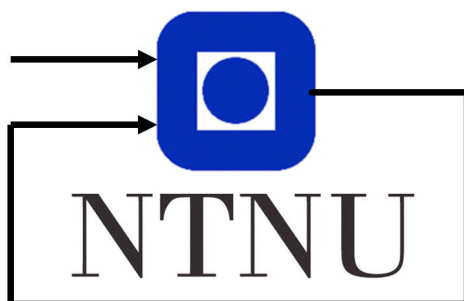# TDT4195 - Visual Computing Fundamentals - Assignment 3

Group 119
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Department of Engineering Cybernetics

Contents

Reminder: Key map (relative for the camera):

- W: forwards

- S: backwards

- A: left

- D: right

- Q: upward

- E: downward

- U: pan left (yaw)

- O: pan right (yaw)

- I: pan up (pitch)

- K: pan down (pitch)

- J: rotate left (roll)

- L: rotate right (roll)

1 Task 1: More polygons than you can shake a stick at

1.1 c)

The colourful results are here fig. 1. I ended up moving the camera a bit up as well, so that it was easier to see the whole crater.
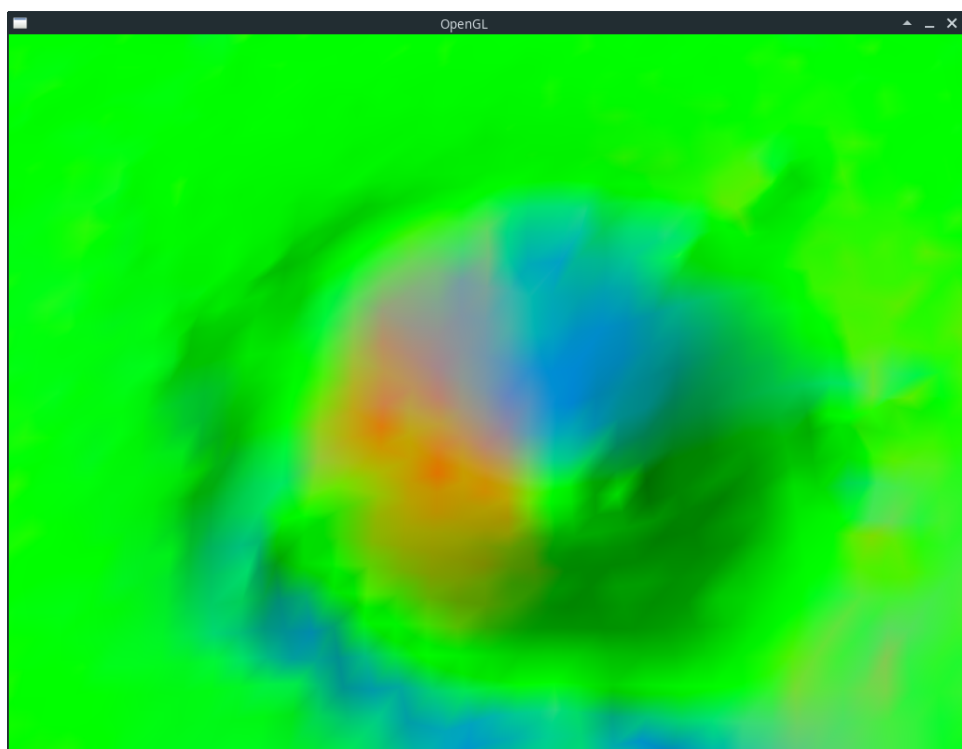
Figure 1: Moon landscape with fantastic colours, and camera placed inside a crater
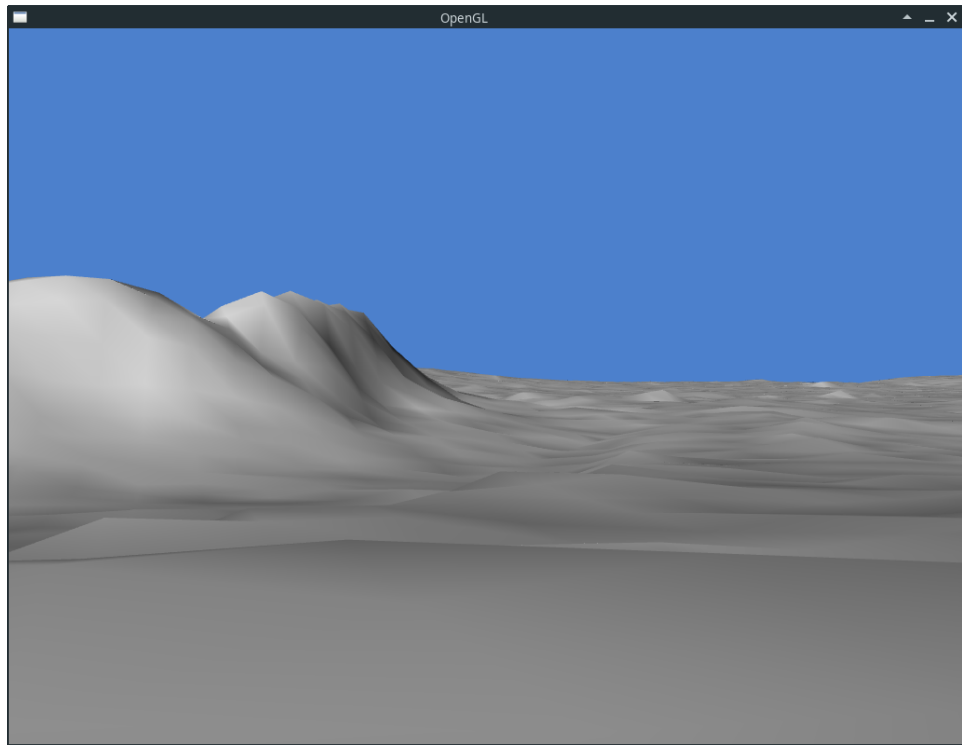
Figure 2: Implementation of the Lambertian lighting model
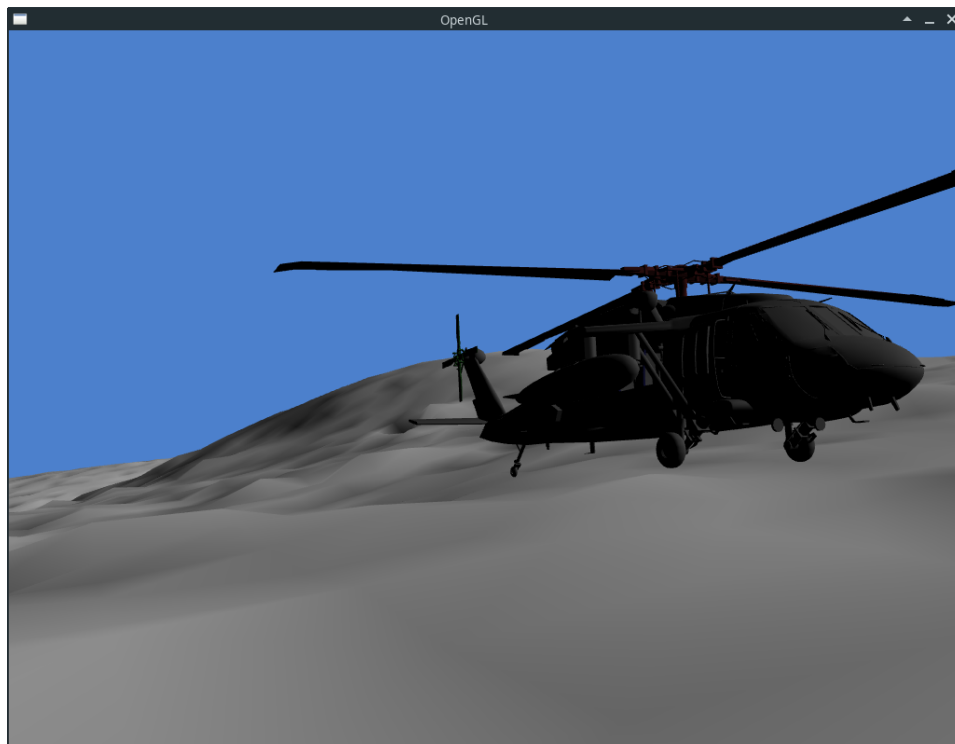
1.2 d)

The lit up result can be seen here fig. 2:

Figure 3: Drawing from SceneNode

2 Task 2: Helicopter Parenting

2.1 c)

Helicopter draw using the SceneNode root, see here fig. 3.

3   Task 3: The (Model) Matrix: Revolutions

No subtasks were required for the report here.

4   Task 4: Spinning into gear

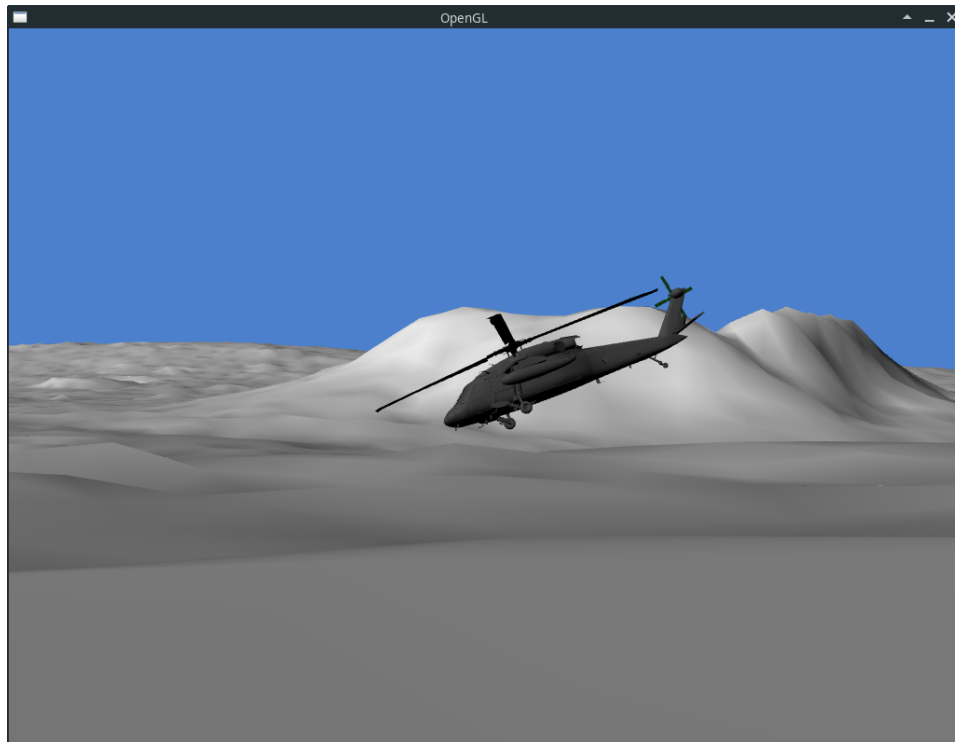Similarly to Task 3, nothing was required for the report here.

Figure 4: Light side of the helicopter

5 Task 5: Help! My lighting is wrong!

5.1 a)

See fig. 4 for the light side of the helicopter and fig. 5 for the dark side.
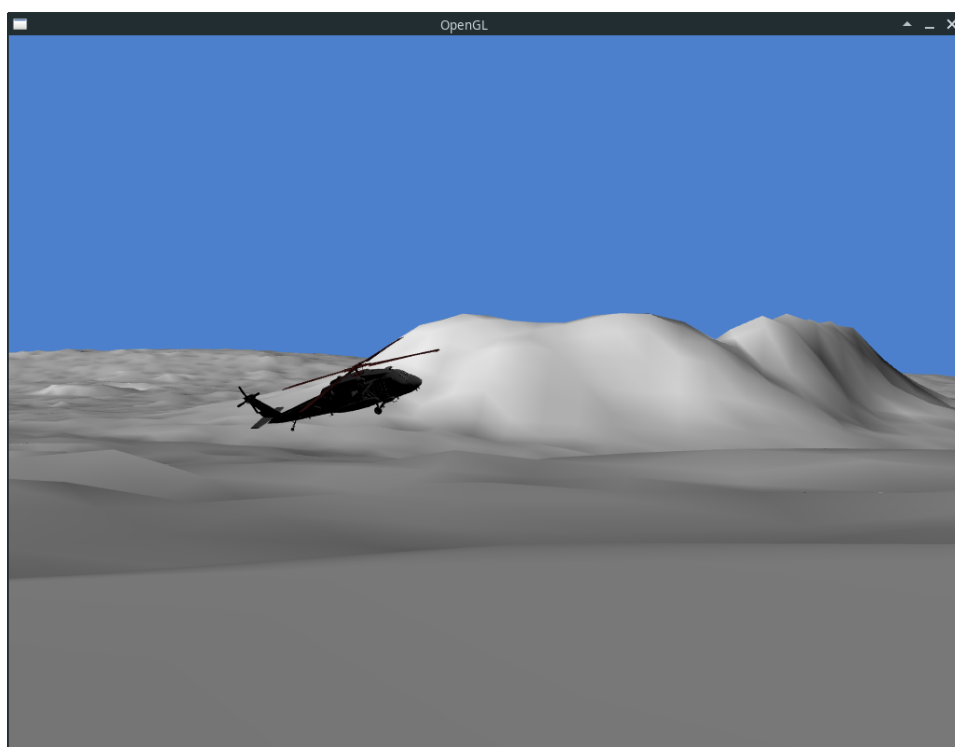
Figure 5: Dark side of the helicopter

6 Task 6: Time to turn this thing up to 5
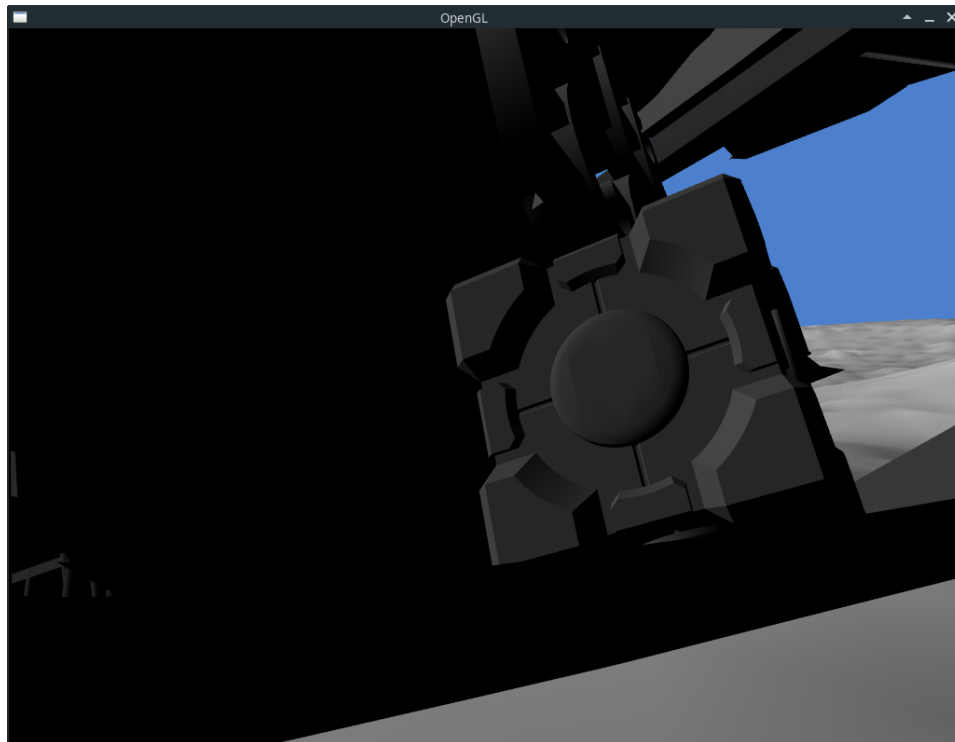
And again, all the code is attached.

Figure 6: Easter egg!

7 Task 7: Optional Challenges

7.1 a)

7.2 b)

7.3 c)

7.4 d)

7.5 e)

See fig. 6

7.6 f)

Extra features (I don't *really* think certain of these deserve extra points, but will list for fun and completeness)

Press SPACE to make the doors open and close again.

Press C for a *cursed* amount of extra work... Feel free to add any *cursed* music, for atmosphere. My favourite.