

# Minor Project

## R&D Document

During this assignment I will create two digital matte paintings, and a set extension. As my desired career path, the piece will enable me to further my overall matte painting ability. It will develop my understanding of essential components that make a realistic matte painting, such as composition, perspective, atmospheric depth, and realistic lighting and shadows. The piece will also improve my ability to create projection set ups and use compositing techniques to create a realistic environment shot. There will be a heavy emphasis on the mood and narrative, and I will research how this can be created through lighting, colour and cinematography.

### Concept

A short sequence to establish an environment. I will use stock footage for the set extension and also create two matte paintings which will be of the same environment but from different angles. It will open with two mid shots to showcase the details of the environment, followed by the set extension, a wide shot with heavy atmospherics to establish the mood. The genre of the piece is dark fantasy and mystery, with an ominous and foreboding mood. I will use photo references from Iceland of barren volcanic landscapes to create the impression of a deserted and desolate environment.

### Aims of the Project

- To improve my ability to create a photoreal matte painting.
- To create an interesting sequence that clearly showcases the environment.
- To utilise atmospherics and lighting to further the dark mood of the piece.
- To carry out two matte paintings and a set extension.

### Software

- Adobe Photoshop: I will use Photoshop to create the matte paintings.
- Nuke X: I will use Nuke X for projection mapping and compositing the matte painting onto the stock footage.
- Adobe Premier Pro: I will use Premier Pro to edit the sequence and add music.

# Research

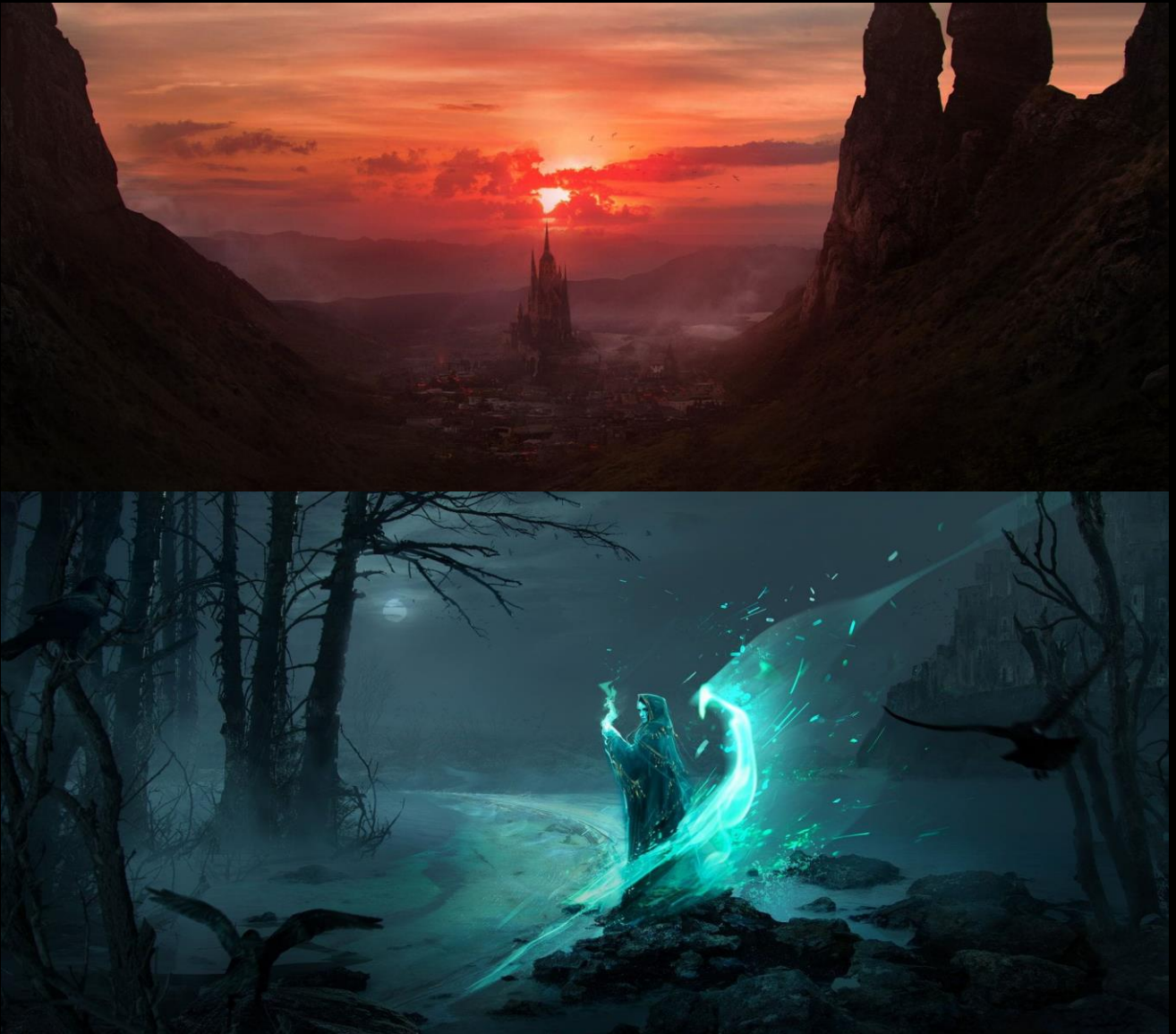
## Dynamic Lighting

As the ominous mood is a central element of the piece, I carried out research of different ways I could achieve this. An article on the Mattpaint blog written by concept artist Santa Norvaisaite explains how she uses lighting and atmospherics to develop mood in her pieces.

She explores multiple techniques to create eye catching and dynamic lighting, for example;

- Using the free transform tool to shape the lighting and use it as a tool to guide the viewers eye around the composition.
- Exploring how atmospherics such as wind and fog interact with the lighting.
- Using different layers and textures to add depth and realism to the lighting.
- When painting the lighting using multiple layers such as saturation and hue to create a strong and eye-catching effect.

I will employ these techniques when creating the lighting in my own piece. For example, I will use multiple layers to create prominent light rays casting through the clouds. This will enable me to create dark shadows over the terrain to help further the dark mood.



# Atmospheric Perspective

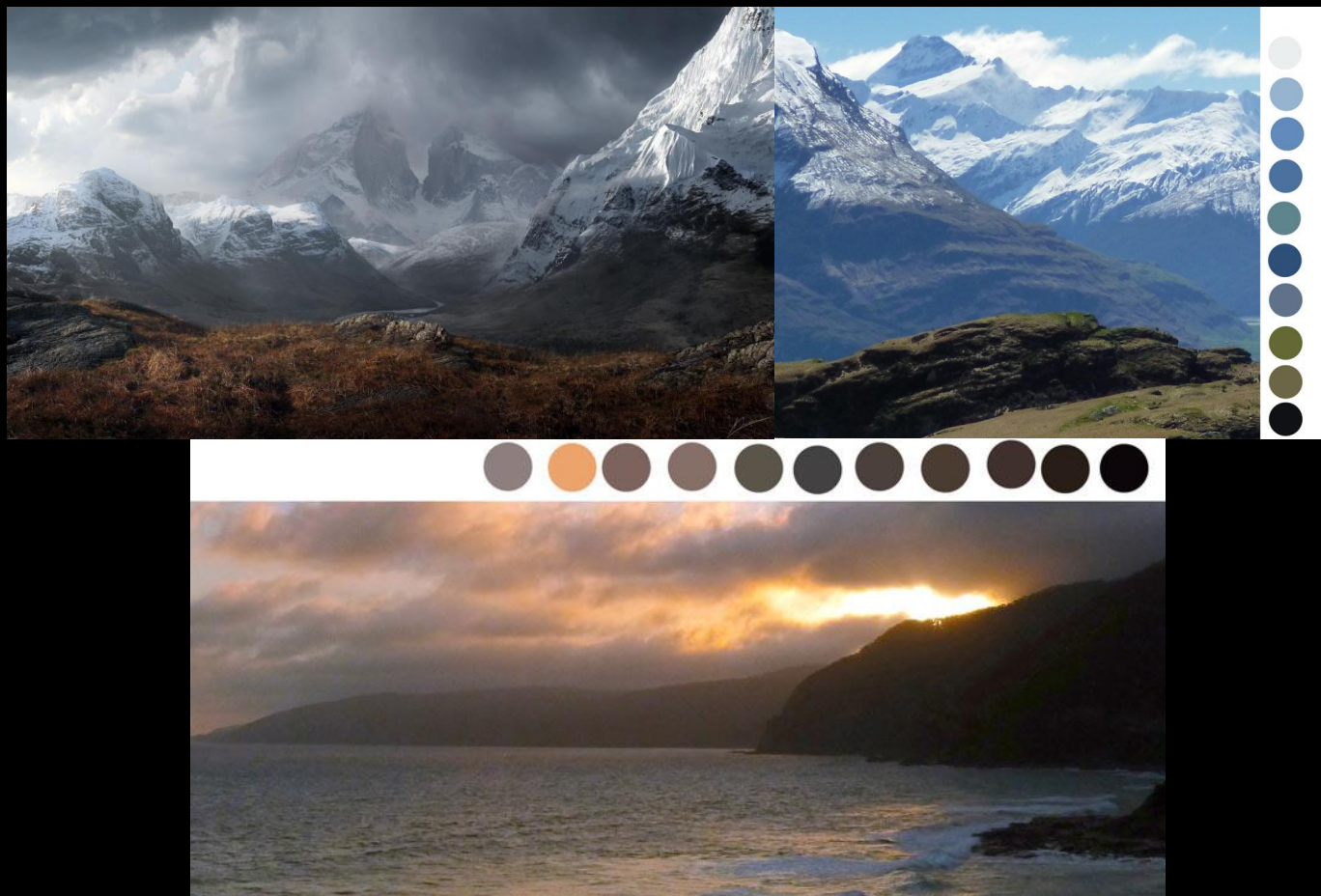
To develop the mysterious genre the matte paintings will have heavy atmospherics. Therefore, to further the realism it will need to have accurate depth perspective. To ensure I achieve this I looked at an article that explains atmospheric perspective and how to apply it to different shots.

Atmospheric haze is an effective tool for creating the illusion of distance within a matte painting. It explains the more distant an object is the more atmosphere there will be between the object and the viewer. The haze makes the distant elements look 'duller' and you cannot see the fine details.

The distant elements take on the colour of the sky. In the first example the distant snowy mountain has minimal blue haze as it is a bright clear day, whereas in the example with the stormy sky the distant mountains are less visible as there are lots of atmospherics covering the mountain. In the sunset example the mountains take on a subtle orange haze from the colour of the sunset. Applying atmospheric perspective will further the realism of the matte painting. It shows an interaction between the sky, atmospherics and the mountains and it provides a level of realism as it's what we are accustomed to seeing in real life.

Furthermore, the background mountains have much less detail than the foreground. The heavy atmospherics between them lessens the contrast between colours, so the dark tones are less prominent, giving it a soft effect and works well in exemplifying the distance.

This is helpful research because in order to convey the ominous tone I will add heavy atmospherics to build an unsettling and foreboding mood, as the viewer cant see clearly and doesn't know what's out there. This helps further the narrative as it conveys the environment is desolate and unoccupied as if it's a new place never seen before.



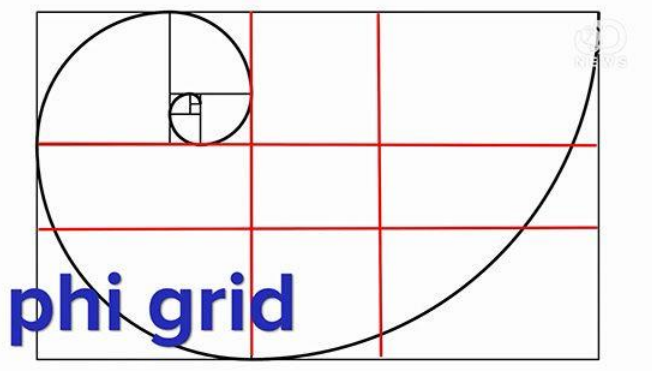


# Composition Rules: The Golden Ratio

For this project I want to experiment with different composition rules in order to further my understanding of composition and perspective and create an interesting piece. I carried out research into the golden ratio.

The phi grid is similar to the rule of thirds, however, the phi grid has a narrow middle grid, and the centre box is smaller. Putting a point of interest in the small middle box will make the composition more obscure as it differs from the regularly used rule of thirds where the focal point is off centre. Also, having the focal point in the centre will immediately draw the viewer's interest.

The Fibonacci spiral shape is a guide to help balance the composition and lead the viewers eye throughout the piece in a pleasing manner that is easy to take in. The article explains how to apply the spiral. It states to place the most detailed elements within the smallest box in the spiral. Further points of interest within the piece should be placed along the line of the spiral, guiding the viewer through the composition in a natural way.



# Matte Painting Inspiration

I looked at various matte paintings to gather inspiration.



This matte painting has good composition; the eye is immediately drawn to the distant peaks followed by the other points of interest (the river and foreground mountain). This is a good example of the golden ratio to create a balanced piece appealing to the viewer.



I like the use of lighting in this piece. The harsh white light adds interest whilst maintaining the stormy and ominous themes.



The various rock formations seen here add interest. This is also a good example of atmospherics to further the depth within the piece and further the dark mood.



I think the curved river is an effective point of interest in this piece. I also like the simple composition which isn't overcrowded but still looks very effective and eye catching.



The atmospheric perspective here works well in creating depth and building a level of mystery as you can't clearly make out the distant mountains.



I like the use of the warm colours in this piece, it still conveys the dark mood without the colours having to be dark and gloomy as seen previously. The lighting also adds further interest.



I like the angle seen here, I think it could work well in my mid shots to show the environment details. The sunset is visually effective, particularly the orange haze over the jagged background mountains which looks eye-catching.



In this matte painting the lighting and shadows from the sky casting on the environment adds a lot of realism. I also like the use of lighting and atmospheric haze on the distant peaks.

This matte painting research will be beneficial when creating my own matte paintings. I will draw inspiration from elements that worked well, for example, using the golden ratio effectively, heavy atmospherics with accurate atmospheric perspective to further the realism and harsh lighting as points of interest. A dark colour grade is used to further the ominous and mysterious themes of the matte paintings.



## Film Research: Oblivion

To further my idea, I carried out research into films that have ominous and mysterious moods to see how the environment conveys this. The post apocalyptic film Oblivion has vast barren landscapes with jagged rock formations as points of interest. I think it is effective to have a simplistic composition to further the desolate and mysterious mood which I will follow in my own matte paintings. There are heavy atmospherics conveying the ominous tone. The subtle use of atmospheric perspective furthers the realism and the depth conveys the vastness of the landscape. To further the dark mood the colour grade is cold and gloomy. In a sunset shot an orange haze can be seen casting on a jagged rock, this adds interest and I will experiment with these ideas in my matte painting. Finally, the cold desolate environment conveys the post apocalyptic theme of the film. This led me to develop the narrative of my piece and explore how it will convey why it is a barren environment and how long it has been that way.



## Film Research: Alien Covenant

The film Alien Covenant is a very helpful reference for my piece. The high level of cloud atmospherics amongst the mountains adds visual interest and is an integral part of conveying the mysterious mood. I will reflect this in my matte paintings. The clouds make it difficult to see the whole environment clearly, so the viewer doesn't know what's out there or how long the environment goes on for creating the desired foreboding mood as seen throughout this film. This is also a good reference for atmospheric perspective, which is key for a realistic matte painting when I will be using lots of atmospherics. I think the towering mountains seen in Alien Covenant effectively convey this vast, mysterious and intimidating planet. I will use this technique to create these themes in my own matte paintings and the towering mountains will also add effective points of interest.





## Film Research: The Lord of the Rings

The ending shot from the Lord of the Rings: The Two Towers is a big inspiration. It is an establishing shot that pans upwards from behind rocks to reveal the foreboding and desolate environment of Mordor. The composition is simplistic with clear points of interest in the volcano and tower. There are heavy atmospherics and harsh lighting. This shot helped to develop the narrative of my own piece; a mysterious and desolate valley, once occupied but now deserted and uninhabitable. A harsh environment with thick atmospherics so that you can't see what's beyond, creating a foreboding tone.



# Real Life References: Atmospherics & Lighting

I looked at real life references of atmospherics and lighting in order to further the realism of my matte paintings. I will add lots of wispy clouds in front of the mountains, to further the mysterious mood. I will make sure these have soft edges, low opacity and match the colour of the sky to reflect the references. I will also apply atmospheric perspective; I will add layers of haze matching the colour of the sky and reduce the details and contrast of the dark colours to the distant mountains. For the lighting, I will have a stormy sky to reflect the foreboding mood. It will be very cloudy with shafts of harsh light casting through. I will explore having high contrast between the light areas and shadows to further the interest of the piece.



# Lighting and Shadows Research

I carried out research into accurately creating prominent lighting and shadows as they are integral. An article by concept artist Josu Solanao on matte paint explains how he created his matte painting titled 'storm'. It has very dramatic lighting with dark shadows and prominent light rays from the sky casting on the environment below. This lighting will work in creating the ominous tone and making my piece eye catching. In the article Solano explains how he achieved this using photoshop techniques. For example, when colour grading, he put the elements in greyscale and used an adjustment layer to match the colour, brightness and contrast. He then went through the colour channels and matched the hue and saturation. When adding the lighting, he looked at the direction of the lighting and on the areas that needed light cast, he used a new adjustment layer on top and then used the same techniques to add lighting and shadows to the environment. This is an effective non-destructive method which I will use when creating matte painting lighting.



## Real Life References: Environment

To create the barren and desolate environment I looked at references from the ash barrens in Iceland. This location was used in films such as Prometheus and Oblivion. I believe the rocky vast landscapes; the interesting rock formations and the towering eye-catching green mountains will work very well in my matte painting to create the mysterious and ominous tones.





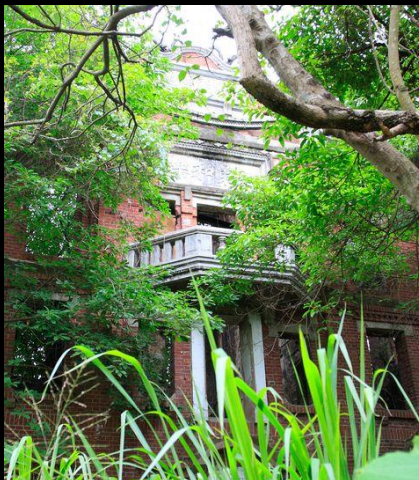
# Narrative Development

As I was carrying out further research into desolate environments in films and tv I noticed a common theme was to have a building or ruin standing out amongst the barren valley. This can be seen in the tv show Merlin where a dark tower looms above an empty landscape creating a foreboding mood. In Doctor Strange and the Multiverse of Madness there is a collapsing building that stands out from the environment, again creating a dark tone. In Stranger Things Vecnas lair is a key point of interest in the barren landscape of the upside down. I therefore decided to add a building to my shot. An abandoned or ruined building helps develop the narrative of the piece as it conveys there was once civilization, and it wasn't always barren. It furthers the ominous and mysterious mood as the viewer wonders why it is now abandoned.



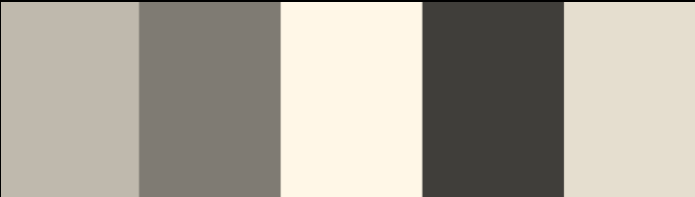
## Real Life Research: Abandoned mansions and castles

I carried out research into abandoned buildings in real life. I looked at Villa de Vecchi, Lui family mansion and Lennox castle. The common themes around their abandonment is a form of family tragedy. In my piece I will use a large mansion to convey lots of people had once lived there. This will further the dark and mysterious tone as we don't know what happened to them. I looked at reference photos. Common characteristics are peeling paint, cracked walls, dark and covered windows and overgrown greenery. I will look for a mansion with these attributes to convey it is abandoned and derelict.



# Mood Board

To further my idea, I created a mood board so I could lay out the different elements of my piece and make sure they look cohesive. For example, heavy clouds and atmospheric, a stormy sky with bright light rays, dark shadows, the ash barrens of Iceland for my main photo bashing references, and a derelict mansion. The colour scheme will be simplistic with the dark greens and browns of the landscape, and the grey, white and orange light of the sky.





## Stock Footage

For the set extension and final shot of the sequence I will use stock footage from Pexels. I have chosen a drone shot where the camera pans across a derelict mansion. I feel this shot will work as it is a steady camera move that should track well. It also reflects the establishing shot from the Lord of the Rings where the environment is gradually showcased from above. I feel the mansion effectively conveys the narrative of an abandoned house as it has overgrown greenery, cracked walls and covered windows. I will replace the surrounding landscape with a matte painting using the ash barren references from Iceland and rotoscope the mansion back on top. Having the mansion in the foreground will also further the realism and stop the foreground looking flat and 2D.

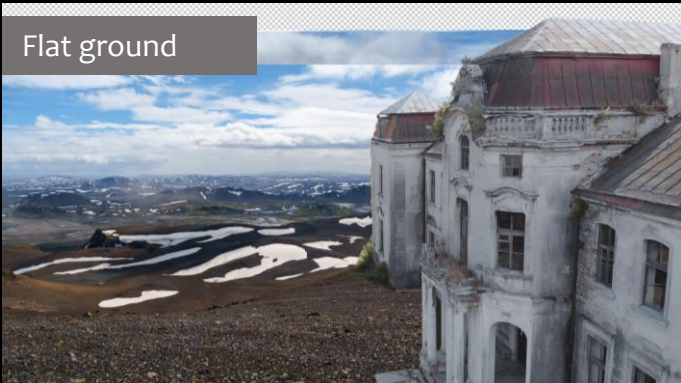


## Development

### Wide Shot Matte Painting

To begin the matte painting set extension I chose the first frame of the stock footage, as it was the widest, and cut out the mansion. Using an Iceland photo pack, I then began adding different backgrounds to establish the composition. I began with placing the house onto flat ground with the landscape behind, however this risked the mansion not standing out as the focal point. I therefore added a hill and a distanced landscape behind which started to create the illusion the house was on a cliff high above the landscape.

Flat ground



Hill & distant landscape

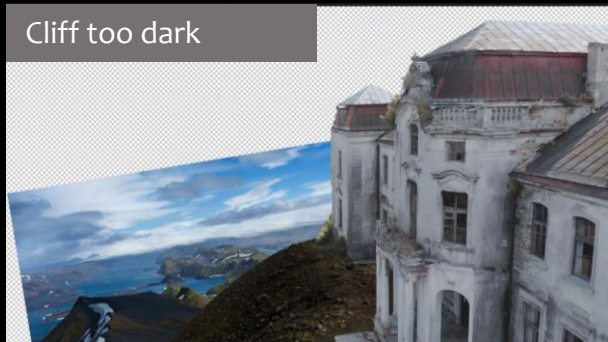




## Choosing cliff and base landscape

I then tried multiple variations of a cliff in the foreground and a distanced background. I felt this composition idea gave me the opportunity to add a lot of depth to the piece and have the mansion as the clear focal point in the foreground. However, some of the issues I was having involved the cliff being too dark or colors too similar to the background meaning they blended into one. I also found it difficult to find a landscape that matched the perspective of the mansion.

Cliff too dark



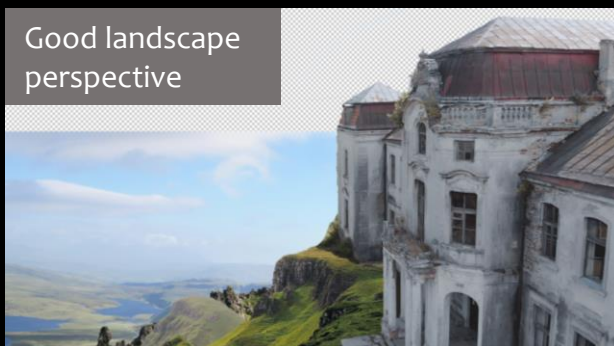
Landscape wrong perspective



Good landscape perspective

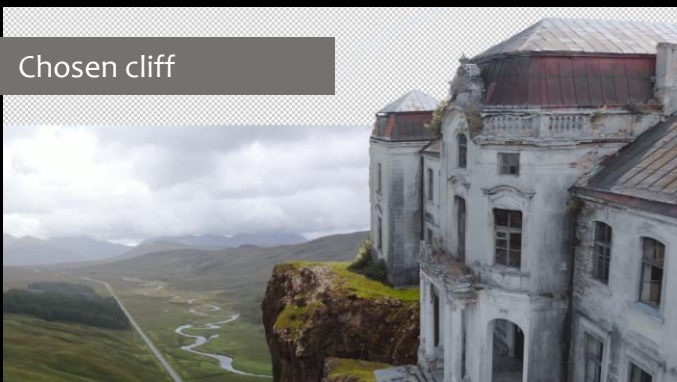


Good landscape perspective

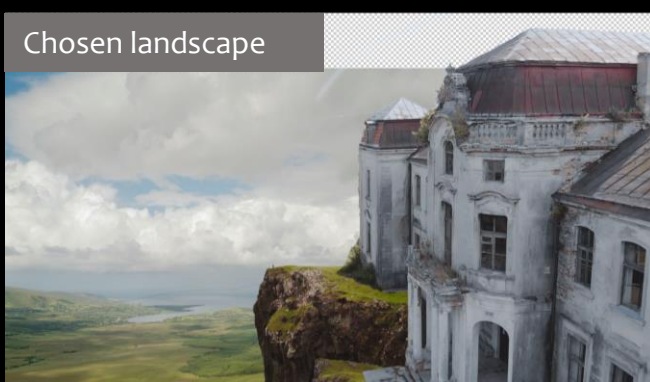


I then chose the cliff and base landscape. I felt the cliff matched the perspective of the mansion and the different levels add interest. Furthermore, the brown rock colour helps it to stand out against the landscape, and the cliff doesn't take up too much of the composition. My chosen landscape will act as a good base for the rest of the matte painting. It is distanced and reflects the perspective of the mansion and cliff.

Chosen cliff



Chosen landscape

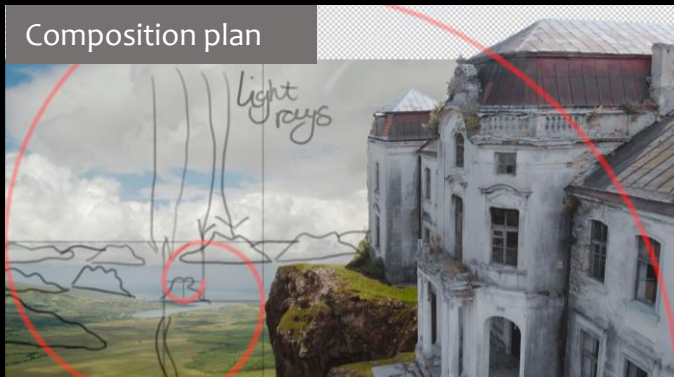




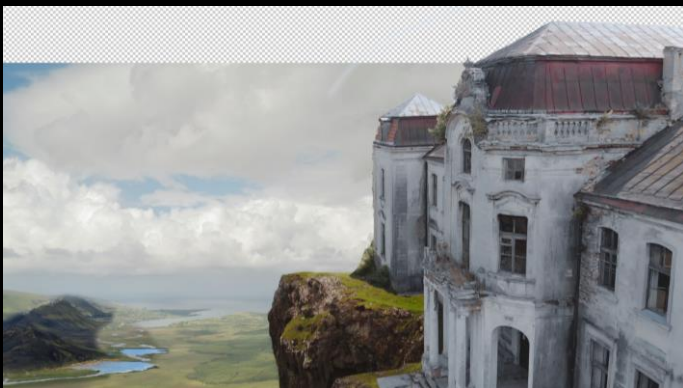
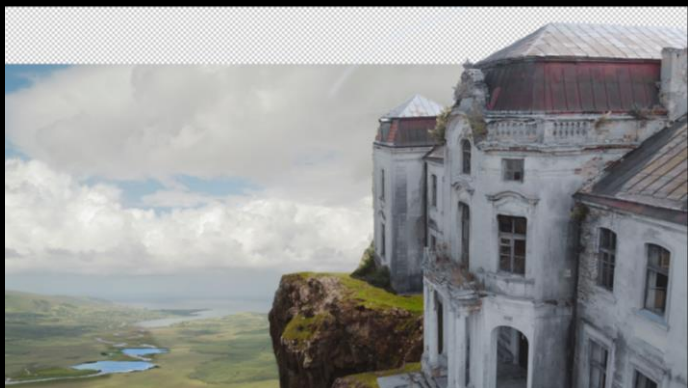
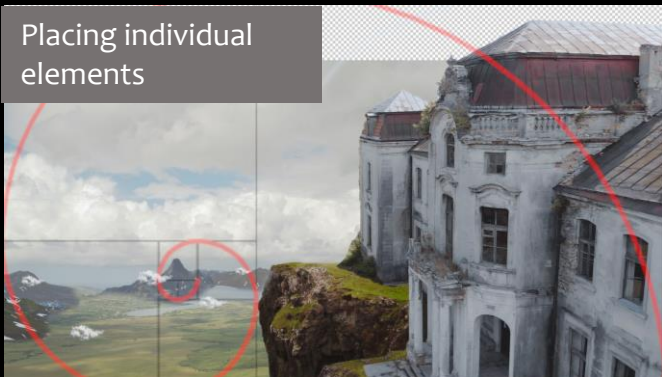
## Developing landscape composition

To begin building the landscape I used my composition guide and roughly mapped out mountain placements. I then began cutting out mountains and rivers and adding them to the composition. However, I found it very hard to make this look cohesive as I had a large area to cover and the blend lines between the different elements had to look invisible.

Composition plan

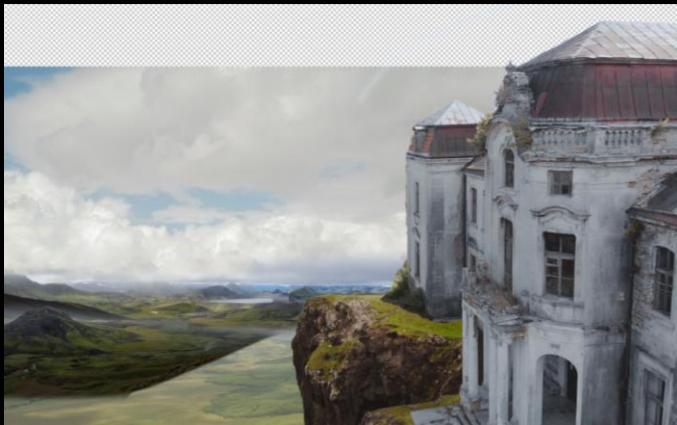
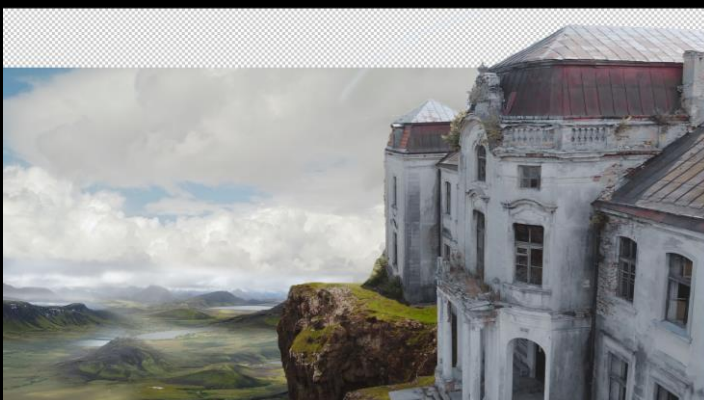
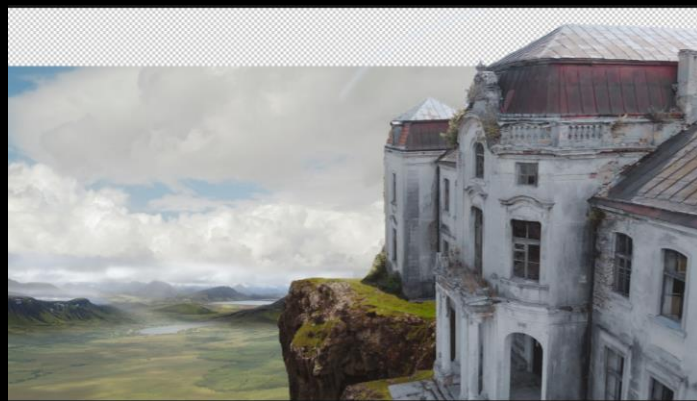
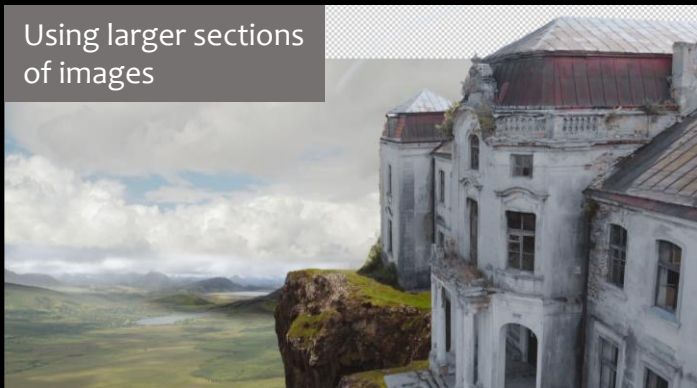


Placing individual elements



To overcome this problem instead of cutting out and placing individual elements I decided to use different sections from images and blend them together. This worked very well in creating a more cohesive and detailed piece.

Using larger sections of images

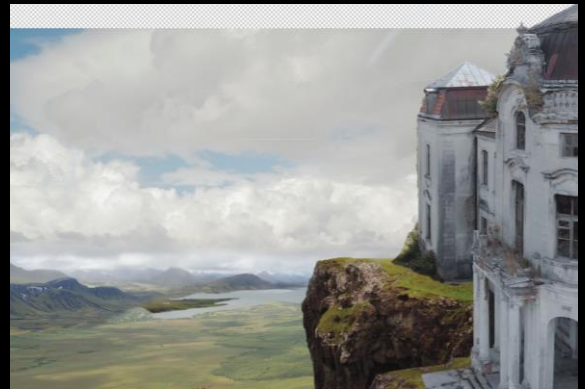




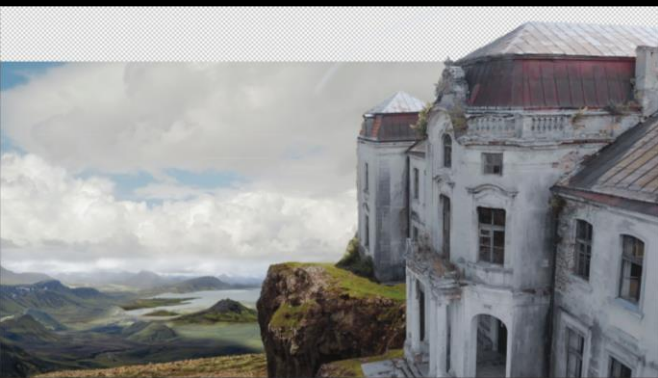
# Developing Landscape Composition

I developed the landscape composition by adding different sections until I had a layout that worked. I wanted the landscape to look dense and interesting with lots of mountains. I used the lake from the base landscape image to break up the mountains and add interest. I found it difficult to get cohesive perspective across the landscape where it looked like all the mountains were shot from above. To improve this, I used most mountains from the same location as the photos were taken from similar angles.

Stitching together different mountain sections



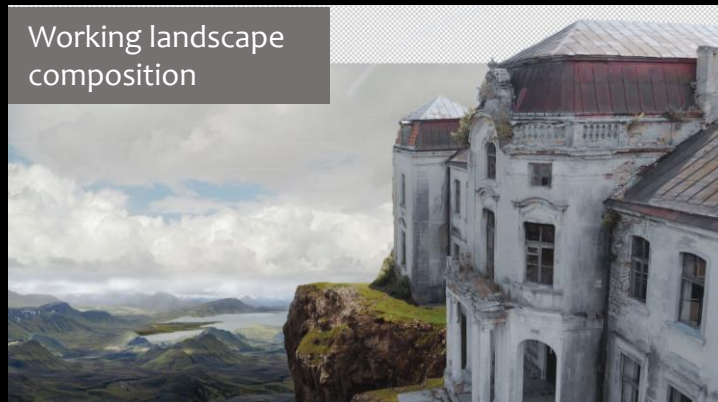
Developed composition but needs patching



Ground patch



Working landscape composition

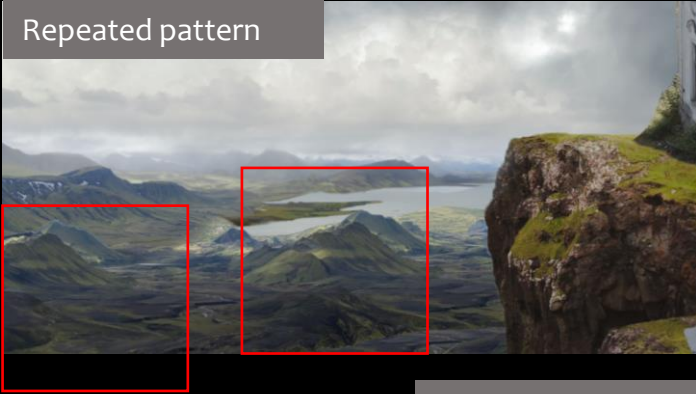




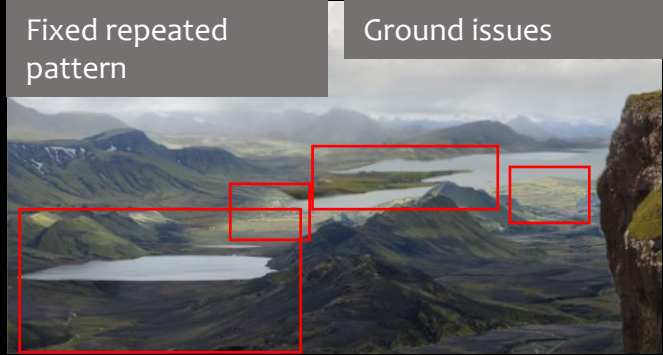
## Refining Landscape details

I then refined the landscape. Firstly, I replaced a repeated pattern in the mountains with a smaller mountain cluster and a lake, adding further detail. I also patched the ground areas where the landscape base image was coming through and didn't match the mountains.

Repeated pattern



Fixed repeated pattern



Ground issues

Fixed ground issues



## Colour Grading and Atmospheric

To grade the landscape, I used a hue and saturation to remove the blue tones from the mountains. I also used a levels to lighten areas to convey distance. I used a soft brush to paint the colour of the sky over the mountains to create atmospheric depth.

Grade before



Grade after



Atmospheric haze before



Atmospheric haze technique



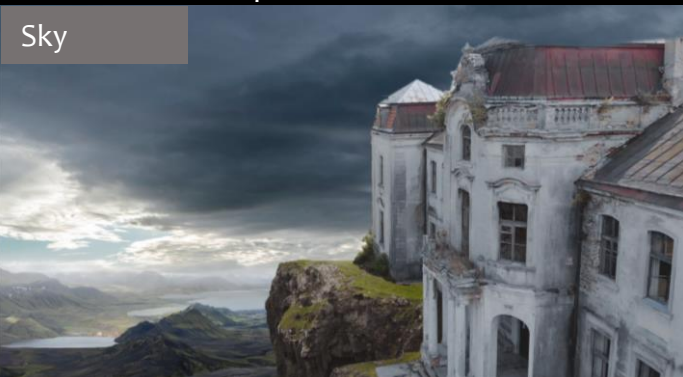
Atmospheric haze after



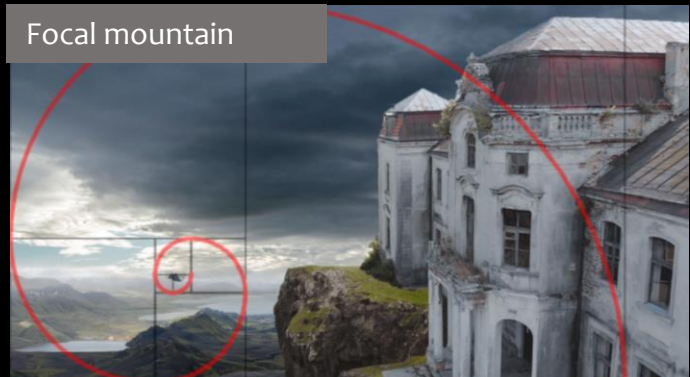
## Sky and Focal Mountain

I chose this sky as it is dramatic and dark in the foreground to further the ominous mood over the mansion, whilst having interesting light rays for the background. I felt my composition was lacking interest, so I therefore added the Fibonacci spiral and chose to add a focal mountain in the distance to balance the composition.

Sky



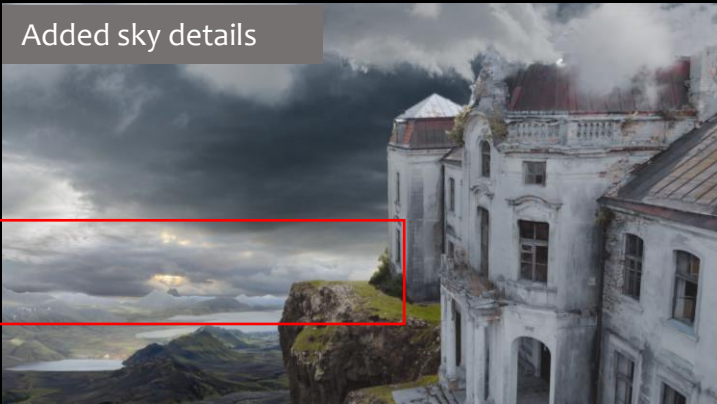
Focal mountain



# Sky details and atmospheric perspective

I added a different sky image above the focal mountains to add interest and incorporate a light ray to further the focal mountain. I used a hue and saturation to remove the blue tones. I also added atmospheric perspective from this new sky by selecting colours and lightly painting it on top. This furthered the realism as it created a direct connection from the sky to the mountains.

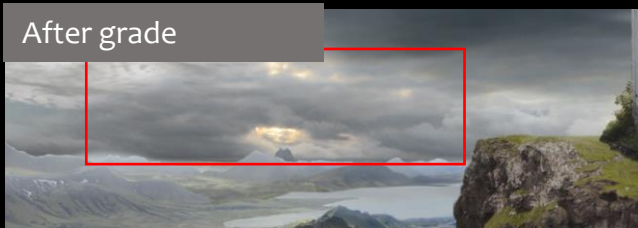
Added sky details



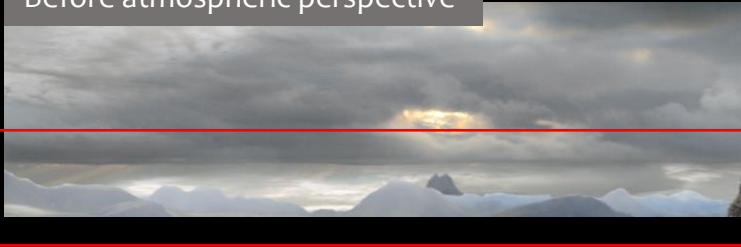
Before grade



After grade



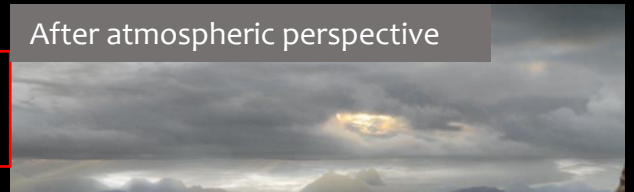
Before atmospheric perspective



During atmospheric perspective technique



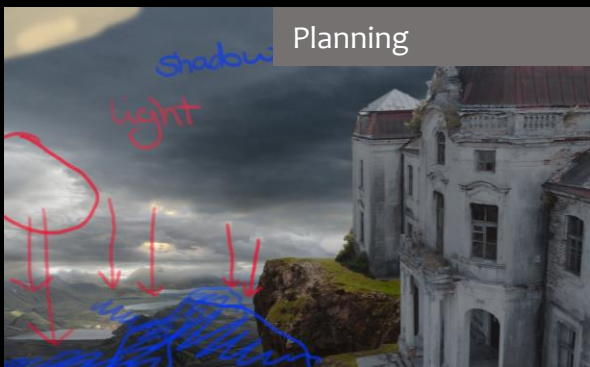
After atmospheric perspective



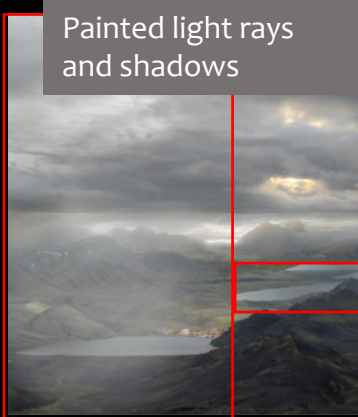
## Lighting and Shadows

To create lighting and shadows I began by mapping out where the lighting from the sky would hit the ground. Using a light brush, I sampled colour from the sky and painted rays onto the ground. I also painted shadows on the ground and water. As the foreground looked dark, I added a patch of light to the foreground sky which helped make the whole sky more cohesive. I painted a light ray coming from the patch that would cast onto the house to help integrate it into the matte painting.

Planning



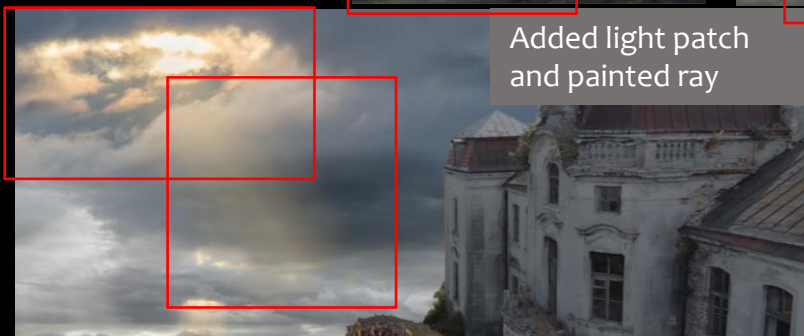
Painted light rays and shadows



Painted light rays



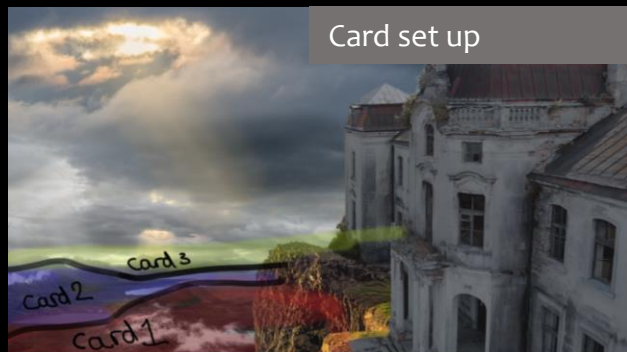
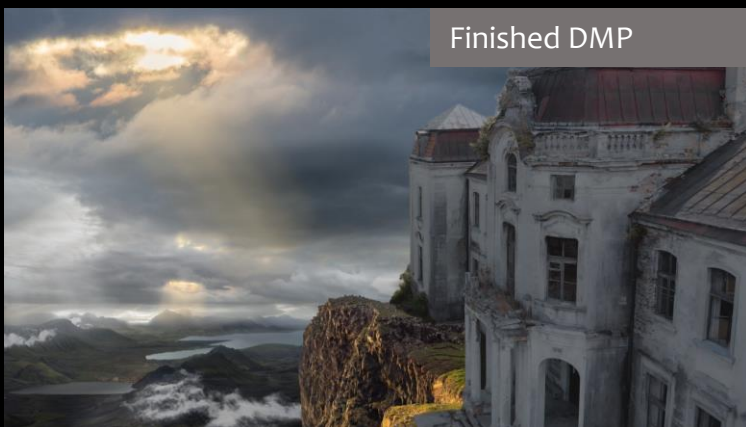
Added light patch and painted ray





## Finishing Touches

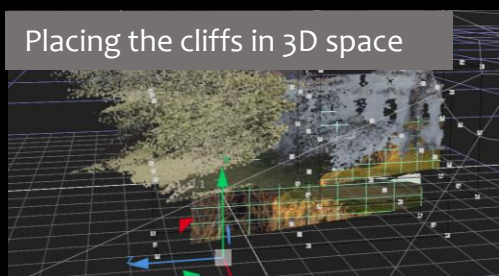
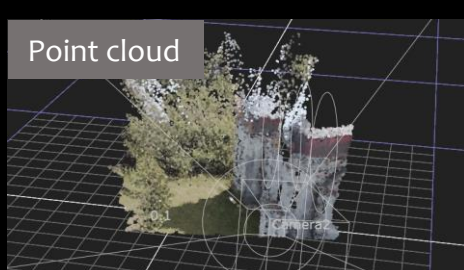
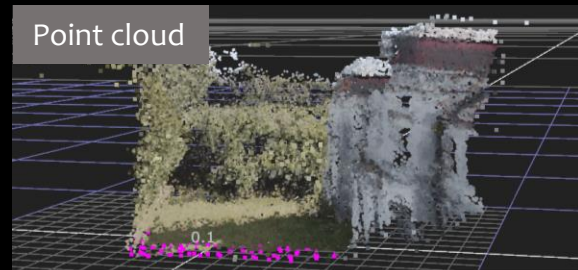
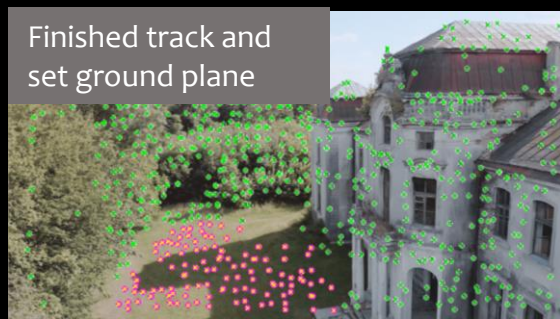
I added clouds to the landscape which worked well in furthering the depth and mysterious mood. I also added further shadows to the piece, particularly on the two lakes. I decided to change the cliff elements. I think this improved the shot as the new cliffs maintained the original shape that worked whilst already having an orange haze that reflected the light ray. I then mapped out the card areas to begin projecting the shot.



## Projecting the Wide Shot

### 3D Tracking and Point Cloud

To begin the projections, I began by 3D tracking the stock footage. To improve the accuracy of the track I roto-scoped the sky and the windows as they contained moving reflections. After generating the track and using the auto track settings to reduce the solve error I set the ground plane. From this track I used a point cloud generator to create a dense point cloud. This worked very well and enabled me to clearly see the shot in 3D space. I used the point cloud as a guide to begin projecting the matte painting. I began with the two cliff elements; I projected them onto cubes and placed them in 3D space according to the point cloud.





# Projection Issues

When it came to projecting the landscape of the matte painting I found it super challenging. It was hard to work out where to place the cards in 3D space. Unlike the cliff elements that went directly under the mansion, there was nothing on the point cloud I could use as a placement guide, as the landscape covered the entire shot. In order to get the foreground landscape to track correctly it had to be so far forward it would then cover the cliff layers, also when I placed the different sections of the landscape big gaps would appear.

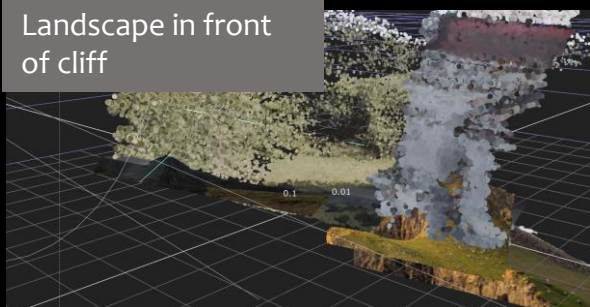
Landscape in front of cliff



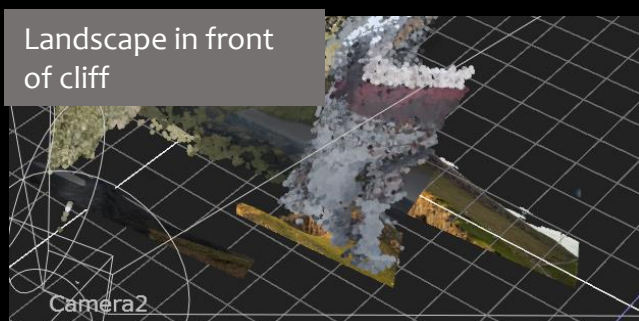
Gap created between sections



Landscape in front of cliff

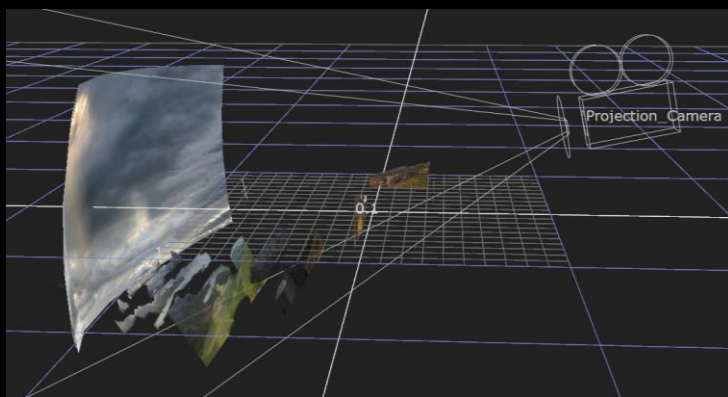
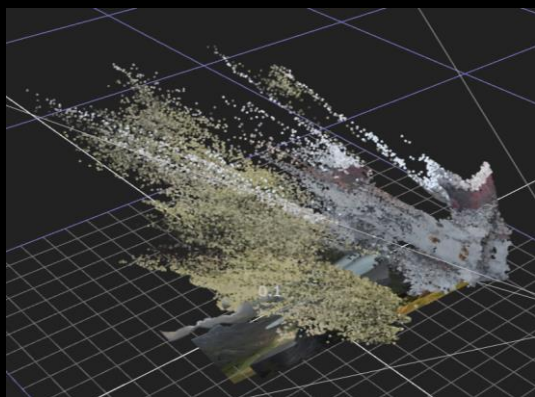


Landscape in front of cliff



## Projections improved

As I tried different variations of card placement I discovered where I was originally placing the foreground landscape wasn't following the movement of the mansion. I therefore placed the landscape cards behind the cliff elements and underneath the point cloud. I found this worked much better and tracked correctly to the mansion. I also found the layers were appearing very flat. I improved this by rotating each card. I rotated the cards depending on the distance from the camera to create depth. I projected the sky onto a sphere to further the realism.



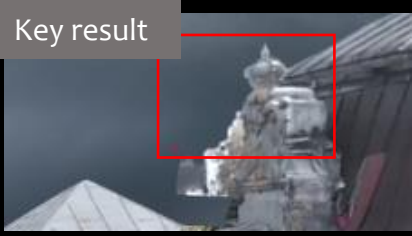
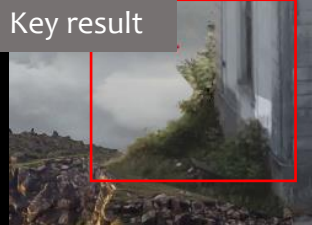
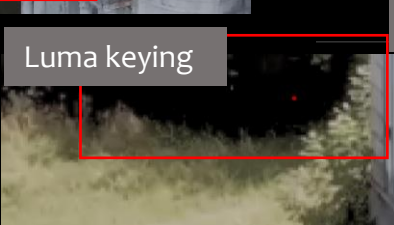
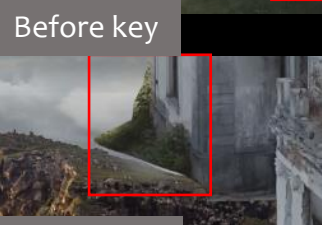
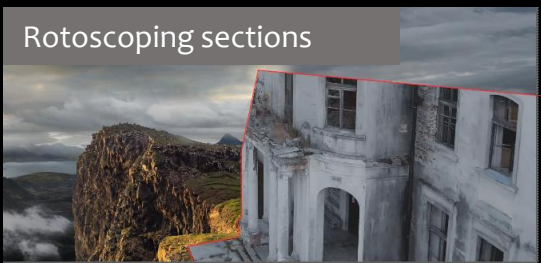
# Matte Painting Gap Issue

I did a rough roto of the mansion to place it on top of the matte painting, however as I played the shot I noticed the camera move reveals a gap in the matte painting at the end. In order to patch this I went back to Photoshop and added some distant mountains, this worked well in adding further depth and covering the area.



# Mansion Rotoscoping and keying

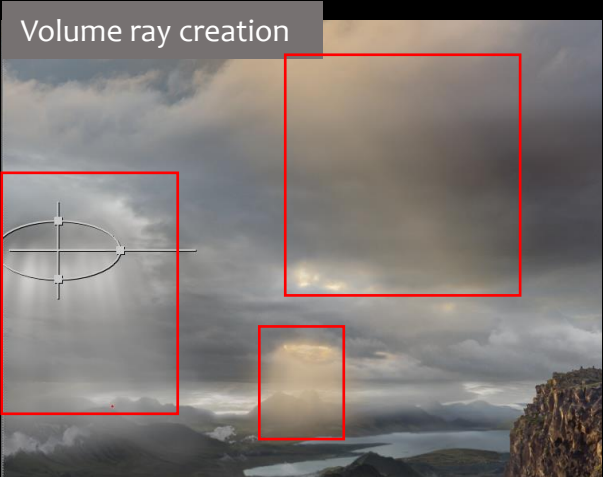
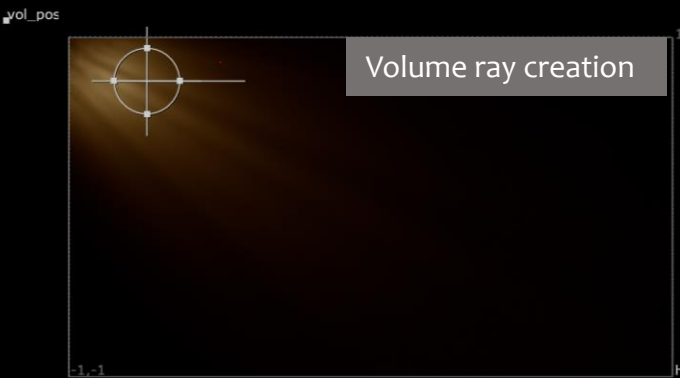
To roto the mansion I divided it into simple shapes so it was easier to manage. I then created several 2D tracks on different sections of the mansion and linked them to the roto shapes. This worked very well in creating smooth movement that needed little refinement. To do the finer details such as the greenery and roof I used a luma keyer. This was particularly challenging for the greenery as there was little variance in colour, however, it worked well in bringing back edge detail that I couldn't have achieved through rotoscopying.





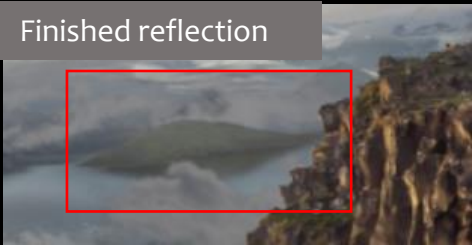
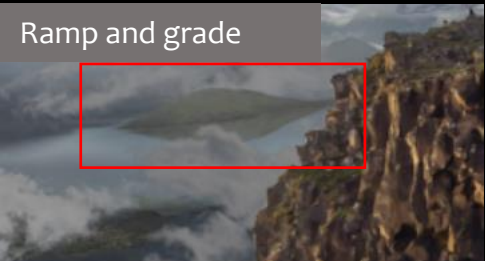
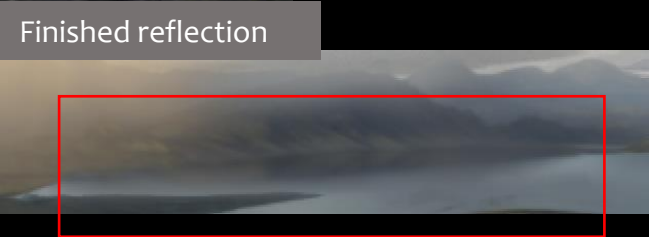
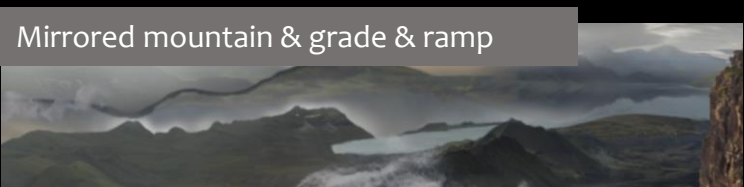
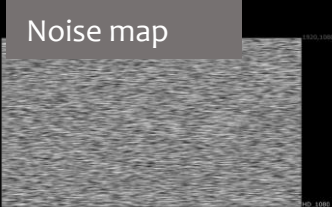
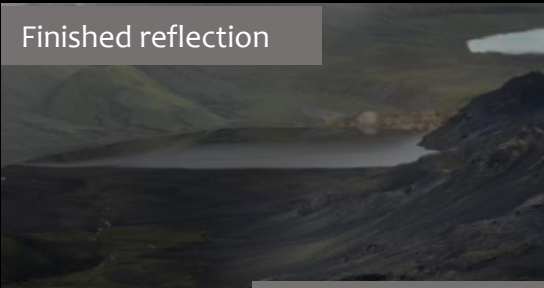
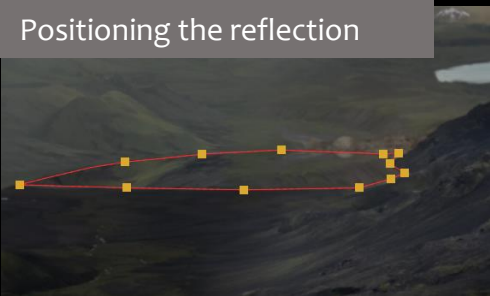
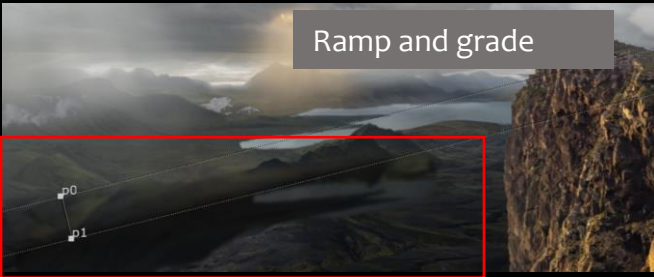
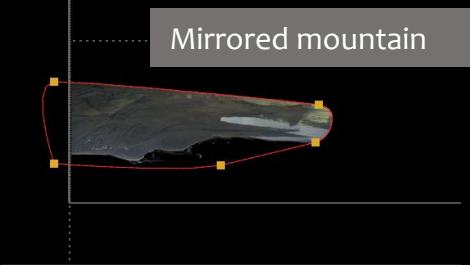
# Volume Rays

To add movement to the matte painting and further its realism I added volume rays to the light rays. This worked well in adding subtle movement and enhancing the light rays making it visually interesting.



## Reflections and noise maps

I then created reflections in the water. I mirrored mountains and used a ramp on a grade node to create a gradient. In order to further the realism I also added a blur to make the reflection subtle. I added very subtle movement to the water using a noise map and ldistort. I found the effect wasn't noticeable as the water was one shade. To fix this, I added the effect to the reflections which worked well in achieving subtle movement.



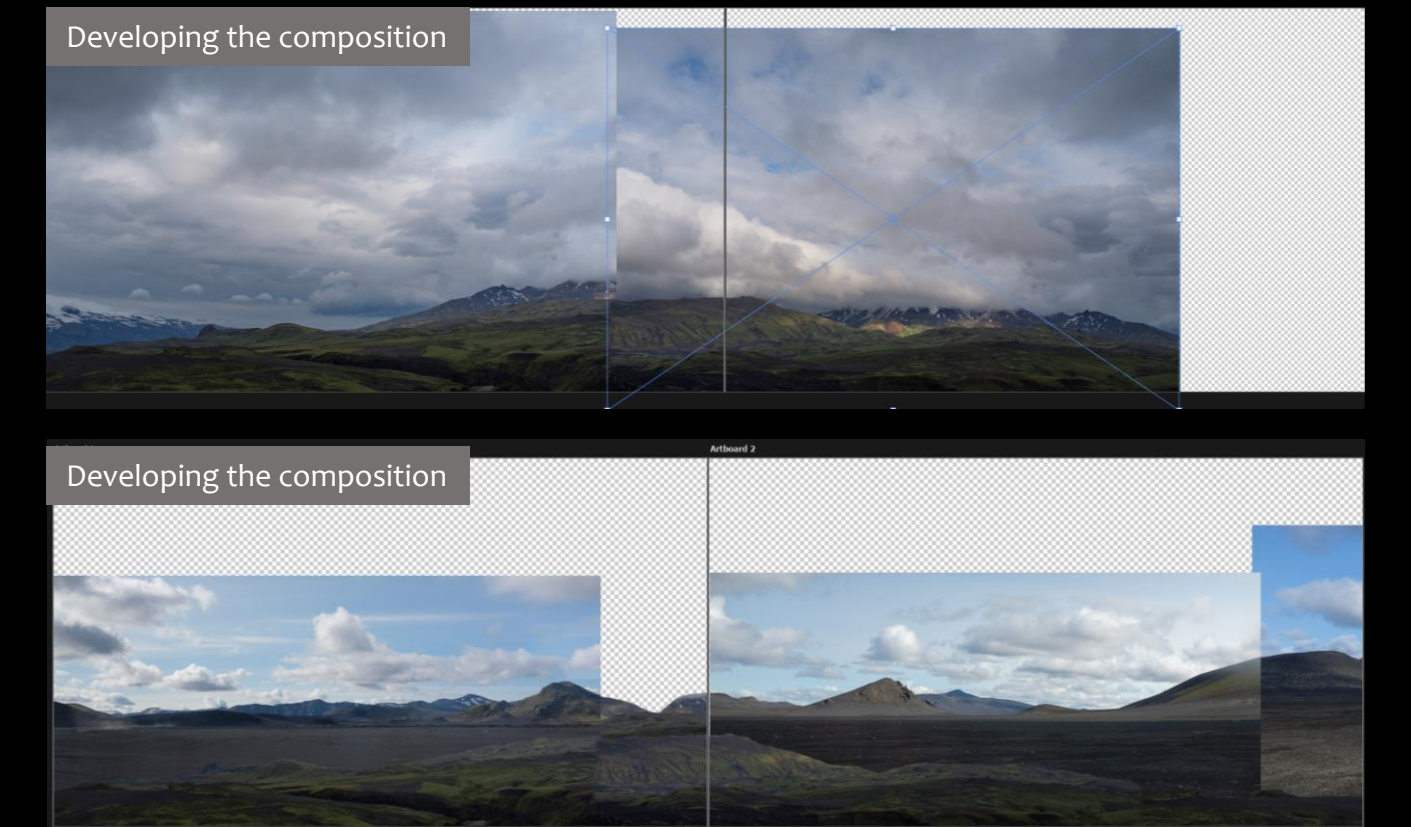
# Finishing Touches

To finish the shot I added more clouds throughout the landscape in order to further the mysterious tone. I also added lighting and shadows to the mansion to reflect the light ray shining onto it. I darkened the mansion using a grade and rotoscoped areas for the light patches. To match the orange hue of the light ray I added another grade node and added a subtle warm tone to the light patches. As the shot played reflections from the original plate could be seen in the mansion windows. To improve this problem I tracked grade nodes to the windows and darkened them to hide this. Lastly, I added grain to further the realism.



## Creating two matte painting mid shots

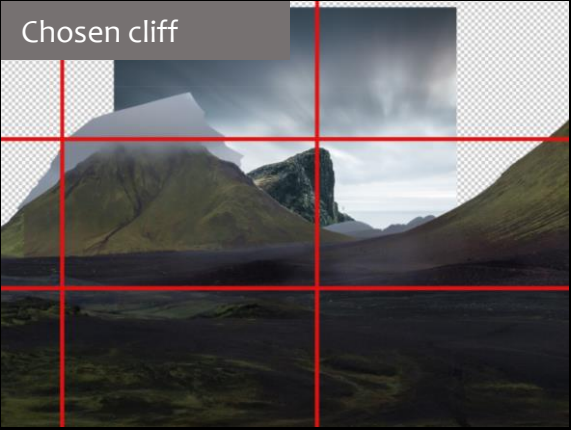
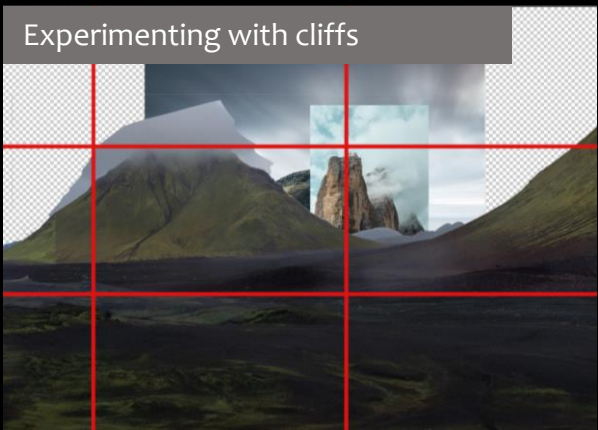
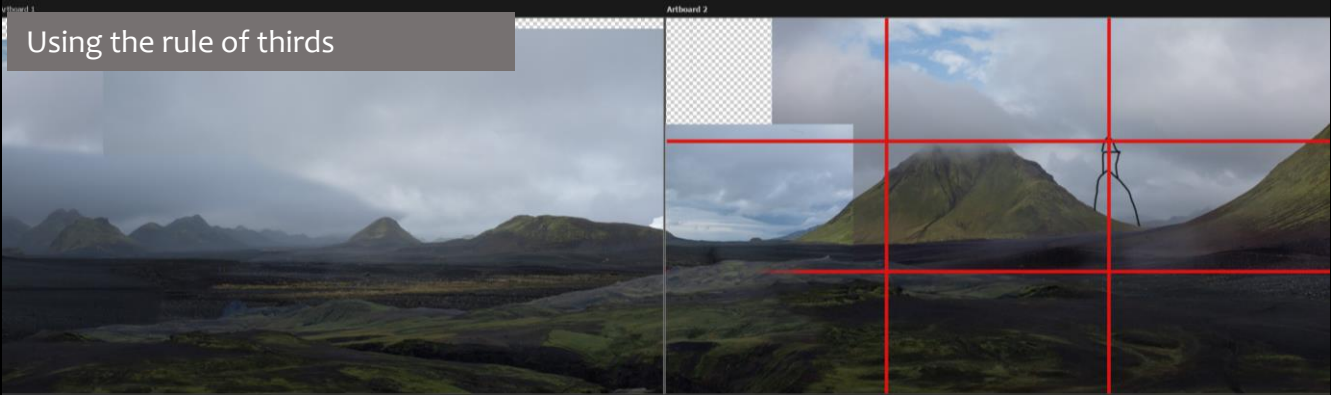
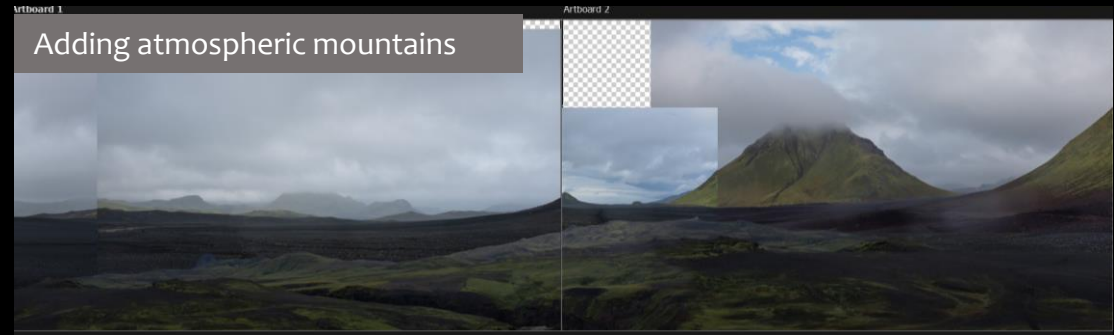
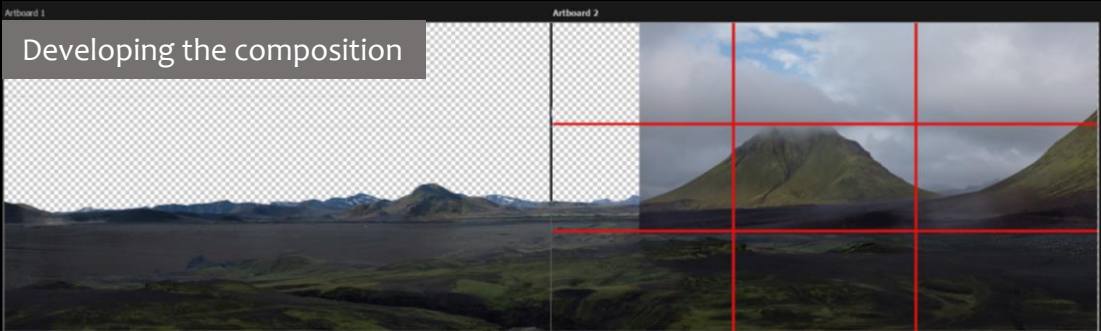
I wanted the two matte paintings to run as a consecutive sequence, a slow pan to showcase the details of the environment. I therefore decided to create them simultaneously using Photoshop artboards to create two matte paintings of the same plane that fit together. This was challenging as one picture would not be big enough to stretch across both canvases so I had to blend images together.





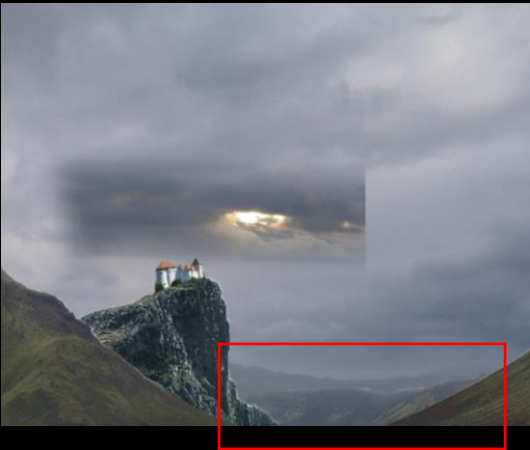
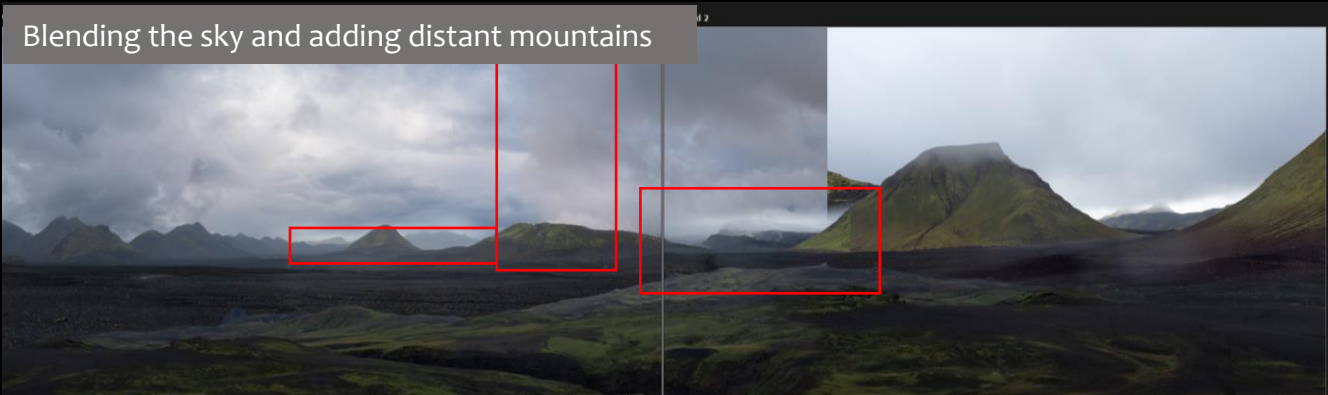
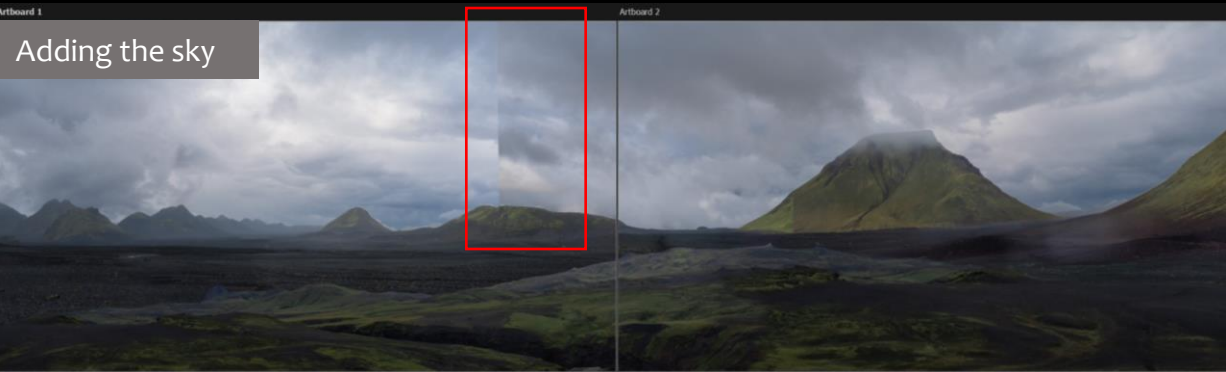
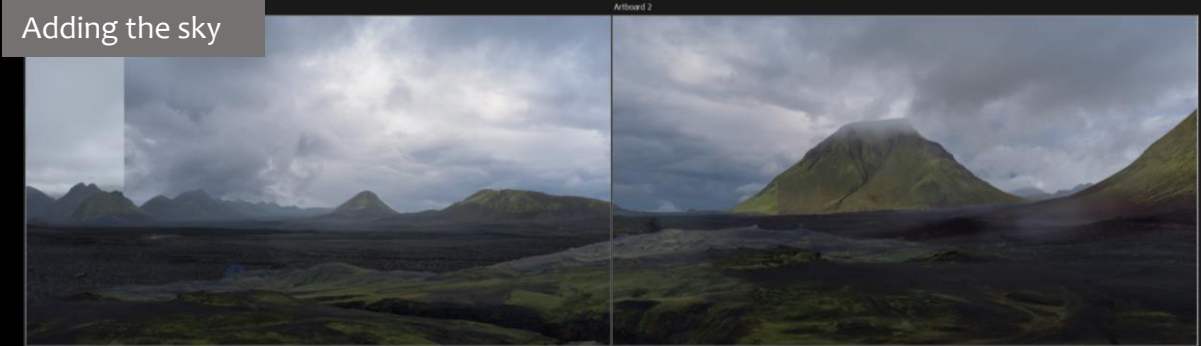
# Developing the Composition

I wanted to create a barren and simplistic landscape that pans to showcase the mansion in the distance. I used photos from the same Iceland photo pack so it looked like the same environment as the wide shot. I used the rule of thirds to place the cliff and eventually the mansion in an eye-catching spot. I also tried to use mountains with atmospherics to begin to create the atmospheric depth where you cant see beyond the mountains. This is essential to establish the mysterious mood.



# Sky and distant mountains

I experimented with adding skies. I wanted to reflect the wide shot by having a stormy sky alongside dramatic lighting. This was the most challenging to blend together across the two matte paintings. I overcame the problem through using a soft and low opacity brush to blend the sky. I also added distant mountains to the background to further the depth of the shot. As in my previous matte painting I selected colours from the sky and painted atmospheric perspective. To reflect the wide shot, I added the same light ray above the mansion, furthering the focal point.





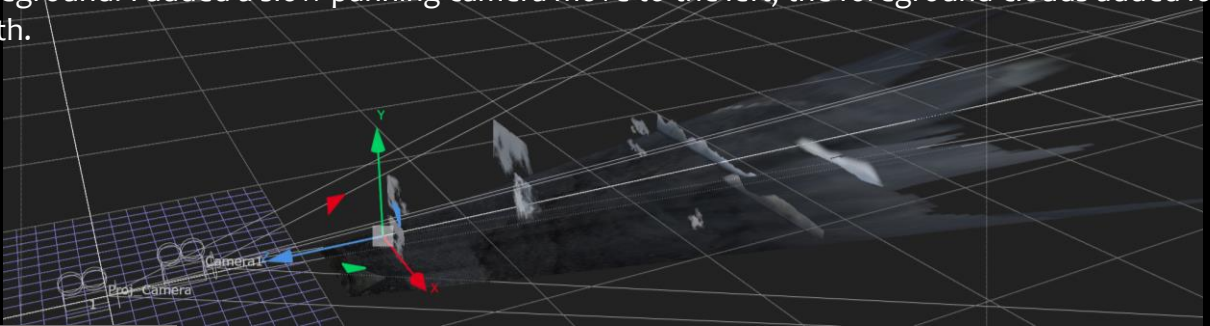
## Final Matte Paintings

To finish the matte paintings I graded the mountains, I also added atmospheric depth to the mountains and painted lighting and shadows throughout the piece using colour sampling and a soft brush.



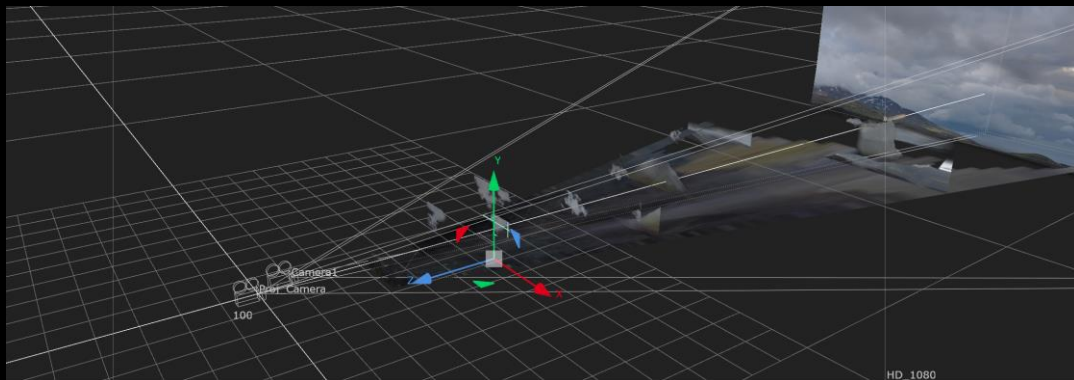
## Projecting shot 1

I began projecting the layers onto cards, I placed the distant mountains far back in z-depth to further the parallax. To further the realism I went back to Photoshop and added and graded large clouds for the foreground. I added a slow panning camera move to the left, the foreground clouds added lots of depth.

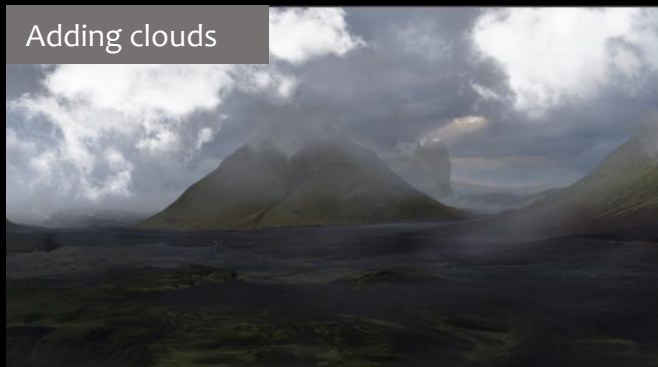


## Projecting shot 2

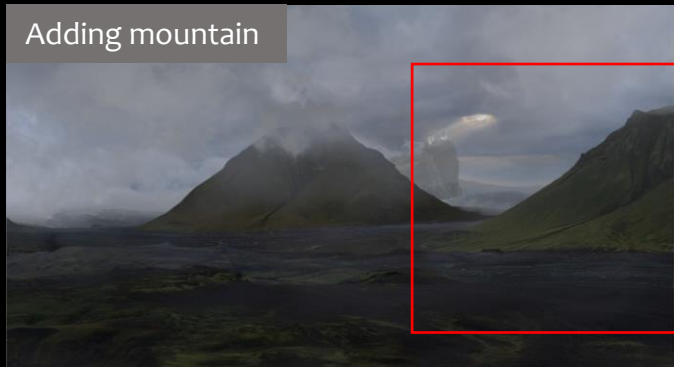
I then projected the second shot and added a slow camera move. I also added foreground clouds to further the depth. However, I found the mountains and foreground element didn't blend very well into the ground and the lighting and shadows weren't realistic. I therefore went back to Photoshop and replaced one of the mountains and used a soft brush to blend the edges to mask the line between the mountains and floor. I graded the foreground element to match the ground. To fix the lighting and shadows I created a fog effect using a soft brush and samples of the sky, once I blended it out I think it worked well in making the piece more cohesive.



Adding clouds



Adding mountain



Painting fog, grading foreground and blending mountains

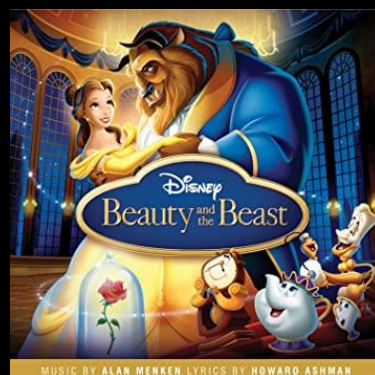


Finished piece



## Song choice

For the music I decided to use a slowed down version of the prologue song from Beauty and the Beast. I felt the piano melody fit the themes of my piece. It helps develop the mysterious and ominous tones and the overall dark fantasy theme.





## Editing and Finished shots

To finish the piece I put the sequence together in Premier Pro along with the music. I decided to add fade to black transitions in-between each matte painting shot to further the smoothness of the sequence. I also did an overall grade to darken the piece and ensure all the shots look cohesive.



## Evaluation

During this project I feel I have improved my overall matte painting ability as I aimed to do. I think the first two matte paintings look visually interesting. The photos blend together cohesively creating the impression it is one environment. However, to add further interest to both pieces I would use more interesting mountains as it looks quite uniform. I was able to achieve a lot of depth in the set extension through adding atmospheric perspective. However, I feel the method of selecting sky colours and painting over the landscape created a hazy effect that doesn't look quite photoreal. For future projects I will research better ways to do this. Although I found it challenging, I feel the perspective is cohesive throughout the shot and sells the illusion of the mansion on a cliff high above the landscape.

Projecting the mansion shot was very challenging. The plate tracked well and I was able to generate a dense point cloud to help me accurately place the cliff layers. However, it was difficult to know where to place the landscape layers as there was nothing to go by on the point cloud. Next time I will make sure I know where to place the layers according to the plate. In future I would like to experiment with creating 3D geometry to project the layers onto rather than 2D cards. I think this could have worked well with the two cliff layers as compared to the mansion footage the cliffs look flat as the camera moves. I think the details such as the flickering light rays and subtly moving reflections work well in adding movement and realism to the shot. Projecting the first two matte paintings was much simpler as it wasn't a set extension. I feel I achieved good parallax throughout the shot, particularly the foreground clouds. To improve I would experiment with 3D geometry for the mountains to further the realism.

Overall, I am happy with the finished piece. I feel it is an interesting sequence that successfully establishes a barren environment. The heavy atmospherics in the first two shots work particularly well as you can't see far into the distance creating a mysterious tone. The use of the run down mansion in two shots develops the narrative of the piece and furthers the ominous mood as we don't know if anyone is living there. However, although I think the foreground light ray shining on the mansion adds visual interest, I don't think it coincides with the narrative. The light shining on the house creates a mystical mood rather than dark and foreboding as I originally intended. However, I believe it could further the narrative as the mansion acts as the light and centre point of the surrounding barren environment. I feel the three shots work well together and look like they are from the same environment. To further improve this I would use more similar skies throughout the matte paintings as the mansion shot has more blue tones. Finally, I think the music effectively brings the piece together, furthering the dark fantasy mood as we watch the environment unfold.

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