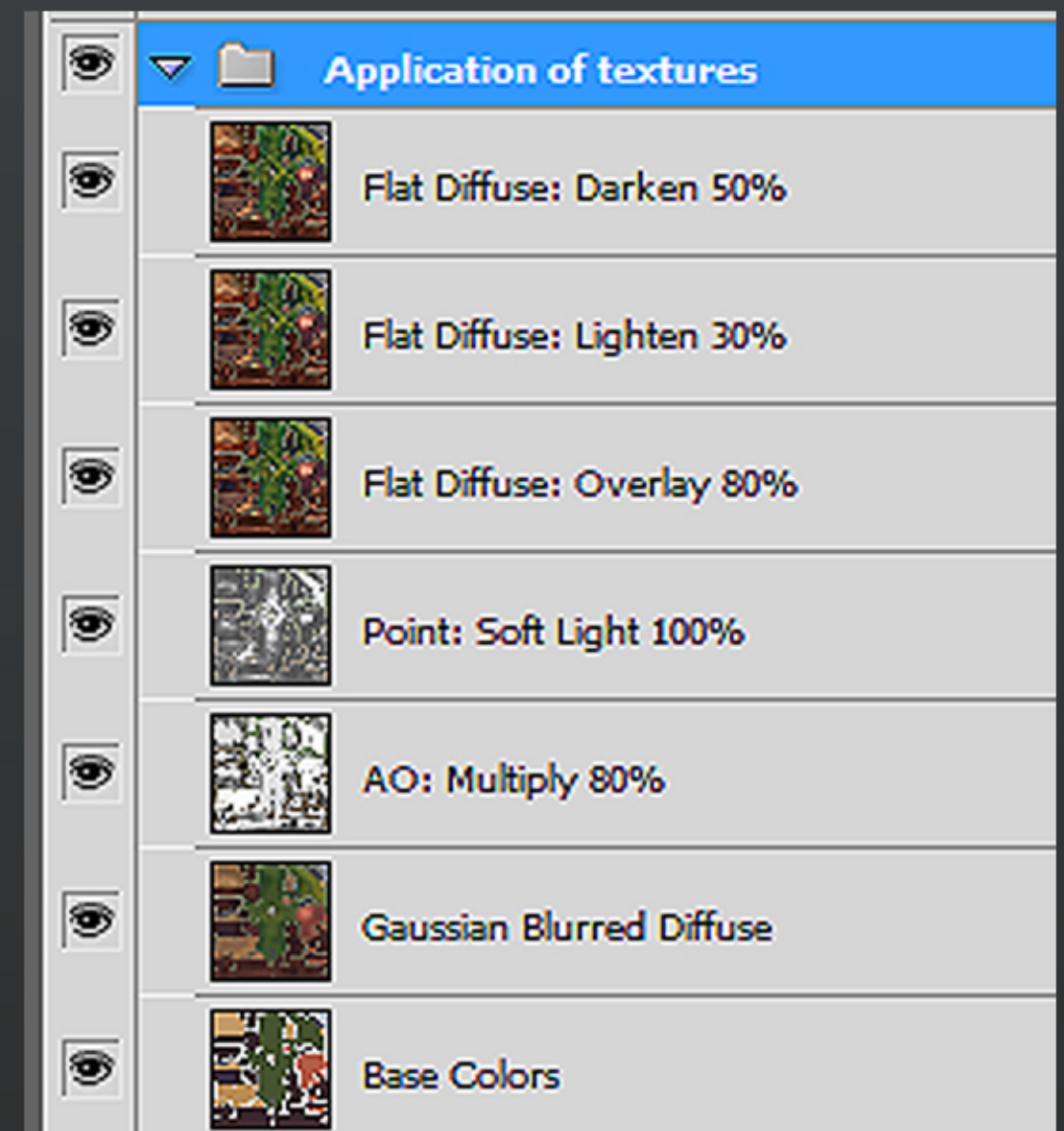
Now that you have all your textures ready to go, it was pretty much just follow along with the DOTA 2 guide. The actual values and such you may use can vary, but this is their basic breakdown and how I approached it

-I started out with my **Base Colors** layer first. I took the Diffuse texture and Gaussian Blurred it to almost be unrecognizeable and applied that as a normal layer at 100% opacity ontop of that.

-The AO Layer we created is next, set to a Multiply at 80%

-The Point Light is above this as a Soft Light layer at 100%

-The next three layers all utilize the **Flat Diffuse** texture we have. The first is an Overlay at 80%, followed by a Lighten at 30%, and a Darken at 50%. As stated in DOTA 2's guide, the Lighten and Darken layers allow us to manage each value independently which is a great control to have.



Before and After

The comparison



Before

After

Experiment and tweaks

Pushing the result further

While I was beyond happy with the results, I made several alterations to the texture by utilizing more layers ontop and other tweaks. The final result from that process is below. I hope you find this possibly texturing technique beneficial and thanks for taking the time to review it!

If you feel this guide needs more explanation, please contact me at Polycount and let me know.

