Critical Reflection

A coin in Lincoln Castle_ Jiachen Ding

In the beginning this project was inspired by the fact that I'm currently in the UK where I'm based in Europe, and using this project as a way to end the graduate phase of my study abroad career. So I wanted to make a project that had something to do with European culture, and I was recently playing a game, Age of Empires IV, and one of

Age of Empires IV

the battles was the Battle of Lincoln, which took place in 1141. This battle is the one that takes place in the city of Lincoln, England. So I wanted to create a fully virtual 3D animation using visual effects. This animation will recreate the battlefield of which battle. Also I would like to combine this with my second semester team assignment COIN, this assignment is to take a coin back camera to and hing point and have this coin travel between different worlds. In my assignment, I will still use the coin as the main visual entry point to switch between different scenarios, and at the same time, use the coin to represent the greed of human beings that is the intrinsic reason for throwing away peace in order to start a war.

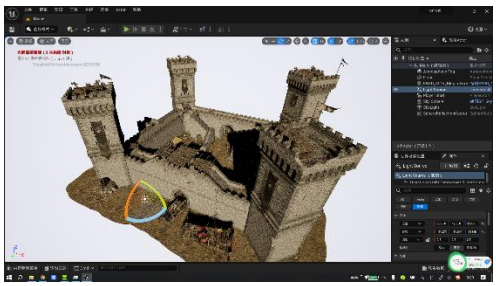
Preparatory phase

After deciding on the content of my project, I began to gather relevant background information, firstly I looked up historical information and online literature about the Battle of Lincoln on the internet. More detailed information was found on Wikipedia. At the same time combined with my levels in the Age of Empires IV game, the introduction and level background design screen. I imagined a battlefield combined with a castle in my mind.

The British Library Catalogue of Illuminated Manuscripts

For this project, I want to use UE5 to produce, because UE5 engine can simulate the real environment more realistically, so that the picture has a more cinematic feeling. At the same time, after the practice of the individual project in the last semester, I deeply appreciate the advantages of UE5 engine. This engine has obvious advantages over other software in building terrain and fast real-time rendering.

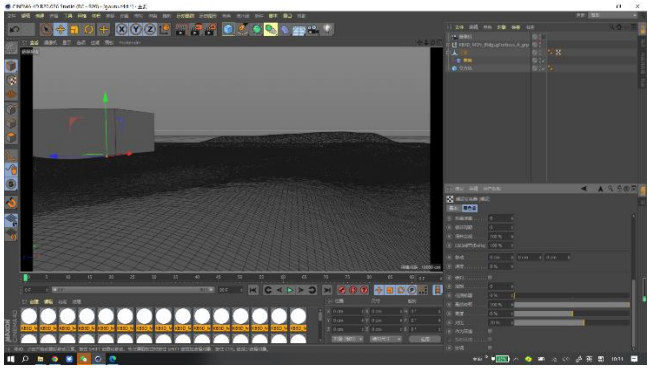
First of all I was looking for suitable assets on the epic mall, because I wanted to spend more energy on camera language camera animation and overall structure. So I wasn't going to make my own 3D models after I was on the epic mall. Found a set of architectural assets for the medieval battlefield and a set of assets for the middle eastern market, which I am going to combine to make my castle interior and battlefield scene.



In terms of character animation and scene, animation, I originally radicalised myself to manually k-frame. But after I created the schedule, I realised that the time available to me to animate wasn't very plentiful, so I made shot animation my first priority R Character animation can be done using some of mixmo's free actions from adobe's website. However the coin animation. With the specific movement of the character in the map is still something I need to work on.

Specific production processes and challenges encountered

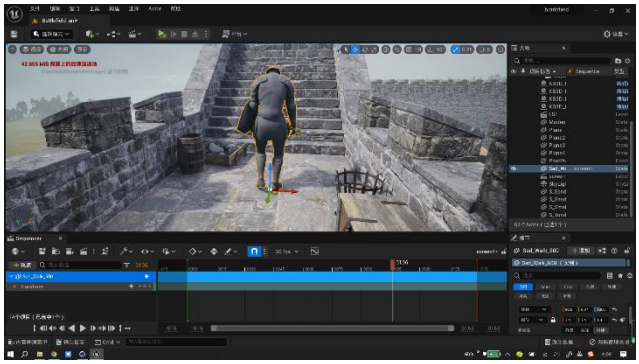
Firstly I have identified three scenes that I need to create based on my imagination, the



first is a coin falling into a bowl on a knight this scene is peace before the war. The second scene is the coin on the ground being kicked by a soldier this represents the the soldier walking on the walls of the castle and there are a lot of corpses outside the castle this represents the end of the war. Based on these three scenes, I drew a simple storyboard and determined the general location of the shots.

At the end of the prep phase, I used C4D for the layout and structure of the rough scene, using different sized cubes using this as a sketch. Then still using c4d the ground was modelled. Using UE5 poured in the ground model using a material ball to create for the ground, a grass material ball in line with the imagery of the scene. After that import the downloaded model assets, including the castle, tents, marketplace, jars, carts and so on. Then set up the lighting in ue5 with painting the grass, trees, rocks, and adding fog. Adjust the overall environment.

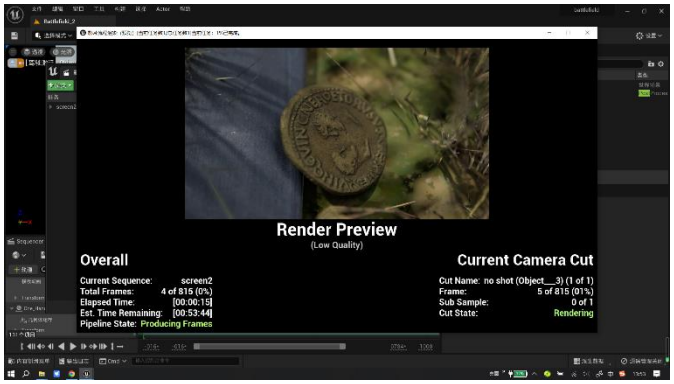
Challenge 1: In setting up the wifeless room because of the different ue5 version, I encountered a situation where the fog plugin didn't work, I ended up replacing the fog blueprints with items that move. Then used the simplest ambient fog to reduce the visibility of the lens.



Looking on the adobe-mixmo website for suitable character models and movements, I picked a knight with a shield in one hand and a sword in the other. Also looked for about a dozen actions for walking, running, fighting and dying. Download the FBX file of these actions combined with the character model.

Challenge 2: In the beginning, these files were separate actions, but I needed a coherent set of actions for my animation. After much research and software study, I gave up on the idea of using skeletal information and animating directly. Instead, I used the animation clip editing function in C4D to connect the different actions together to form a complete character animation. Afterwards, the actions were baked into a single model and exported as an abc file.

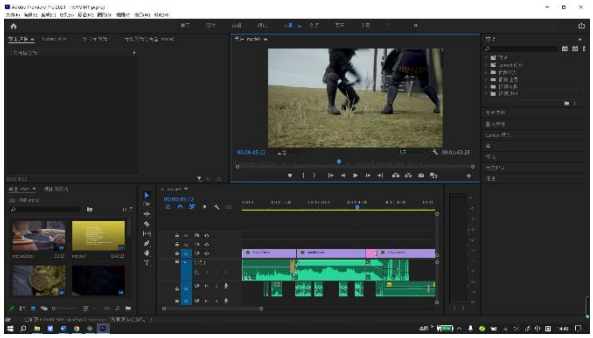
After that create the camera determine the camera animation path set the keyframes according to the imagery and storyboard. After that, place and adjust the position of the



assets according to the needs of the screen, then import the previously baked abd animation file into ue5, complete the texture and then composite the animation.

Challenge 3: During the rendering phase, I encountered many problems, for example, some of the character animation information would flicker which I solved by completely recreating all the stitches of the character animation without leaving any gaps. The second problem is that when ue5 is rendered, when the camera moves away from the tree in the background of the object, it will gradually disappear. After consulting my classmates and looking for information on the internet, I solved it by adjusting the specific parameters of the rendering distance for drawing trees.

Finally completed the production of three scene clips were rendered PNG sequences,



rendering is complete, pour into Nuke for colour grading, and ultimately exported as H.264 mov files. Then imported into Adbobe Premiere, editing and sound effects with. Sound effects are coming to website_free_sound.

Challenge 4: In the search for sound effects, I did not find a satisfactory coin sound effect. I ended up using my own mobile phone and coins to complete the recording of the sound effects at home and eventually use them.

Ended up with this three scene, one minute and 44 seconds of full virtual CG animation.

Inspiring future improvements

The biggest inspiration for me in this project is that it showed me the power of the UE5 software. The projects I produced when I was an undergraduate at university were just too much in need of various aspects, which resulted in the final product not being as good as I thought it would be because there were too many problems that needed to be solved. With ue5, I was able to co-ordinate resources from multiple sources, such as model assets and motion information, and I was able to focus more on the camera language and camera animation that I wanted to concentrate on. And the rendering speed of ue5 is amazing, the Arnold rendering that I used to do with Maya takes more than ten minutes to render a frame, although the quality of ue5's frames is not as high as Arnold's, it only takes him more than ten seconds to render a frame. This gives me confidence in the future of the special effects and CG industry.

There are still many things that I think are lacking in this project, such as the marketplace is more sketchy and does not show the character movement and dialogue during the transaction If I can make the work more clear, then I think the padding at the beginning is very important, I would make extra animation of the character transaction and the dialogue of the transaction. Secondly, on the lighting of the whole scene, he is

rather monotonous, there is a direction of natural light shot from the beginning to the end. And in a real environment the information of light will be more complicated, in the future I may focus more on simulating the light of the real scene. These problems were gradually discovered during my production, because I gave myself a very tight production schedule and took up all the production cycle, and did not have extra time to make changes to these problems, I think I will make adjustments and solve problems between each stage of the production of the project in the future, this is a project arrangement can be improved.