Oregon State University

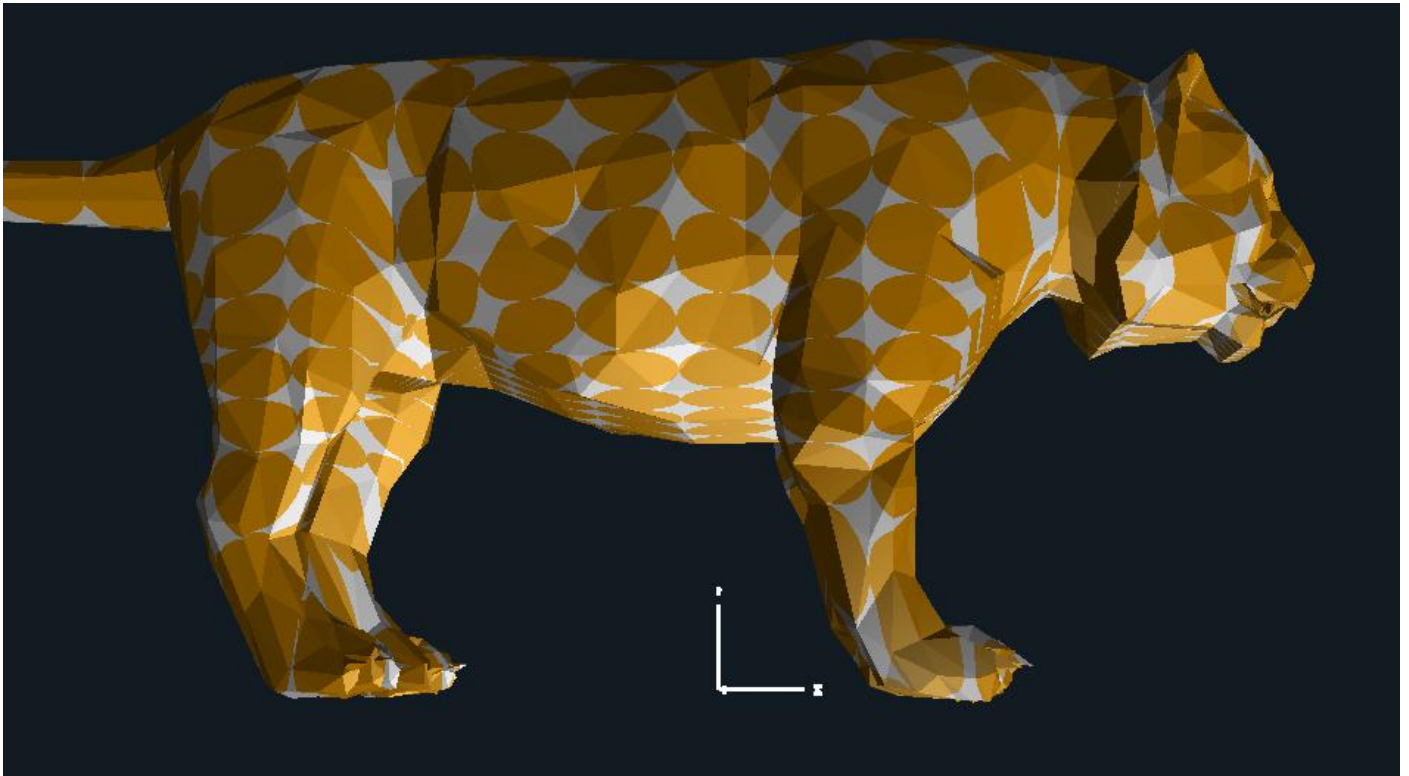# CS_557_X001_W2022 COMPUTER GRAPHICS SHADERS

Project #2

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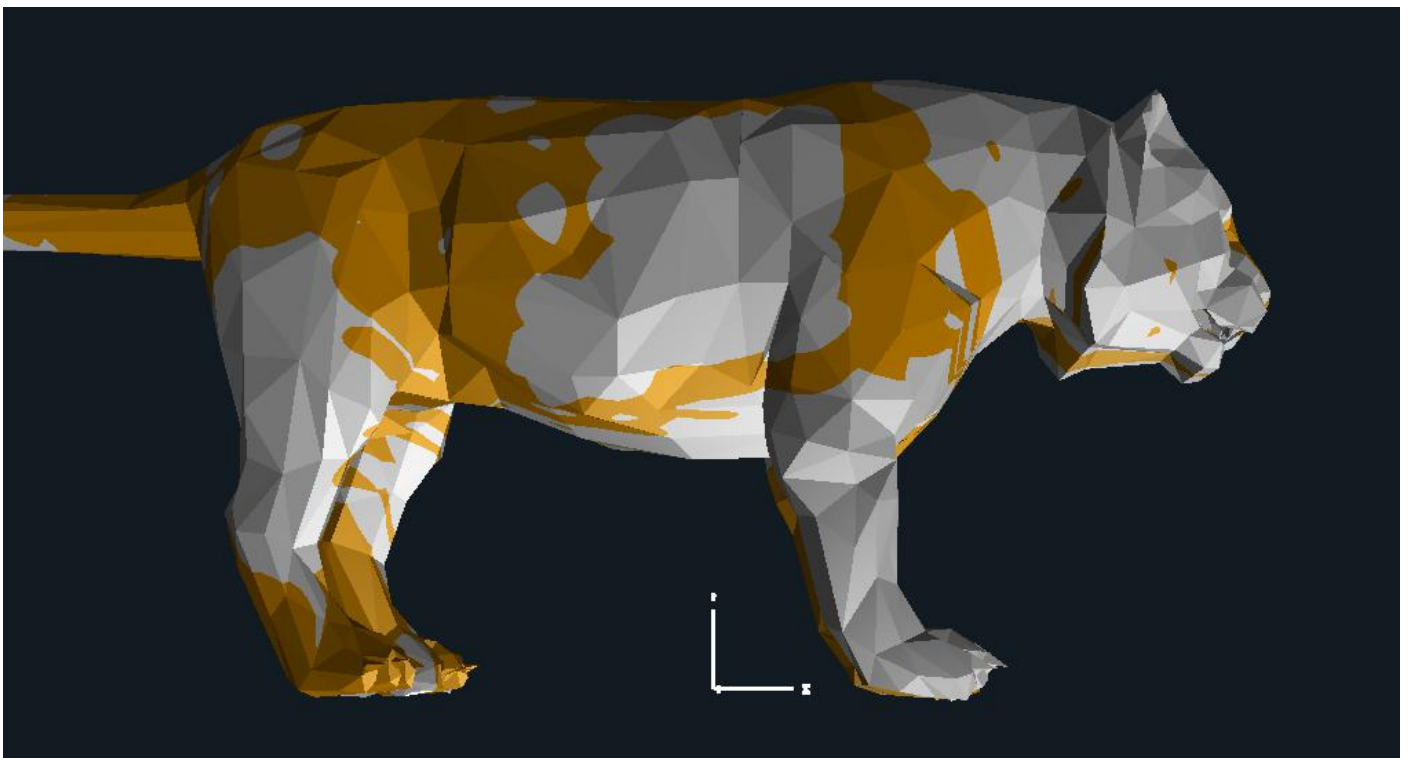
NoiseAmp:
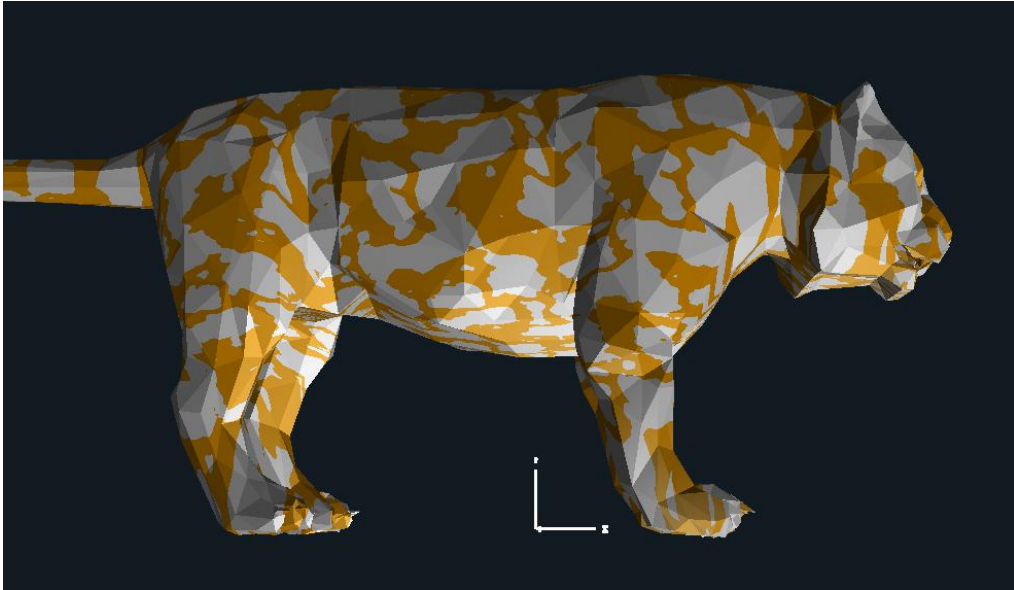
NoiseFreq:

uTol:

uAlpha:

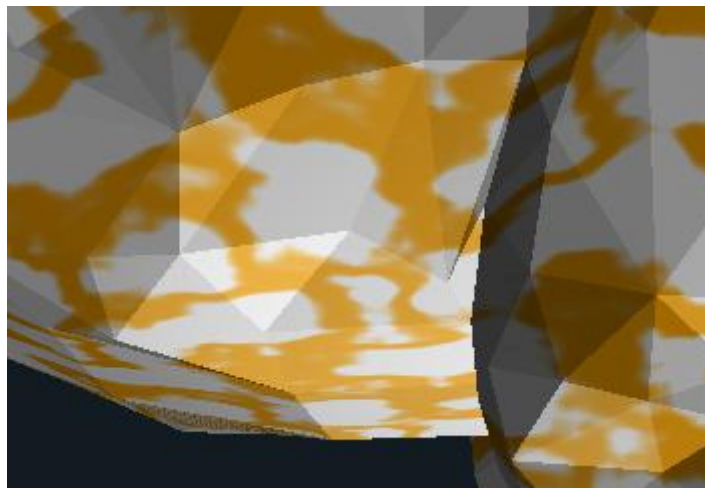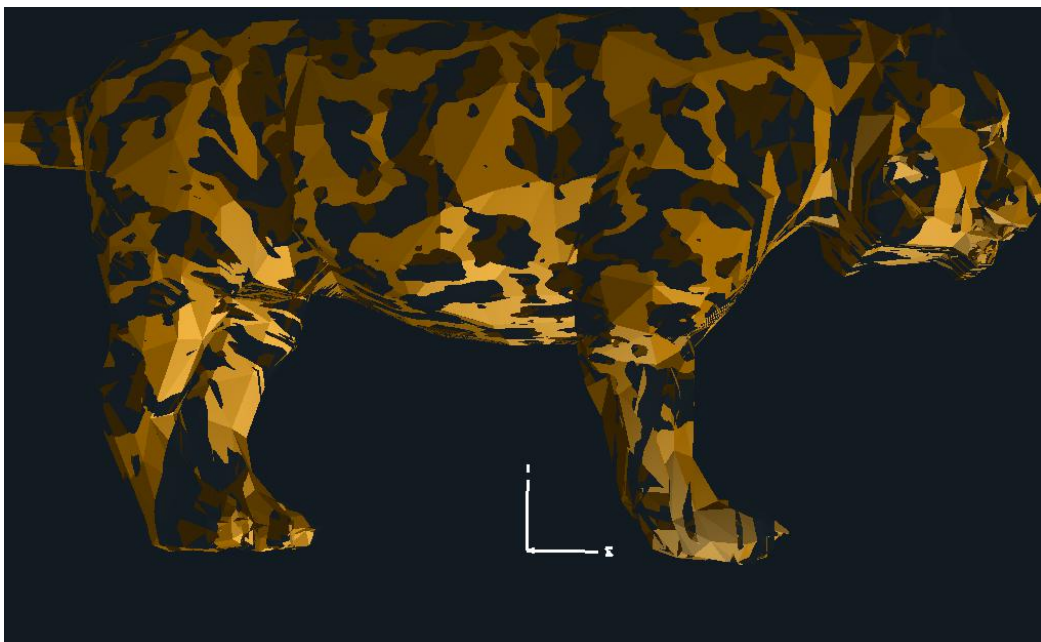## Key snippets:

Definitions:

```
uAd <.01 .05 .5>              \
uBd <.01 .05 .5>              \
uTol <0.  0.  1.>            \
uAlpha         <0.  1.  1.>  \
uNoiseAmp <0.  0.  1.>       \
uNoiseFreq <0.  1.  10.>  \
```

read the glman 2D noise texture

```
vec4 nv  = texture( Noise2, uNoiseFreq*vST );
float n = nv.r + nv.g + nv.b + nv.a;    //  1. -> 3.
n = n - 2.;                             // -1. -> 1.
n*= uNoiseAmp;
```

Scale ds and dt, and divide both by Ar and Br

```
float sc = float(numins) * uAd  +  Ar;
float ds = vST.s - sc;                  // wrt ellipse center
float tc = float(numint) * uBd  +  Br;
float dt = vST.t - tc;                  // wrt ellipse center

float oldDist = sqrt( ds*ds + dt*dt );
float newDist = oldDist + n;
float scale = newDist / oldDist;        // this could be < 1., = 1., or > 1.
```

When uAlpha == 0., do a discard

```
bool notEllipse = false;
if(1 - t <= .001){
    notEllipse = true;
    if(uAlpha <= 0.00001){
        discard;
    }
}
```