# Photoshop edges

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**Software:**
*Photoshop*
*3D software (Light Wave 3D, messiahStudio or anything else)*

# Introduction

I didn't invent this technique, someone else did. I can't find the thread on the forum where I read it first, or any of the other versions of the same technique I have seen on the net over the years. Maybe since software got more advanced, this kind of complicated hack got left behind, abandoned for better, easier ways to do things. The good thing with this technique though, is that you can do it using almost any 3D software, no matter if it has built in edges or not.

# Part 1, what you need.

What you need is quite simple. You need a *Color* render of you object and a gray-scale G*eometry* render. You also need to render these in double the resolution you plan to make your final image.
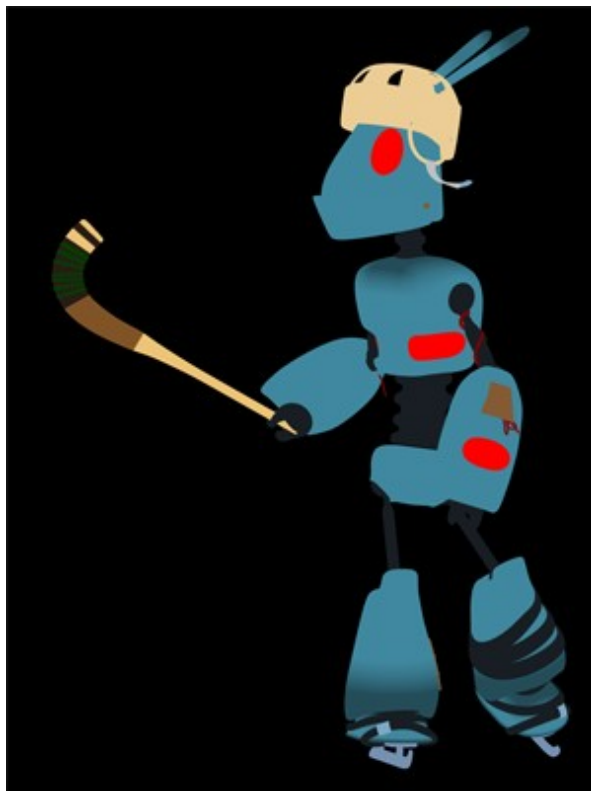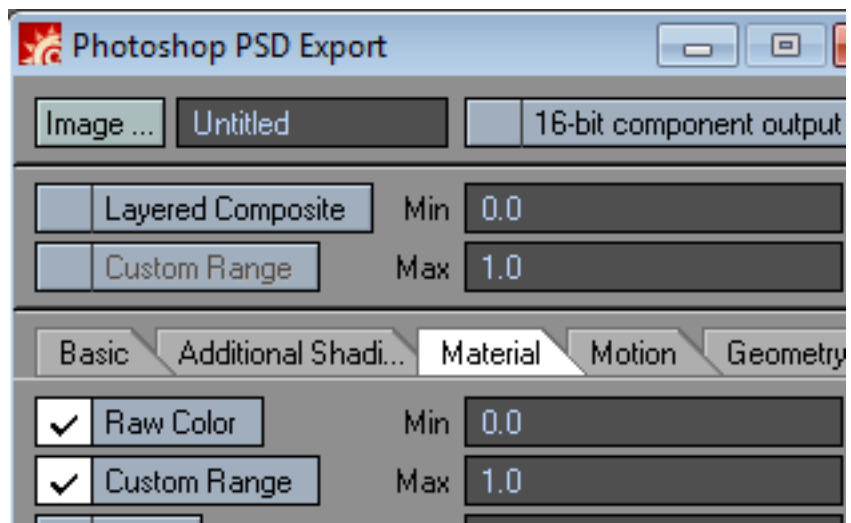


*Raw Color forHarax[2]*
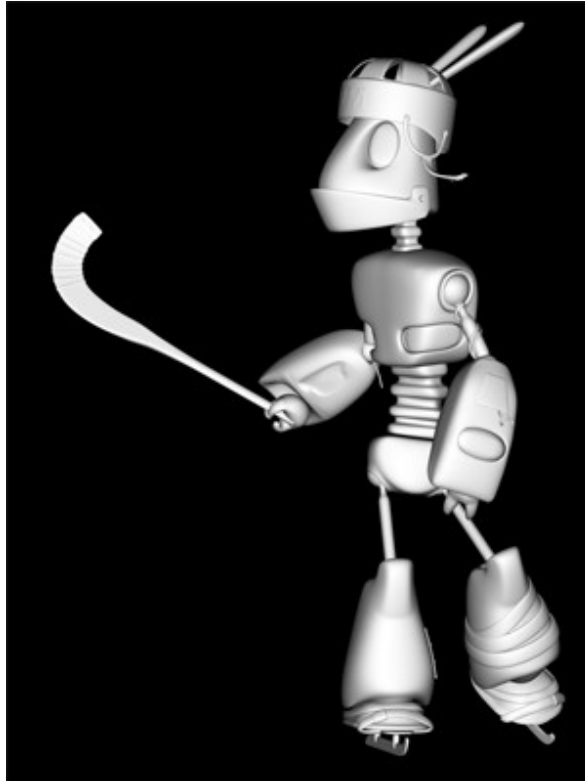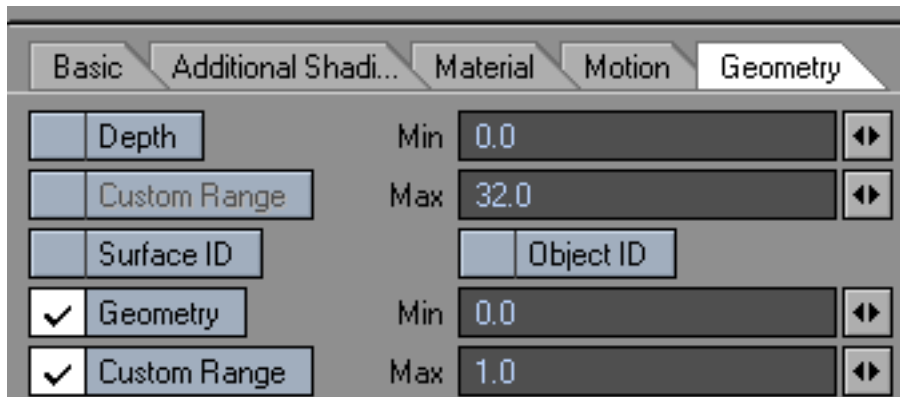
*Geometry for Harax²*

In Light Wave 3D you can easily get all this at once by using the Photoshop PSD Export. Image Process (Ctrl+F8) > Add Image Filter.
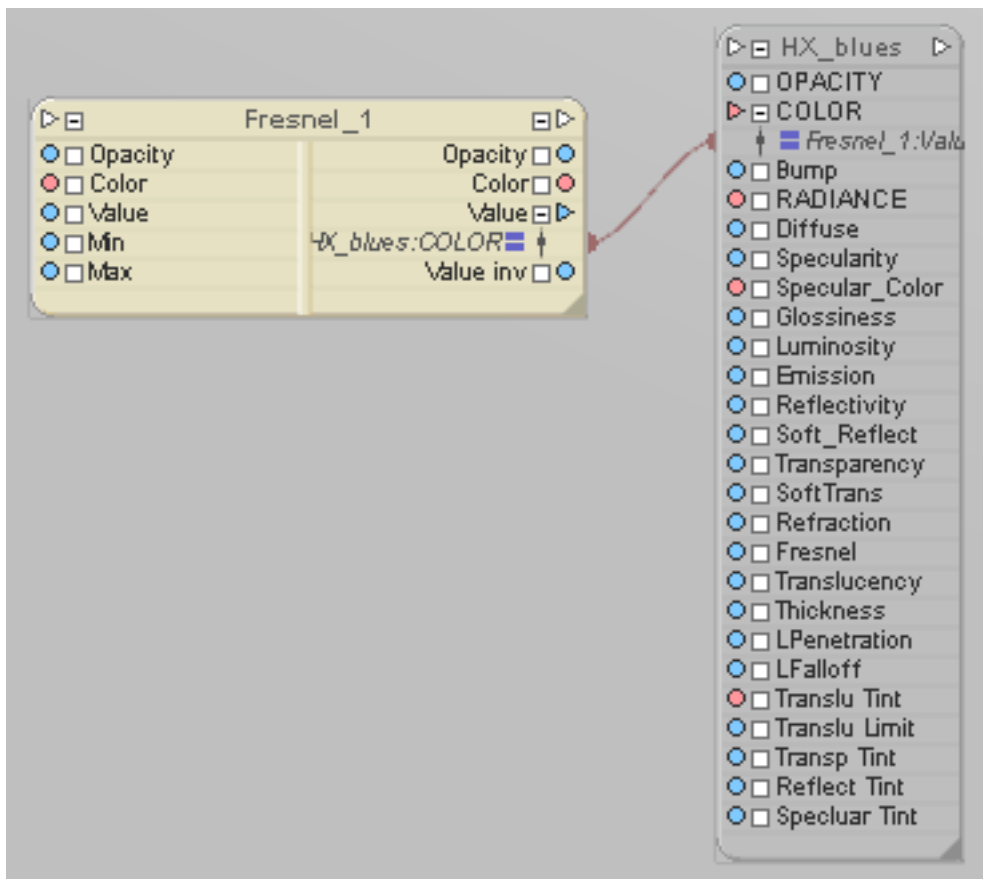


In the Material Tab you can find Raw Color.

Geometry is found under the Geometry tab.



The Geometry render is basically a incidence angle shaded version of your object with a gradient from black to white. In messiahStudio you can get the same result by using Fresnel.



For Kaisa & Harax I added some fractal noise to breaks up the edges and gives it a more random appearance. I also used a couple more of the layers that PSD export can spit out and blended them together in Photoshop. But I will only cover the basics here.
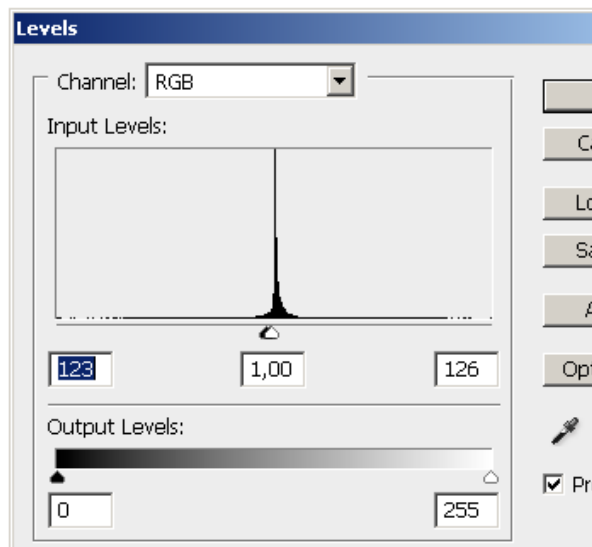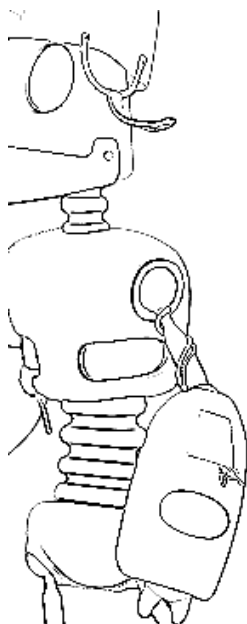
# Part 2, Photoshop

Load your Geometry render or PSD (and select the Geometry layer) in Photoshop.
Then select Filter>Other>Highpass...
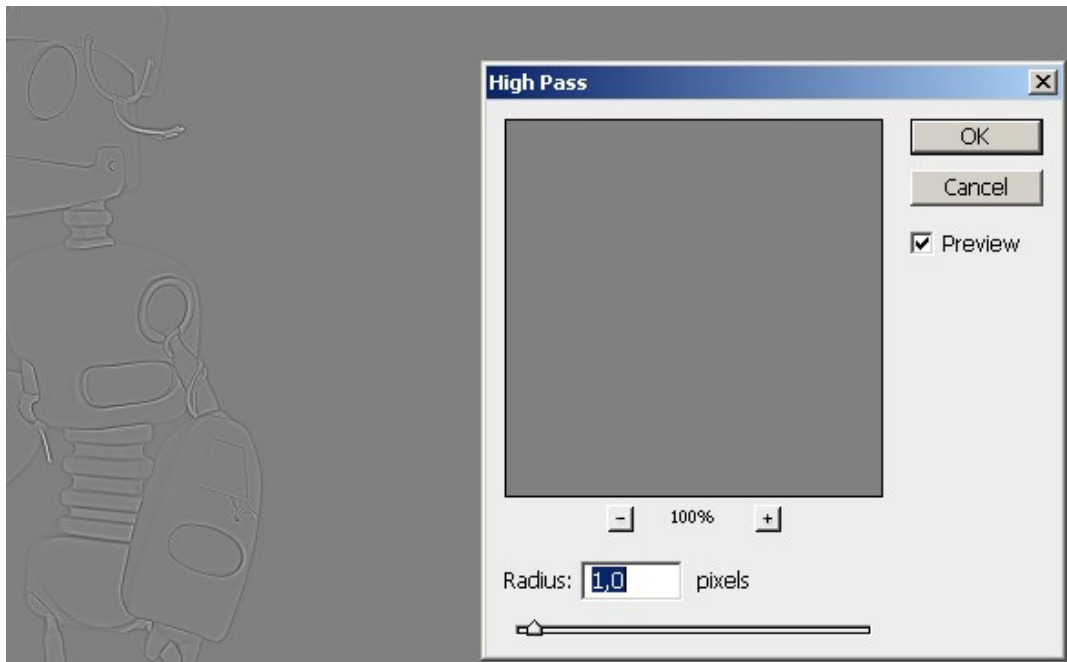
What Radius you select is up to you, the resolution of your picture and how much outline
you want. Experiment. 1,0 was right for Harax.

Next select Image>Adjustmet>Levels...

Adjust until your outlines are where you want them.

Next, blend your Color layer (or render) by using multiply, blur the outlines a bit, scale your image to 50% and you should have something like this. (You might have to remove the black background also).
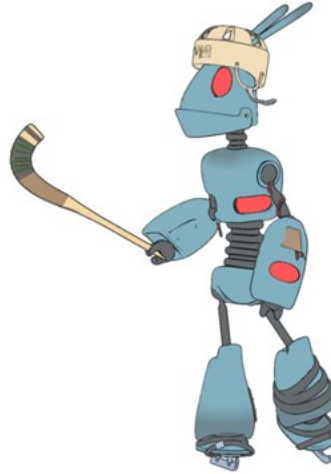
If you have an alpha layer for your image you might want to expand it so it doesn't cut the outlines away.

## Limitations

There are quite many limitations to this technique. You can't use it on angled surfaces like a box for example. It works best with simple characters that don't overlap much and have big areas without detail. Thin objects might disappear, especially if close to something else behind them.

The edge doesn't know what side it's supposed to go when two parts of the object overlap, so sometimes you get funny dents in your object where something in the background distorts the line.

Also if one object penetrates another, a line will appear where it happens. So if your character's eyes are separate from the character, you will always get a line around the eyes whether you want it or not.

If you have any comments or think something is unclear (English is not my first language), please send an email and I will do my best to answer any questions you might have.

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For more about Kaisa & Harax[2] and some more tutorials, visit http://www.bortbyting.com