Graduation Documentation Level Design

Will I be able to successfully create three architectural compositions that evoke different emotions for the player?

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Contents

My graduation plan is to compose three bases/scenes that incorporate one architectural pattern each that are applied in the real world. I want to use these to evoke three emotional experiences and see if this can also be applied to the virtual gaming world. The main focus of my specialization is to apply architectural compositions and designs in game level design. My project includes three separate scenarios that are part of the "*Deliver Us The Moon*" world. *Deliver Us The Moon* is a third person survival exploration set in the near future where the Earth's resources are nearly depleted. The nations of the world have come together to create the Worldwide Space Agency (WSA). Under the banner of the WSA, astronauts were sent to the Moon to conduct research aimed at securing the future of mankind. Sadly, due to bickering between countries, no solution has been agreed upon. Now, you, a brave astronaut gone rogue, take the great step to the Moon in a do-or-die secret mission to save humanity.

Video walkthrough link: https://www.youtube.com/watch?v=fKrjexTOtyc&feature=youtu.be

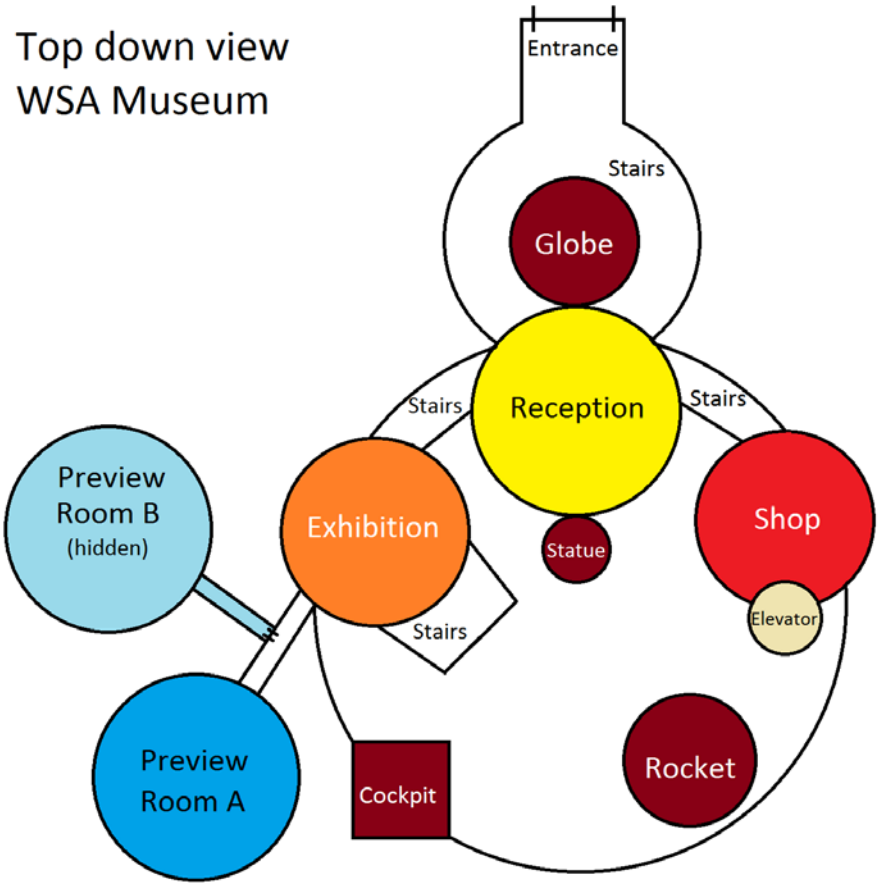
Each scenario features one or more architectural patterns and compositions that the player can experience. In the WSA Museum I tried to give players a relaxing and peaceful feeling, the WSA base should give players discomfort and anxiety and the American base evokes impressed and courageous emotions.

In the following I will explain my design decisions.

WSA Museum

The feelings I tried to evoke with the first area are calm, peaceful and mysterious. To create this I in general used the Rotunda architectural style. The Rotunda style was formally used in buildings of importance such as in medieval churches or e.g. the United States Capitol in Washington, D.C. While the flow of these circular shapes are peaceful and relaxing it can also be impressing to overwhelming depending on its size and usage.

One of the main features I included in my level is the symmetry of the whole layout. Doing so with squared shapes gives a disconnected feeling between person and architecture because it promotes functionality and not comfort as seen in socialist realism architecture. However, using symmetry with rounded shapes promotes a harmonious and mysterious feeling to it as it does not completely disconnect one from the architecture but countermeasures this.



In addition most of the walls are black with a tint of blue combined with sufficient lighting to not be afraid but to travel through with ease as it is serene.

Ceiling Height Variety

The main architectural pattern I incorporated in this level is “Ceiling Height Variety” which is meant to underline the primary function of general rooms. Creating areas with high ceilings promotes space for a public zone or large gatherings. Lower ceilings on the other hand are meant for smaller gatherings and very low rooms or alcoves are made for one or two people. The pattern also explains give variation in ceiling height from story to story where the highest ceilings are on the ground floor and the lowest on the top floor.

(Public area, ground floor – highest ceiling)

(Smaller public area, second floor – medium ceiling height)

(Private and hidden area – very low ceiling)

Reception Welcomes You

The second architectural pattern included in the WSA Museum is “Reception Welcomes You”. To break the first barrier when entering a building it needs a transition and a proper welcome. The pattern describes how to arrange a series of welcoming elements immediately inside the entrance – for example, the reception desk placed at an angle instead of in the middle. The receptionist should have a workspace where he or she can be comfortable at work and still make visitors feel welcome. To strengthen this effect the reception should receive lighting from at least two sides to make this area brighter than its surroundings.

(Welcome transition into the WSA Museum)

(Reception area, with the desk at an angle)

WSA Base (Moon Hub)

The second area is a dark and possibly dangerous setting to evoke feelings like anxiety, isolation and discomfort. I used narrow spaces and limited visibility in a dark place to make the player feel uncomfortable and displaced.

Pools of Light

The player will start at the top of the WSA base that is barely lit where the narrow and dark hallways contain the first architectural pattern “Pools of Light”. This pattern describes how to place lights low and apart from each other to form individual pools of light to emphasize single objects. Taking this to an extreme, where pools of light become the only light resource, makes the whole scene seem fearsome.

(Pools of Light)

Indoor Sunlight

Only the first room of the WSA base makes use of the “Indoor Sunlight” pattern, where the building is placed in such a way to allow the sun to shine directly into it. I limited this pattern to give a small welcome which would vanish as soon as the player proceeds deeper into the WSA base. The player will notice that there are no more windows and the only light sources are pools of light.

(Sunlight shining through ceiling grid)

Tapestry of Light and Dark

I combined this pattern with “Tapestry of Light and Dark” that explains how to create alternating areas of light and dark throughout the building so that people naturally walk towards them. I used this to guide the player to certain areas he or she needs to progress through in order to complete the level. This gives the console the needed contrast compared to the dark hallways.

(The objective area is brighter than its surroundings)

Flow Through Rooms

Another architectural pattern I used is “The Flow Through Rooms”, except in this case I used it as a guide to achieve the opposite goal. This pattern describes how to avoid corridors and passages and if they are necessary one should make them big enough to be comfortable with. I flipped this architectural pattern to give players the feeling of discomfort and anxiety. The rooms are all connected through corridors that are narrow and underground so no light can get inside.

(Dark corridors connecting the different areas)

American Base

The third area functions as a relief part following the second area where I try to evoke feelings such as impressed, energetic and courageous. The American base, to be more specific, the cave part of it, consists of a large digging site that was kept secret. The cave consists out five stages: elevator, control tower, power station, refinery and crystal area.

Four Story limit

The player will start at the elevator shaft that reaches deep into the depths of the Moon where it reaches the cave entrance. This part of the level will give players vertigo because the elevator easily surpasses the “Four Story Limit” pattern. The architectural pattern explains that there is sufficient evidence to show that high buildings make people crazy, they destroy social life, promote crime, make it difficult for children, they are expensive to maintain, they wreck the open spaces near them and they damage light and air view.

(Elevator top, reaching into the depth)

This is just the elevator but it still achieves almost all of the above and the player will now find himself completely sealed off from the Moon`s surface and has to explore the digging site.

(Control tower entrance)

High Places

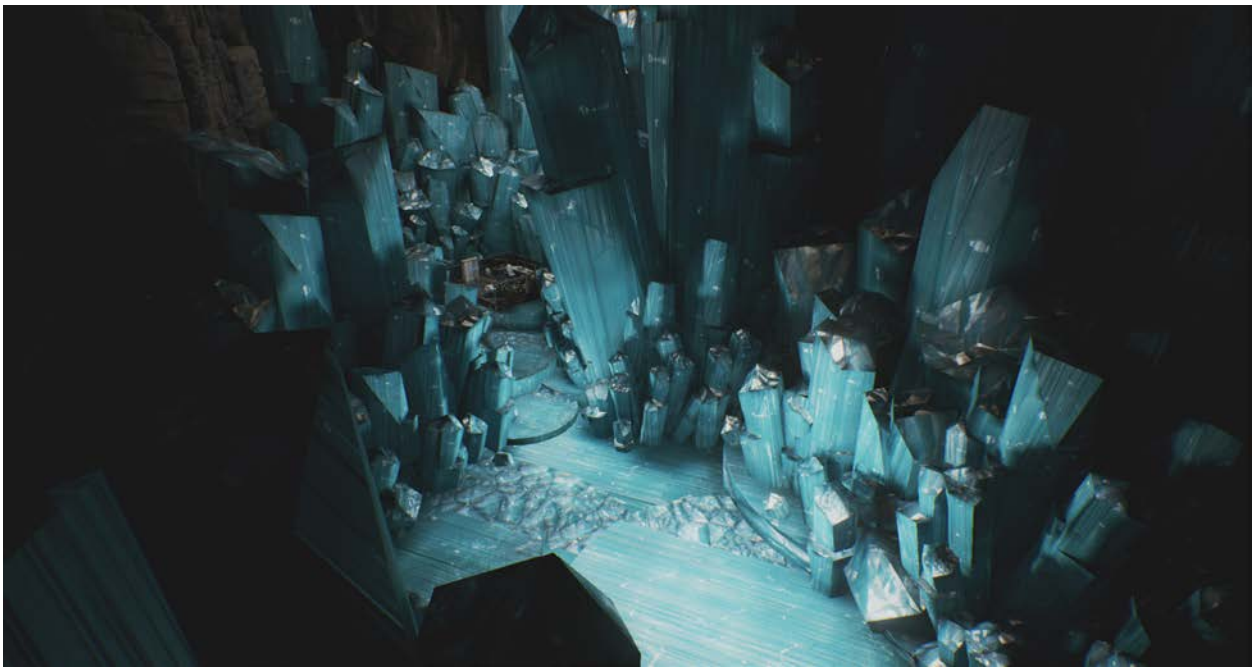
As soon as the player reaches the first checkpoint, the control tower, one of the most important patterns is seen. The actual location of the control tower is set on a high place that gives a great view

down the cliff and reaches to the end of the cave. Here the player has a great overview of the whole cave and can see where the next points of interest will be. The instinct to climb and walk up higher places from which one can look down and reflect seems to be a fundamental instinct to humanity. It gives people a place which they can see from far away and orient themselves towards their destination. This flows perfectly into the main gameplay mechanic that is introduced in this level, the jetpack. The cave has many parts that include small to medium jumping puzzles and areas to explore with the jetpack.

(Control tower view on inner cave)

Sacred Sites

Another architectural pattern I included here are “Sacred Sites” that causes Mountains to be marked as places of special importance; rivers and bridges become holy; a building or a tree, or rock or stone, takes on the power through which people can connect themselves to their own past. In this case the Moon doesn`t support trees, significant mountains or rivers, therefore I used the digging site cave and created a similar view as one would see on top of a mountain (in my case on top of the cave). The final destination the player will encounter is the crystal area which functions as that special place to connect oneself to.



(Crystal area)

The pattern also describes to embellish them in a way that it intensifies their meaning. I intensified this by the need to surpass three stages before the view is opened: The long elevator shaft, passing through the control tower and finally the player reaches an elevated platform that embraces the iconic view. The site is shielded so that it can only be reached on foot and through a series of gateways and thresholds which reveal it gradually. In addition the area becomes an inner sanctum at the core by using this pattern.

(Cliff ledge view, left)

Zen View

A similar pattern that is also embedded here is the “Zen View”. The pattern describes to not spoil a beautiful view by showing it instantly but to carefully give hints before unveiling it. The cave view is revealed carefully in steps; the first view is seen when passing through the control tower. The windows show parts of the cave but not the whole spectrum it has to offer. Only when the player moves on towards the stone ledge can he or she see the complete cave. The natural darkness beneath the surface also helps to cover up parts of the cave and create a sense of secrecy.

(Cliff ledge view, right)

Conclusion

Facing the task of creating three different environments for “*Deliver Us The Moon*” that evoke different emotions to the player turned out to be quite challenging as I also need to fulfill the expectations of my CEO. In general the literature about architecture I read would evolve around Earth architecture which would become hard on the Moon since initially it is nothing more but a dead rock. I therefore looked at places like Antarctica and the Desert to compare the moon with. This helped me to familiarize myself with extreme conditions and I noticed that a big part of all the architecture in these places would evolve around safety and adaptation. Buildings would be partly buried to ensure they are secured and most of the layouts were meant for practical use only. If the moon were to be colonized as it is in “Deliver Us The Moon” I figured it would have a similar approach in building design as we know from unforgiving environments on Earth.

Using feedback and iterating as much as possible I received helpful tips on how to improve my levels to meet target audience expectations and combine them with my chosen architectural patterns. The feedback I have received of non-players for the WSA Museum was that the rounded shapes and ceiling height indeed give impressions of public and more private or calm areas. Only a handful of people

actually found the hidden room that was kept secret since it reveals a future gameplay part of the game: the jetpack. The entrance was generally felt as welcoming and impressive due to circular stairs, heightened ceiling and a welcoming reception desk. The level was easy to navigate due to its symmetrical composition, open area views and points of interest. When I asked my play testers what impression they got from playing this level 9/10 responded with positive feelings such as content, calm, easy and receptive.

The WSA base on the other hand would evoke more negative feelings. I first designed a very linear walkthrough with a separate start and beginning but this would contradict the idea of a general Moon hub. Therefore I redesigned a few parts to create an almost complete symmetrical composition of the level layout. The player felt uncomfortable especially in combination with the lighting techniques I implemented. The patterns I used for lighting compositions and highlighting were noticed strongly by all play testers. The “Pools of Light” as only light source generally spooked out players and they expected something scary to happen each time a button was pressed or a mechanism was activated. The narrow corridors that used the “The Flow Through Rooms” pattern left them with almost no hiding places and a general sense of anxiety. When players reached the end of this level they all had a feeling of relief and were surprised that nothing bad actually happened during the walkthrough. To complete the WSA base I tweaked lighting and particle effects to promote these effects and enhanced the feeling of an unsafe surrounding.

The first design of the American base was too big to complete and therefore I focused on the cave part. The design task I had for this level was that this cave should have a moment of awe and inspiration for the player. Therefore I chose the “Sacred View” pattern that not only gives protected passage from the outside but also empowers icon views. Hidden beneath the American base a secret digging site found a cave that is rich in minerals but left to waste away. Once abandoned everything started to fall apart and it was forgotten as it often is with spiritual or sacred locations. Years passed by and the remains of the once high tech helium 3 mining facility now form an impressive and almost sacred sight to the players. While play testing I saw the exact impression on their faces I wanted to evoke: they were impressed. As most play testers were used to smaller to medium sized areas this cave was the exact opposite. There is a lot of space to explore and platforms to climb using the jetpack to traverse through the cave. Still I received helpful feedback in a few sections. I learned that I had to cover the Zen view into something more mystical and secret opposing structure. At first the whole scene had too much lighting and spoiled the revelation of the cave. Therefore I decided to give the player less view by dimming the lighting and instead highlighting certain points of interest. This immediately improved the flow through the cave and players knew exactly what to do to proceed.

To conclude my project I feel that I have reached my goal of creating three feelings that in the end are very distinct. However these sometimes varied slightly from person to person and it is hard to generalize this for every individual. The Moon as a setting also complicated things as it often contradicts the possibility of implementing Earth’s architecture. Most patterns that evolve around health and nature were in connection with plants, trees and outside life whereas the Moon doesn`t support these things. Because of this I had to think around certain patterns and figured out what really made them evoke certain emotions.

I am very thankful that I was allowed to use assets, sound and blueprints from KeokeN Interactive. These proved to be essential to evoke the emotional experience I had to create. Having said this there are several ways to improve the immersion and intensify the intended emotions - for instance by implementing VR support. Also, there are several points to improve the American base in. It still misses ambient audio, scripted scenes, a complete list of assets and polished interaction mechanics. This would greatly improve the overall feel of the level and most likely support the architectural patterns as it did in the WSA Museum and base.

In the end I have to say that for me this project was a big success because not only was I able to create three areas that evoke certain feelings but also acquired industry standard knowledge of the next gen engine Unreal Engine 4.

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