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CS557 - Computer Graphics Shaders

# Project #5: **Image Manipulation in a "Magic Lens"**

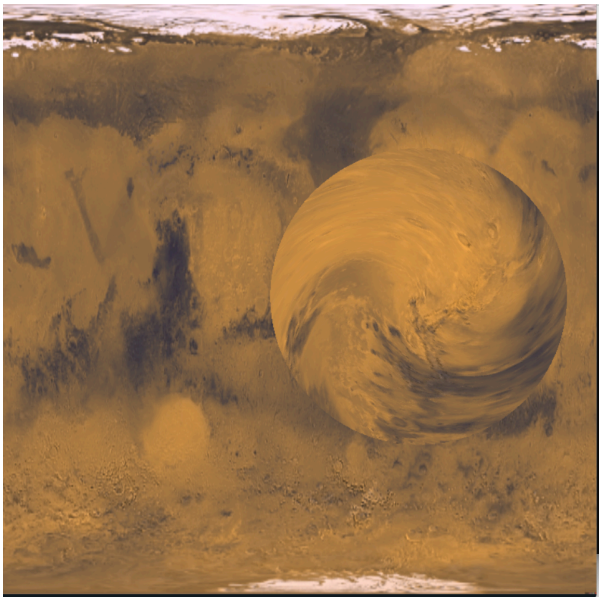
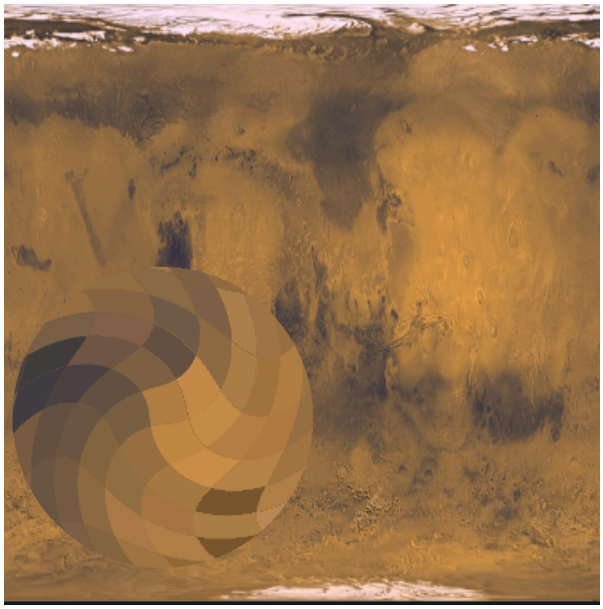
**Description:**

**For this project, I followed the instructions given in the project handout page. I did it both with glman and with API, but the video recording will be in glman. A major portion of work for this project is in the fragment shader. The fragment shader code starts off by first checking if the texture coordinates lies within the set radius, if it is not in this radius, then we just simply read the texture value and render it. If it is not, then we apply the zoom in/out and uMosaic parameters to the texture. Before doing all this the center of the texture had to be established. The uMosaic part is similar to how we did it for noisy ellipse boundary detections and have the whole section display the same texture. For zoom in/out, the radius has to be multiplied with the uMag parameter.**

**All the following project requirements have been fulfilled:**

- **Something different happens inside the circle:** Seen during magnification, whirling, Mosaicing
- **The circle can be resized and moved:** Seen when uSc, uTc, uRad is changed.
- **Magnification works:** Seen when uMag is changed.
- **Whirling works:** Seen when uWhirl is changed.
- **Mosaic'ing works:** Seen when uMosaic is changed.

**Screenshot:**

| **uWhirl/uSc/uTc** | **uRad,uMosaic** |
| --- | --- |
|  |  |

**Video Link:** https://media.oregonstate.edu/media/t/1_o01uqb3m