computer_graphics A2 report

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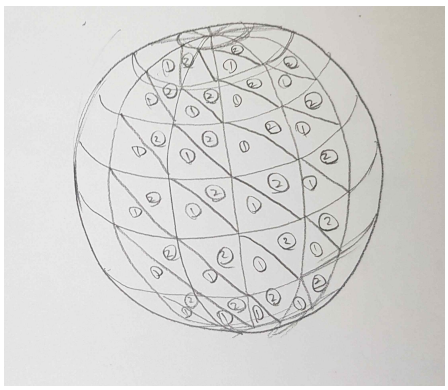
1. algorithm

(1) To make a sphere, I divided two triangle groups.

- First group is the direction of the triangle is facing to the top of the sphere.
- Other group is the direction of the triangle is facing to the bottom of the sphere.



This picture will help you understand.

The first group has two points on the lower row and one on the upper row. The other group has two points on the upper row and one on the lower row. So this rule made it easier to buffer indexes.

(2) When you press 'r' the sphere rotate. To rotate the sphere, put the cam at its origin and rotate and put it back.

2. other options

(1) When you press 'z', 'x' button and you can adjust the position of the camera.

- When you press 'z' button, the camera slowly moves away.
- When you press 'x' button, the camera getting closer.

(2) When you press the mouse button and drag, the objects are rotate as much as the amount of change in x coordinate value. And when you release the mouse button, it doesn't move anymore.

(3) When you press '+', '−' button and you can control the number of spheres. The spheres are around a first spheres and they are smaller than center sphere. (1 to 10 spheres)

- When you press '+' button, the number of spheres increases.
- When you press '−' button, the number of spheres decreases.

(4) Small spheres do not crash each other and have random colors and random radii.

(5) When you press ‘t’ satellite are rotate around the planet.