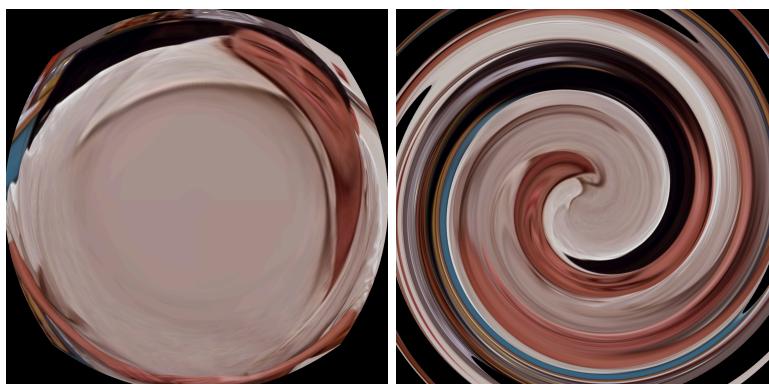


CS 457 Project #5
Image Manipulation
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Original images



Processed images



Fisheye

Whirl



Mosaic

Blend

[Video link](#)

To create this display, I worked in this order:

whirlfisheye.vert

1. Set the vertex shader to output the (s,t) texture coordinates via vec2 vST
2. Mapped a vertex from its original object space position to its final position in clip space

proj5.glib

3. Set parameters for the following variables so they appear as sliders in GLman:
 - a. uPower
 - b. uRtheta
 - c. uMosaic
 - d. uBlend
4. Set TexUnitA and TexUnitB to use the two image textures
5. Specified the quad the images will be binded to

whirlfisheye.frag

6. Brought in GLman variables as uniform floats
7. Brought in TexUnitA and TexUnitB as uniform sampler2Ds
8. Implemented fisheye image manipulation using uPower as the exponent in the fisheye equation
9. Implemented whirl image manipulation using uRtheta as the radius multiplier in the whirl equation
10. Implemented mosaicing using uMosaic and the ellipse methodology behind Project #1
11. Implemented blacking out parts of the image that don't reach the borders and blending
 - a. Used an if-else statement to paint the pixel black if s or t end up outside the range [0., 1.]
 - b. If the pixel is within the range, sample both textures at (s,t) using TexUnitA and TexUnitB and give back two rgb vec3s
 - c. Mix the two rgbs using uBlend
 - d. Set gl_FragColor to the resulting rgb