Jamie Steele Coursework Milestone

Progress

Progress is going well, I have a basic wave vertex manipulation and a height mapped mountain using the supplied height map. I intend to find a different height map somewhere and use that, with a texture. The waves have their normals generated using the NESW vector cross products, but for the more complex height map I intend to use Sobel sampling in order to create more realistic normal generation. I have reached where I intended to be in my project proposal, however there were things I needed to improve on.

Improvements due to Feedback

Multiple lights - I am planning on implementing a point light to simulate moonlight, and I'm also changing the scene to take place at night for a more serene feel. This will be using the blinn-phong technique as I feel it will most accurately simulate the moonlight bouncing off the waves. I may also load in a model of a lantern or light to prove my lighting works on everything.

For post processing I am looking into other options given the feedback and I'm thinking about making an effect using the kuwahara filter to create an oily sort of effect. I will look into this more and decide what I will use later. I still want to include the lens flare effect, however it will be much less prominent as now I will be working with a moon rather than a sun

Current Plans

Now I am implementing the normal generation for the height map, and I will be adding in tessellation next. It will have a selection in ImGui to turn of dynamic tessellation. Once tessellation is done and working I will fully implement the lighting and shadows, then work on the post processing. If I manage to complete all of this to a high standard with enough time permitting, I will attempt to make/find a better wave algorithm as the current one is quite basic, and I feel like I can do better. Currently I am happy with my progress and feel I will be able to complete the module to a high enough standard. In the video I upload with this, I mess around with the amplitude and frequency of the waves purely in order to show that the normal calculations are working, as with the default values it is fairly hard to see properly the full effect.