SAE Institute Australasia

Creo

2-9-2024

ANI175.3 Cinematography Animatics and Previsualisation Example 2

SAE University College

Follow this and additional works at: https://creo.sae.edu.au/exemplars

Part of the Fiction Commons, Film Production Commons, Photography Commons, and the Screenwriting Commons

Recommended Citation

ANI175: Cinematography Previs and Animatics

ANI 175.3 Activities Documentation

Student 02

SAE QANTM
CREATIVE MEDIA INSTITUTE

Contents Page:

Project 3 video:

https://youtu.be/rEN65oP6BaY ← Final No Burn

Week 9: Setting the scene

Activity 1: finish the Week 8 Unreal exercise

This will help you with completing ANI 175.3.

I've bookmarked this page for reference if I get stuck as I complete my project 3.

Activity 2: Reading: **What is Virtual Production**

What are some of the advantages "virtual production" can offer us as filmmakers?

"Virtual production is the augmentation or replacement of traditional visual effects or animation workflows by the use of real-time digital technology" (…..) Visual production offers the following possible advantages:
- Live green screen replacement
- Full digital replacement of actors, environments and cameras.

- Live green-screen replacement
  - "Rather than traditional green screen, an LED wall is used to substitute for a material environment"
  - Virtual production operators can use the LED screen to transmit final frame 3D imagery to the wall in real time.
    - By using this LED screen, it allows cast and crew to become immersed into the space both physically and in terms of the story
  - Because the render is presented from the perspective of the in-world shot camera, the LED screen environment can update as the camera moves in real time.
  - Advantages:
    - Allows the cinematographers, directors and actors to have a "shared sense of diegetic space"
      - This then enhances the teams ability to make coherent, dynamic decisions on set, which leads to a more "nuanced" performance or camera movement
    - The LED wall offers realistic light bounce

- This then ensures the talent, props and set are responsive to environment lighting
- This also eliminates the dangers of leaving behind "visual artefacts" from legacy green screen spill or challenging rotoscope work.
- Full body tracking motion capture
  - By using this, onset operators can capture a characters performance
  - The captured performance is recorded and can be stored or can immediately transmitted to a character rig
    - This allows the virtual character to be puppeteered in real time

Activity 3: Real Allusion opportunities

This company offers virtual actors and more. Which ones do you think we should buy for you to use on your next film? Why?
Are you ready to become a digital human actor?

Which virtual actors do you think we should buy for you to use on your next film? Why?
I think next time we should buy the virtual actors for this project. I believe we should do this because it can add to our stories, especially ones where we have included characters. They do not have to be animated, they just need to stand in. I believe a bunch should be considered to be bought, based on the different genres.
For example, I would of liked this character to be bought (screenshot), as it would have added to my scene in the Sci FI Genre.

Are you ready to become a digital human actor?
No

Analysis of a scene from The Polar Express

Watch this scene and try to visualise it as though you are shooting with a camera on a tripod. How many shots would you need? How difficult would the camera set ups be? Using software like Unreal or motion capture technology allows you as the film maker to defy gravity and enhance the viewers experience.

How many shots would I need?
38
How difficult would it be to set up with a tripod?
The tracking shots and arcing shots will be difficult to achieve with a tripod due to the amount of movement needed to make these shots look 'nice' and smooth. However, the zoom ins and static shots would not be as hard to achieve because they do not require much movement.

 Some Shot Breakdowns:
Shot 1 -
Close up/mid shot of conductor
Camera movements: Slight zoom in, pan left/arc around, zoom out facing kids on train.
How difficult would the camera set up be: pretty easy for the beginning, I would just place the camera at its beginning place, the zoom in. The pan and arc would be difficult to do though.

Shot 2 –
Enter the hot chocolate makers
Camera movements: dolly zoom out, pan/arc to corner of the train cart, pan forward then zoom in on table cloth
How difficult would the camera set up be:
Shot 3-
Static shot in the corner as the hot chocolate members start to dance
Camera movements: static

Shot 4-
Cont. movements from hot chocolate members
Camera movements: zoom out

Shot 5 –
Hot chocolate cups and trays are being thrown out to the waiters
Camera movement: zoom out, arc around tray, tilt down to feet, tilt back up

Shot 6-
Mid shot of conductor speaking
Camera movements: static
Shot 7 –
Hot chocolate waiters tap dancing
Camera shot and movement: ground shot, slow zoom
Shot 8-
Ground shot of tap dancing
Camera shot type and movement: ground shot looking upward, static

Shot 9 –
Conductor talking again, hot chocolate chefs entrance and start to spit out hot chocolate.
Camera placement and movement: mid shot, starts as a static, then zooms out slightly

Shot 10:
Close up of one of the hot chocolate pours.
Camera placement and movement: close up, tracking shot following the drop of hot chocolate to the cup

Shot 11:
Wide shot of more hot chocolate drops
Camera placement and movement: wide shot, tracking shot.

Shot 12:
Waiters serving hot chocolate
Camera placement and movement: Wide (?) shot at hip level pans left

Shot 13:
Static Shot of girl pocketing hot chocolate
Camera placement and movement: Mid Shot, eye level, static

Shot 14:
Hallway shot
Camera placement and movement: Mid shot/ Full Shot, Eye level, zoom in to closeup at the end

Storyboarding/Idea Generation:

<u>Scenario Generation</u>
All these stories were generated with the Polar Sci-Fi Facility in Mind
- What if a commander came across a crashed ship? Exploration of the ship
    - Adding onto this idea: What if something horrible happened on the ship?

<u>Feedback on my scenario</u>
- My peers suggested possibly adding in an alien, creeping around the corner, spying on my main character.

I liked this idea, so I added it to my my story
<u>First Pass of Storyboarding:</u>
Establishing Shots (Shot 1-4) - Low angles, high angles, close ups of different areas of the shop, giing the audience the overall mood, its night time, the lights are flickering. In the background faint beeping can be heard with an un-audible message looping. Shots will be joined by cuts, except for the final shot, which will fade out.
Shot 4? - Fade in eye level mid shot - meant to simulate the characters point of view, this will be situated at the entrance of the ship. This shot will zoom in slowly and have a slight camera shake to simulate his footsteps moving forward.
      Possible Dialogue: "What the hell? Command, are you seeing this?"
As if to respond, the audience can hear a radio clipping in and out.
Shot 5 - Close up of the cylinders
      Possible dialogue- "What the…"
      Radio communication stops clipping in and out, instead replaced by silence.
Shot 6- Alien Shot- mid shot - peeking around the corner.
Shot 7- Back to the main guy, close up of the cylinders again, gets up, moves toward where the alien peeked around the corner

Week 10: Animating for pre-viz

Activity 1: What environment from the Unreal store have you chosen?

Why? What are some of the possibilities of it you could do? Are there any limitations?

For this project I have decided to use the environment called 'Polar Sci-Fi Facility'. I have chosen this environment because when I played around in it I could immediately think of a story. On top of this I also love the Sci-Fi feel, and there are elements that I could work with in this scene. There are some limitations however, I have listed them below:
1. The actual environment within the ship part is very small, which could hinder the amount of different shots I could use within this space
2. The scene is a bit bare, there are elements to work with, however it's not filled with them.
3. I can't change the outside lighting
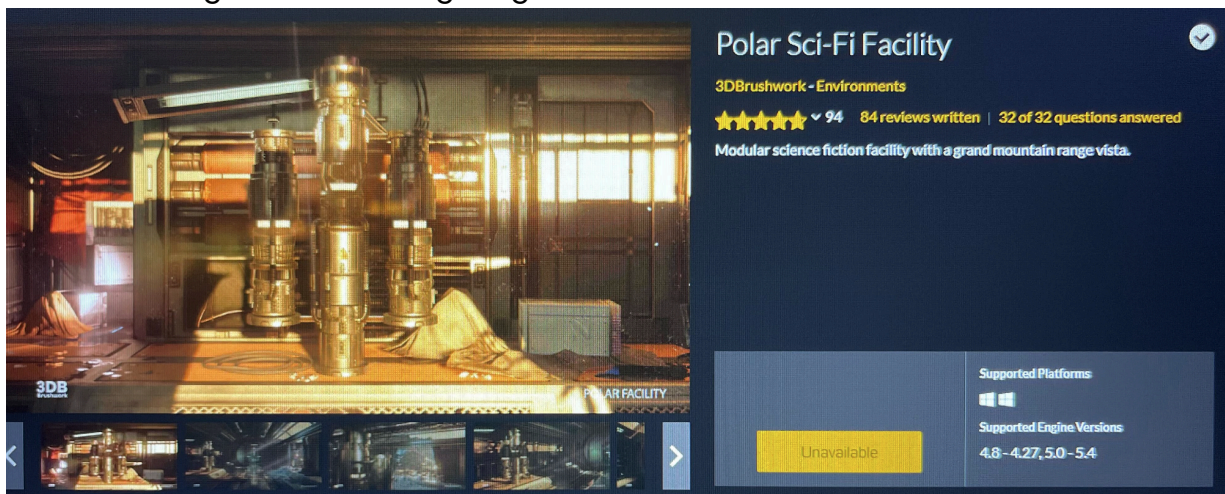
Activity 2: Video: An overview from the 2022 Unreal Festival

Watch the developers talk about Unreal. Since this video was made there have been improvements and new features added.

Unreal Engine 5.4 (Newest Release) Features:
Ref:
https://dev.epicgames.com/documentation/en-us/unreal-engine/unreal-engine-5.4-release-notes
- Improvements in Rendering, Worldbuilding, Procedural Content Generation, Animation and Modeling Tools, Virtual Production, Simulation, and more. (Unreal Engine, n.d).

- Character and Animation- Extensibility for Animation Authoring Tools
  - Better Selection Scripting, allowing users to grab selected keyframes and edit the selection of objects within the Sequencer.
- Layered Control Rigs (Unreal Engine, n.d).
  - Allowing the user to use all the power of the Control Rigs on top of multiple workflows without the need to 'bake the data down' to edit the characters.
- Redesigned gizmos for translation, rotation and scale (Unreal Engine, n.d).
  - Improved look and style
  - Proper indirect manipulation
  - Improved Arcball

(Unreal Engine, n.d).

Optional advanced activity.

Using this environment from the UE store *City Subway Train Modular* (Dekogon Studios - Environments - Sep 27, 2017) recreate some of the camera movements from the Hot Chocolate scene in *The Polar Express*.

Activity 3: Mid-project reflection

Mid-project reflection completed in class (ideally).
Create your mid-project reflection with at least one scholarly reference included. We suggest you cite one of the scholarly pre-class readings as your scholarly reference for this reflection.
Use these prompts to answer the questions with examples from your project in 250 words:

Process: How have you improved your workflows and processes? How are you planning your processes to achieve outcomes within the project timeframe? How do you manage your priorities and tasks and respond to changes or challenges? Give specific examples of your research and how it informs your project. Cite sources in APA7.
I have improved my workflows and processes by reading the pre-class readings.
Person: How have you developed your communication and collaboration skills? What communication skills does this project require, and how are you responding to feedback and giving feedback to others? How are you working to enhance communication and active collaboration for group projects?

Proficiency: How have you developed your technical skills and knowledge? What skills, techniques, knowledge, or technologies are you using to achieve project requirements? Give examples of the strengths and limitations of work in your field and reflect on the skills, knowledge, and research relevant to your project.

References: Use a minimum of 1 in-text citation, referenced using APA7.

Process: I have improved my workflows and processes by reading the before class activities and finding and reading different websites I found via the internet. Once I had decided on a story to tell in my scene, I started to create a storyboard. Whilst making the storyboard, I referred to SC Lannom's 'Guide to Camera Shots: Every Shot Size Explained' and SC Lannom's 'Camera Angles Explained: The Different Types of Camera Shot Angles in Film' to make sure I picked the correct camera shots and angles that would fit what I was trying to communicate within a particular shot (Lannom, 2020a), (Lannom, 2020b). These resources describe the different camera shots and angles with clear visual examples. For example, Lannom describes an establishing shot as "a shot at the head of a scene that clearly shows us the location of the action" (Lannom, 2020a), when drafting up my storyboard, I thought it would be perfect to include a establishing shot at the beginning of my cinematic.
I used close ups as it "fills your frame with a part of your subject" (Lannom, 2020a), when I wanted to make the viewer focus in on a particular subject, such as the bloody hand print in shot 5. I also referred to Lannom's Guide for Camera angles when writing out my storyboard too. An example of this is in shot 4, where I wanted the canister to appear foreboding and bigger than it was, so I used a low angle, which can be used to "elicit feelings of fear and dread" (Lannom, 2020b).

Person:
The communication skills required for this project was open communication with both my lecturer and peers to get feedback on any work I bring in. This task also requires me to give feedback to my peers too about whatever work they brought in. At the moment, all the feedback I have received has been on my story idea and some suggestions about what I could add into my story to enhance it. For example, my peers suggested after reading my first story idea adding in an alien to create even more suspense as it looks over its prey (The MC). I quite liked the idea and implemented this suggestion. Another example of feedback is when I asked about what I could add in to my project to make it suit my story better, my peers suggested adding in some more blood decals and maybe a bloody handprint to enhance the scene. I am taking on this feedback and currently implementing some blood decals into my scene. I have given feedback to my peers in the form of suggesting story ideas they could explore within their scenes.

Proficiency:
In this project I am developing my technical skills and knowledge by completing pre-class activities and readings to help from my story and the different types of shots I can explore. To complete this project I am using industry standard software,

Unreal Engine to make my cinematic. I have previously used Unreal Engine in the past for another unit, which helped speed up things as I didn't have to search up how to use the program itself.

References:

Lannom, SC. (2020a, May 4). *Guide to Camera Shots: Every Shot Size Explained.* Studiobinder.
https://www.studiobinder.com/blog/types-of-camera-shots-sizes-in-film/
Lannom, SC. (2020b, June 28). *Camera Angles Explained: The Different Types of Camera Shot Angles in Film.* Studiobinder.
https://www.studiobinder.com/blog/types-of-camera-shot-angles-in-film/

Original Screenshots of My Scene:
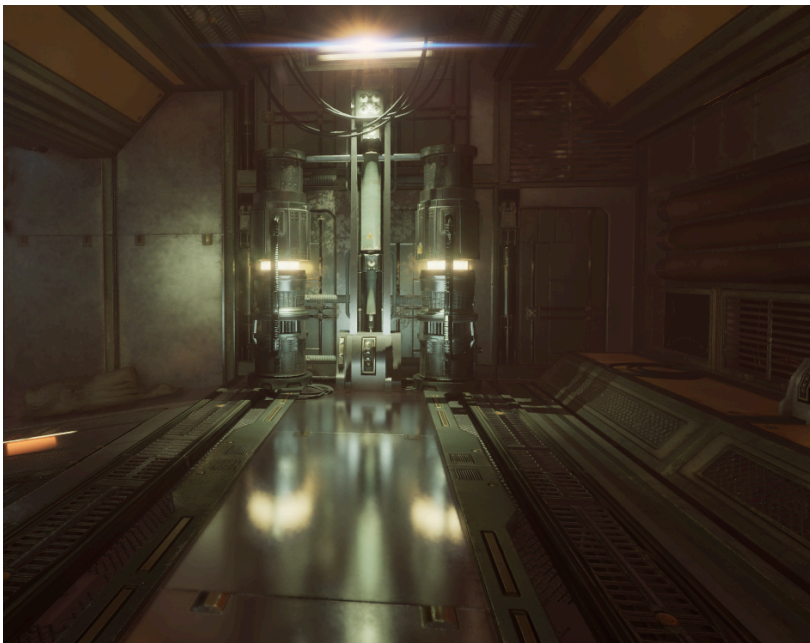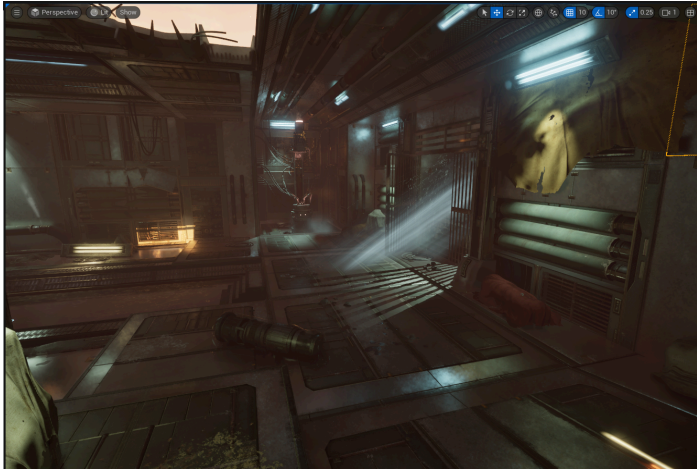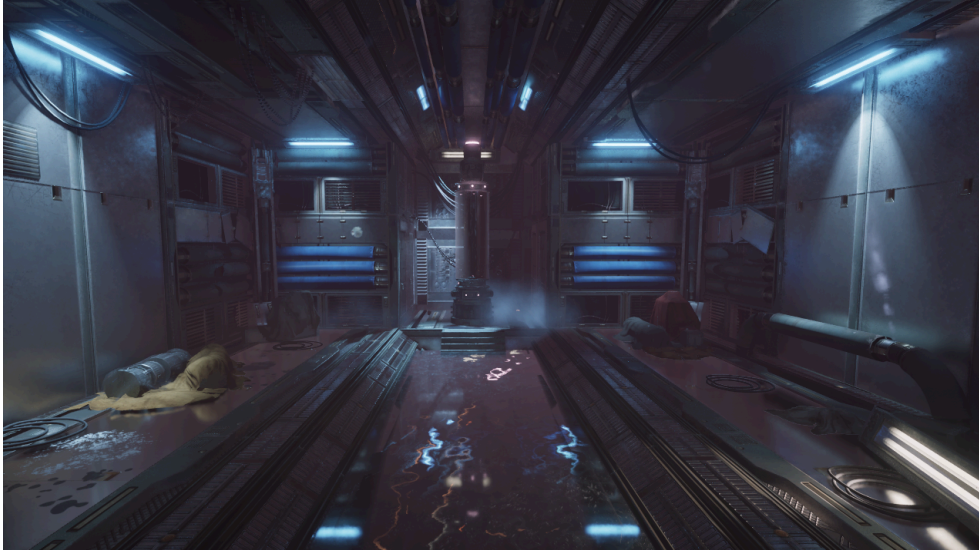
Adding Decals:

<u>Quixel Bridge:</u>

Bloody Hand Smear
(https://quixel.com/megascans/home?category=decal&category=blood&assetId=se0wefxp)

High Velocity Blood Splatter 1
(https://quixel.com/megascans/home?category=decal&category=blood&assetId=se2kffup)

High Velocity Blood Splatter 2
(https://quixel.com/megascans/home?category=decal&category=blood&assetId=sfijfbip)

Blood Stain
(https://quixel.com/megascans/home?category=decal&category=blood&assetId=sheadaac)

Storyboarding Cont.

<u>2nd Pass of my storyboard/ Final</u>

Shot 1:
Exterior Shot of the Fallen Ship - High Angle, looks down to ship
Camera Shot: Establishing Shot
Movement: Pan left, Tilt, Slight zoom
Why: This would be an establishing shot, meant to give the audience a look at the ship that has crashed into the landscape
Editing to the next shot: Cut
SFX: Wind Rushing

Shot 2:
Inside the upper part of the ship
Camera Shot: Wide Shot
Movement: Slow Zoom In
Why: To slowly establish the interior of the ship, shows the audience the interior of the ship
Editing to the next shot: Cut
SFX: Alarms Beeping

Shot 3:
Inside the middle of the ship
Camera Shot: High Angle Wide Shot
Movement: Arcing Shot
Why: Shows the middle and the start of the lower end of the ship, gives the audience time to see the ship
Editing to the next shot: Cut
SFX: Alarms Beeping

Shot 4:
Shot of one of the canisters/tubes that the aliens are in
Movement: Low angle, Dolly zoom/pan forward/tracking shot, tilt upward, zoom out
Why: To establish the tech in the ship, to make the audience feel small and intimidate them with the canister.
Editing to the next shot: Cut
SFX: Alarms Beeping

Shot 5:
Bloody Handprint
Camera Shot: Close up
Movement: Slow Zoom/Static
Why: To establish something bad has happened here. Introduces the audience to what may have happened
Editing to the next shot: Fade out, Fade In
SFX: Alarms Beeping

Shot 6:
The main actor walks in from entrance
Camera Type: POV Shot (Full Shot), Eye Level
Movement: zoom/pan forward (meant to simulate walking), pan left (spots cylinders with blood on them), zoom in/Pan forward (Walking again) ←- Tracking Shot
Why: Simulates movement, introduces MC, puts the viewer in MC's POV, like they are them
SFX: Footsteps, breathing
Editing to the next shot: Fade out, Fade In
Shot 7:
Close up of cylinders
Camera Type: Closeup
Movement: Tilt Up
Why: Meant to show/ simulate the character looking at these cylinders with blood on them, wondering what the hell happened here.
Editing to the next shot: Fade out, Fade In
SFX: Breathing
Shot 8-
Alien Peaks around the corner
Camera Type: High Shot
Movement: Pan left, Roll left, Pan Right
Why: Meant to simulate the Alien Spying on his new prey, used a different height to show its not the MC. The Alien knocks something over. Tells the Audience something is watching the man, giving them a glimpse of the 'antagonist'.
Editing to the next shot: Fade out, Fade In
SFX: Knocking over can
Shot 9-
MC looks over and investigates the noise.
Camera Type: Mid Shot (POV), Eye Level
Movement: Tilt Up, Roll Left (Looking around the corner to see if anything is wrong), pan left (Walking back into the centre of the platform), Zoom in (Walking)
Why: Simulates the MC investigating the sound, puts the audience back in the shoes of the man
Editing to the next shot: Cut
SFX: Breathing, Footsteps
Shot 10-
MC gets to the arched gate, looks around corner and then spots blood, crouching down to have a further look
Camera Type: Full Shot goes to close up
Movement : Tracking- Roll left (Look around the corner), then turn and walk up to blood, tilt down and zoom
Why: Shows the viewer another piece of horror that the MC has discovered.
Editing to the next shot: Cut
SFX: Breathing, Footsteps, Gasp (?)
Shot 11 -

Runway Shot

Camera Type: Close up going to a wide shot- tracking shot

Movement : Tracking Shot- Dolly zoom forward, zoom out when looks up (tilt up)

Why: Shows the MC following the trail of blood, builds suspense by only allowing them to see the blood and the trail until seeing the broken canister.

SFX: Breathing, footsteps, alien growl at the end

Fade out - End

Week 11: Virtual cameras and previsualisation

Activity 1: Scene Analysis

What do you want your film to look like? Describe the mood and the lighting that will help convey these emotions to your audience.

Lighting:
Ideally, my scene would be set in the night. However, since I cannot change the preset lighting, I will have to work with it. On the inside of the ship the lights would be flickering on and off as they are broken by the ship's crash landing. Overall, as you go into the ship, the lighting would be pretty dark so that the viewer cannot see much beyond what the camera is showing them, making it feel eerie and mysterious.

Mood:
The mood would be eerie, mainly conveyed through the lighting and the overall sound of my scene. The sound in the background would be silent, except for emergency beeps in the background telling the audience something wrong had happened here. The audience would be able to hear the MC's hard breaths and reactions, as though they are the MC.

Activity 2: Cinematic lighting in Unreal

After watching the video, respond to the following prompts:

How would you describe the key differences between blocking for film compared to animation using UE?

In animation, you are mainly blocking out the main movements and the action. Focusing solely on making sure the action is readable and somewhat realistic.

In film, you are mainly playing around with the cinematic camera, plotting out different possible shots that best convey the story you're about to tell. These shots could then later be turned into your cinematic shots in the actual product, but it doesn't have to be. You are using things like the rule of thirds to find good dynamic

angles and later images/ shots to establish the mood and your story that best fit the brief given to you (Buckley, n.d).
Referring to your chosen environment, write about the type of lighting you want to create. What films can you cite as an inspiration or reference?
At the moment, I quite like the lighting that already exists in the scene I have chosen. However if I was to add some more lighting I would add some more flickering lights around in the back half of the ship, these lights would give some more suspense and give off the feel that the ship has crashed.
What films can you cite as an inspiration or reference?
Aliens 1986: Xenomorph Queen Shootout Scene l Best Quality 4K – I like the lighting in this one

First Pass, Second Pass + Feedback:

First Pass: ANI175.3 Pass 1.avi

Feedback: Cut on action, better for shot continuity, would somewhat fix the pacing. More camera bob when the person is meant to be walking.

Second Pass: ANI175.3 Pass 2.avi

Feedback: If I want to add an actor, go for it for the shadows and creating tension. Add some sound effects. Can't tell what mood/tone I am going for with the speed of everything. Slow it down if you want tension (which I do). Unsure about the POV's (Shots are too high to be human eyeshot level). Sometimes stillness is better with shots. First shot- have a higher one as first shot before the tilt down and then do a very slow pan for a little bit and cut to the door or something. Add SFX for the person breathing.

Took all of this on and edited to form the 3rd pass of my cinematic.

Week 12: Finishing the Previsualisation

Activity 1: Outputting your work
Digital production allows the filmmaker to decide on a required output, while still keeping the content with maximum resolution as possible for future iterations. What are the requirements for YouTube? Vimeo? How do you need to output your work for this project (ANI175.3)?
Youtube: The minimum requirements for a HD video are 1280 x 720 pixels (720p). 16:9 aspect ratio is recommended for videos of this resolution (Hamer, 2024).

Vimeo: Same as Youtube, 1280 x 720 pixels (720p) 16:9 (Vimeo, n.d).

Guidelines for ANI175.3:
- Unreal engine footage exported as a .exr sequence to have the highest quality sequence. 1920 x 1080p for resolution.
- Use video editing software to convert these EXR files into a H.264/MP4 video sequence.
- Upload this to google drive and possibly youtube as a backup.

Activity 2: Show and tell

Show your visualisation in class and record the feedback.

1. Slow down the establishing shots, so they can be different from the POV shots
   a. I took on this feedback and edited my keyframes for the establishing shots, making them a bit longer, before editing the timeline.
2. Linger on the shots more (especially on the second establishing shot)
   a. Edited the shots on the timeline to allow for pauses on the timeline so the audience could catch up.
3. Dont pan so much on the first establishing shot- slower
   a. Fixed this by editing the keyframes, the last keyframe I edited it to a lower number so it doesn't pan so much.
4. Likes the peek and POV shots
5. Allow time for static shots so the audience can catch up, and audience to process
   a. Made the bloody hand a static shot- allowing the audience a break from all the movement. Made sure to edit the timeline to allow for static shots in my cinematic.
6. Weird Cuts- Fixed them by extending the time.

Third Pass: ANI173.3 Pass 3.avi

In this pass I took out some of my original shots from my storyboard as I felt they didn't add anything to the story and could get cut. This mostly included establishing shots at the beginning.
Feedback:
Shot 1- Pauses for too long in between the two movements- make it so there's no pause at all (ruins the flow of the shot).
Shot 2- Pauses for too long in the beginning and end- shorten both ends a bit so the movement starts and finishes with less of a pause
Shot 3- Let it linger a bit more at the end (cuts too fast)
Shot 4- Maybe add a very slight push in with a focus from blurry to clear
Shot 5 + 6: Good timing, but could do without the zoom after the tilt up

Shot 7: Would make more sense for the initial look over/roll to be slower movement, and then when they realise there's someone there, quickly recede back behind the wall (invert the timing you have)
Shot 8- speed up the timing like x2 - 3x
Merge shot 9 into shot 8
Shot 10- Great, lingers too long at the end
Final shot - Good!

I implemented this feedback into my final pass of my cinematic.

Week 13: Unit review

Activity 1: Post project reflection

Checkpoint: Use these prompts to answer the questions with examples from your project in 250 words:

Appraisal: Overall, how successful was your project? What worked or didn't work, and why? How did it match with your expectations? Give specific examples, screenshots or links.

Challenges: What obstacles did you overcome and how? What lessons did you learn?

Future Goals: How could you improve your skills for future projects? What will you do differently in your next project? What will you repeat?

Appraisal: Overall I believe my project was very successful. I believe it filled the brief. I especially like how the shots in the end worked, and how my story was clear in the cinematic. I believe I could have worked a bit more on lighting and sound effects, but I still think it works. Overall, my project met my expectations.
Challenges: There were a few obstacles and challenges I faced when completing this project.
The first one being the pacing of my shots. Throughout the project I really struggled with the overall pacing of my cinematic. In the beginning, I thought every shot needed to have movement or it would look out of place. However, as I worked toward completing this project, I learned the importance of still shots and pauses to let the audience catch up and fully register what was happening.
The second major issue I faced was with the actor. I wanted to add an actor into my environment because a lot of my shots were from a first person POV, and in the first couple of passes, I felt it wasn't really clear. So I added the actor to show that it was a sci-fi person exploring the ship by using it to create a shadow of a man. However, when trying to link up my camera shots I really struggled, going back and forth editing both the actor and the camera shot itself so it lined up.

Future Goals: For further projects I will continue to develop my cinematography skills by continuing to read articles about shot types and movements, and possibly attend online classes about cinematography. I will continue to develop my technical skills in Unreal engine by continuing to use it, getting more used to the UI and more advanced tools I can use for later projects. In future projects I will continue to ask for feedback from peers, my lecturer and family whilst completing projects so I know that what I am handing in is my best work. I will also continue to write down a checklist that I can tick off so I know exactly where I am at within the project and what I need to do next.

Activities Completed?

Great work on making it this far. We hope you have learnt a lot about what goes into making an animatic and now have a solid understanding of the fundamentals of pre-viz to apply to your future productions.

What areas do you think we need to include next time?

What areas do you think we can leave out?

What areas do I think need to include next time:
I think next time there should be more detail about what to include and what not to include for projects within the project brief as I was often a little confused on that part.
What areas do I think we can leave out:
I don't believe there were many if at all areas that could be left out.

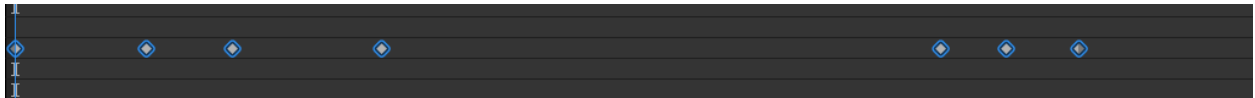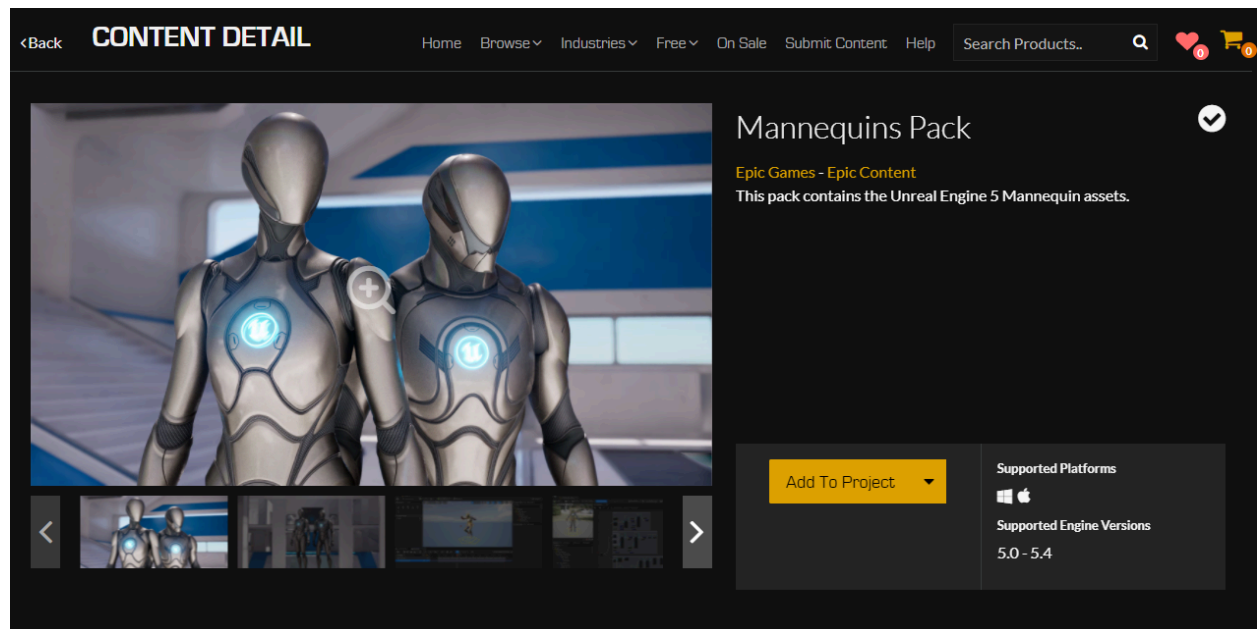Screenshots of my changed Scene:
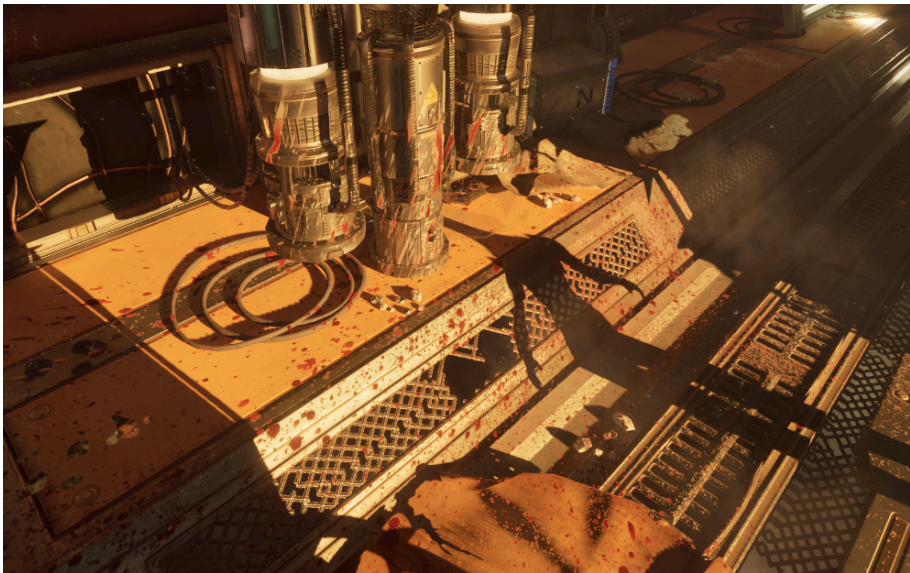
Lighting Changes:

In Adobe After Effects, I wanted to change up the lighting a bit. To do this I added an adjustment layer and put it up the top. To this adjustment layer I added the Lumetri Color effect. I wanted the lighting to be more blue in tone the further you went into the ship, so I edited the temperature when my MC got further into the ship by turning it down.

Mannequin Added:

(https://www.unrealengine.com/marketplace/en-US/product/mannequins-asset-pack)

Sound Effects:

https://pixabay.com/sound-effects/man-breathing-regularly-then-faster-6218/
https://pixabay.com/sound-effects/fire-alarm-33770/
https://pixabay.com/sound-effects/howling-winter-storm-ambient-sounds-6756/
https://pixabay.com/sound-effects/can-49711/
https://pixabay.com/sound-effects/gasp-82819/
https://pixabay.com/sound-effects/concrete-footsteps-1-6265/
https://pixabay.com/sound-effects/slow-footsteps-102412/
https://pixabay.com/sound-effects/deep-growl-81171/

Reference List

Mid Project Reflection:

Lannom, SC. (2020a, May 4). *Guide to Camera Shots: Every Shot Size Explained.*
Studiobinder. https://www.studiobinder.com/blog/types-of-camera-shots-sizes-in-film/
Lannom, SC. (2020b, June 28). *Camera Angles Explained: The Different Types of Camera Shot*

Angles in Film. Studiobinder.

https://www.studiobinder.com/blog/types-of-camera-shot-angles-in-film/

Activities:

Actorcore. (n.d). *Heavy Suit M* [Actor]. ActorCore.

https://actorcore.reallusion.com/3d-character/Sci-Fi%20Humanoid?asset=heavy-suit---m

Buckley, B. (n.d). *Cinematic Production Techniques using the unreal engine sequencer* [Videos].
The Gnomon Workshop.

https://sae-thegnomonworkshop-com.ap1.proxy.openathens.net/tutorials/cinematic-production-techniques-using-the-unreal-engine-sequencer

Hamer, A. (2024, January 22). *Youtube video size: Tips to hit the perfect aspect ratio, resolution,
and dimensions.* Descript.

https://www.descript.com/blog/article/the-ultimate-guide-to-youtube-video-sizes#:~:text=854%20x%20480%20pixels%20

Master Gow. (2017, November 15). *Aliens 1986: Xenomorph Queen Shootout Scene I Best
Quality 4K* [Video]. Youtube. https://www.youtube.com/watch?v=zPkMd2nLRzQ

Unreal Engine. (n.d). *Unreal Engine 5.4 Release Notes.* Unreal Engine.

https://dev.epicgames.com/documentation/en-us/unreal-engine/unreal-engine-5.4-release-notes

Vimeo. (n.d). *Video and audio compression guidelines.* Vimeo.

https://help.vimeo.com/hc/en-us/articles/12426043233169-Video-and-audio-compression-guidelines

Warner Bros. Entertainment. (2022, December 13). *The Polar Express I Hot Chocolate! I 4K
UHD I Warner Bros. Entertainment* [Video]. Youtube.

https://www.youtube.com/watch?v=NWS1dwrl2Lc

Zwerman, S., Okun J. A., Thurmond O'Neal, S. (2023). *What Is Virtual Production* (1st ed.).
Focal Press.

3DBrushwork. (2021, November 1). *Polar Sci-Fi Facility* [Unreal Environment]. Unreal
Marketplace. https://www.unrealengine.com/marketplace/en-US/product/polar-sci-fi-facility

Decals + Mannequin;

Atlas & QuixelBridge. (n.da). *Hand Smear* [Unreal Engine Decal]. QuixelBridge.

https://quixel.com/megascans/home?category=decal&category=blood&assetId=se0wefxp

Atlas & QuixelBridge. (n.db). *Blood Stain* [Unreal Engine Decal]. QuixelBridge.

https://quixel.com/megascans/home?category=decal&category=blood&assetId=sheadaac

Atlas & QuixelBridge. (n.dc). *High Velocity Blood Splatter* [Unreal Engine Decal]. QuixelBridge.

https://quixel.com/megascans/home?category=decal&category=blood&assetId=se2kffup

Atlas & QuixelBridge. (n.dd). *High Velocity Blood Splatter* [Unreal Engine Decal]. QuixelBridge.

https://quixel.com/megascans/home?category=decal&category=blood&assetId=sfijfbip

Epic Games. (2023, February 17). *Mannequins Pack.* UnrealEngine Marketplace.
https://www.unrealengine.com/marketplace/en-US/product/mannequins-asset-pack

Sound Effects:

Bacruz666 & Pixabay. (2022, August 10). *Gasp* [Sound Effect]. Pixabay.

https://pixabay.com/sound-effects/gasp-82819/

ButerbrodBEZsura & Pixabay. (2022, June 24). *Can* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/can-49711/

DBlover, & Pixabay. (2021, August 10). *Howling winter storm ambient sounds* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/howling-winter-storm-ambient-sounds-6756/

Exe2be & Pixabay. (2021, August 5). *Man Breathing regularly then faster* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/man-breathing-regularly-then-faster-6218/

Patchytherat & Pixabay. (2021, August 5). *Concrete footsteps 1* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/concrete-footsteps-1-6265/

Taurindb & Pixabay. (2022, June 1). *Fire Alarm* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/fire-alarm-33770/

TheBuilder15 & Pixabay. (2022, September 5). *Slow Footsteps* [Sound Effects]. Pixabay. https://pixabay.com/sound-effects/slow-footsteps-102412/

Supersound & Pixabay. (2022, August 8). *Deep Growl* [Sound Effect]. Pixabay. https://pixabay.com/sound-effects/deep-growl-81171/