

May 25th, 2024 - Environment & Lighting Setup Planning

Environment Assessment Piece: Environment Planning

After looking through the Unreal store, I found a Medieval scene which I think would be interesting to work with as it's got a lot of different points of interest and options to explore. I went into the project to start planning what I want to do with my final shot, just in the default lighting as it loads up of using to make my shot. Here are the final four areas of the environment I narrowed it down to.



This is the first area I found interesting and is the main area of the environment. I was thinking I could make a bonfire in the middle and centre on that. However, I think there's a lot going on in this area which could potentially make it look too busy.



This is the second area I thought was interesting - the path to the village. I liked this adjusting the camera slightly makes a leading line which is a helpful composition technique to centre my piece around. I was also thinking of lighting up the houses inside.



This is the third environment I found on the outskirts of the village. I like this area, especially the windmill, and playing around with the camera made some visually interesting shots with the many hills behind it and then the sky. The area is the most scenic I've found and it's easy to split the shot up into windmill, trees, hills, and sky.



I found this area on the edge of the map, this is the one I'm least likely to use as originally I was thinking of making my own particles, but I think the area isn't too interesting and doesn't have anything to focus on besides remaking the fire/particles in the trees..

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May 31st, 2024 - Environment & Lighting Setup Planning

Setting Up Project - Composition

The first thing I did when starting to light my scene was set up the camera and composition for the shot. I wanted to be able to see how the final shot will look as I go through the stages of lighting it so I can spot any problems and fix them, instead of fully lighting the scene and then placing the camera and then realising something doesn't look right. I was torn on using the house or the windmill originally, but I eventually decided on the windmill as composition wise, I think it makes for a better shot, as it has a nice backdrop of trees and hills. I decided on using the rule of thirds as with the environment I was looking at, it made the most sense as there is a clear focal point to place at the intersecting lines, and then the extra environment to the side. Here are some examples I found when researching the rule of thirds compared to where I placed my camera.

Default Project Lighting with Composition





Setting Up Project

Once my camera was set up in a way I liked, I went into my project and made that I was working with Lumen. After that was done, I began to work on the lighting. The first thing I did was remove the pre-existing environmental light mixer lights and the post process volume and re-add them all in with the default settings. I also set the exposure up to be manual to give me more involved and efficient control over the exposure within the scene.

Creating the Night Lighting Setup

The next thing I did upon having my camera and project set up is to begin to create the night lighting. I found the slides from week 5 to be very helpful to refer back to, and I also watched a night time lighting YouTube video by William Faucher which helped me to create the scene. The first thing I did was place the BP_Sky_Sphere into the scene, as this gives a good looking night sky. I adjusted the sun height to be -1 to give me the night sky, and then I adjusted the cloud and star opacity. I made the clouds a little more prominent as I wanted to have a ray effect coming through the clouds. I turned the stars down to 0.05, I think the default is too bright and I want to windmill to remain the focal point so by turning this down slightly, I can make them a more subtle addition. I then went into the directional light and gave the light the Purkinje effect blue tint and then adjusted the temperature to 4100 kelvin to add the extra realism. The final thing I did was enable the light shaft bloom within the directional light to create some light shafts. I placed my gobo into the scene to help break up the ray into smaller shafts of light to make the effect more pronounced.

▼ Default	
Refresh Material	<input type="checkbox"/>
Directional Light Actor	None ▼  
Colors Determined By Sun Position	<input checked="" type="checkbox"/>
Sun Brightness	119.663515
Cloud Speed	0.97841
Cloud Opacity	0.811726
Stars Brightness	0.05
▼ Override Settings	
Sun Height	-1.0
Horizon Falloff	3.0

Feedback and Adjustments

At this point, I was beginning to see the scene come together, however, I felt like the windmill wasn't sticking out too much and that it was merging in with the background. I tried to draw some attention to it by placing a lamp outside, I made this by adding the fire pack from the interior lighting week and adding a candle particle to a lantern model that was already in the scene and then adding a point light at 2.5 lux and an orangey colour, to get an omnidirectional emission effect, but I still felt like it wasn't enough. I asked a lecturer for feedback who agreed, and said I could put a light inside of the windmill to help draw attention to it. I placed a point light inside of the windmill at 20 lux and this made a huge improvement to helping the windmill stand out. The lecturer also said to place a spotlight onto the windmill which I added too at 60 lux which also helped.

Before

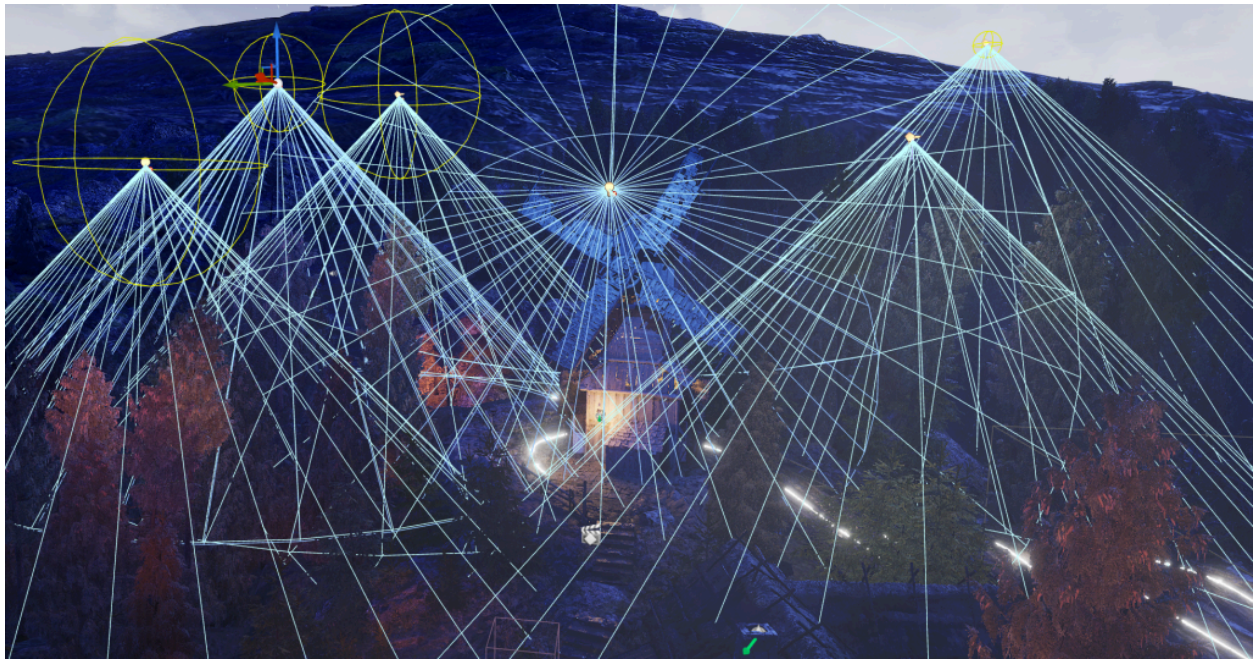


After



Extra Feedback and Adjustments

Once this was done, the lecturer said this looked much better and that it could be improved on more by adding some light to the trees to make them less dark. I placed 4 spotlights around the trees closest to the front of the shot. I decided to keep the trees near the back of the shot unlit to add depth to the scene. I also decided to tone down the rays as I felt like it was making the image look slightly washed out.



Final Adjustments

The final adjustments I made to the scene after this was mainly in the post process volume. I find that when working in night scenes, the biggest challenge is making the scene visible to showcase the environment while also portraying a realistic night time setup. I mainly focused on making the scene slightly brighter so that the scene I first adjusted the exposure from 4.5 to 5, just a small increase to make sure some extra detail is being shown. I then adjusted the slope and toe values. I set the toe value at 0.5 and the slope at 0.6. The toe wasn't too drastic of a change but the slope helped to brighten the image and balance the brightness in the scene, making the transitions

between light and dark areas less harsh. I finally went back to the sky sphere and decreased the cloud opacity slightly, as the night sky itself didn't look very visible with the amount of clouds.

Render #2



Originally, I was going to make this my final render, but after putting it through the histogram, I realised it was still quite underexposed despite altering the slope/toe. I bumped it up to 5.5, and I think this render looks a lot better. The render above I think is still missing a lot of detail and the background is still merging into one another despite adding some spotlights to illuminate them. When looking back at my research, especially the Katniss image, it made me consider that in cinematics and creating renders, some slight realism is sacrificed to make the render/shot more visible to the viewer. Again, this is especially important when showcasing an environment you have made - the texture and quality of the models wants to come across first and foremost.

Final Render



Final Render Histogram



I was able to get my exposure from underexposed to exposed to the left. This is what I wanted to achieve as I didn't want the overall brightness of the image to be too low or lose detail because of it.

