Using yourself as a reference point, you have to take 4 pictures, right, left, in front of, and behind you. Then, take another straight up, and finally, another straight down, being careful to avoid capturing your feet. You will probably get better results using a tripod, but going without will work as well.

You need to consider your software choices for stitching your pictures together. I used Hugin, which is still popular. Here's what I wrote about Hugin panoramas (360/180) in 2010:

About Stereographic Projections

Panoramas bring to mind a very wide image, usually of buildings or a landscape. The series of photographs used to make panoramas are called "stitched photos," because they are "sewn" together to make a single picture.

360-degree panoramas are made of a series of pictures stitched together. The camera is rotated about a single point until a full circle is completed. 360/180 degree panoramas include not only the 360 degree camera sweep, but also an image made pointing the camera straight up, and another made pointing the camera straight down. This includes an image of what the camera is standing on and what is directly above it.

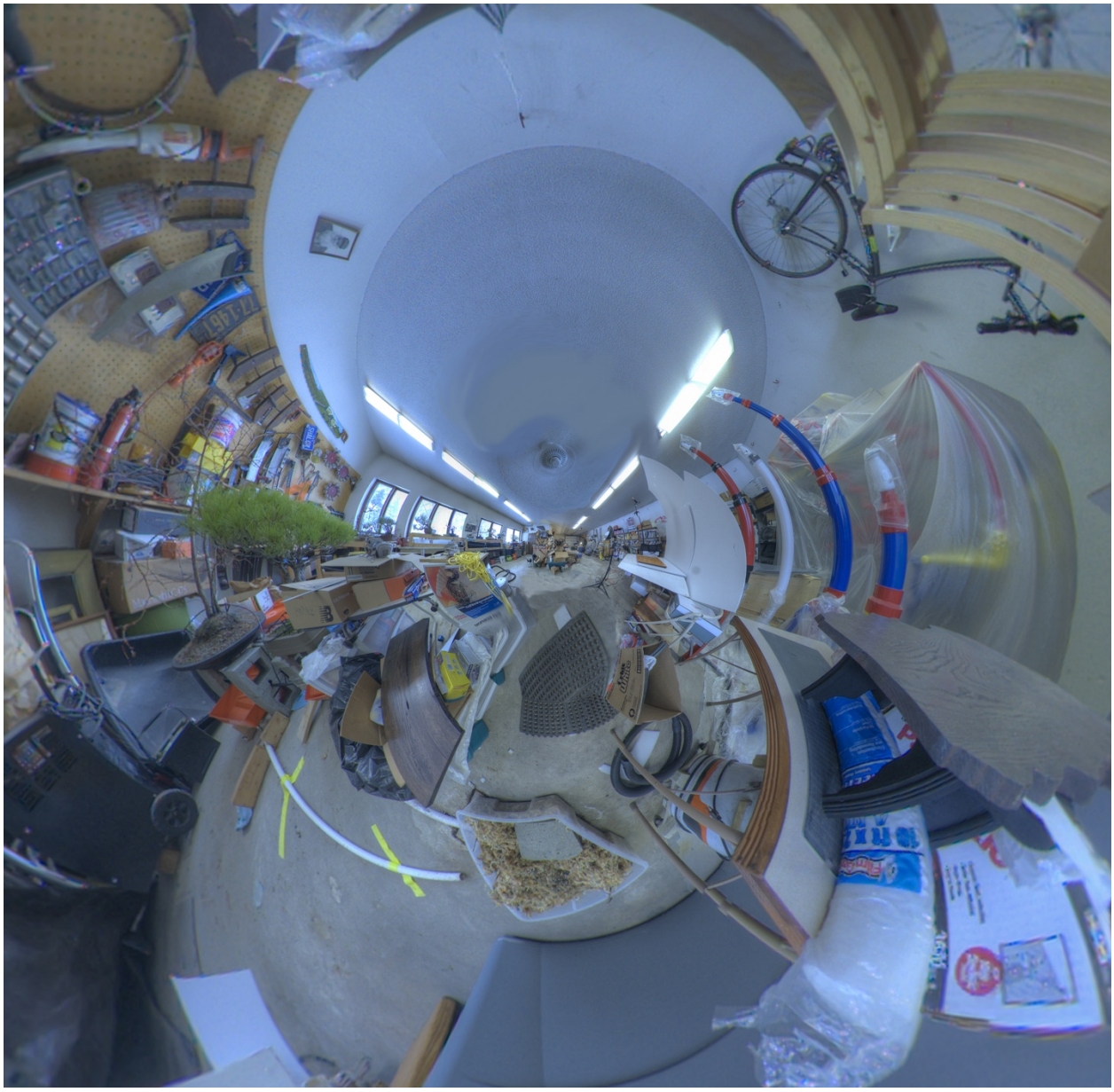
The 5 images shown here are stereographic projections of 360/180 degree panoramas. A stereographic projection is the surface of a sphere projected onto a plane. This geometric technique has been known since

the time of the astronomer, Ptolemy, who used it to map the stars.

Depending on what is being photographed, the results of stereographic projections fall into two classes. First is the planet, so-called because the result resembles a small planet floating in space. I have one planet, Snow Planet Too. Second is the tube, or tunnel, because the results look like what is seen looking into a tube. The other four stereographic projections I am showing here are of the tunnel-type, because the panoramas are interiors.

While stereographic projection panoramas can be done with a normal lens, most modern artists use a fisheye lens because of its 180 degree field of view. Of course, all this work is digital. Software is used to stitch the pictures, but it is a mistake to think that pictures are simply fed into the software and a perfect picture results. Painstaking editing and painting skills are needed to see the results I'm showing here.

Here's an image, one of five, that went with the text above:



The problem here is that the output is flat. The image is interesting, but not the type of material I need to view stereoscopically in a VR headset.

Here, I'm splitting my discussion of head-mounted displays into two parts: 1) the technology necessary to generate fully spherical imagery, and 2) the technology of head-mounted displays.

1. The technology necessary to generate spherical imagery.

Some time during 2016, I became aware of a company called Dermandar. (Dermandar means "all about.") They are based in Lebanon. They make a very sophisticated product called theVRkit, also called the Rotator. TheVRkit consists of a small, cylindrical driver, a clamp on top which your iPhone is squeezed into, and a tripod base, which you can use in lieu of a regular camera tripod. The Rotator connects to your iPhone via Bluetooth. Dermandar supplies a very good fisheye lens that clamps to the iPhone, but I use a Sandmarc fisheye, which removes distortion at the edges of the image. The VRkit times its exposures by its rotation, producing 6 distinct shots. It then stitches the pictures together in a single image, but saves each discrete part, as well as the final stitched product, to the iPhone's Photos software.

I used the Dermandar hardware and software to make a series of pictures. This image is a 360/720 spherical panorama of our refrigerator. I made this using theVRkit Rotator, my iPhone 10 XS, the Sandmarc fisheye, and a couple of improvised things to keep the refrigerator light on.

The next three pictures show the original pano, followed by 2 rotated screenshots. The spherical panorama is always larger than the viewing window.

Viewed straight on.

Looking straight down.