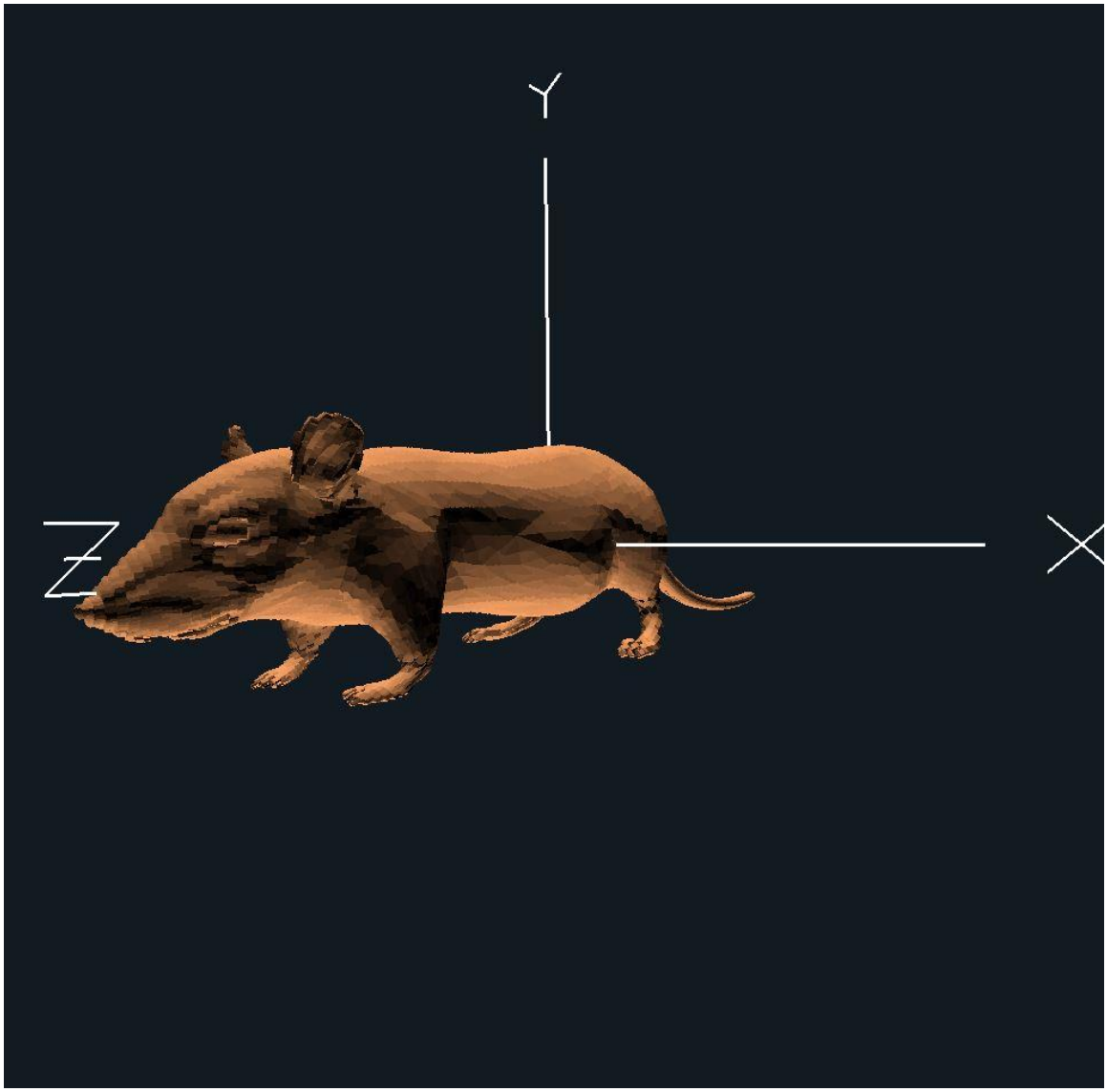

Lego

PROJECT 7

Megan McCormick | CS557 | 3/6/20

Images

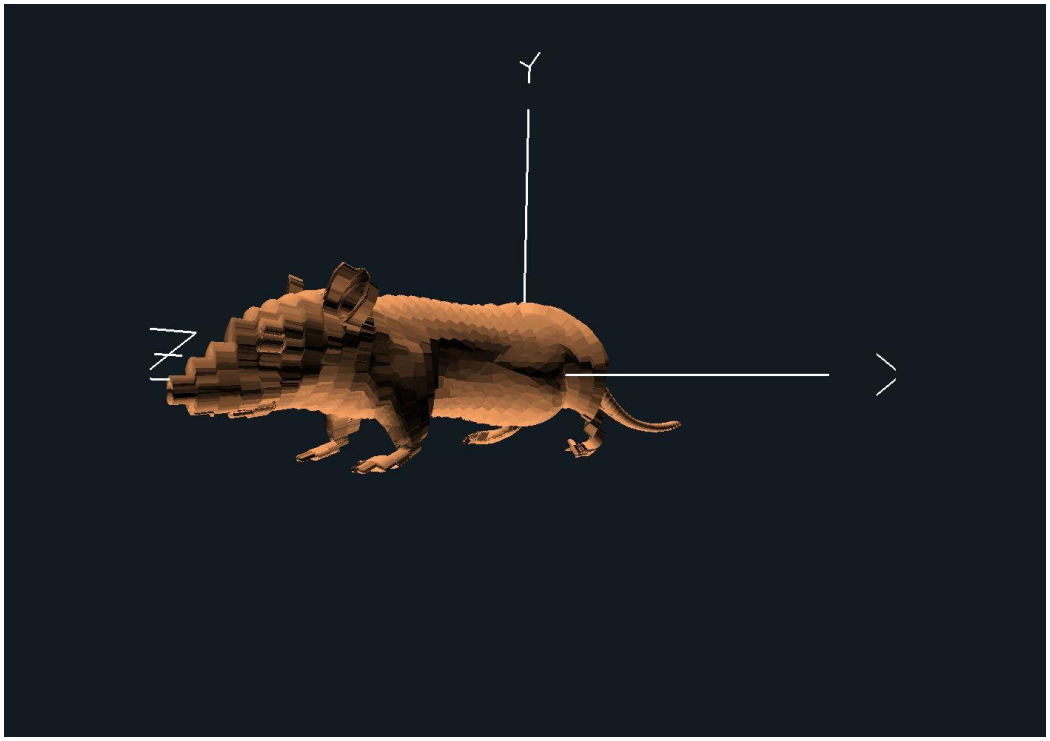

Figure 1: Quantize Just R

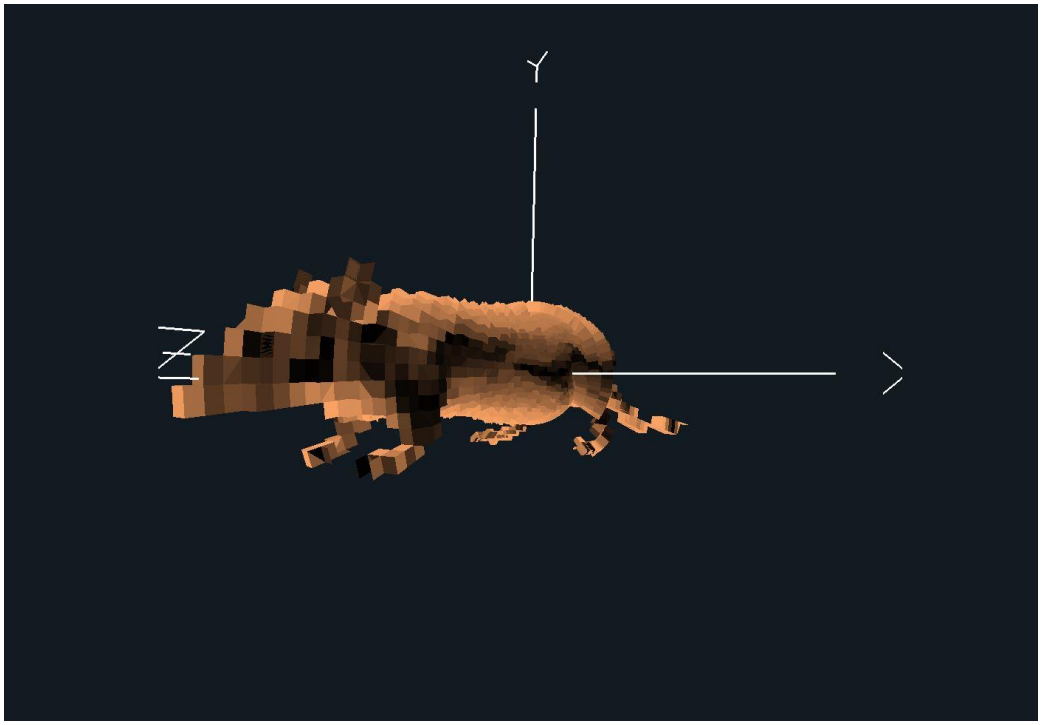

Figure 2: Quantize Everything

KEY CODE

```
       void ProduceVertex( float s, float t )
{
    vec3 v = V0 + s*V01 + t*V02;
    vec3 n = N0 + s*N01 + t*N02;
    vec3 tnorm = normalize(gl_NormalMatrix * n) ; // the transformed normal
    gLightIntensity = abs( dot( normalize(LIGHTPOS), tnorm ) );

    //Make Spherical
    float r = length( v );
        float theta = atan( v.z, v.x );
        float phi   = atan( v.y, length( v.xz ) );
    //Quantize
    if (uRadiusOnly){
        r = Quantize(r);
    }
    else{
        r = Quantize(r);
        theta = Quantize(theta);
        phi = Quantize(phi);
    }

    //Back to Cartesian
    v.y = r * sin( phi );
    float xz = r * cos( phi );
    v.x = xz * cos( theta );
    v.z = xz * sin( theta );
    vec4 ECposition = vec4( v, 1. );
    gl_Position = gl_ModelViewProjectionMatrix * ECposition;


    EmitVertex( );
}
```

VIDEO LINK

https://media.oregonstate.edu/media/t/0_wf6ti5y9

COMMENTS

I had some weird issues in this project but it all worked out!