

## CS7GV5 Animation Report

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Youtube Link:	<a href="https://youtu.be/WM5I9ctl_Ys">https://youtu.be/WM5I9ctl_Ys</a>
Declaration:	This work was done by me, Liam Byrne

**Required feature:** Articulated Animated Character

**Screenshot(s) of feature:**

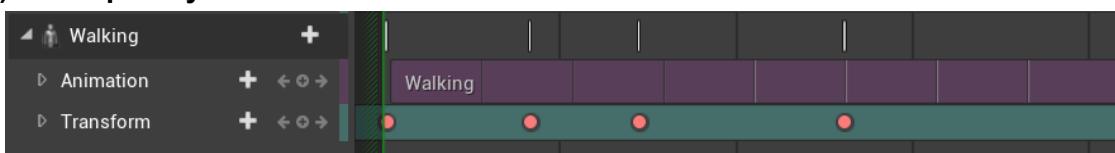


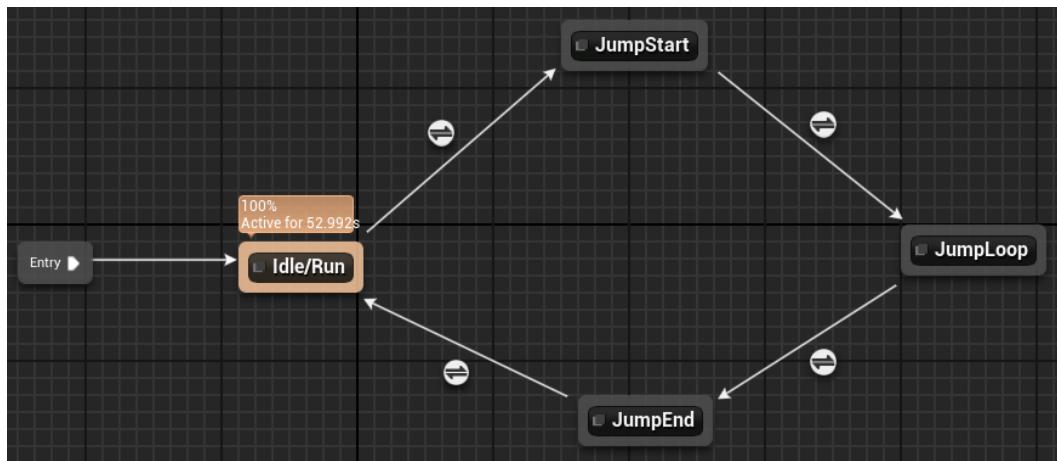
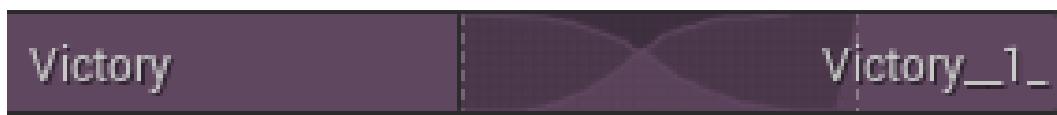
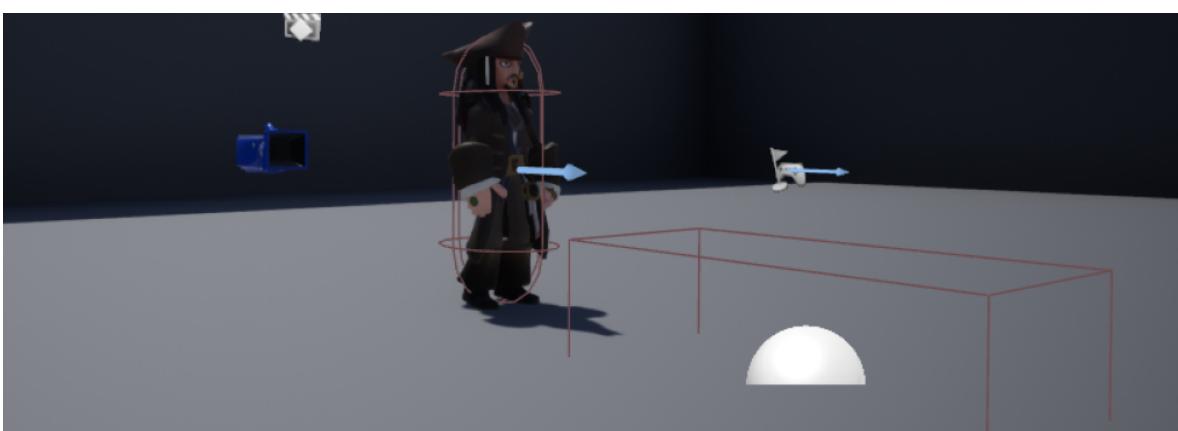
**Describe your implementation of a - c:**

- a) **Mocap/keyframe:** Mixamo animations were selected, downloaded and imported into the unreal project. I applied the animations to the appropriate meshes and performed transforms on them that matched the animations movement these transformations were done using keyframes
- b) **Motion State Machines:** Used to control and manage the animations of the character in the interactive experience. Used in the interactive element to cycle between different animations such as running, jumping and idle, depending on desired animation for the character movement.
- c) **Motion Editing:** Mixamo animations were blended to create longer, more complicated character movements. This was done where more than one emotion or animation had to be displayed. Blending between animations was implemented by dragging animations over each other in the animation tab of the sequencer.

**Code/Blueprint Screenshot:**

- a) **Mocap / Keyframe**

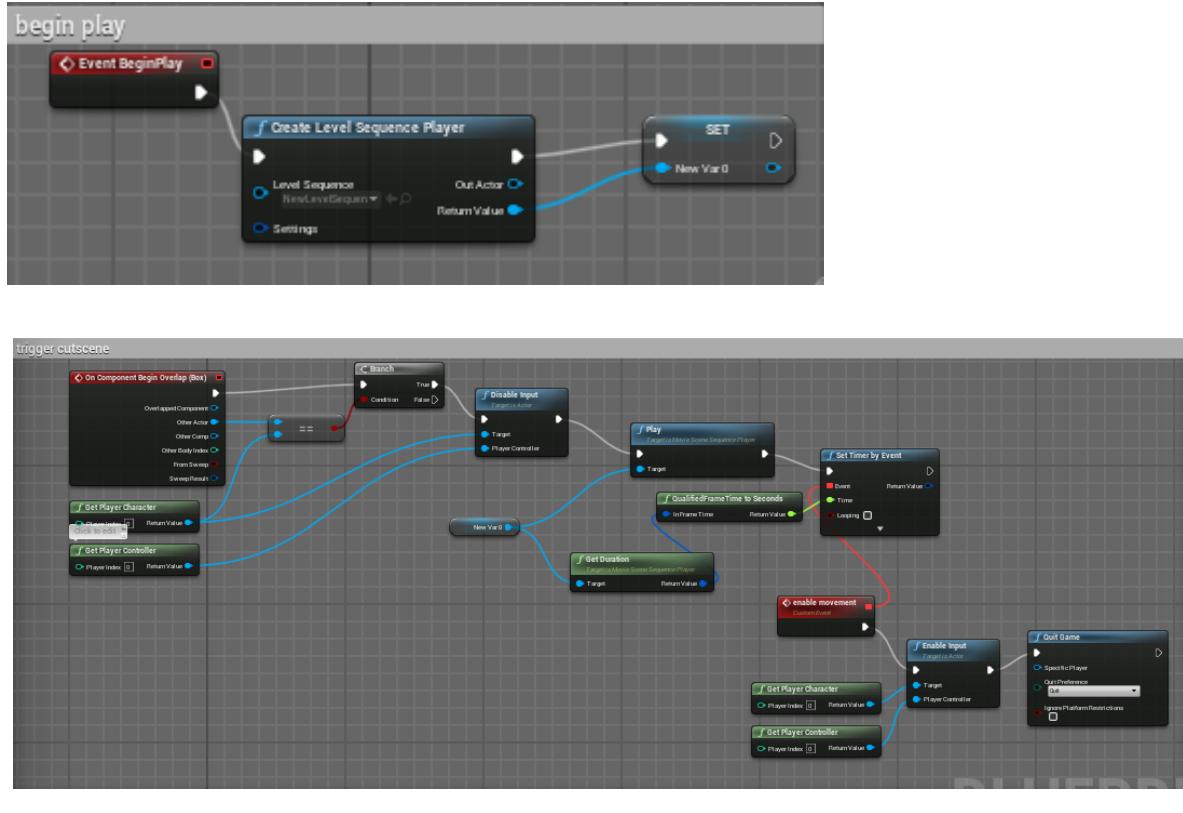


**b) Motion State Machines****c) Motion Editing****Required feature: Interactive Element****Screenshot(s) of feature:****Describe your implementation:**

The user can take control of the pirate once the master sequence has finished and decide which way they want to go. The instruction to choose to either stay with the gold or escape on the boat is displayed in the previous scene. The user either a) Escapes from the volcano towards the boat or b) stays with the gold. A final scene will play when the user pilots the main character into one of the two cutscene triggers. In scenario a) where the user pilots the character towards the boat the cut scene will be triggered when the pirate reaches the docks. The cut scene will show the boat escaping to safety as music plays. In scenario b) where the user decides to return to the gold the cutscene will be triggered

when the user enters the cave of gold and a final animation of the pirate celebrating with his treasure will play to music.

### Code/Blueprint Screenshot:



### Required feature: Principles of Animation

#### Screenshot(s) of feature:

**Anticipation / Stretch**



**Squash**



### Ease in, Ease out



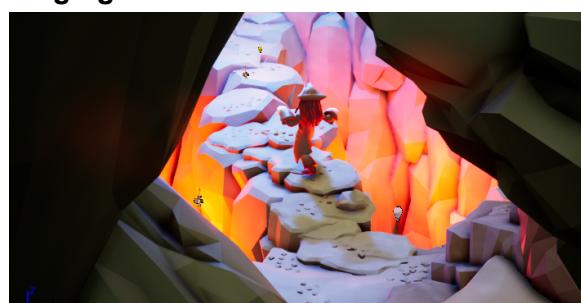
### Anticipation / Exaggeration



### Exaggeration:



### Staging



### Describe your implementation of a - e:

**Anticipation:** Rather than having the pirate ship pull out sideways or reversing out from the dock I chose to have the boat pull backwards before quickly springing forwards and away from the island. The volcano also expands upwards before contracting and exploding as if reeling up for a bigger explosion. I implemented both of these examples using keyframed motion.

**Squash / Stretch:** Before erupting the volcano goes from its normal size to stretch in the z axis. The volcano then squashes, keeping the same amount of mass extending along the x and y axis and shortening on the z axis. This squash and stretch is done in preparation for the explosion.

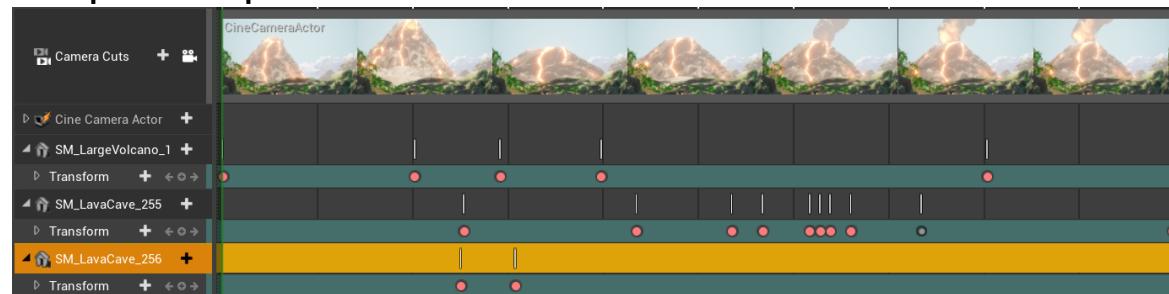
**Ease in, Ease out:** The transform curves of the pirate ship as it pulls into the dock were tweaked to ease into the movement of pulling in, then move rapidly at the midpoint of the transform before easing to a gradual stop.

**Exaggeration:** The pirate has exaggerated movements when crossing the bridge over lava; this was done by tweaking the settings (such as overdrive etc) of the mixamo animations to make the character's movements more exaggerated. Exaggeration is also present in multiple other aspects of the sequence such as the pirate ship pulling away and the rapid expelling of smoke and rocks at the explosion of the volcano.

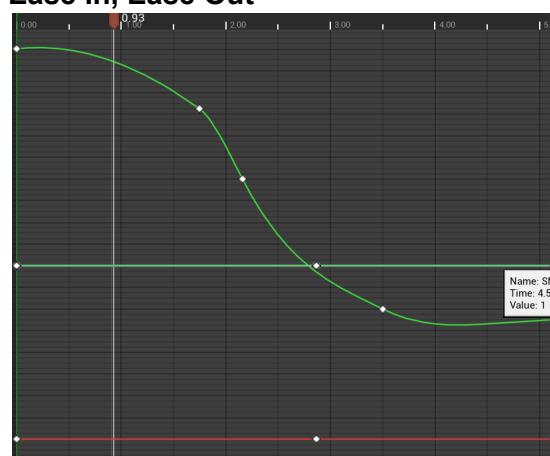
**Staging:** Staging was visible in the shots where the camera goes through a gap in the rocks to reveal the pirate crossing a bridge suspended above a pool of lava. Here we can look down on the pirate and see his careful movements above the lava.

### Code/Blueprint Screenshot:

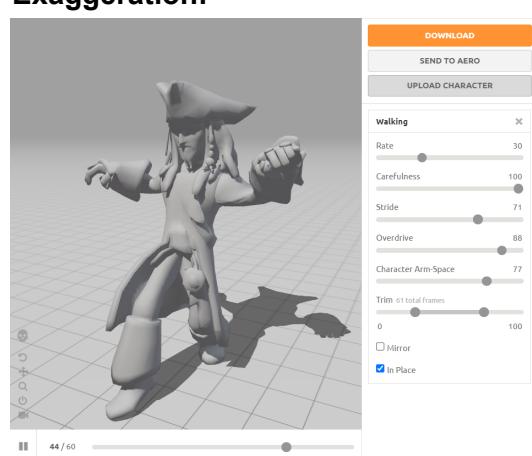
## **Anticipation & Squash / Stretch:**



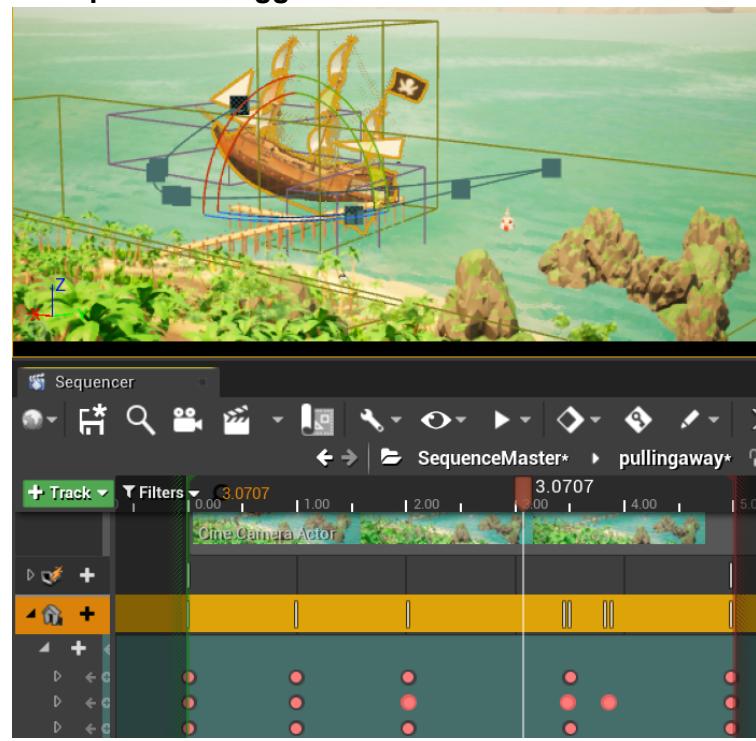
## Ease In, Ease Out



## **Exaggeration:**



### **Anticipation / Exaggeration:**



**Additional feature:** Stylised Characters, Environment, Animations and music

**Screenshot(s) of feature:**



**Describe your implementation:**

The character model and environment were both selected to match each other. They both have a low-poly pirate treasure island theme. The animations were edited in mixamo to be more exaggerated to match the cartoon style and the audio that was chosen is light hearted and cheerful to match the theme of pirates treasure and adventure. The smoke being emitted from the volcano is animated to spiral and rotate and lighting has been placed all around the scenes to create the effect of glimmering gold and hot lava.

**Additional feature:** User Control of the Main Character and Tracking Camera

**Screenshot(s) of feature:**



[Pirate stays on island with gold?]

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[Yes: Play party animation] [No: Play escaping island animation]

**Describe your implementation:** The animation uses blueprints and trigger actors to cycle between master sequencer tracks to user directed gameplay and then to cutscenes which

are decided based on the users decision to choose the gold or escape. The user can pilot the character using their WASD or arrow keys and control the orbit of the camera around the character using their mouse

### Code/Blueprint Screenshot:

