CS 557 Assignment Five: Image Manipulation

Name: Chiayu Tu

Email: tuchi@oregonstate.edu

Link: CS 557 Assignment Five - OSU MediaSpace (oregonstate.edu)

Project Description:

This GLSL fragment shader creates a visually transformative effect by combining a fisheye distortion, a rotational whirl, a mosaic-like pixelation, and the ability to blend between two input textures. The intensity of each effect is adjustable in real-time using uniform variables (uPower, uRtheta, uMosaic, and uBlend). The code first calculates the pixel's distance from the image center and its angle, then applies a radius modification (fisheye) and a rotation (whirl). To achieve the mosaic effect, the image is divided into blocks, and each pixel is shifted to the block's center. Finally, two textures are sampled and blended based on a user-controlled factor. This shader has potential applications in creative image filtering, real-time video effects, and interactive visual systems.

Project Screenshot:
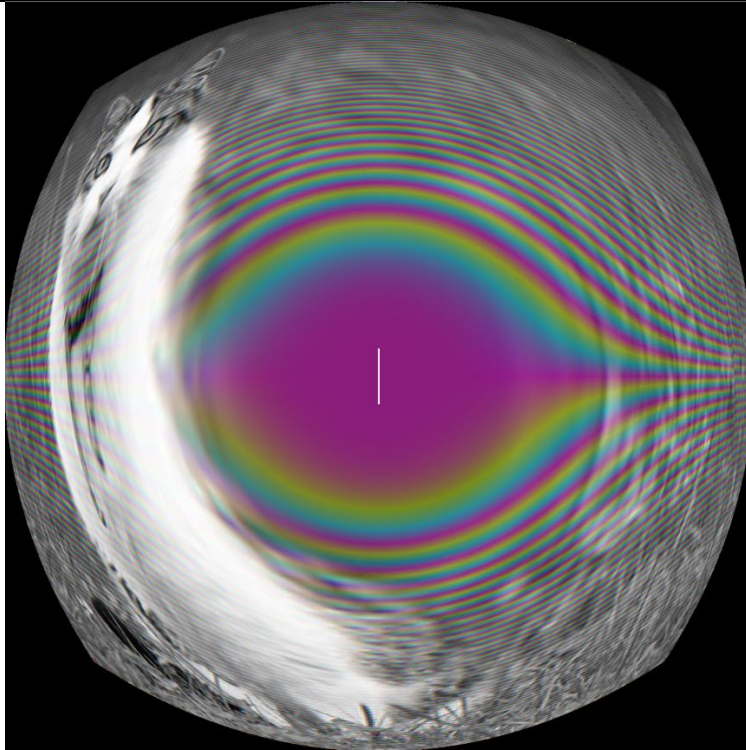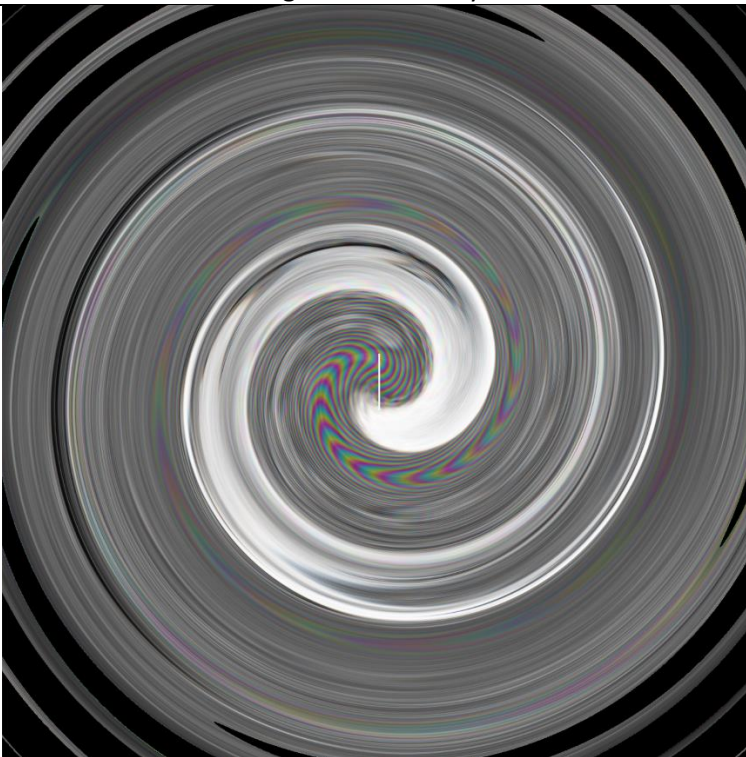


Figure One: Original Image

Figure Two: Fisheye



Figure Three: Whirl

Figure Four: Mosaic


Figure Six: Blend