Tutorial: Perfect masking using a highpass

Motivation / Intro

There are several methods to extract/mask objects or persons from the background. But sometimes you need perfect masking that includes for example the hair of a woman. The method I use for this is called highpass. We need to simulate this filter because there is no filter in GIMP that does this for us. The point of the technique is that you'll save lots of time for the difficult hair part, because when you do everything right the hair is extracted automatically.

Tutorial details

- Category: Techniques
- Written by devvv
- Created on Sep 05, 2007, last updated 2 months ago
- Time to reproduce: ≈30 minutes
- Tested with GIMP 2.4.rc2

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**Step 1**

Open any picture that contains a big shot of a person / celebrity / whatever. I use a picture of a well known celebrity.

**Step 2**

Duplicate (Layer → Duplicate Layer) the background layer 2 times. You should see that layer 3 times then on the layers panel. On the top layer use Filter → Blur → Gaussian Blur: 18px. Set the layer opacity to 50% transparency in the layers dialog.

Then invert the colors (Colors → Invert). You should have something similar to my picture now.
Step 3

Click the right mouse button on the top layer in the layers dialog and choose “Merge down” (Layer → Merge Down).

Now, desaturate the image (Colors → Desaturate). Choose the average option then click okay. Then adjust the color using curves (Colors → Curves) and apply a soft S-curve as seen on the image above.

Step 4

Then choose Brightness & Contrast (Colors → Brightness-Contrast) from the same menu. This step can vary when you use a different picture. We’re aiming to get a good clearly visible contrast. Its important that you get nice contrast in the hairs area.

Move the sliders until your picture looks similar to the one above.

We’re now done with the highpass filtering.
Step 5

Invert the colors (Colors \(\rightarrow\) Invert).

Step 6

Now you need to take a brush \(\text{paint}\) and paint the body of the person or object with white. To make it easier to correct mistakes you should create an empty layer (Layer \(\rightarrow\) New Layer) above the highpass-layer and paint on this layer. When done, merge the layer down (Layer \(\rightarrow\) Merge Down). You can move the background-layer above all layers and set the transparency to 20% or so to see what parts you have to paint.

IMPORTANT
You don’t have to paint the hair! That’s the point of this technique/tutorial. The hair should be already white, and everything behind the hair should be dark gray or black so you don’t have to use time to get the hair extracted.
Step 7

When you have the person white, you have to paint the background black. Start at the borders of the body. You can also use a big brush to fill the rest of the background with black.

If you use a separate layer don't forget to merge it down (Layer → Merge Down) at the end.

Step 8

At the end you should have an image containing almost only black and white. We use this as a layer mask now.

Press CTRL+A (Select → All). Copy this using CTRL+C (Edit → Copy). Open the picture of the actress (File → Open) Click right in the layers dialog, choose Add Alpha channel (Layer → Transparency → Add Alpha Channel).

Click right again and add a layer mask (Layer → Mask → Add Layer Mask). Press CTRL+V (Edit → Paste) then and use the anchor-button in the layers dialog to get the copy onto the layer mask. You should see the result immediately.

Make a white new layer behind all, then you can see the results even better!

Good luck and have fun!