

COMP612 Computer Graphics Programming

PROJECT PROPOSAL

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Project Theme

For this project I will be expanding on the helicopter scene from assignment 2. The theme will be a helicopter flying around a small city at night. The city will consist of a few buildings, roads, grass areas, and trees, and will be surrounded by water.

PROJECTION

I will be using the same camera and projection from assignment 2.

TRACKING CAMERA

The camera will be tracking the helicopter with two options, follow mode and free look mode.

DISPLAY LISTS

Display lists will be used where appropriate for stationary objects such as the trees and buildings.

TERRAIN/FLOOR

The floor will be a grid similar to assignment 2 but will be textured.

LIGHTING

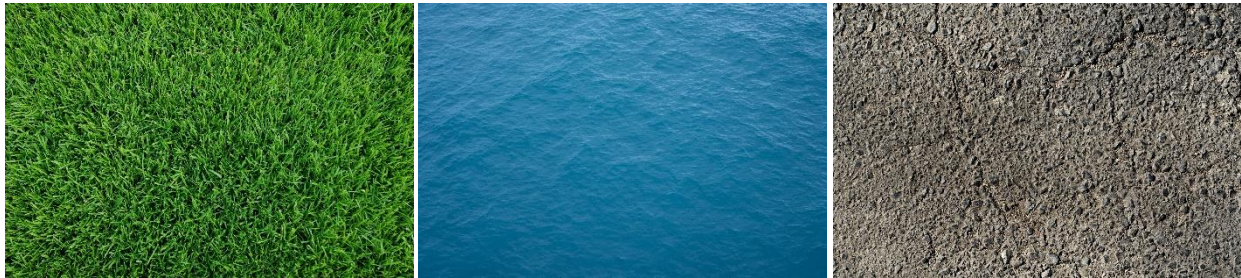
- An overall directional light source for the scene imitating moonlight.
- Animated Spotlight: For this scene I would like to implement a fixed spotlight on the helicopter facing down-forward, I think this will add quite a cool effect when flying around the city.

SHADING

Shading will be used for non-textured objects to aid the lighting effects.

TEXTURE MAPPING

I will be using textures for the grass, water, and pavement. Buildings may or may not have their own textures. Textures from [freestocktextures.com](https://www.freestocktextures.com).



FOG

I will be adding a level of ground fog to the scene to enhance the nighttime effect.

OBJECTS

I have chosen a low poly nature pack for my objects, this contains various trees, bushes, and rocks that I will be using in my environment. I may also end up using objects for the buildings. Nature pack from [free3d.com](https://www.free3d.com).



SCALE

The scale I will be using is $0.1 = 1m$, which is the same scale I used for assignment 2.

EXTENSIONS

I would like to implement a collision detection system that prevents the helicopter from flying through objects as I think this is necessary for an effective scene.

Concept Drawing

