Computer Graphics - Assignment 3

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0 New Camera Controls

Key	Movement
Mouse	Rotates the Yaw and Pitch of the camera based on mouse direction
W	Moves the camera forward along its Z-axis
A	Move the camera left along its X-axis
S	Moves the camera backward along the Z-axis
D	Moves the camera right along its X-axis
Space	Moves the camera upward along the Y-axis
LShift	Moves the camera downward along the Y-axis
Q	Quits the application
Escape	Pauses the mouse movement and unrestricts the mouse

1 Adding the Terrain

c) Here is the beautiful crater.

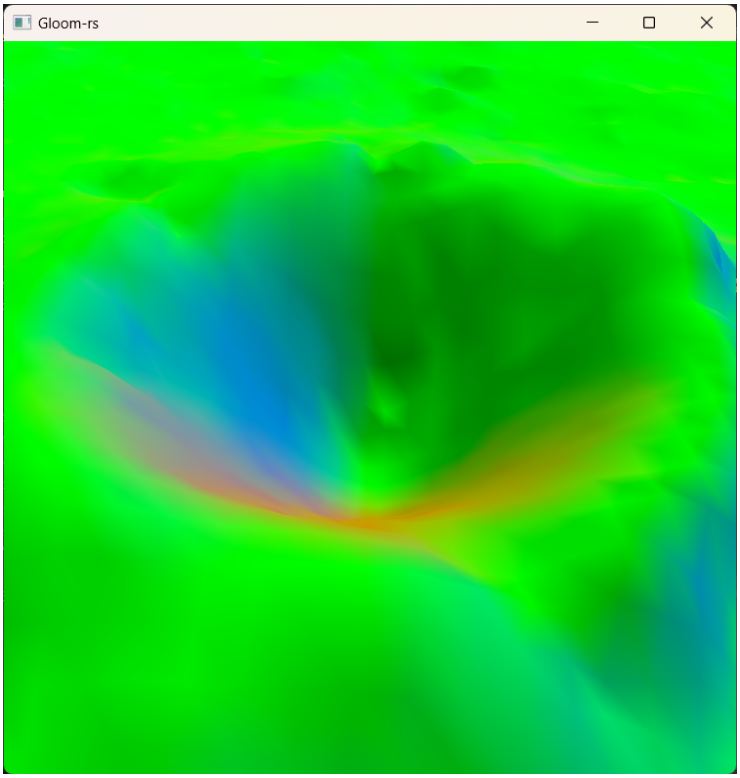

Figure 1: Image of the normal colors on the crater.

d) Here is the terrain now with Lambertian lighting. Phong lighting should be currently on, but the lambertian method should be commented out so just switch between the two to see it in real time.

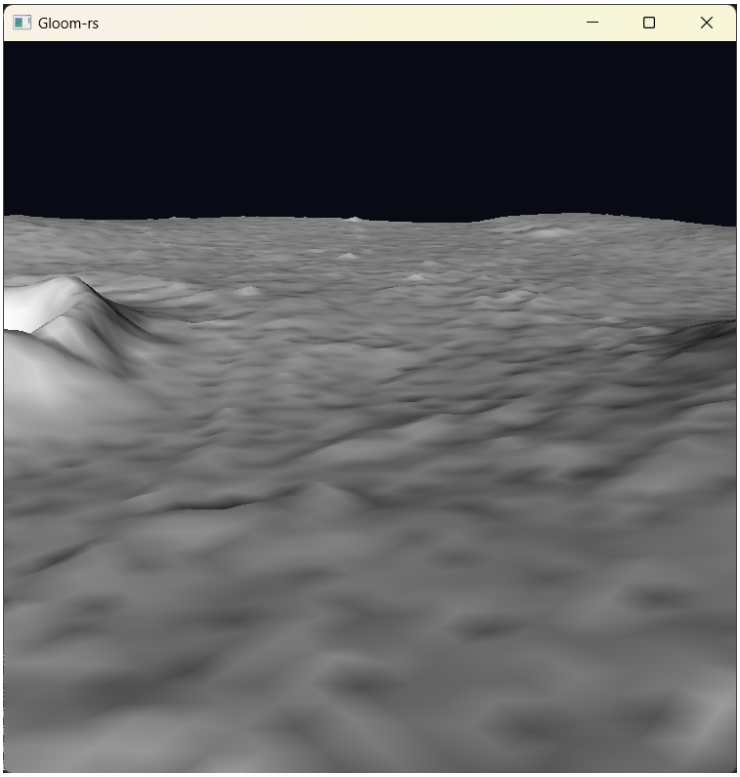

Figure 2: Terrain with Lambertian lighting

2 Helictoper Parenting

c) Here is the actually pretty cool Helicopter.

Figure 3: Helicopter drawn along with the terrain.

5 Fixing Lighting

a) Here is the helicopter in front of one of the craters. When rotating the helicopter we can see that the normals does not adjust accordingly based on the rotation.

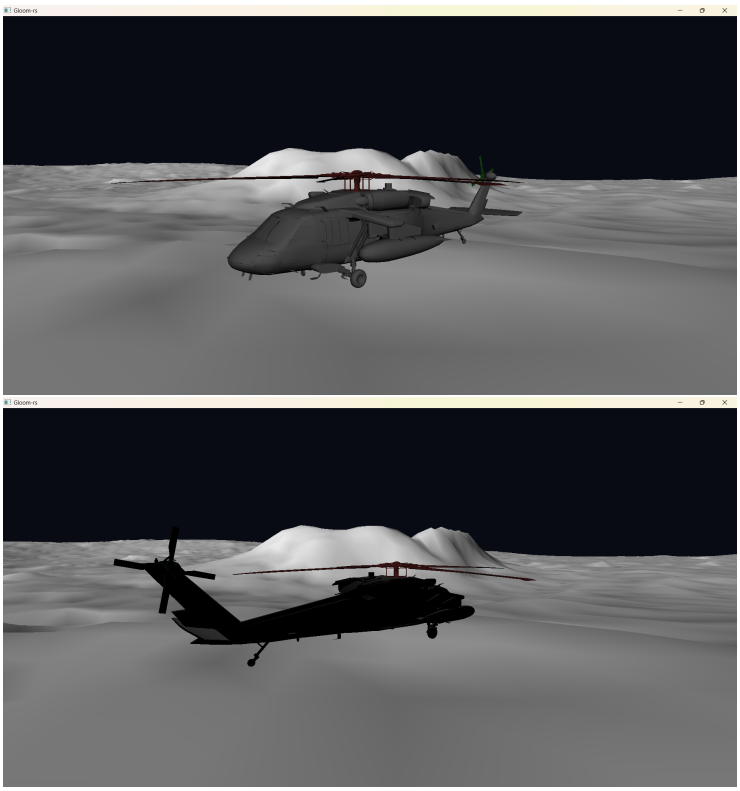

Figure 4: Helicopter with lighting, but the lighting is static.

b) Here is the new helicopter with rotatable normals which is also normalized.

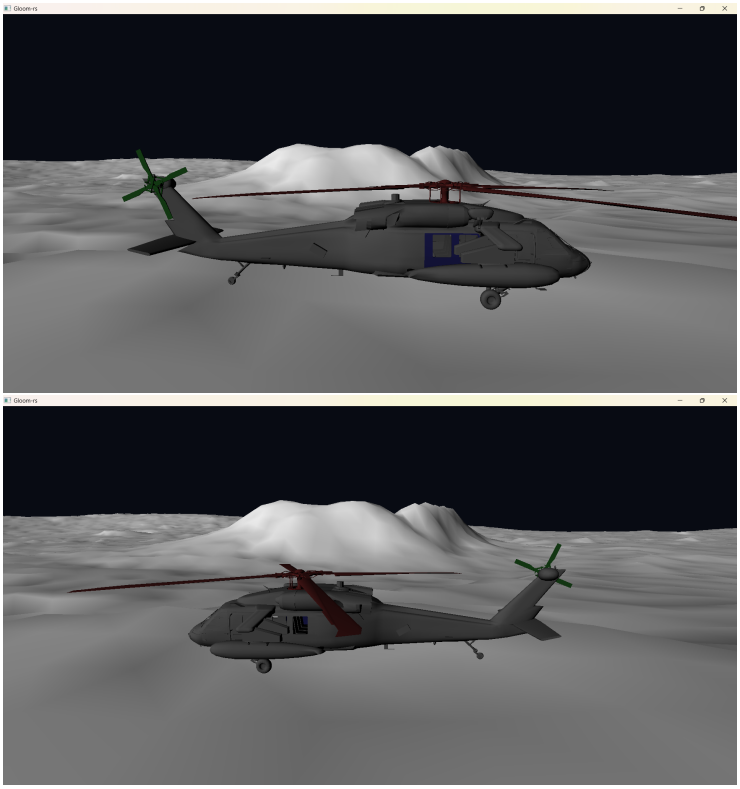

Figure 5: Helicopter with lighting, but the lighting rotates.

6 Five Helicopters!?

1. Here are the 5 Helicopters spinning around in their own world.

Figure 6: 5 Helicopters spinning around.

7 Bonus Tasks

a) Here is the version with phong lighting, with a tint of yellow.

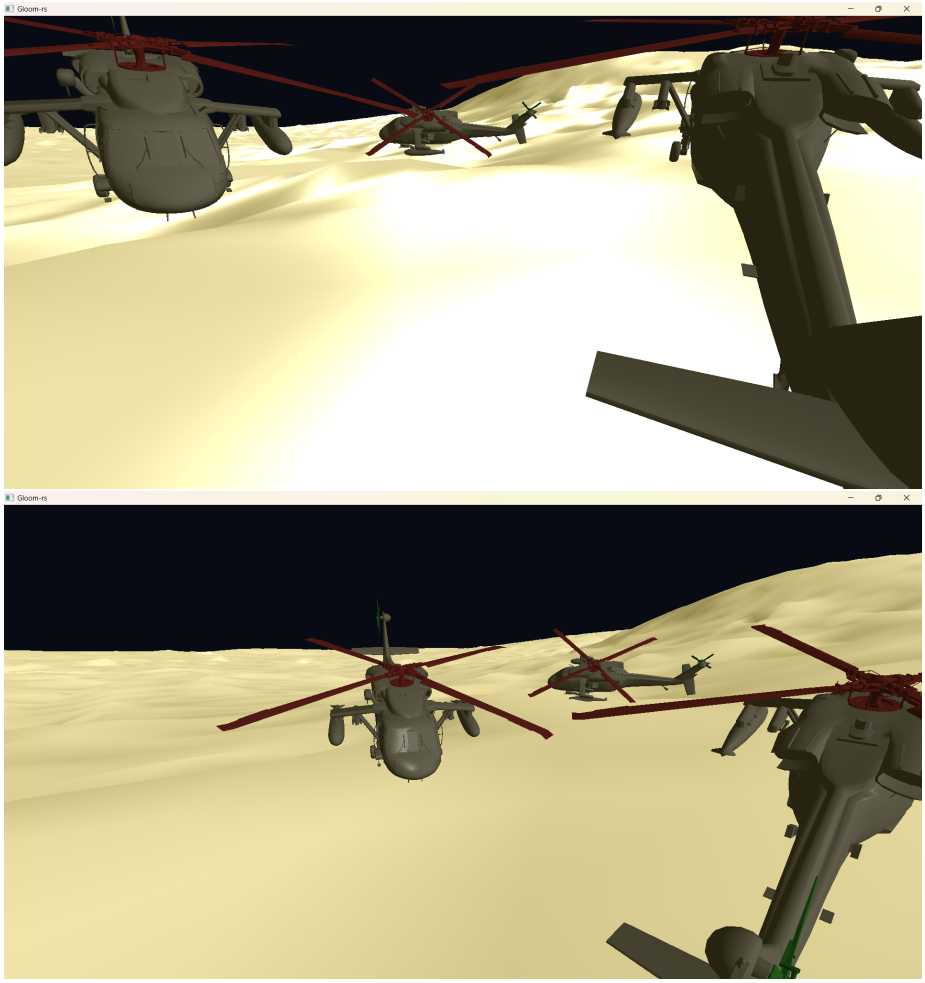

Figure 7: Phong lighting on the terrain and helicopter

b) Found it! Some images is inverted cause i could not find a good camera angle which had the right orientation (not that i used too much time to find it either).

Figure 8: Found thy easter egg! Nice one.