Transparent Background and "Cropping" (or "Rendering") in Inkscape

Inkscape backgrounds are transparent by default. Therefore, any image created in Inkscape will have a transparent background. If you want to change that, you can do this:

1. Go to File menu > Document Properties > Page tab > General > Background.
2. Click on the checkerboard bar to display the Background Color dialog.
3. Move the A slider all the way to the right, and you will see the A value change from 0 to 255. This will create a solid white background.
4. If you want, now you can change the color.
5. Close the dialog and Document Properties when finished.

Please note that Inkscape does not use the checkerboard pattern that most raster graphics programs use, to indicate transparency -- at least not on the canvas. The checkerboard IS seen in the A (or Alpha) slider in all color dialogs, though.

Probaby the most common problem I've seen, when trying to create a transparent background in a PNG format image, is using File menu > Save As > Cairo .png, rather than File menu > Export Bitmap. I can't explain why it happens, but using cairo png results in a white background. The proper technique is Export Bitmap, which will produce the transparent background PNG. (Even though it says "bitmap", it does not mean BMP format. In my opinion, it should be worded: "Export Raster". At present, PNG is the only option. But there are plans to add other raster formats.

Introduction

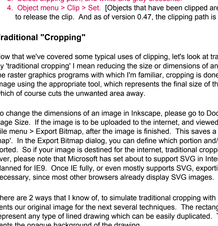
As a vector graphics program, there are a several differences in the concept and use of "cropping" in Inkscape. Technically Inkscape cannot crop an image, not in the sense that parts of the image are actually cut off. But there are many ways to get rid of unwanted parts of an image.

This article contains several mini-tutorials on the various ways to deal with these unwanted parts. It's written for every skill level, beginner and up. Although it might be a bit challenging for complete graphics novices, a little patience will see you through. And you can always ask questions here in the forum. Depending on your image and what you want to accomplish, you might use any, or maybe even some combination of these: Clip, Intersection, Trace Bitmap, Node editing, and Difference.

Clipping

The closest thing Inkscape has to cropping is called Clipping. Instead of cutting off the designated portion of an image, it sort of covers it up. The result can be used in almost any way you want, without corning 'unclipped'. One very typical use of clipping is to control shading or shadows, as well as reflections and highlights.

In this example, we'll explore a shadow. Let's say we want the shadow from the red rectangle to fall only on the green circle. So we need to remove the areas of shadow indicated by the blue circles. And looking closely at one of those areas, we realize that the shadow needs to be "cut off" or covered up along the borders of both the red rectangle and green circle. (This is indicated by the yellow dashed lines.) And with that, we have all the information we need to do the clipping.

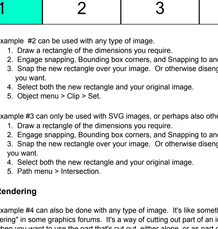


Here are the steps:

1. Select both the red rectangle and green circle.
2. Duplicate.
3. Path menu > Union. This is the Clipping Path.
4. Make sure the clipping path is on top of the shadow, but in the same layer. Then select both the clipping path and shadow.
5. Object menu > Clip > Set.

You can see in the last illustration (far right) that the shadow now falls only on the green circle.

Even more typical is the use of clipping to control shading, shadow, reflections and highlights, in simulating depth or 3D. Below is an example of shading and highlights. And even though the steps are the same, I'll elaborate briefly. Please note that I made the purple opaque background to show how the blurs fall outside the border before clipping (and not afterward). The steps are below.



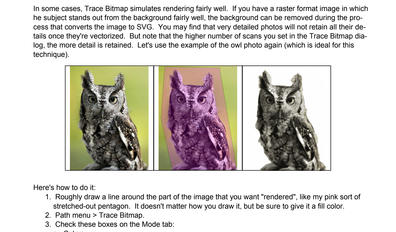
1. Duplicate the red circle, to create the clipping path, which I've colored yellow, for clarity. [Notice the white highlight. Multiple objects may be clipped with one path. They may be grouped before clipping, if you want. Or, as of version 0.48, there's a setting in Inkscape Preferences > Clippaths and Masks, to have grouping done automatically before setting the clip.]
2. Move it above the gray and white crescents (in z-order). [This can be changed in Inkscape Preferences > Clippaths and Masks, as of version 0.48.]
3. Select clipping path, and white and gray crescents.
4. Object menu > Clip > Set. [Objects that have been clipped are still fully editable without having to release the clip. And as of version 0.47, the clipping path is also editable.]

Traditional "Cropping"

Now that we've covered some typical uses of clipping, let's look at traditional cropping using Inkscape. By 'traditional cropping' I mean reducing the size or dimensions of an image, without scaling the it. In the raster graphics programs with which I'm familiar, cropping is done by drawing a rectangle on the image using the appropriate tool, which represents the final size of the image; then performing the crop, which of course cuts the unwanted area away.

To change the dimensions of an image in Inkscape, please go to Document Properties > Page tab > Page Size. If the image is to be uploaded to the internet, and viewed in browsers, you will probably use File menu > Export Bitmap, after the image is finished. This saves a PNG file, even though it says 'bitmap'. In the Export Bitmap dialog, you can define which portion and/or the dimensions you want exported. So if your image is destined for the internet, traditional cropping might never be necessary. However, please note that Microsoft has set about to support SVG in Internet Explorer, with minimal support planned for IE9. Once IE fully, or even mostly supports SVG, exporting to "bitmap" will no longer be necessary, since most other browsers already display SVG images.

There are 2 ways that I know of, to simulate traditional cropping with Inkscape. Image #1 below, represents our original image for the next several techniques. The rectangle, circle and star are meant to represent any type of lined drawing which can be easily duplicated. The larger green rectangle represents the opaque background of the drawing.



Example #2 can be used with any type of image.

1. Draw a rectangle of the dimensions you require.
2. Engage snapping, Bounding box corners, and Snapping to and from centers of bounding boxes.
3. Snap the new rectangle over your image. Or otherwise disengage snapping, and place it where you want.
4. Select both the new rectangle and your original image.
5. Object menu > Clip > Set.

Example #3 can only be used with SVG images, or perhaps also other vector formats (I'm guessing).

1. Draw a rectangle of the dimensions you require.
2. Engage snapping, Bounding box corners, and Snapping to and from centers of bounding boxes.
3. Snap the new rectangle over your image. Or otherwise disengage snapping, and place it where you want.
4. Select both the new rectangle and your original image.
5. Path menu > Intersection.

Rendering

Example #4 can also be done with any type of image. It's like something I've seen referred to as "rendering" in some graphics forums. It's a way of cutting out part of an image (the subject, for example) when you want to use the part that's cut out, either alone, or as part of another image. Rendering is often used in creating image signatures which are popular in said graphics forums. In this case, the part we want to cut out, (the rectangle, circle and star) is easily duplicated to create the clipping path.

But traditional rendering, as I understand it, uses a path tool of some sort, to trace the outline of a subject, which cannot be easily duplicated (like our shapes can, in this example). In Inkscape, this is done with the Pen tool. In the example to the right, you can see where I've started tracing the owl. I colored the path's stroke red, for clarity.

You may need to do some node editing, using node handles to fit curves precisely along the outline of the subject. And when the path is closed, it becomes the clipping path.

Note that the above owl photo is not a good representation of the kind of image for which this technique would be the best option. There is a much better Inkscape tool, which is covered later, as you read on. This technique is best for images where the subject, or the part you want "rendered" is not well defined.

Anyway, instructions for Example #4 are the same as we've already discussed:

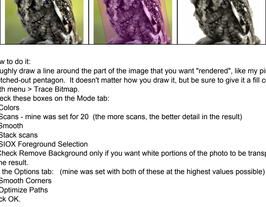
1. Create the clipping path. Either
   a. Duplicate the shapes. Select them all, Path menu > Union. Or
   b. Draw or trace the outline of the subject.
2. Place the clipping path above the image to be clipped, in z-order.
3. Select the image to be clipped and the clipping path.
4. Object menu > Clip > Set.

Example #5 is simply a variation on #4, and also can be used with any type of image. However, if you want the unneeded portions to be cut away, rather than covered up, AND it is a vector format, you can use Path Intersection to do it. Unfortunately, this cannot be done with raster image formats, in Inkscape.

Here are the instructions, using the original illustration (rectangle, circle, star on purple page):

1. Convert each shape to path, if not already. (Select, Path menu > Object to Path). OR you could also trace out the path, if the subject is hard to select, like in the rendering example.
2. Select all 3 shapes, Path menu > Union. This converts the 3 paths into one single path.
3. Fill and Stroke dialog > Stroke Paint tab > X (this removes the stroke). If you have traced out a path, be sure to give it a Fill color, before removing the stroke or you won't be able to select it in the next step (Fill and Stroke dialog > Fill tab > Flat color (big square button to right of big X)).
4. Select the unioned shapes (or traced path) and purple rectangle, Path menu > Intersection.

In some cases, Trace Bitmap simulates rendering fairly well. If you have a raster format image in which he subject stands out from the background fairly well, the background can be removed during the process that converts the image to SVG. You may find that very detailed photos will not retain all their details once they're vectorized. But note that the higher number of scans you set in the Trace Bitmap dialog, the more detail is retained. Let's use the example of the owl photo again (which is ideal for this technique).

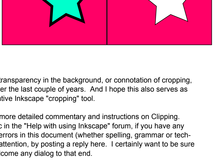


Here's how to do it:

1. Roughly draw a line around the part of the image that you want "rendered", like my pink sort of stretched-out pentagon. It doesn't matter how you draw it, but be sure to give it a fill color.
2. Path menu > Trace Bitmap.
3. Check these boxes on the Mode tab:
   a. Colors
   b. Scans - mine was set for 20 (the more scans, the better detail in the result)
   c. Smooth
   d. Stack scans
   e. SIOX Foreground Selection
   f. Check Remove Background only if you want white portions of the photo to be transparent in the result.
4. On the Options tab: (mine was set with both of these at the highest values possible)
   a. Smooth Corners
   b. Optimize Paths
5. Click OK.

Difference

Ok, this falls under the category of creating transparency where there is none. I did once see a new user call it "cropping", which is a stretch. I guess it's kinda like a "cookie cutter", which sounds even ess professional, lol. But if you've ever made cookies...? Anyway, I'm including it here, because it creates transparency by cutting something away. It's basically making some kind of hole in something, or creating a transparent area. It could be any shape, or any closed path, created in just about any way you want. Here's an illustration of the general idea -- a star shaped cookie has been cut out.



This can only be done on SVG formats. It's the easiest of all these techniques, but note that only one path can be cut at a time. So that if you need to make a hole through several layers, or z-order layers, unfortunately you'll need to do it one at a time.

1. Create your shape or path.
2. Place it above the image to be cut, in z-order.
3. Path menu > Difference.

Summary

Ok that about covers every possible use of transparency in the background, or connotation of cropping, that I've seen requested in these forums, over the last couple of years. And I hope this also serves as kind of a simple overview of Clipping, the native Inkscape "cropping" tool.

Please refer to the links in my signature for more detailed commentary and instructions on Clipping. And please also feel free to post a new topic in the "Help with using Inkscape" forum, if you have any questions about this article. If you find any errors in this document (whether spelling, grammar or technical) please don't hesitate to bring it to my attention, by posting a reply here. I certainly want to be sure I'm providing accurate instructions, and welcome any dialog to that end.

Brynn

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