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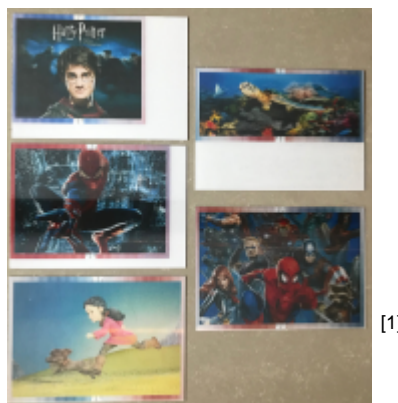
3D Lenticular Image Creation with GIMP

guitoo - Fri, 2019-08-30 15:20

So much fun playing and making your own lenticular images!

After receiving the lenticular sheets, I tried some free specialized lenticular software. I did not really work as the free version was always limited feature wise.

As I wanted to experiment with a start-free-first approach, I experimented GIMP. I actually could create easily few quite impressive (!!!) deep 3D pictures. I share here my little recipe.



Choose then Order the Lenticular Sheets

I was looking for lenticular sheet with postcard size, initial order small quantity, and around 60 max LPI (lines per inch) due to my standard home ink-jet printer limitations, wanting to do 3D with 12 images.

The sheets must include adhesive to glue the print-outs to the sheets.

I ordered [here](#) [2] my sheets from [VueThru](#) [3], the "3D 5X7 (12X17 cm) 60 LPI Lenticular Lens with Adhesive. Lines - Short Side". One reason being: "VueThru 60LPI lenticular lenses are ideal for 3D lenticular prints".

It costed me a bit more than 100USD including shipping to Asia. They arrived very quickly and customer service was really really good.

Know your Target Image DPI (calibration)

First thing to do is to define DPI under which to print to match the sheet LPI. Because the printer advertised DPI is not 100% exact, printing at the same value as lenticular will lead to progressive shift. It is required to know at which DPI to print to after perfect alignment from most left to most right.

My printer is an HP DeskJet 4729, claiming "Up to 1200 x 1200 rendered dpi" and "Up to 4800 x 1200 optimized dpi color (when printing from a computer and 1200 input dpi)".

I used [3DMasterKit](#) [4] from [Triaxes](#) [5] which has an easy pitch test page feature. After testing (min 59.50, max 60.50, increment 0.10), most uniform line is at at **60.30 LPI**. After retesting few weeks later, with more practice and a smaller increment (min 60.15, max 60.25, increment 0.01), 60.19 LPI came to be the best outcome...

Triaxes tutorial [here](#) [6] is excellent.

Find or Create a 3D Image Source

There are few ways to find a source of image. I used so far the first 2 ways.

1. Find an existing 3D animated GIF with only a rotating camera effect. There are many on the web. My kids loved the Marvel ones.
2. Create your own set of 3D pictures. I used [Blender](#) [7], the free opensource 3D animation software. I picked the [splash screen](#) [8] and rendered a 12 frames simple animation, with the camera moving left to right horizontally
3. Use a camera to shoot 2 or more pictures of a still scene, by slowly moving the camera horizontally

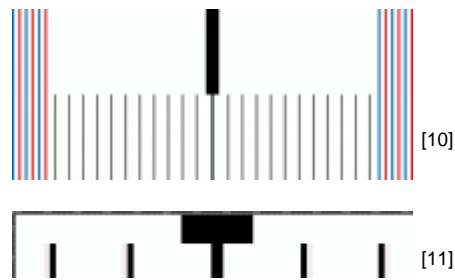
Prepare the Surrounding Frame and Mask

For the proper position, both to match the sheet lines with the pictures lines, and overall avoid parallel positioning, a frame around the picture is recommended.

I copied the idea from [3DMasterKit](#) [4] already mentionned above:

- for the main tuning purpose, few think black lines at the center top and bottom for frame v.s. picture lines perfect overlap
- Then beyond alternated red and blue lines, so that when properly positioned, there is no moire effect, and each eye shall see blue on right side and red on left side of the picture

The mask looks like bellow. The frame width is 120 pixels, height is 156 pixels. It will be the top layer in GIMP. The xcf can be downloaded [here](#) [9].



Create the Lenticular Image with GIMP

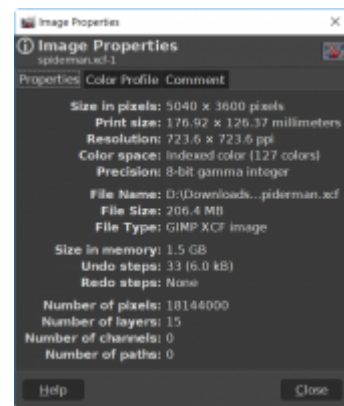
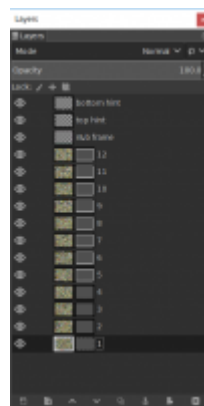
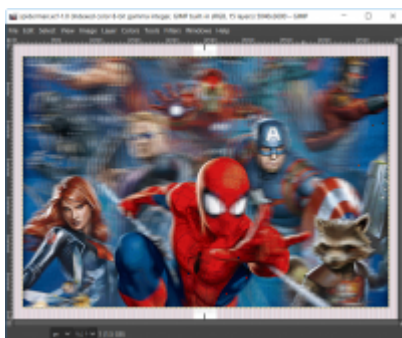
GIMP [12] v.2.10.12 was used for this activity.

Since the purchased sheet is 5x7' with a 60 LPI resolution, with 12 pixels (from 12 images) per line, the target image shall be 5,400x3,600 pixels, with a DPI of 723.6 (12x60.3).

Planning for 12 pixels per line, each pixel coming from a different image, 12 layers will be used on GIMP, controlled with an alpha layer simply made of white vertical lines, every 12 pixels.

Note that, from the core concept of lenticular lens sheet, the image viewed from the camera most right position should have the alpha layer with white most left. As camera moves to left, the alpha layer white line moves to right.

Outcome is like this.



Print

Well... just print in best quality on a ink jet paper designed for pictures.

Glue the Print-Out to the Lenticular Sheet

Next is to "simply":

1. As a practice, align first the picture under the lenticular sheet based on the centered top and bottom tuning lines provided. This is where for the first time you can assess the outcome of the work. Look at the sheet at a distance of 60cm
2. Then detach on the left side about 5cm of adhesive all along, fold it back with your nail,

- and position the sheet again, being carefull that the left side does not touch the picture. It works fairly well as the folder adhesive part acts as a spring, preventing the contact
3. Once positioned, push hard on the left side, all along, so that the sheet is well attached already
 4. Remove the rest of the adhesive film by pulling it horizontally
 5. Use a squishy to remove the fine bubbles between the picture and the sheet

If this is not clear, and not easy, [this video](#) [16] explains it much better than the convoluted explanation above!

And 3D Animations too!

Using the same technique, this time by rotating the sheet to work horizontal lines, it is possible to do animations. A lower lpi lenticular sheet is generally recommended. Morphing tends to render better animations.

Sample Output to Try

I attach here 2 examples

- [Basic Mask](#) [9]
- [Spiderman](#) [17]
- [Blender](#) [18]



Source URL: <http://geckotechnology.com/node/27>

Links:

- [1] <http://geckotechnology.com/sites/default/files/MyLenticularImages.png>
- [2] <https://store.vuethru.com/3d-5x7-12x17-cm-60-lpi-lenticular-lens-with-adhesive--lines---short-side-p691.aspx>
- [3] <https://vuethru.com>
- [4] <https://triaxes.com/products/3d-software/3dmasterkit/>
- [5] <https://triaxes.com/>
- [6] <https://www.youtube.com/watch?v=4pUlixvdLTE>
- [7] <https://www.blender.org>
- [8] <https://cloud.blender.org/p/gallery/5d2607ee6b3001d49bab798a>
- [9] <http://www.geckotechnology.com/sites/default/files/lenticular/Mask.xcf>
- [10] <http://geckotechnology.com/sites/default/files/border1.png>
- [11] <http://geckotechnology.com/sites/default/files/border2.png>
- [12] <https://www.gimp.org/>
- [13] <http://geckotechnology.com/sites/default/files/gimp-main.png>
- [14] <http://geckotechnology.com/sites/default/files/gimp-layers.png>
- [15] <http://geckotechnology.com/sites/default/files/gimp-image-properties.png>
- [16] <https://www.youtube.com/watch?v=6UWR6zGuI2A>
- [17] <http://www.geckotechnology.com/sites/default/files/lenticular/spiderman.xcf>
- [18] <http://www.geckotechnology.com/sites/default/files/lenticular/blender.xcf>