I learned how to crochet from my mother, who received the skill from my grandmother. She taught me the basic stitches and bought me some books of patterns. I wanted to make things that weren't found in those books, and eventually took it upon myself to figure them out (because books are expensive and I don't like being told what to do:p). Here is how I (learned to) crochet portraits.

#### A) Basic crochet

Master the chain, single crochet, and color change/intarsia techniques.

### B) Fancy crochet

Opposite handed stitches act like the stockinette stitch in knitting: it makes clear front and back sides, and gives you a side to leave a bit messy. The back of a single crochet doesn't hide carried string very well (or at all), and it just gets worse when you have to carry multiples. The front sides of stitches are much better walls, so learning to crochet the opposite-handed stitch will give you a cleaner picture.

#### C) Pattern making

[ For any beginners following this process, start with a simple drawing on graph paper. (10 squares/inch is ideal; 1/4" squares are large, so I subdivide them into 2 or 4 squares.) Start with the outline, then color in the squares. This will help you understand what kind of details are needed to make images recognizable, as well as how big a pattern should be in order to maintain that detail. ]

CHOOSE a shape. Most of my portraits are square/ rectangular because it is simple. This step, however, is sometimes decided at the same time as the next:

CHOOSE an image. The portrait/image I choose might not fit into a square, or into the space I want it to (see Hiddleston Poncho and Renner Vest). Some modification of the image and shape pattern may be required to compromise and make them both look good.

PHOTOSHOP. After the image and shape are decided, I take it to Photoshop and block the lovely myriad skin tones and hair highlights down to as few colors as possible (or to the number of

colors I intend to work with). Sometimes a skin color can work in the hair, or vice versa, but for the most part the minimum number for a MiCrochet color portrait is 13 (I've managed to find 10 shades for grayscale portraits). Skin needs 3-4 shades, lips and eyes should each have another 3, then 3-4 for hair. Eyes may need more if the lighting is dramatic, and depending on the highlights in the hair, you might be able to reuse the eye white. The background will need yet another color, but unless I want something special, I just use white (already found in the eyes, huzzah!).

DIGITAL grid. My first grids were in Photoshop (I'll explain my current method in the next step). I used the pen tool to make sure the lines were straight, and of course, the squares you draw need to match your gauge. I did it the hard way, but you can "stroke" the path with a "pencil" so you don't accidentally click on the lines or delete them. The grid should be saved as a separate PNG file (be sure the holes are blank, not white) so you can simply import the grid as a new layer.

CHART. After painting the image, it must be graphed into clear units. If you use Photoshop, you might make a selection to exclude the grid lines, and then re-paint your colors as complete squares/rectangles (in different layers, of course). However, I use Blender, which is a free, open-source 3D program that I learned to use several years ago (and it has undergone many updates since, so I cannot help you understand the latest version). In my basic file, I have 4 charts: crochet (2x2), knitting (3x5), filet (4x2), and circular. These include all stitch-representing quadrilaterals as well as grid-lines and row-markers.

# D) Preparing materials

FIND the right string colors. For me, this means several minutes of browsing embroidery threads. After numerous projects I have a decent collection of open strings, and have created little samples because sometimes unpeeled strings look different together than when worked. But sometimes I need more. I used to bring a printout to the store to match colors, but now I have a tablet, so I splurge on power usage (egad!) and brighten it up to the max for better view.

PEEL those floss colors. Depending on the size of the project, and the highest number of sources I expect to need, I peel the

thread skeins down to six, tie them end to end (if necessary), and roll them up on a little segment of drinking straw (must recycle, you know).

DEVELOP a spool tree. (Just as we're getting excited to crochet, this step probably belongs in a previous section. Too bad, this is when I did it.) My first tree was fixed, and I discovered my strings needed mobility. The second used magnets, making them mobile, but the polarity sometimes made them face wrongly and interfere with each other (and the space it needed was still too fixed). The third (and possibly last) model was inspired by the accordion: it could expand for the strings that were in use, and "fold" for the ones that aren't. This means that I can easily (relatively) keep 20 sources in order, and turning them at the end of the row is much easier. The 20-inch tray of the previous model has been usurped by a little piece of pseudo-engineering that now holds more sources at no greater than 10 inches wide. This is built with 3" cuts of floral wire, folded into thirds, and 2" x .75" bits of foam board (upgraded to some sort of paperboard), which has a hole at each end.

PLAN the number of starting sources. Decide which side to start on. Usually the top/bottom are better, because while there will be LOTS of sources during the eye and lip rows, generally there are fewer than working from side to side. If there are fine lines of a color in a large block (like creases in a shirt/coat), I'll ignore those when I chain and just add them during regular crochet. For more info on choosing source count, see my "Quick Guide to Picture Crochet."

### E) Crochet

FINALLY we can crochet! You might chain with the color in the corner that you would first single crochet, but I chain all major colors so more sources will be ready for the first row. Multi-source chains also prevents a stark and potentially out-of-place outline, which can have its uses, but I prefer the "photographic realism" of color-to-the-edge.

REMEMBER to always look ahead. At each color change, check the next few stitches to decide whether to carry, cut, or add. Once these decisions have been made, checking ahead helps avoid carrying string to a source that has already been decided for a

nearby patch. Sometimes I have patches of the same color close together, separated by only a few stitches, through which I would normally carry. I might choose to have separate sources because the "cover" stitches are too light/dark to hide it, or because the patches are going to separate beyond carrying distance, or because it would change the texture of the work unnecessarily. Usually the patches must meet at least two of these criteria to have such a setup, and sometimes in the rhythm of workflow, I forget and have to undo some stitches.

It's also important to check the next few rows; sometimes there is just a small patch of a color that you cut, but as you keep working, you find another patch just 2 or 3 rows later, right "above" the last one. Carrying a source "upward" for up to 5 rows is usually a reasonable tradeoff for the time of cutting, restarting, and weaving in a source's ends, and it almost always saves materials.

With MiCrochet, I've found that, hard as I try, I sometimes make a terrible mistake, and my only recourse it to undo the work. With spider webs like mine, undoing the string, and then keeping undone work organized, is just as difficult as putting it together—sometimes worse, because now there are tiny segments of string I must remember to put back in the correct order, and use in the proper amount (can't restitch too large/small). Then, if I've tied strings off permanently, I lose several more minutes on each knot. Fortunately I no longer do that; I now tie them securely enough to avoid unraveling during the project, but not so tightly that I waste tons of time in case of mistake.

Weaving in all the ends is not something I'll save for last, because it is the most unsavory task—like cleaning up a kitchen after cooking up a storm. Why should I have to go back and clean up when I want to hold up the piece and admire what I just \*finished\*? When working a yarn picture, I'll work over/weave in the end as soon as I cut it, if not just to get it over with, so that I don't forget about it. With MiCrochet I don't bother at all (except to fold behind dark enough colors) because they are hidden by easier means, as explained in the next step.

## F) Mount

PERHAPS you thought ahead about what to do with the portrait when you're done. My first portraits were just little messy patches which I mounted later, so that procrastination is reflected in this guide. My portraits are mounted to watercolor paper to give them form (and to hide the messy backs). I know how much my work must be stretched to give it proper proportion, so I measure the paper accordingly, cut it out of the giant roll I paid for dearly in college, and use a needle punch to perforate it (because I previously used pliers and sewed it straight to, which was more work and less accurate). Now I choose the sewing colors using a similar method as when chaining, except that I use the color that covers the broadest amount of edge. If there are narrow segments of color, I will probably ignore them and just use the surrounding color.