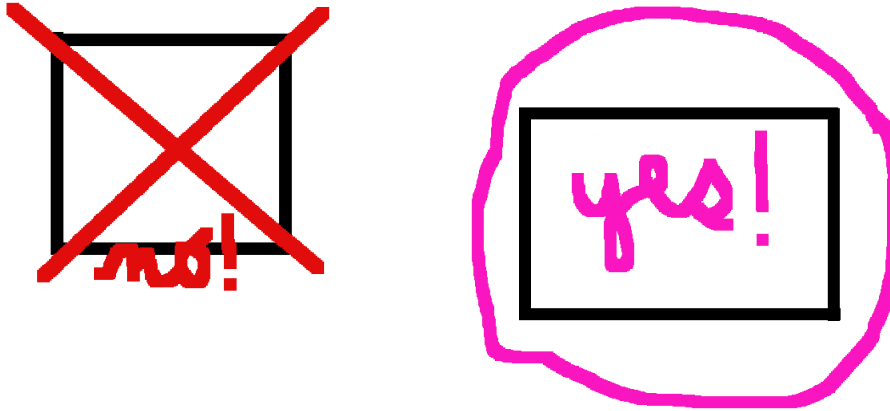## What is "Stretch Factor", and why do I need to use it for img2track?
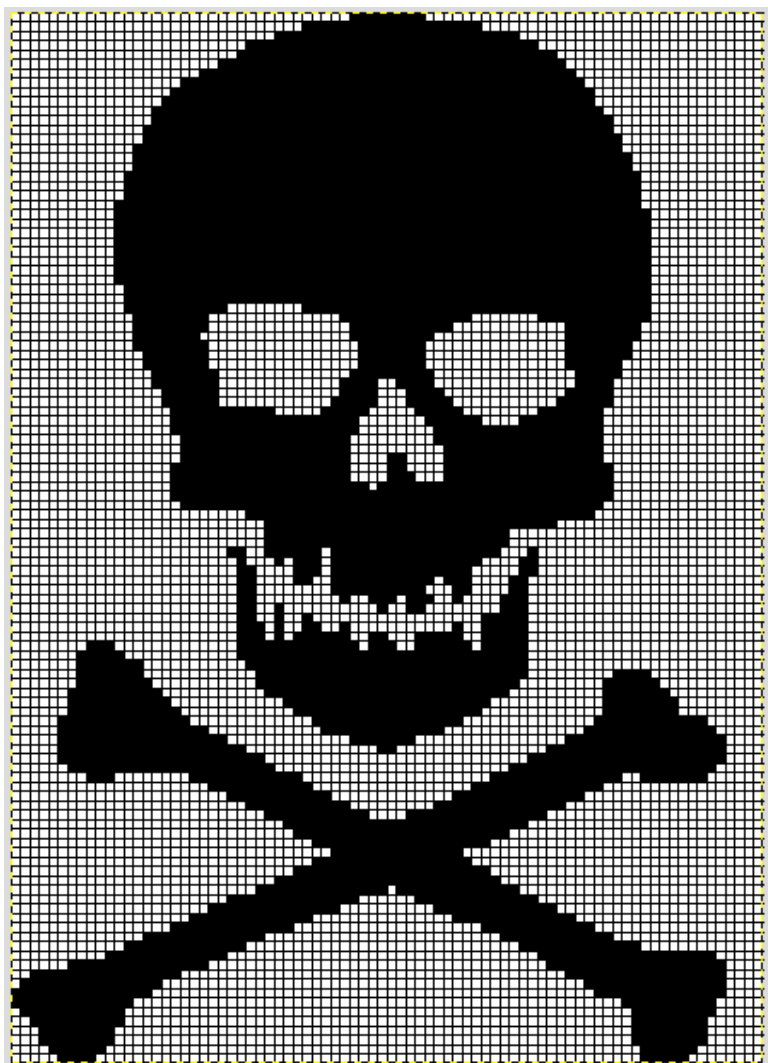
Most knitted stitches are not square, but rather rectangular. They are wider than they are tall. This is not true for all types of knitted stitches, but it is for most.
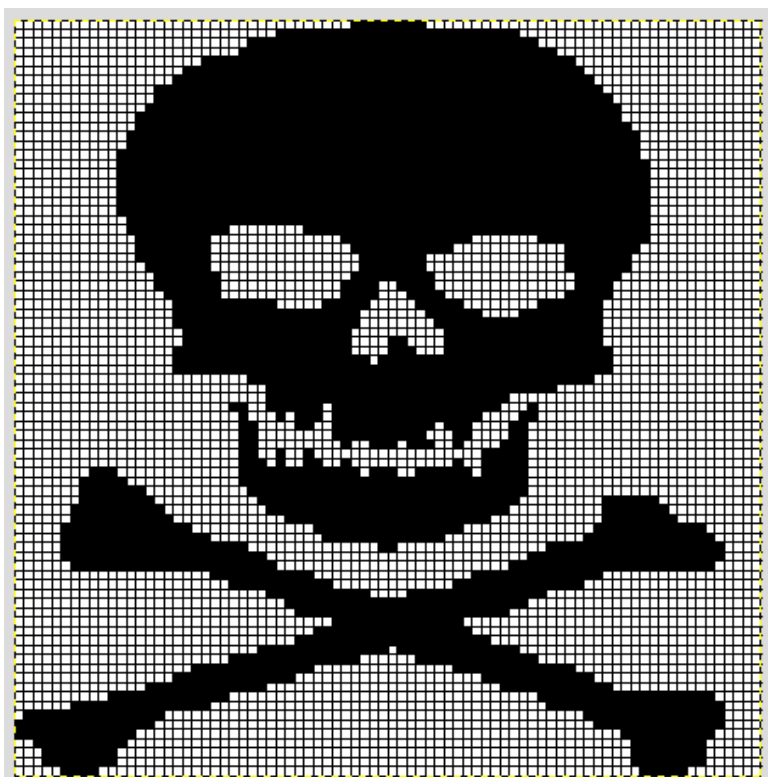


A typical gauge when knitting on a standard gauge knitting machine would be something like 32 stitches and 44 rows in 4 inches/10 cm. That means that our stitches are only 72% as tall as they are wide. (32/44) Another way of looking at that is that if we start out by drawing our design with square stitches, the entire design would end up only 72% as tall when knitted – it would look "squashed".

When we utilize a digital image for knitting, it is composed entirely of square pixels. If no adjustment were made, the design (which looks good on the computer screen), when knitted, would be squashed. So, we need to "strrreeetch" that design out digitally, so that when it inevitably gets squashed in the knitting, it actually turns out with the correct dimensions.

For example, here is a pattern that is 80 pixels wide and 112 pixels tall (I've applied a grid to help define the pixels)



And here's the exact same design, as it might appear knitted in our 32x44 gauge:

You might be perfectly satisfied with either of the presentations above, or you may feel that you want the knitted image to more closely reflect the digital image, particularly in the case of photos of people.

200 pixel wide image ready to knit:



200 stitches wide, as it would appear knitted:



200 pixel wide image, stretched to account for our gauge (stretch factor 1.375):



Img2track will do the stretching digitally for you, if you input your stretch factor according to your gauge. In some cases, you might want to stretch the image yourself, in a graphics program, make any

adjustments you think would optimize the image and then load it with img2track with the stretch factor set to 1.0.

As I alluded to at the beginning, not all knitted stitches are rectangular. There are times, notably when knitting double bed jacquard, that your stitches my actually be square. So it always pays to knit a gauge on your machine, with the yarn you'll be using, in the stitch size you'll be using and with the patterning you'll be using, to produce the best knitted images.