

# Introduction

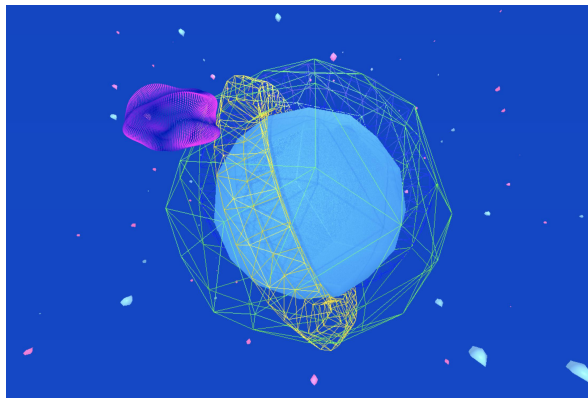
This is my final project for the course Coding One, I saw in the previous class that the students had created a very interesting irregular sphere that looked very much like a meteorite in space. I've loved the Stars since I was a kid, so I chose the universe as my theme. The Universe is infinite matter, and people have always imagined the universe, and there are all kinds of mysterious objects in the universe, and I think it's possible to have objects of any shape or color in the universe. So I designed two objects that change from a circle, one with a shape and one with an irregular shape.

In the picture are two tangible objects moving in the universe. The tangible objects are constantly rotating and flying in the universe, and they can transform into different irregular shapes with time. Two tangible objects fly through the infinite universe and never stop.

The content of this semester is very difficult and complex, we learned polar coordinate system-draw a circle, two-dimensional waveform, image processing, convolution, create 3D graphics engine, WebGL, and so on a lot of knowledge. I try to reflect as much as I've learned this semester in my work. So this project is based on what we learned this semester, using WebGL, ThreeJS to create scenes, objects, and point lights.

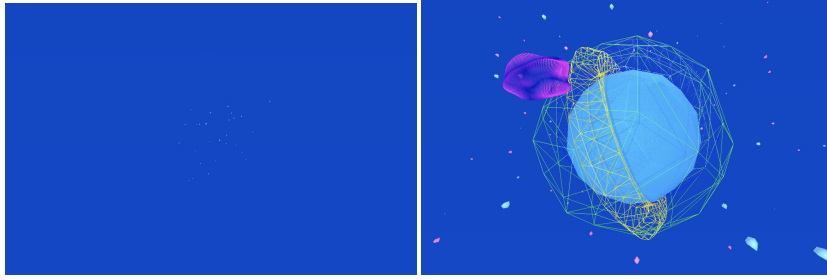
The scene creates spheres, torus, and an irregular planet with convolutional effects and a time-varying orthographic transformation using GLSL.

The following is a picture of the project



## Interactive:

The user can zoom in and out of the scene with the mouse wheel, and can also change the angle of the camera lens with the left mouse button. The object on the left will automatically rotate as the mouse moves. Clicking the mouse can move the object on the right, through the mouse control from different angles to see the two planets. And it can change the size of the two planets, giving us a picture of the planet as it comes closer and closer to us.



For more video on this project visit: <https://youtu.be/k-04-p-nRHI>