GART704

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Brief and Research

While the brief for this module was focused specifically on lighting, and using this combined with composition to create a specific mood, I began my research with more tangible concepts, focusing on an architectural style that inspired me, and then deciding on what mood I wanted to capture. Having recently finished The Religion by Tim Willocks (2007), I wanted to do a scene inspired by the 16th century Ottoman Empire. Considering I also wanted to keep the physical size of this project small in order to help reduce scope, I eventually settled on doing a Riad, a style of traditional Moorish house (El Harrouni et al. 2022) - while more Iberian than Ottoman, it shared a similar architectural style and was otherwise appropriate. Due to the nature of these dwellings, a central courtyard surrounded by narrow rooms and often two stories, it would give me good options with varying camera angles to create interest, being able to shoot from a balcony into the courtyard as well as shooting from ground level.

With this concept decided I could start collecting research, focusing on images that showed the overall layout as well as interesting architectural features, such as the balconies or engravings upon window structures. I also made note of how these areas were decorated, with most using plaster walls and decorative tiling both as trim and on the floor. Plants and a small water feature were also fairly common within the courtyard, giving me ideas for assets I could add that would give a point of interest for a person looking at the scene.

Blocking Out

With research gathered, I began blocking out my scene, getting in the rough shape, layout, and key features. While I initially started with a single story, I soon added a second after referring back to my references and struggling to create interesting composition with just one floor. While working on the

composition, I referred to the rule of thirds (Cox 2020) and golden ratio (Adobe 2023), using the inbuilt UE5 overlay for the former while using a custom overlay for the latter. These are rules that while I've been conceptually aware of, I've not actually used before, and have found them very helpful as guides for where a viewers eye will be drawn.

I used a rough texture here for most objects, created quickly in UE5 to give some colour variation and indication without me needing to spend much time at all on it. I also created a quick decorative tile pattern in Substance Designer, which you can see in the images below. While not essential it helped to add some visual interest that would be there in the final design, and was a good productive break from blocking out.

I also added a tree as a focal point, and then created the leaves in Substance Designer. Designing foliage in this software was new to me, and I used several excellent guides including one published by the YouTube channel Stylised Station (2021*b*). I chose to use Designer over something like Photoshop for several reasons. First, using Designer allows me to quickly make multiple variations of a specific type of leaf or a range different shaped and coloured leaves, whereas in Photoshop or an equivalent I would have to create each of these from scratch. My 2D skills are also weak, so it would be of a higher quality if produced in Designer, and I just prefer it.
After creating the leaves, I followed another tutorial (Station 2021*a*) to create the actual foliage, having already roughed out the shape I wanted it to follow in engine with primitives.

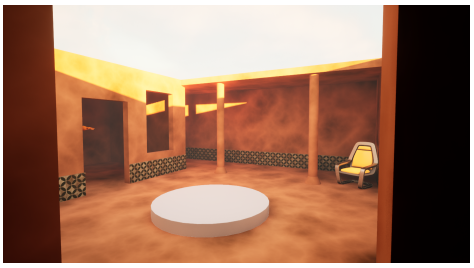

Figure 1: Initial single floor blockout

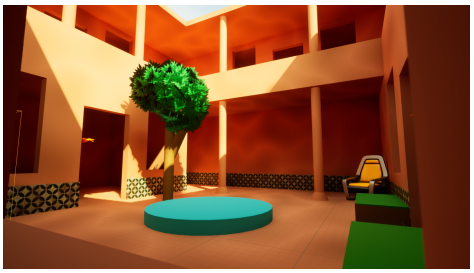

Figure 2: Blockout after adding a second floor and referencing rule of thirds and golden ratio

Lighting Development

With my architecture and layout blocked in, I began working on the lighting for the scene. As I needed to do two different lighting scenarios, I decided to do one with standard daytime lighting, and one at night that would be more atmospheric, allowing them to contrast each other.

The day scene was the faster one to block in, being more plainly lit. It is primarily just a directional light, with some ambient light coming from a skylight and bounced light from cloud cover.
The night scene was a more involved process, removing the directional light completely and building it up with individual lights. I started with a heavy fog and cold spotlight coming in from the entranceway leading the viewer in, complemented by softer, warmer light spilling from the rooms surrounding the courtyard, aiming to create a red/ blue contrast across the scene. With my key lights in place, I began adding fill lights, adding a rim light to the left side of the tree and brightening the shadows with cool lighting, which unfortunately isn't shown in the picture below. In the end it was very dramatic with heavy fog and a strong red tint, reminiscent of something being on fire, although on reflection I believe the red was overpowering, with not enough blue contrast, which I would aim to fix with my next iteration.

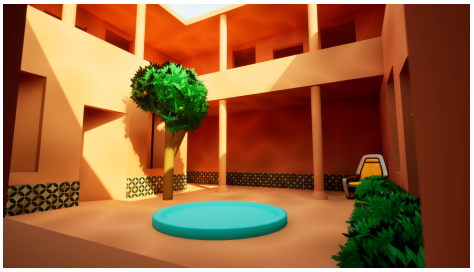

Figure 3: Day lighting

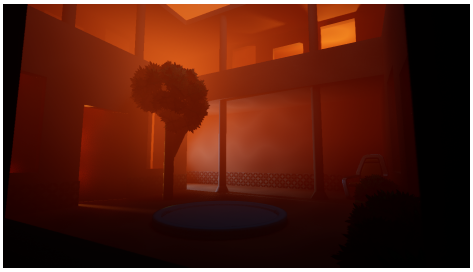

Figure 4: Night lighting, version 1

The Unreal Betrayal

While I'd set up my primary angle early on in the blockout, with my lighting mostly there I began setting up additional cameras and transitions, and it was this moment that Unreal broke completely for me. Upon doing a lighting bake to remove an in-engine warning, which appeared despite using lumen (Unreal 2023), the lighting completely changed how it was rendering and reacting with the fog. This change was so dramatic that, if it couldn't be fixed, I would need to relight the scene, and was uncertain if I would be able to

return to how the scene looked previously. After debugging and consulting with support staff, we found that it was impossible to revert the lighting to how it had been rendering, and so I would have to redo the night scene.

While disappointing, frustrating, and very demoralising, this did give me a chance to correct the lack of red/ blue contrast in the scene. I followed the same process as before, adding key lights, then fill lights, paying extra attention to create good contrast across the scene. I also better utilised a directional light and sky light this time, brightening my shadows and providing a much more natural looking highlight coming from the entranceway.

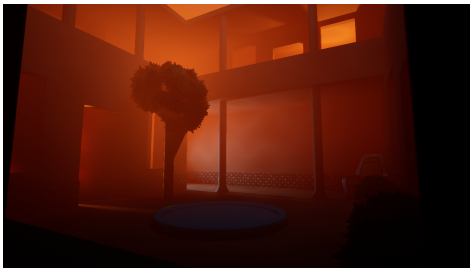

Figure 5: Night lighting, version 1

Figure 6: Night lighting, version 2

Camera Angles and Transitions

With my lighting done I finalised my cameras, setting them up in a way that I could flow between them without cuts, giving the viewer the feel of moving through the space, rather than teleporting from one area to another. This was an iterative process, tweaking camera paths to focus on specific areas or avoid clipping through geometry, and adding or adjusting lights to work better from these new angles. One example was adding additional fill lights on the balcony on either side, one warm and one cold, creating contrasting mirrored areas.
I then added some minor post processing, adding a slight blue tint to the shadows, reinforcing the contrast that I'd created with the lighting.

References

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URL: *https://www.adobe.com/creativecloud/design/discover/golden-ratio.html*

Cox, S. (2020), 'What is the rule of thirds? a guide for beginners'.
URL: *https://photographylife.com/the-rule-of-thirds*

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Willocks, T. (2007), *The Religion*, Sarah Crichton Books.