Unit: Exploratory Practice: 3D Computer Animation PU002399

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VFX Project: Surreal Hours



To the right are images taken from a trip to the Tate Britain Gallery we were asked to go by our lecturer. On this trip, we saw work by artists such as Pacita Abad, John White Abbott, Robert Adams, Mary Adshead and more. We surveyed the gallery observing the most interesting pieces relevant to our project alongside doing some sketching of paintings we found inspiring. This was a great experience for our group to go to as allowed us a day of creating ideas and getting inspired by what type of content we wanted to create for our film. However, if I were to do this again, I would have created more sketches and drawings to better understand some of the creative pieces we were analysing and observing.



To the left is the mood board I created at the beginning of the project to start generating ideas and get inspired by what type of film we wanted to create. This was a group project so we had to collaborate consistently on the images we found inspiring and how we wanted to relate them to the project. As shown we looked at surrealistic artists such as Salvidor Dali, Jean Arp, Pierre Roy and more. Other artists seen on this page are anonymous artists found on Pinterest. Moreover, we began to get really inspired by Salvidor Dali's melting clock and how this represents a strange passing of time. Alongside this we begin looking at 'The Swing' by Jean-Honore Fragonard made in 1767, this had such a sense of whimsy and fantasy relating to nature that we wanted to implement into the project. Ultimately, these were our two biggest inspirations.

Tate Britain Gallery Britain



MindMap

Narrative:

- Create a short narrative about the meklting of time
- Make time feel surreal or unmoving
- Focus on nature and the power of it

Strengths:

3D Modelling

Film:

Surrealistic clock

• Small animal 🔸

Creature or Monster

Forest whimsical creature

Settings:

- Animating
- Texturing
- Lighting

Jobs to start:

- Moodboarding
- StoryBoard
- Make a script
- Film footage when chosen

Aims for this Project: **3D Model for subject of the**

VFX Mindmap Surreal Hours

Possible Real Footage

Museum Gallery

Woodland

• Open Land

Forest

Park

Our aim for this project is to create a piece of work that reflects on what we will learn in our VFX Nuke lessons and

collaberation with the Games Students.

Themes:

- Could look at things like photo realism
- Interest in surrealism and creating fantasy world animation
- Investigate themes surrounding nature and or the wilderness

Softwares that could be used:

- Maya
- Blender
- Nuke
- Houdini
- Substance Painter

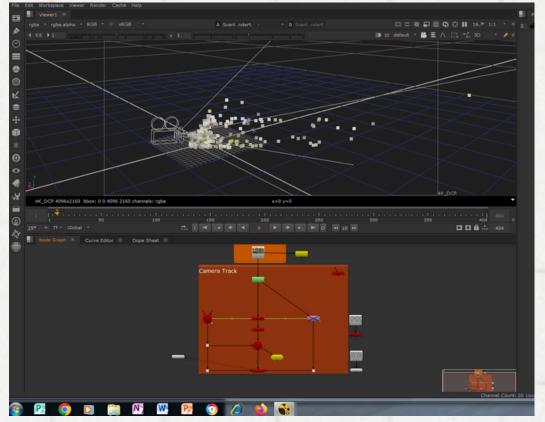
On this page is the mindmap we created when trying to think of ideas for the project. We initially thought of 3D modelling some form of creature or animal that we could rig and animate. However, we found that what we needed to concentrate on in this project was the VFX and Nuke software side of the pipeline. We then went to galleries and exhibitions as shown in the last slide, being inspired by some of the surrealistic works they have at Tate Britain. Following this, we started to look at surrealistic artists such as Salvidor Dali and Jean-Honore Fragonard and their works. From this, we were drawn to the idea of creating a whimsical, almost fantasy-like piece. We explored creating a form of Salvidor Dali's melting clock in our way and began collaborating on how we could achieve this.

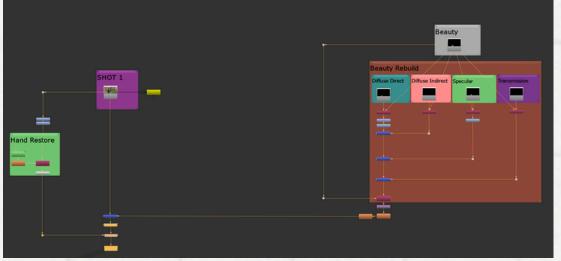
To the right are the storyboards we created when thinking of the narrative we wanted to tell. This storyboard shows a character walking closer and closer to a tree, surrounded by nature and placing a clock on a branch of this tree. After sitting down, the clock begins to melt before him and confusion takes over the character, dragging the clock away from this space and running out of the frame the audience is left bemused and confused at the surrealistic story. This narrative, while having positive traits I feel could have been more thought out and fleshed out into a better narrative that may be more readable to the viewer. If I could go back and change this I would have possibly added dialogue and or sound effects into the narrative to better communicate to the audience and make more of a resolution to the narrative end. Ultimately this storyboard served its purpose in directing us where the actor will be and the object placed in the scene, giving the person shooting the footage a clear understanding of the narrative structure.



Storybaords

Tracking Footage -- Using Nuke





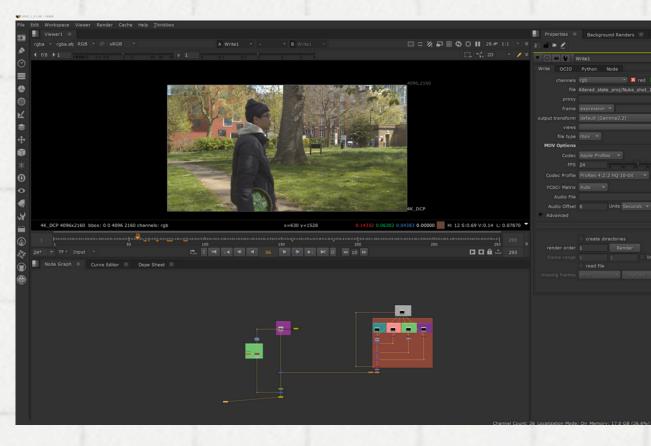
This foot wha First be u ther

The way in which we tracked the footage is as follows. Firstly we used a tracker node and pasted over the footage we planned to use, went into the settings and adjusted camera properties and framerates. After it was submitted we went over the tracking points that it assigned to objects in the footage and deleted any unuseful or unneeded ones.

Later we used a Rota note on the actor's hand and arm to cut out and add in the clock feature. This needed to be done for each frame the character was walking up until the end of the scene. We also added in 'Diffuse Direct', 'Diffuse Indirect', 'Specular' and 'Transmission' to ensure all footage looked similar in lighting.

This was one of my first times using Nuke, while daunting at first it was an impressive software to use and allowed me a full range of tools to play with the footage. This task took me a while to understand and also carry out, therefore, if I were to do this again I would have to give myself more time in the production schedule to block out Nuke learning. If I were to do this again in the future I would have ensured to film footage that wasn't as shaky and easier to track.

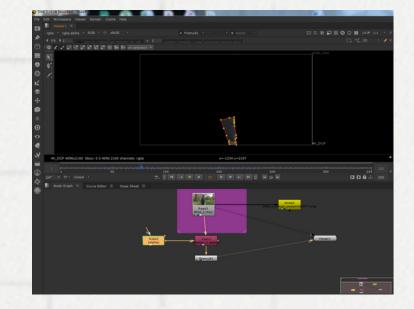
Ultimately, however, I learnt a variety of new skills within Nuke and enjoyed the process.

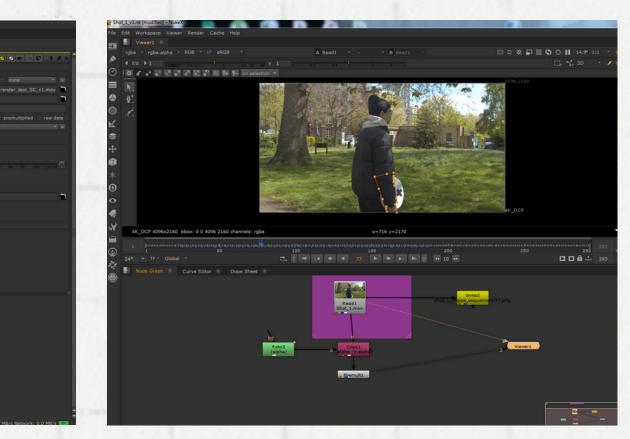


Scene 1

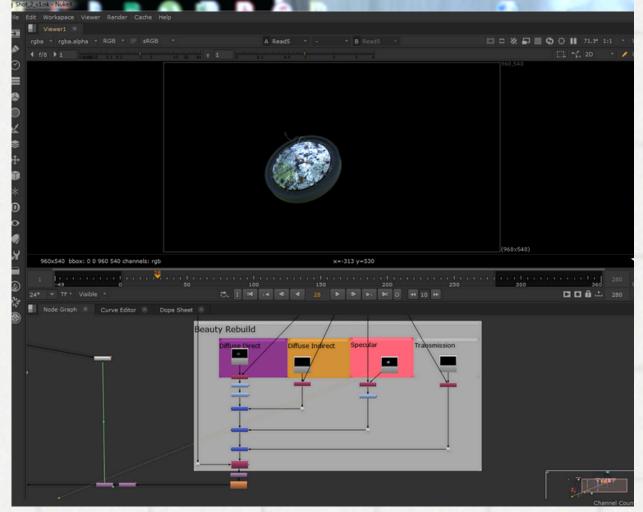
This page demonstrates my team using Nuke to track the footage we filmed for our project alongside the first shot and what we did in Nuke to create it.

Firstly, we needed to track all the footage to ensure it would be usable in Nuke. Each teammate did this separately and then we picked the best version of the tracking.





Tracking Footage -- Using NukePg 2

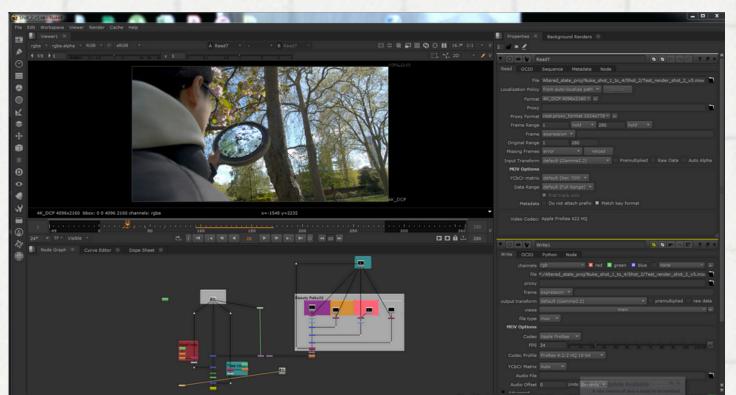




Again, the hand and part of the face of the actor needed a Rota node added and cut around the footage.

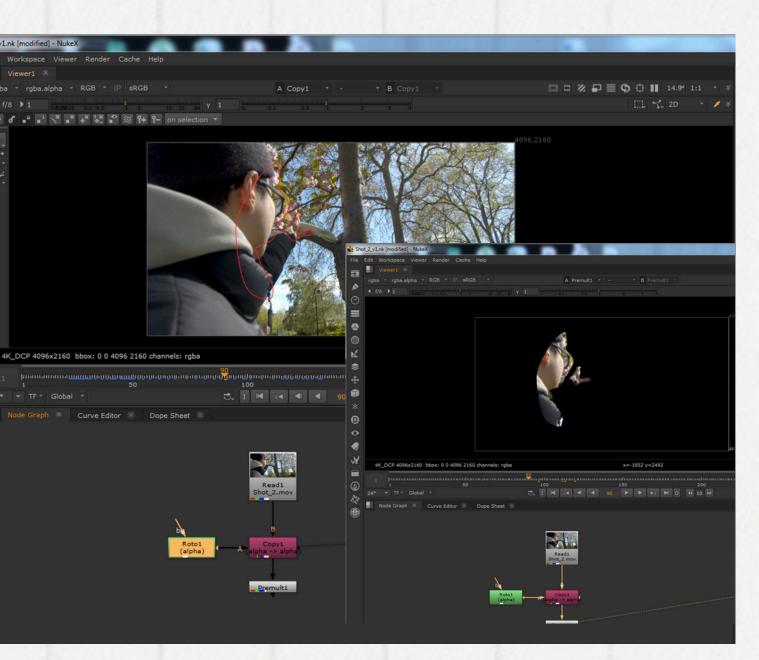
These parts of the footage interacted with the 3D model and needed this to have the clock realistically interact with the footage.

> This again was a part of the process that was quite difficult but with teamwork from my peers, this was possible. This work was mainly done by Shana and Jelo my team members but I gave a lot of my input via teams and calls to communicate. Managing a team and giving constructive feedback is something I feel I excel in and therefore was a part of the project I really enjoyed.

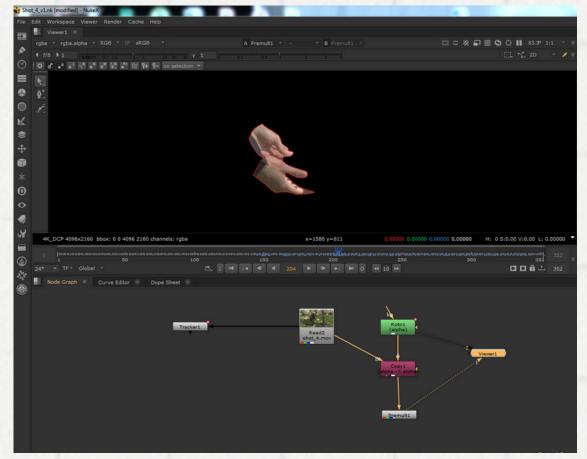


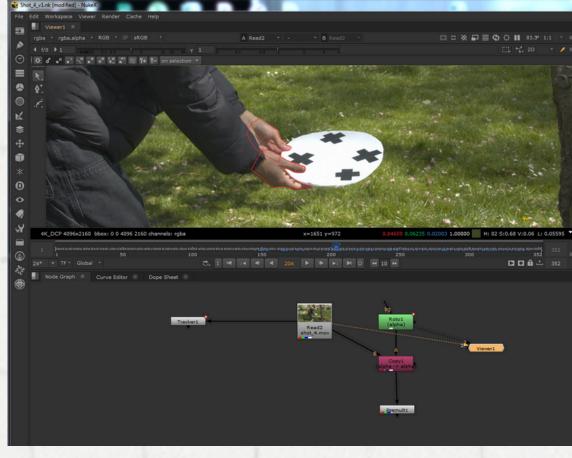
Scene 2

When moving on to scene 2 of the film, we had to think about the lighting of the object inside Nuke. Alongside how the hands would fit on top of the clock that had been designed. As seen to the left, there was a Beauty Rebuild of the clock, again a 'Diffuse Direct', 'Diffuse Indirect', 'Specular', and 'Transmission'. The direct comparison shows the clock needed direct lighting to illuminate the glass and demonstrate a realistic effect. This part of the project was completed by Shana and some of the rest of the team, however, after going through the steps she did and watching her create this I found how sophisticated and intelligent the software is.

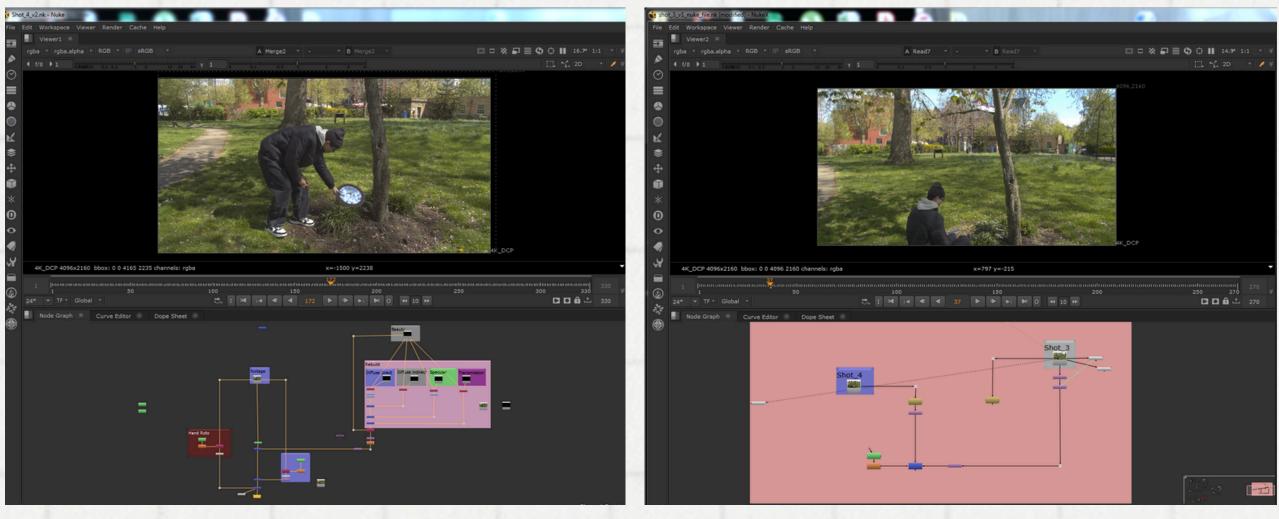


Tracking Footage -- Using NukePg 3





I really enjoyed this part of the process in which I was able to gain a greater understanding of software and learn new technical skills. I also greatly enjoyed working with such a knowledgeable team who showed a great interest in the project. I feel the skills I have learnt from this are: the basics of Nuke, team building, communication in groups, idea generation and better production schedule planning. If I were to do this project again, I would have liked to be more involved in the Nuke editing, however, I showed my strengths in the Maya 3D modelling, substance painter texturing and lighting.



Scene 3 & 4

On this page are scenes three and four of the short film. This shows the team effort in again using a rota node to cut out the hands of the actor on top of the plate template we had used to emulate the clock. This plate was needed to track the place in which the clock would be in the footage.

Again this was a part of the technical process that was done by team members but shared and then edited by each team individual. Below is evidence of the final scene in which the clock melts and falls to the grass below. The simulation was done in Maya and embedded into Nuke. Again in this process, the lighting was fixed to match the tone of the footage and model displayed. Ultimately, both scenes worked out well and show great technical skill with a new software.

3D Modelling Process



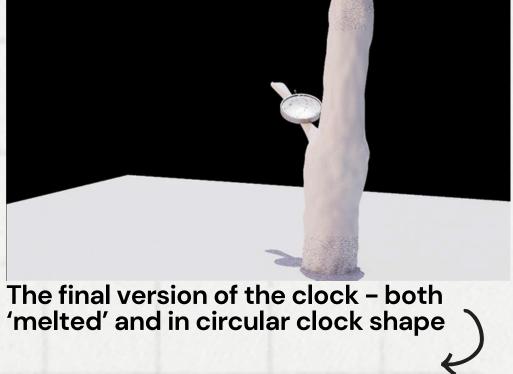
The models to the left are the main inspirations I drew from to create this 3D model alongside the Salvidor Dali melting clock. This 3D model was important to be at a good level as it was the main feature of the film. As seen in the final design I drew from these references some of the metal textures and used Roman numerals inside the clock alongside the clock hands detailing. This is part of the project I enjoyed the most as I was able to demonstrate my skills in 3D modelling and my ability to create dynamic shapes.

The way I started creating the clock was by creating a circle and using the grab tool in Maya to create different curves and edges of the circle's corners. In the first version of the clock I 'melted' the clock by using this effect to test what the melting effect could look like in the simulation created by Jelo. In the first version of the clock I also played with using numbers for the time however, I found that using Roman numerals looked a lot more sophisticated and timely. Furthermore, after lessons with Sean, we discussed that I model the tree that is in the background of the footage. I blocked this out initially in Maya, then took it into ZBrush to carve in wood and bark textures, alongside bringing down the topology by retopologizing the object to make it easier to texture later on. Again, this was a part of the 3D modelling I enjoyed as it's always a challenge to try and replicate something that is from nature but I feel the final model of the leafless tree was a good showcase of my 3D modelling skills. Moreover, I thought it would be interesting to create curved leaves and roses that intertwine around the clock, this added even further detail and also shows a unique difference between our inspiration references of Salvidor Dali's melting clock. I also added buttons and glass layers to the clock to add a further length of detail that I felt polished off the model. Ultimately, I was satisfied with this 3D model but if I were to do it again I would have liked more time in creating maybe more of a

unique shape and or ability to add further details on the hands of the clock. This is a part of the production I was most proud of and enjoyed the most in creating. I feel I have learnt much more about 3D modelling and took away important lessons from this task.







Texturing



After I had finished the 3D modelling of the clock in Maya I then moved on to Substance Painter to add the necessary textures. I really enjoyed experimenting with metal and wooden textures for the painting process; whether this be their vibrancy or tone I feel their colours added to the end product of the asset. In Substance Painter, I also added layers of scratches, blemishes, rust and mould on the clock to create a sense of realism. Not only this but our project is about the passage of time and therefore I felt it was necessary to show in the texturing of the clock. I feel the end product of the texturing proved my skill set in Substance Painter, however, if I were to do this again I would have liked to add more detailing to the scratches and rust of the clock.

Lighting



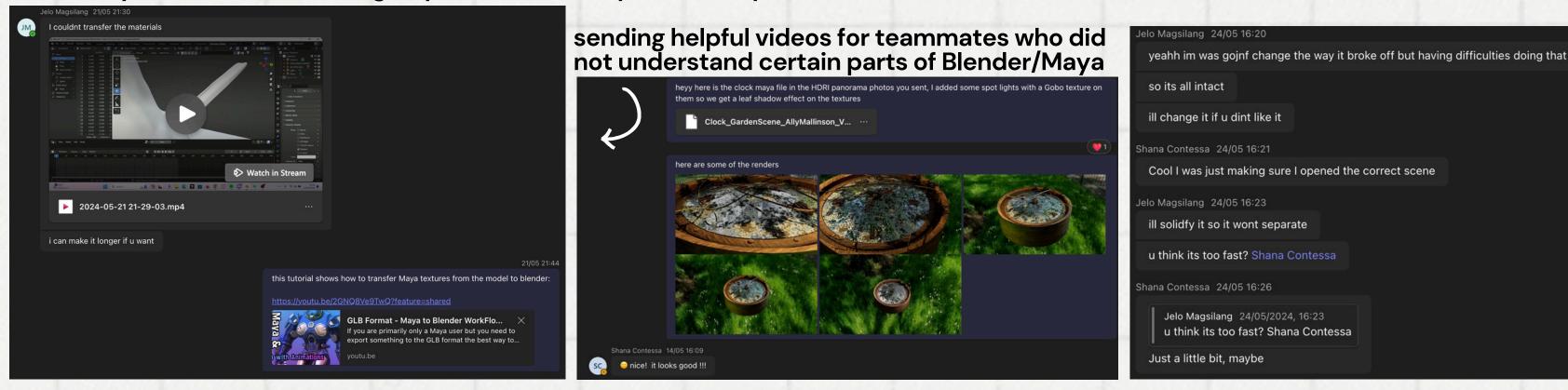


After I had finalised the modelling and texturing of the clock I needed to figure out how the object would react to light in the scene. In response to this, my teammate Shana took panorama images of the location we shot in to provide an HDRI image of the lighting needed in the scene. This image was then used in a Sky Dome light in Maya alongside area lights around the clock to mimic sunlight falling onto the clock. To even further this realism I used Gobo Nodes inside the area light with the textures of leaves to mimic their shadows falling on top of the clock. This helped pull together the tone and realism of the lighting and was a part of the production process I greatly enjoyed. The lights and shadows from the clock also affected the tree which created a sense of depth and mass to the assets. If I were to do this again I would have tried to make the HDRI panorama less blurry in Photoshop so the background would melt seamlessly into the 3D models. Ultimately, I was extremely happy with the result of this, having learnt much more about the lighting options in Maya and a wider knowledge of Gobo's lighting techniques.

Production Problems and Communication on Teams



Another production problem we ran into was transferable files and communication between file names. Between abc. Blender files and Maya renders, being able to share our work remotely and work on the same project from different computers proved a small difficulty but after some consistent attempts we found a workflow that worked for us. On this page, I have also demonstrated my group's ability at feedback and constructive criticism of each other's work, alongside congratulating each other on good work. Moreover, with the production schedule, we left little time to edit the final video and could have used more work in terms of sound effects or lighting adjustments. Ultimately we worked well as a group and overcame production problems with ease.



good response feedback to work submitted

As I could not come to university towards the end of the year I had to communicate with my teammates through Microsoft Teams. This caused slight production problems but was managed with ease. On this page, I have evidenced chats about production problems we faced during the production phase. One of the main production problems we had was creating the simulation and transferring this from a Blender to a Maya file format.

Link to Simulation Tests

communication at changing speeds of playlists

Production Schedule

VFX I	Project Prod	luction Sched	ule Alex Mallin	nson										
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
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3D Modelling Polish												100		
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Texture Render Beauty	SnapShots													
Lighting														
Video Editing								12.						
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Above is the production schedule I created to give a timeline of what needed to be done for each week of the term. I gave a two-week space between weeks one and two for mind-mapping and mood-boarding ideas for the project; this was a sufficient amount of time and gave us creative space. From weeks two to three, there was space for making concept art that fitted with the tone of the narrative we intended to create. This could have used more time so there was more space to communicate between each team member on the look design of the clock however this was resolved through good use of communication. We then moved into storyboarding from weeks three to four, again this could have been improved with more time added to the production schedule but was quickly finalised and we had to move onto separate tasks in the schedule to ensure we met our time deadlines. In weeks four to five we went to Tate Britain for a Gallery visit, while this was only a one-day trip we did some research and artwork analysis after this to further our understanding of the paintings we saw. This ultimately was a good use of time as it helped direct our artistic vision with the correct inspirations and gave us more insight into what we wanted our work to look like. From weeks five to six, we shot the footage needed for the film; this only took one day to film and so could have been changed in the production schedule but gave us more time later on in the schedule. Moreover, weeks six to nine were used for modelling in Maya; this was an accurate block of time to complete the process as this was an integral asset needed for the film while also working on separate projects within the unit. Weeks nine to twelve were a mix of texturing and lighting experiments I did with the clock asset; again this was a great use of time as allowed me to experiment more with the lighting and gave me free rein into the look of the asset. Furthermore, in week twelve the group then moved into video editing and using Nuke, this gave us three weeks until the end of the project to finalise the film. Looking back at the production schedule, this could have used more time to be completed as the end of the unit was quite rushed however I was happy with the final video outcome. Lastly, weeks thirteen to fourteen were used for our group to write up our separate PDFs and critical appraisals; this was a sufficient amount of time as we had all been logging our experience of each task and errors as the unit progressed. Ultimately, this was a good production schedule, while the spacing between activities could have been shorter this proved useful throughout the unit in keeping our group up to date with what needed to be done.

Critical Appraisal

When reflecting on the strengths that I have built up within this unit I have found I can work within large groups, create detailed assets in Maya alongside texturing, communication with peers and ability to follow a professional production schedule. My main strength within this unit was my 3D modelling skills when creating the clock, this was a large part of my participation in the project as it was an integral piece of the film. I believe I have a good skill in preproduction research and concept art when reflecting on what I wanted the clock to look like and then further creating this in a 3D space. This was a part of the production I got to go back to numerous times as I kept reworking the clock to fit the needs of the team and be at a level I was happy to submit. Moreover, I feel a strength of mine is my texturing skills in Substance Painter. I first researched the different types of materials I would want to implement into the clock and how this would look in a 3D space. I researched the different types of metals and woods that may melt or bend in shape to fit within the theme of the project. Towards the end of the project, I was unable to attend university and therefore had to communicate with my teammates via teams, while this was a challenge it was something we overcame and proved we could do successfully. I feel this is one of my strengths as I successfully sent all files, communicated the work I had done and gave others constructive criticism when needed. Lastly, I feel I followed the production schedule attentively and with accuracy each week. Despite this, I feel I had some areas of improvement within this unit, mainly my skills with Nuke. Although I completed the necessary tasks given to me by my teachers, I feel I could have improved my knowledge base of Nuke. To improve this over the summer I plan to create a project within Nuke to ensure I understand this software and can use it with confidence. Furthermore, while I enjoyed the process of lighting the scene in Maya this skill could be further improved with more practice as this took me a while to understand the production process. When reflecting on my overall performance within this unit I believe myself and the team created a successful short film that conveys a narrative of whimsy and fantasy to its viewers. Our goal was to replicate a sense of surrealism within a 3D space and from our research of various artists, melting simulations and final renders I believe this was achieved. Throughout this unit, I have learnt much more about how I can create detailed assets in Maya, a better understanding of texturing and lighting and an introduction to Nuke. As I have said previously this is something I plan to improve on in the future and will use in projects I complete in the next year.

Surreal Hours Short Film

Original Footage Link (no animation)