CreateAccess

Learning Guide

Animate Assets and Cameras in Unreal Editor for Fortnite

Introduction

Most 3D experiences include some type of animation, such as animated characters, assets, cameras, or effects. A quick way to learn and start adding animations to your own 3D experience is by using assets that already exist in your project. This Guide will show you how to animate assets and cameras in Unreal Editor for Fortnite (UEFN). Animating assets will add an extra layer of interest and interactivity to your island. Animating cameras will help you create cinematic cutscenes, which are short, animated sequences that players can watch while the gameplay is paused.

Video Learning Guide for this Lesson:
https://www.youtube.com/watch?v=F3Vg_JW7sUg

Contents

Prior Knowledge Check

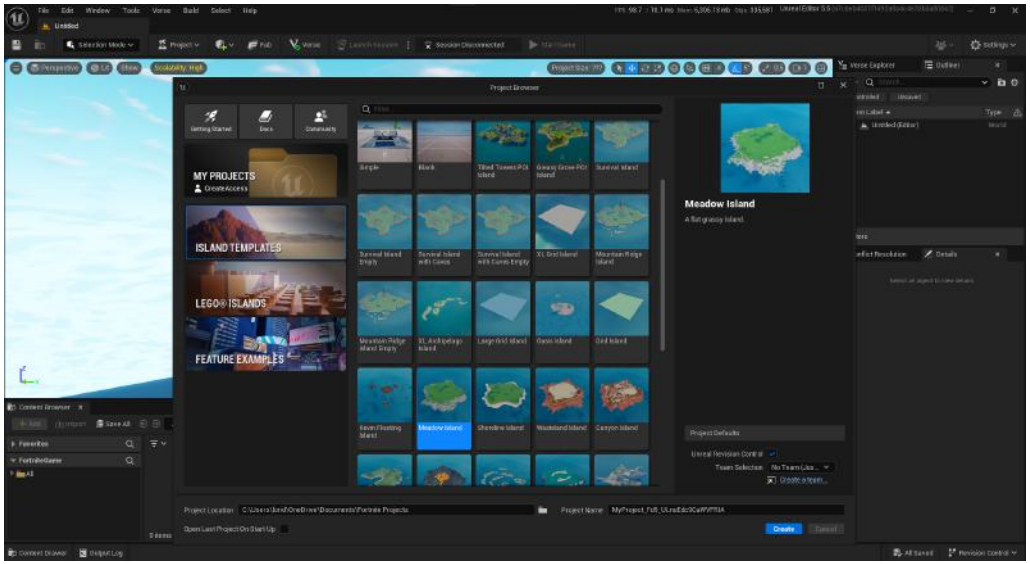
To successfully complete this lesson, you should be familiar with the basics of the UEFN User Interface and be comfortable navigating in UEFN. Take a look at the Unreal Editor for Fortnite User Interface Basics to familiarize yourself with the interface.

You can also use the Epic Games Documentation for more detailed information on the UEFN User Interface.

Getting Started

Launch UEFN from the Epic Games Launcher and create a new project or access an existing project. You can start with a blank island or choose from any of the provided templates.

If using a blank island, it's suggested that you populate your island quickly with a few assets to add visual interest and make your animation flow easier while following this Guide. You can add assets from the Fortnite library accessible in the Content Drawer, or import your own.



Step 1: Animate assets

Preview

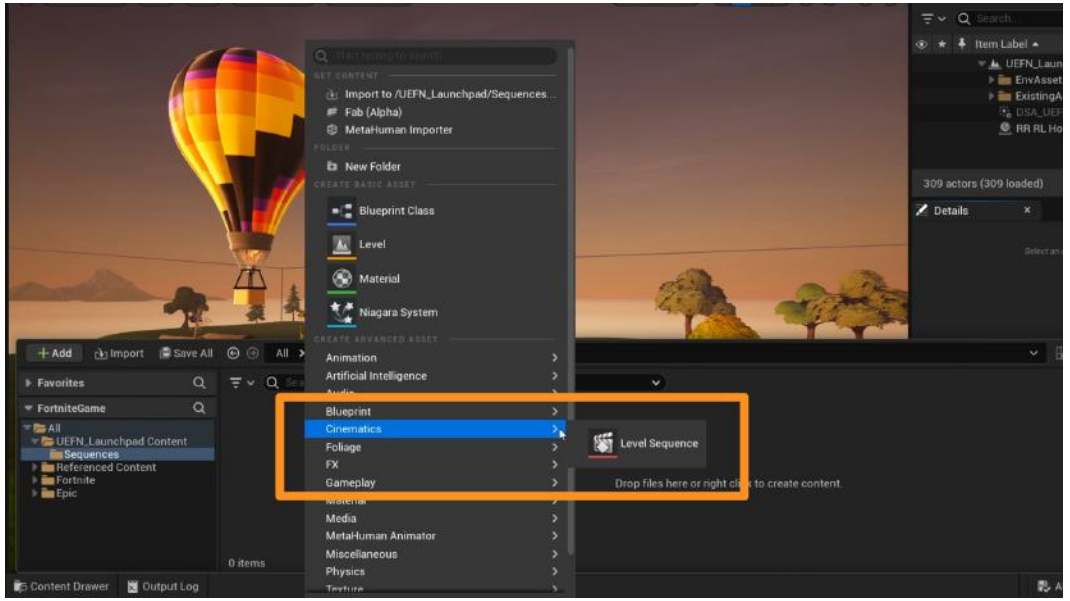
All animations function in fundamentally similar ways. Starting with animating assets in UEFN (for example, making a 3D asset move back and forth, or up and down, or spin around) can help you learn about animation and familiarize yourself with animation tools. After learning the general flow, you will be able to animate any kind of asset on your island.

Experiment

CREATE A SEQUENCE

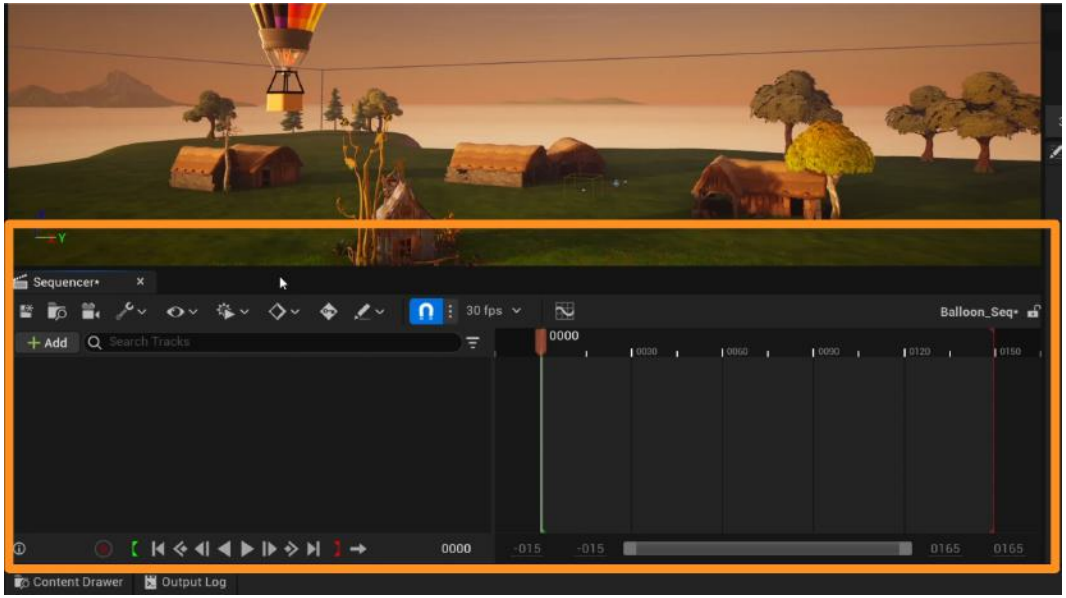
Sequences are timelines in UEFN that allow the creator to manipulate assets and cameras over time to create animations. To create a sequence in which you can animate an asset, go to your **Project Folder** in the **Content Drawer** and create a new folder called “Sequences”.

Right click on an empty area in this folder. Select **Cinematics - Level Sequence**. A new sequence will be created. Name it as needed. It could be helpful to give it a name that reminds you of the asset you will be animating.



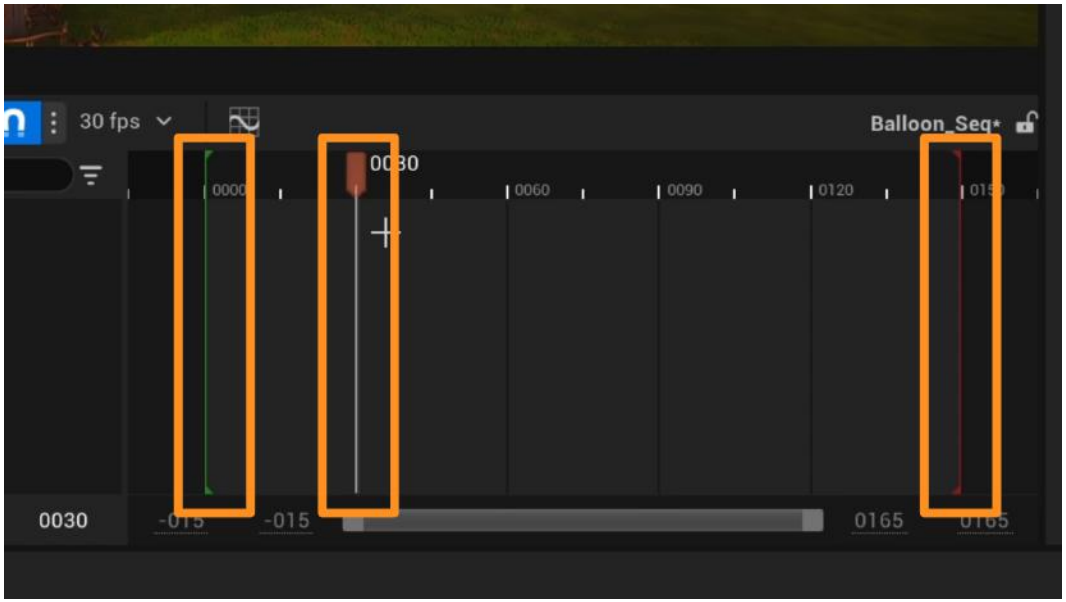
ACCESS THE SEQUENCER

The Sequencer is an editor where you edit your sequences and make animations. To open the **Sequencer**, double click on the sequence you've created in your **Content Drawer.**



The green and red lines in Sequencer indicate the start and end of your animation. You can click and drag on these lines to change the start/end.

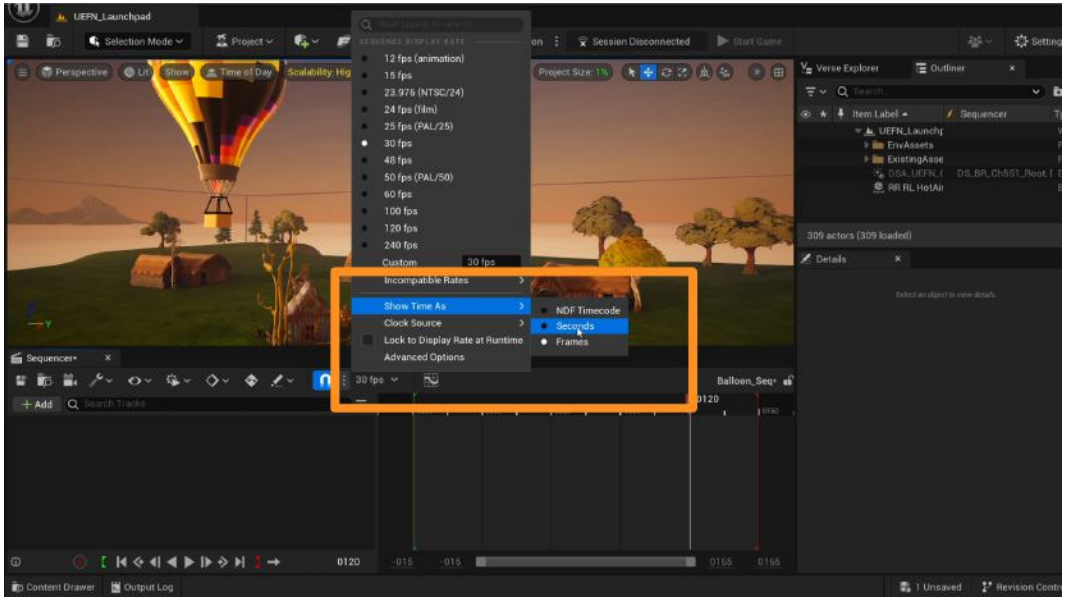
The **playhead** is the white bar with a red marker that shows which frame/second you're at on your timeline.



By default, the Sequencer in UEFN works on a **Frames per Second (FPS)** count. This means that every 30 frames on the Sequencer is 1 second of animation.

You can change this setting by clicking on the “30 fps” dropdown and selecting **Show Time As** > **Seconds**. Now your Sequencer timeline will show in seconds.

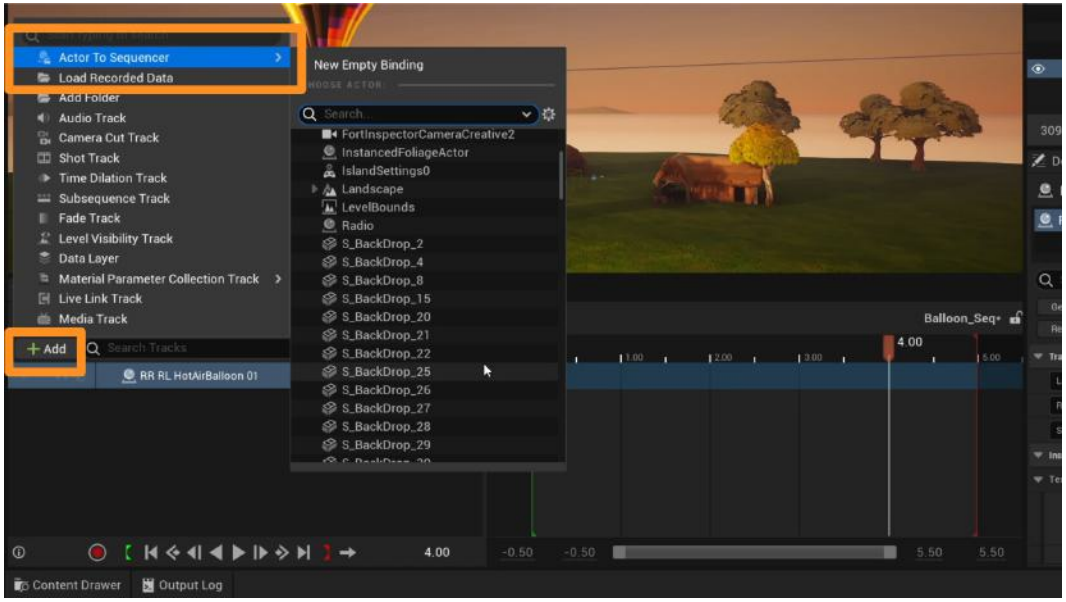
Using frames or seconds in your timeline comes down to your preference and whichever option you find more intuitive.



ADD ASSETS TO THE SEQUENCER

Pick an asset on your island that you would like to animate.

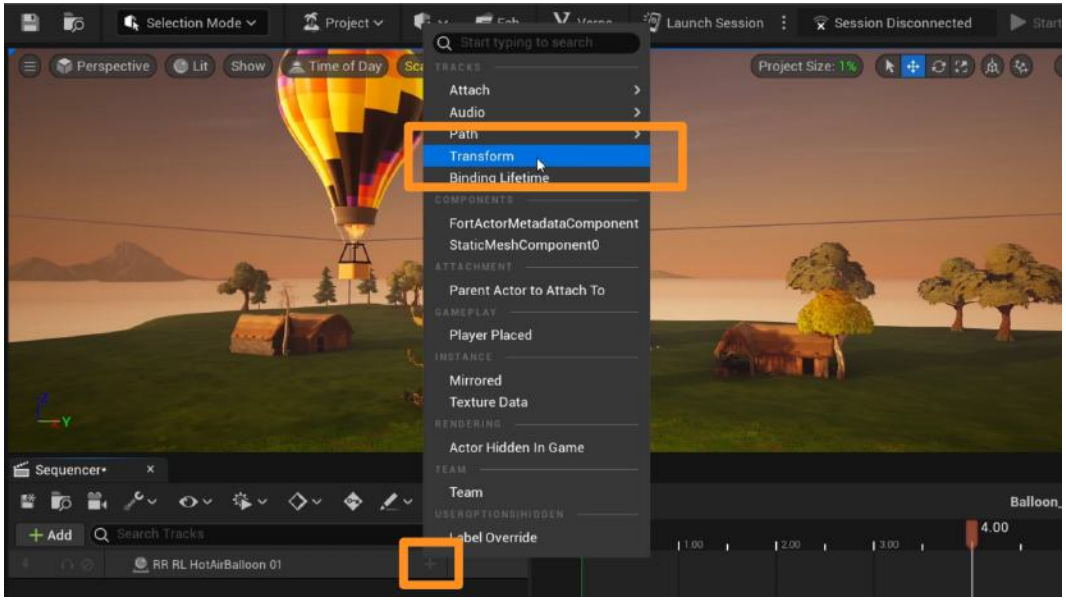
Add your asset to the Sequencer by clicking on **+Add** button and selecting **Actor to Sequencer**. A dropdown menu will appear where you can search for the asset you want to animate.



ADD A TRANSFORM TRACK

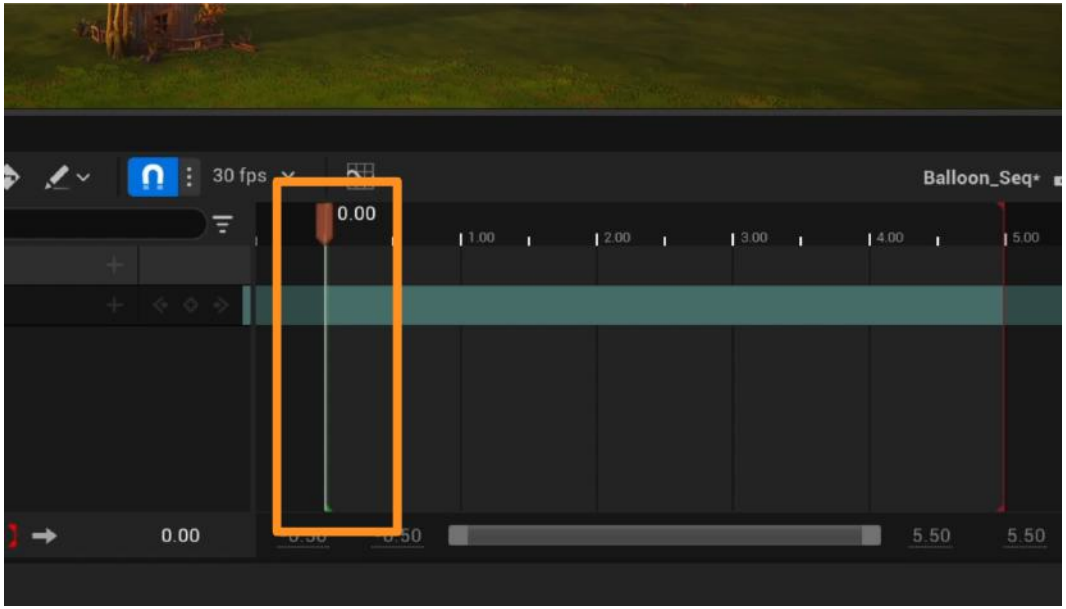
To be able to animate the movement of an asset, a **Transform Track** is used in the Sequencer. This track allows you to have a specific section of the Sequencer where you can animate the location, rotation, and scale of your asset.

Add this track by clicking the small **+** button to the right of your asset in the Sequencer and select **Transform**.

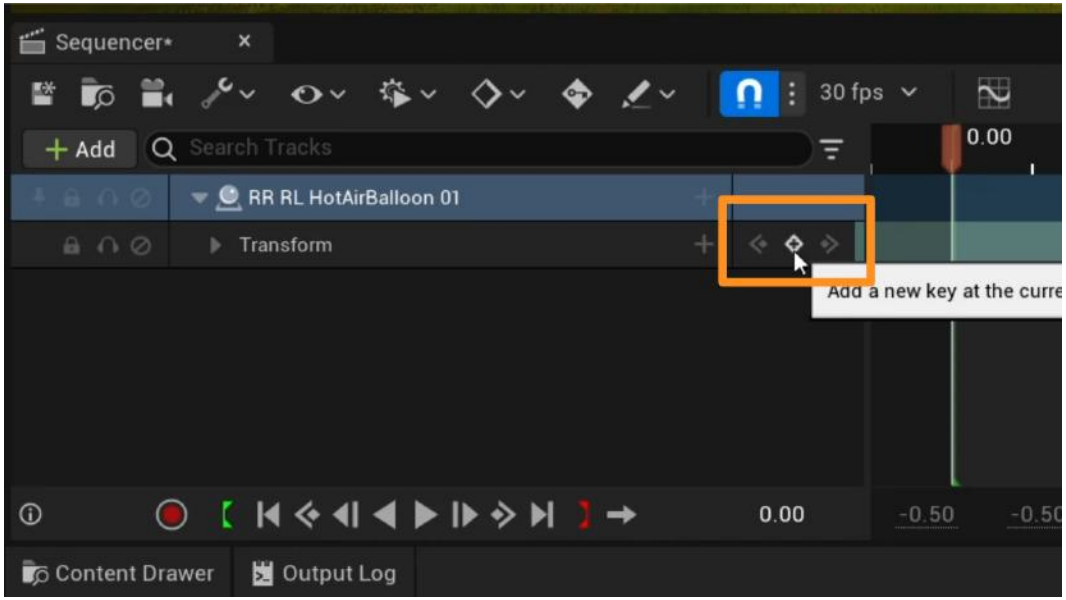


ANIMATE YOUR ASSET

Before you start animating, make sure the **playhead** is set to the beginning of your timeline.

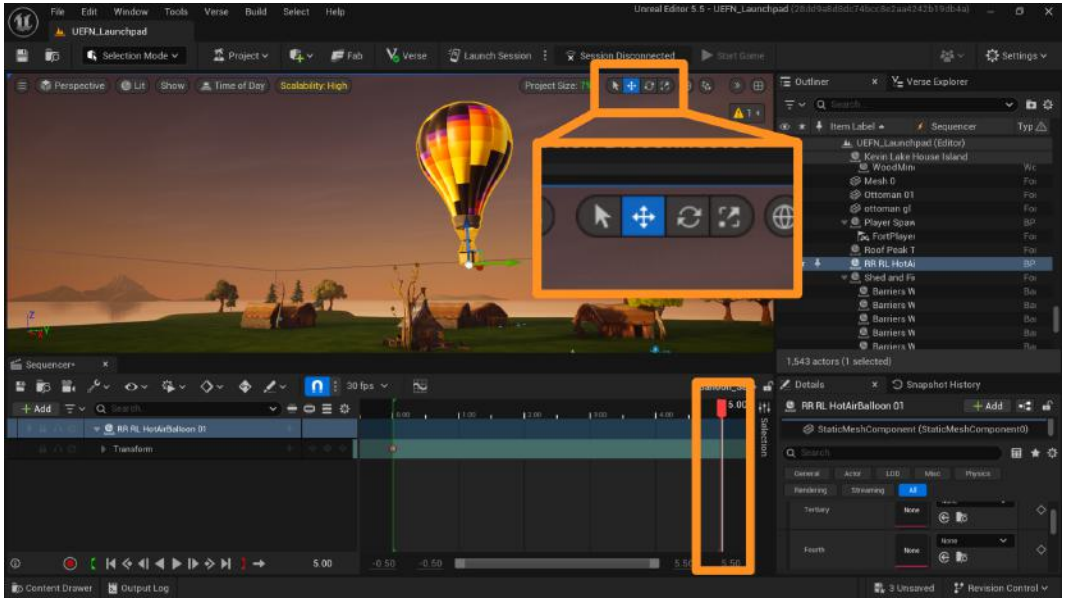


In the **Viewport**, place and scale your asset where you want it to be at the beginning of your animation. Click on the **+ (Key)** button in Sequencer to key the transform properties of your asset. **Keying** means that at this exact second of your sequence, the asset will be at the location, rotation, and scale it was at when you pressed the **+ (Key)** button.



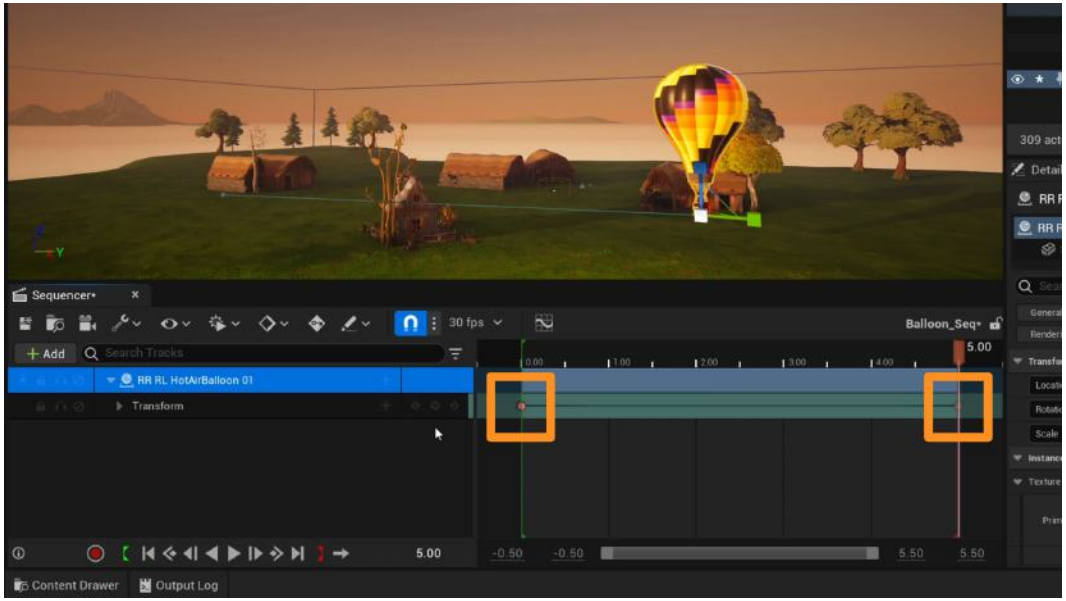
Now, move the playhead to the end of your timeline.

Move your asset to a new location using the Move gizmo. You can also rotate or scale it using the Rotate and Scale gizmos.

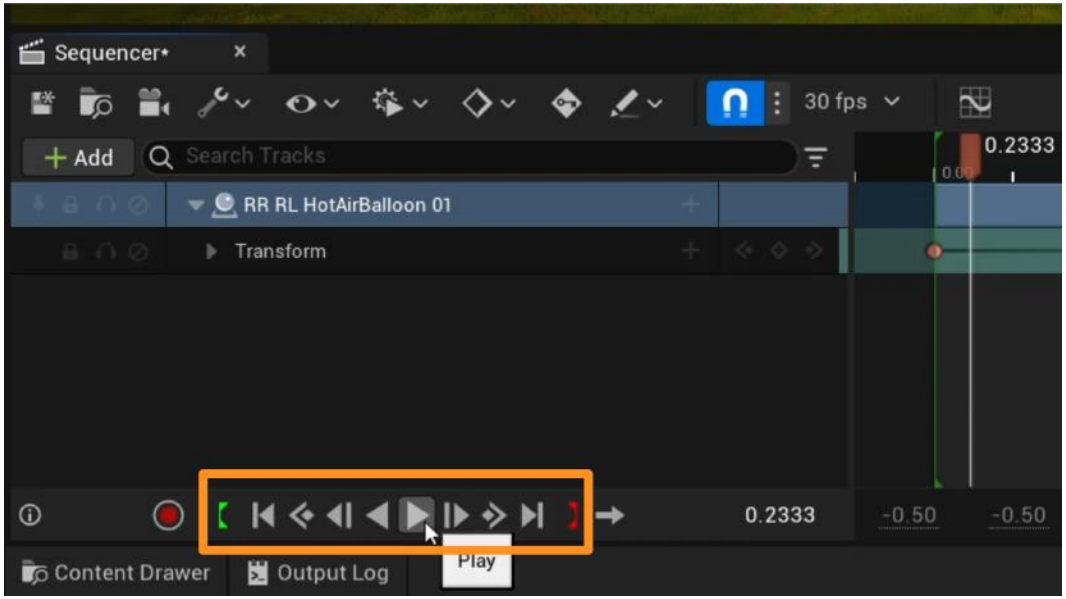


To key the new state of your asset, press the **+ (Key)** button again. You should have 2 pink circles on your timeline indicating the keys you've created.

So far, we've created 2 keys in our Sequence that represent the start and end position of the asset. When you play your animation, the asset will travel the shortest distance between the two locations you've set when keying your animation.

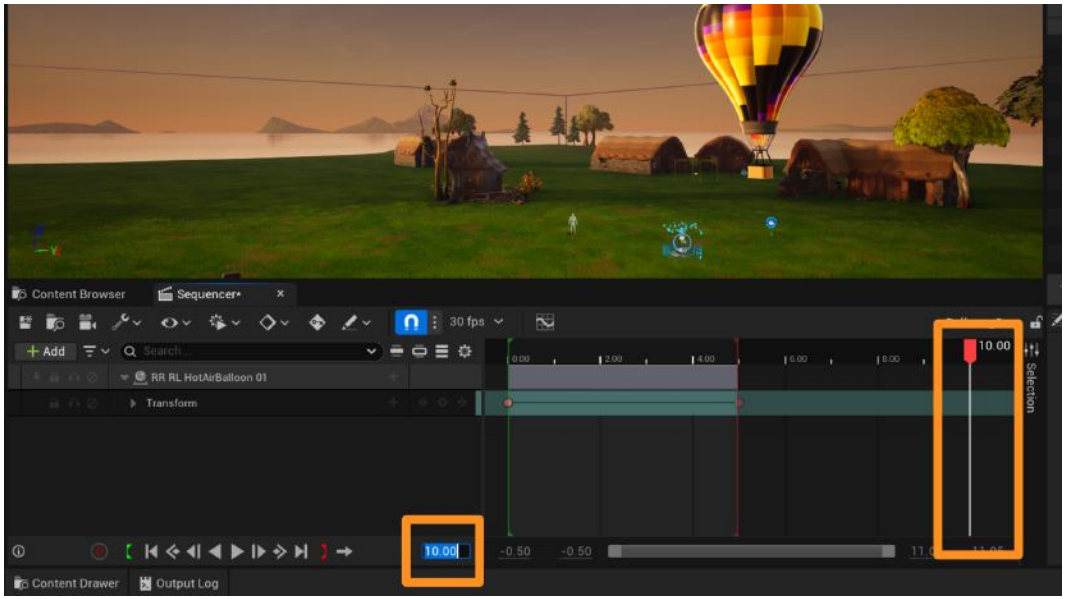


Go to the beginning of your timeline, and press the **Play Button** to test your animation.

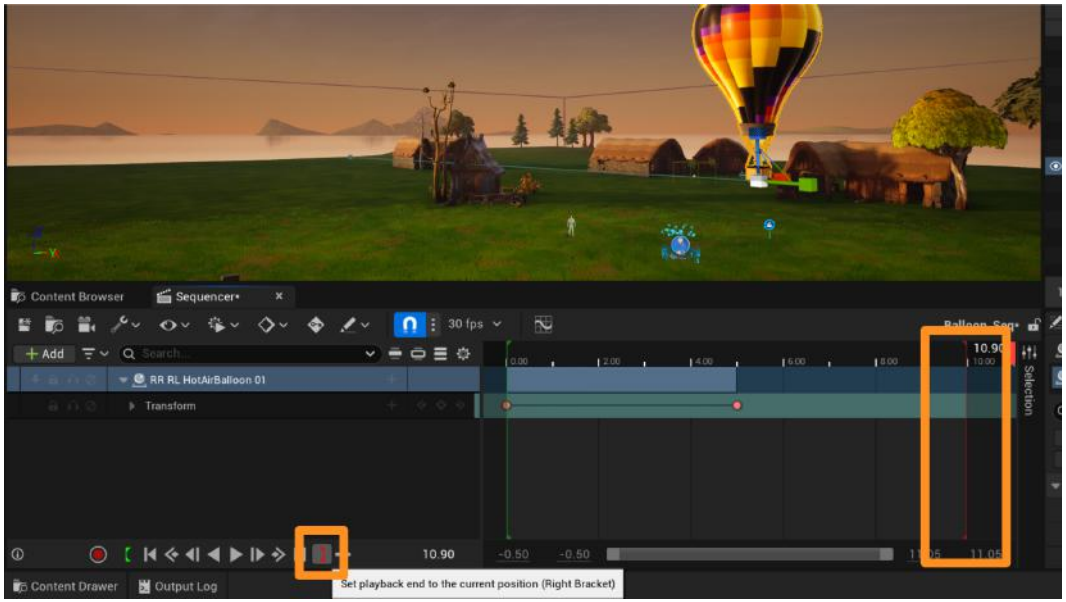


You can keep moving your asset and adding new “keys” to your timeline to make changes to your animation. If you’d like to make your animation longer, you can extend your timeline.

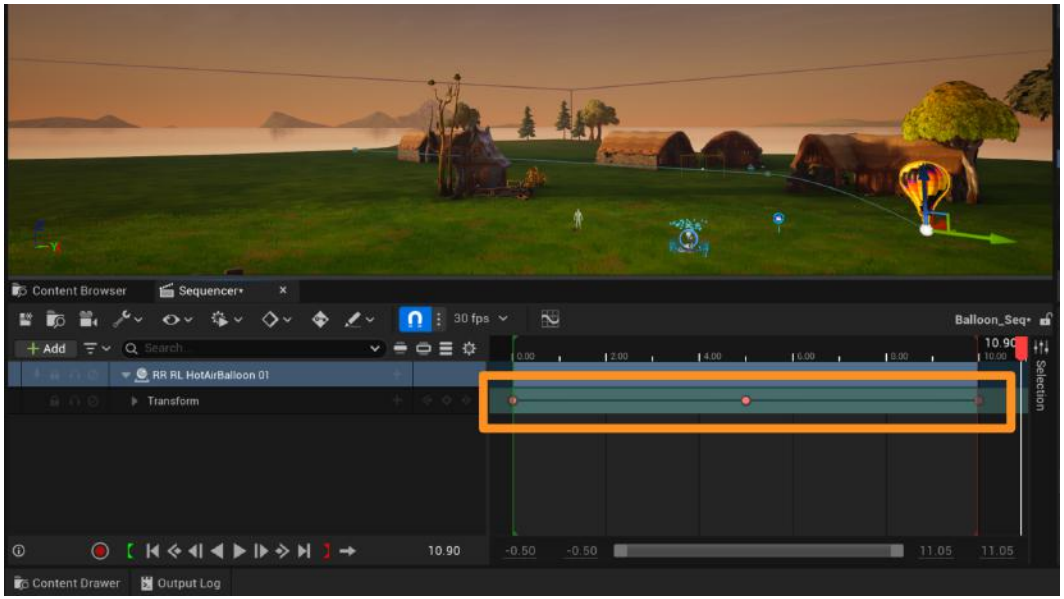
Click on the numerical slot next to the playback buttons. This number indicates which frame or second of animation your playhead is on. By default, the timeline is set to 5 seconds. By typing 10 on this slot, we can go to the 10th second of the timeline.



Next, click on the **red square bracket** icon. This icon will automatically move the end of your sequence to the where your playhead is positioned.



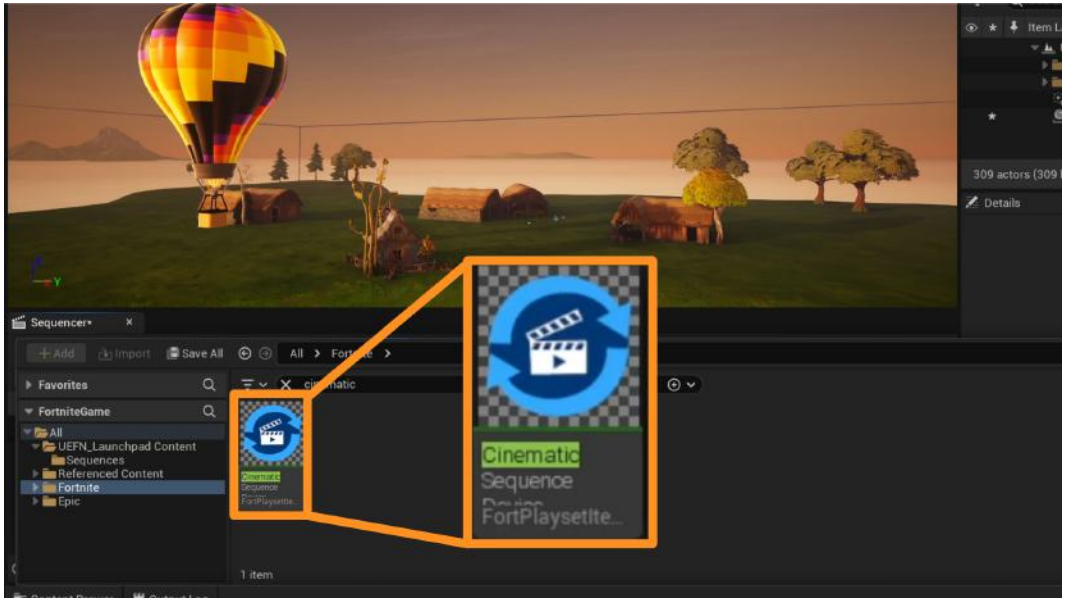
With your timeline extended, you can add new “keys” to your animation to make your asset move from the first key to second and then the third in order.



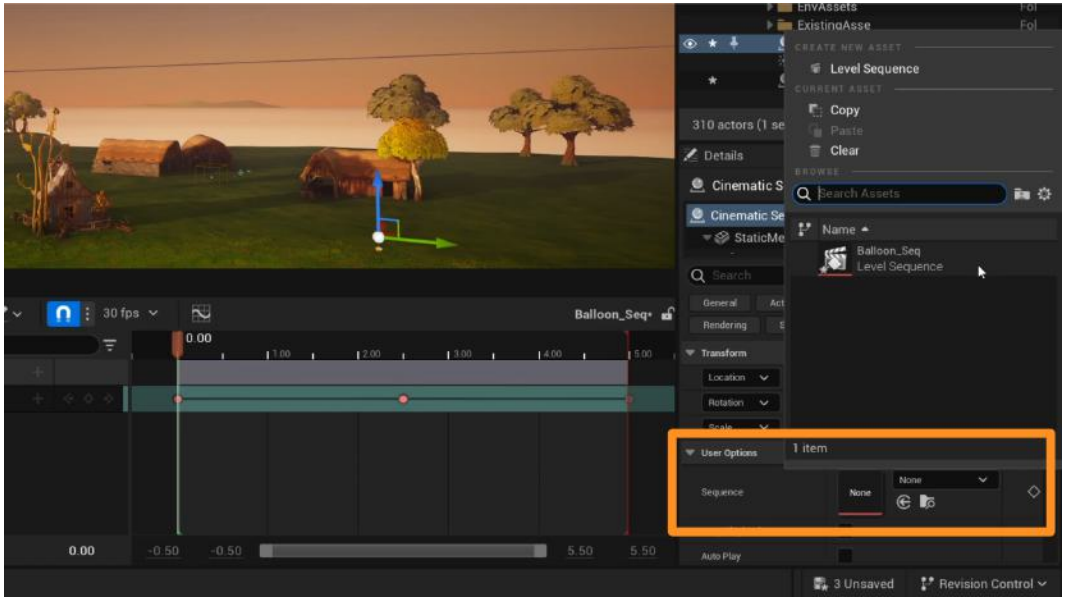
ADD A CINEMATIC SEQUENCE DEVICE

At this point, you have a sequence in your project with an animated object in it. However, UEFN does not know that the animation in the sequence should play when you start your game. The **Cinematic Sequence Device** will allow you to activate your animation on your island when you are in Game Mode. Without this Device, your animations may not work.

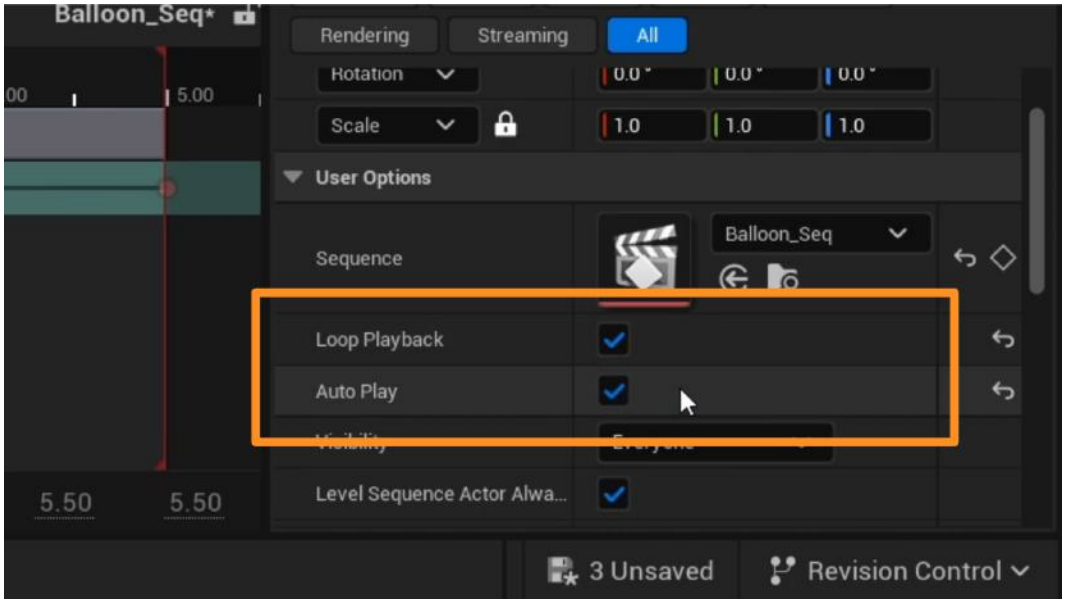
Add a **Cinematic Sequence Device** to your island from the Content Drawer. If you have multiple sequences, you will need one device for each sequence.



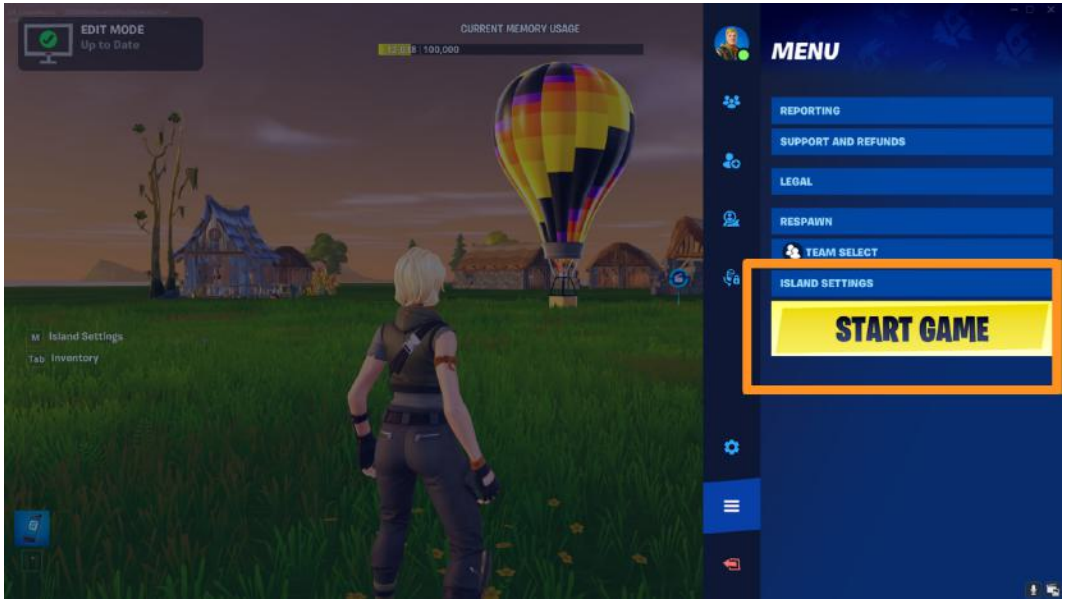
Select the **Cinematic Sequence Device** on your island by clicking on it. In the Details Panel, find the **Sequence** dropdown and select the sequence you've created in the previous step.



You can use the **Loop** setting to continuously play your animation in game. Use the **Auto Play** setting to make the animation start at the beginning of the game.



Click the **Launch Session** button on top of your viewport. When Fortnite loads, click **Start Game** to see your animation in-game.



Self Check

Could you make an asset on your island move in the way that you wished?

Step 2: Animate cameras

Preview

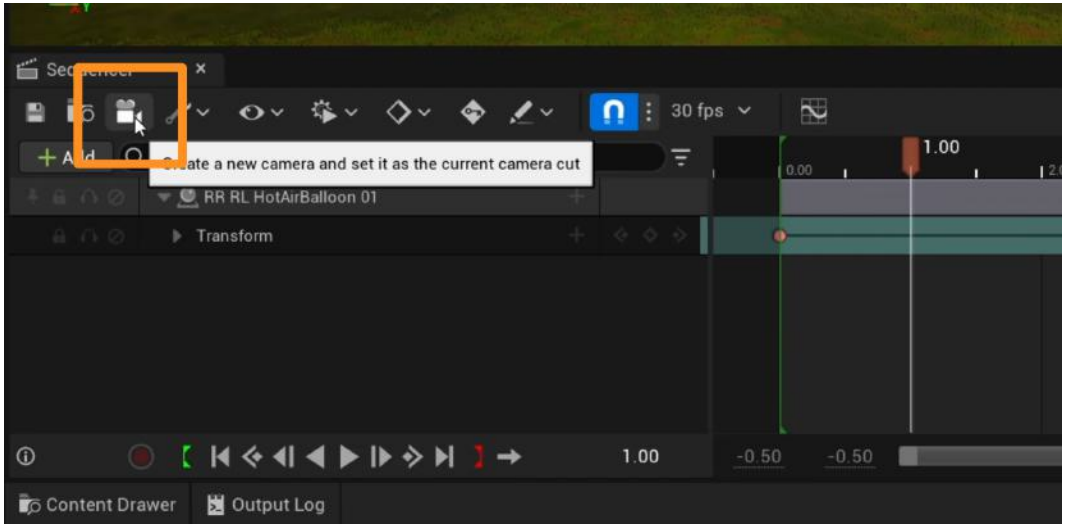
Animating a camera will enable you to create cutscenes in your game. The camera you animate will determine the angle and position of the cutscene, rather than the camera following the player. Cutscenes can be useful to tell a story, bring attention to a certain location on your island, or show zoomed-out views of the environment.

Experiment

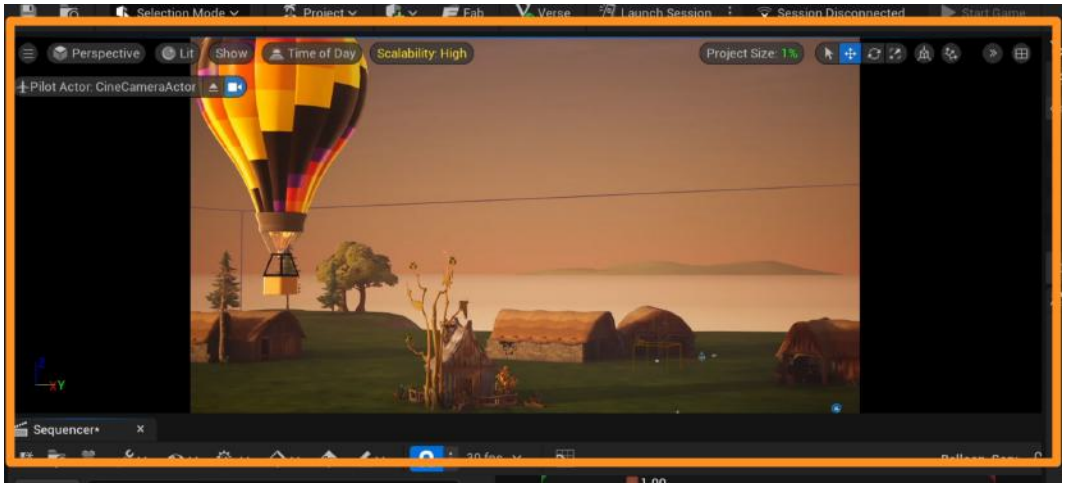
ADD CAMERAS TO THE SEQUENCER

The same methods to animate an asset in the Sequencer could be used to animate a cinematic camera.

You can create a camera and automatically add it to your existing sequence by clicking on the **Camera Icon** on top of the Sequencer. You can use the sequence you've already created in the previous steps or create a new one.

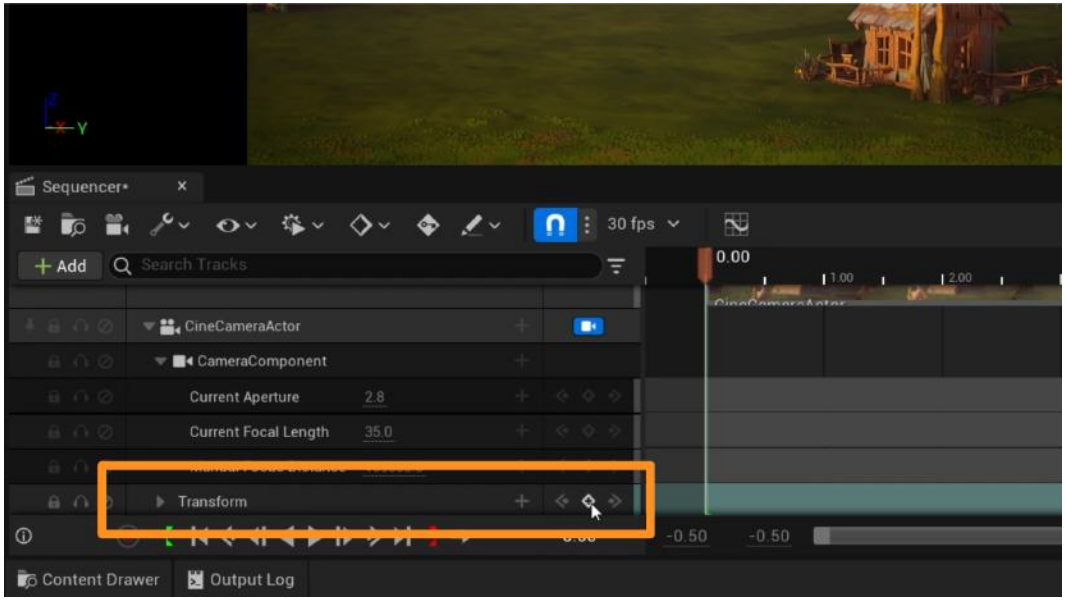


The look of the Viewport will change when you create a camera because you will start looking at your island from the new camera's point of view.

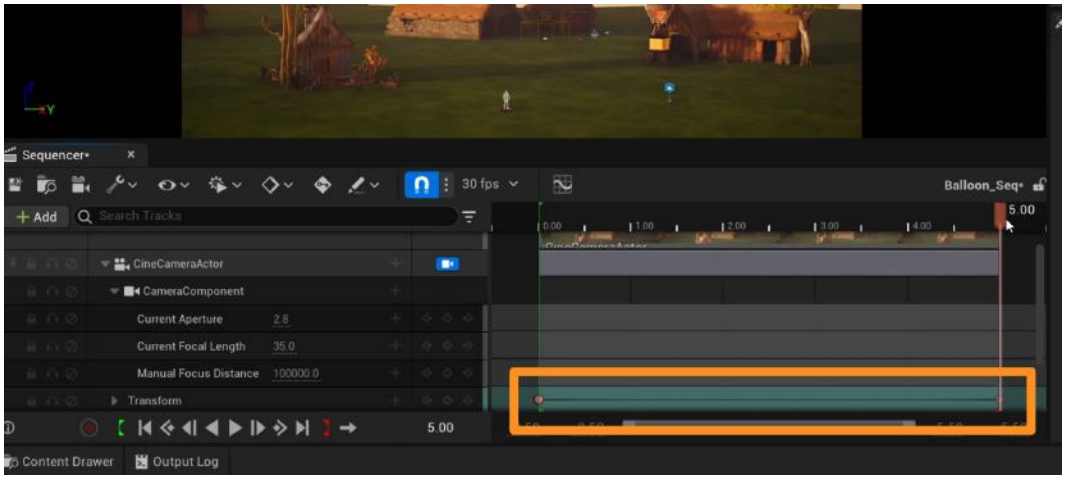


ANIMATING CAMERAS

Move the **playhead** to the beginning of the timeline. Move the camera to an angle you like by navigating as usual in the viewport. When done, click on **+ (Key)** next to the **Transform** setting under the camera to key in the position of the camera.



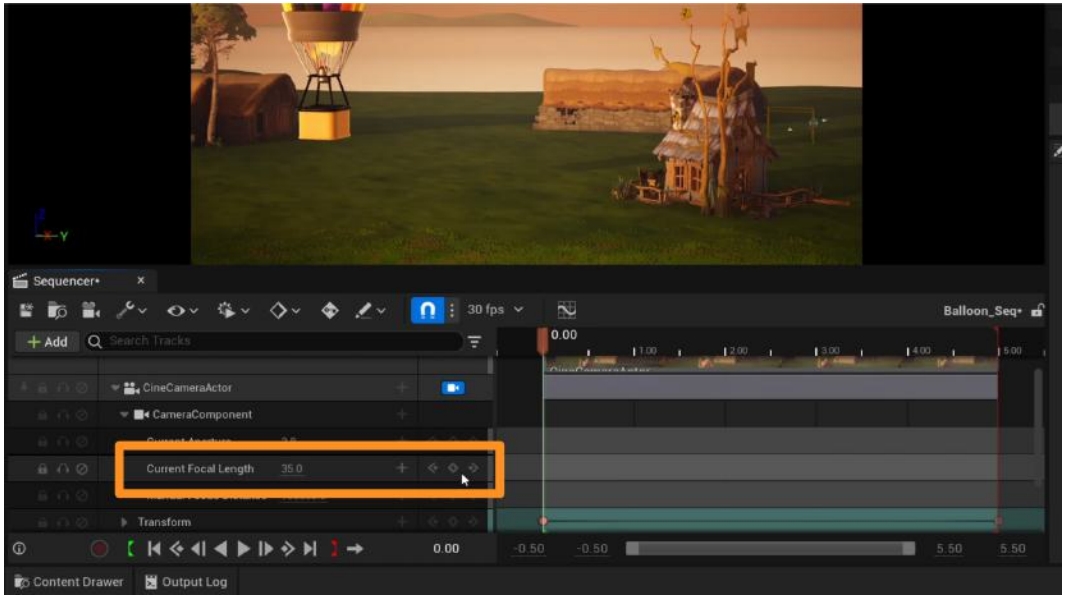
Move the playhead to the end of the timeline. Change the position or angle of your camera and use the **+ (Key)** button to key the new position of the camera at the end of your timeline.



ANIMATE ZOOM ON CAMERAS

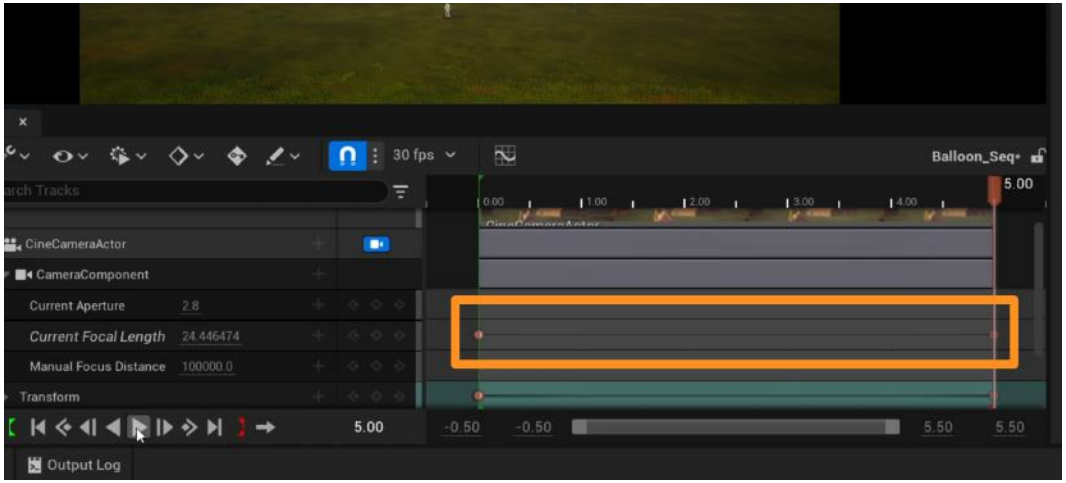
You can animate most properties of a camera in the Sequencer.

Head to the beginning of your timeline and click on the **+ (Key)** button next to the **Focal Length** setting of the camera.



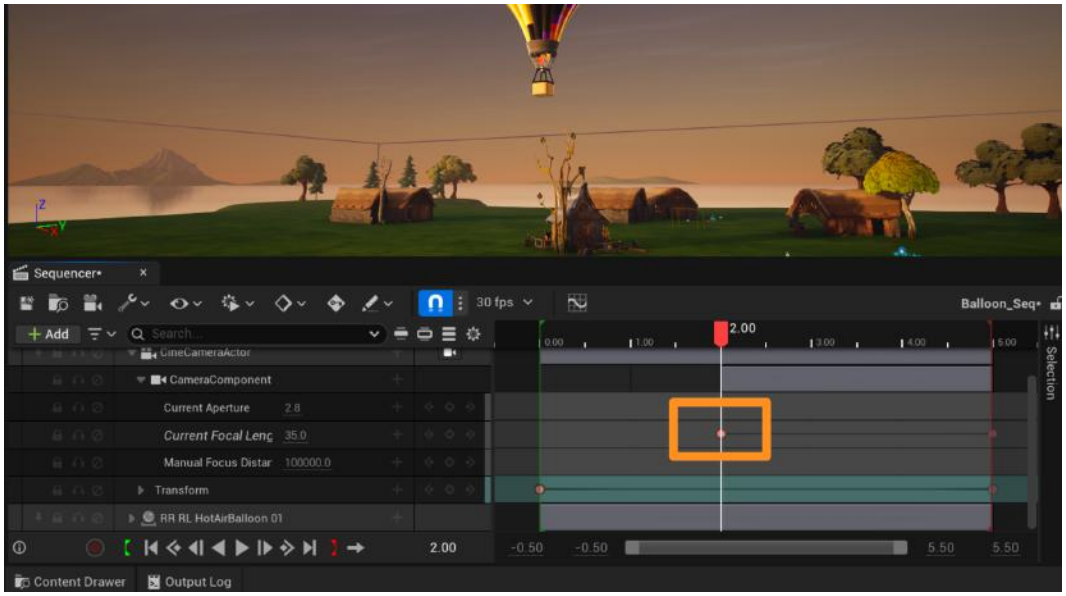
Move to the end of your timeline. Change the **Focal Length** option on your camera to zoom in or out. Key the new zoom with the **+ (Key)** button.

When you play your sequence with the **Play Button**, the camera will move and zoom at the same time.



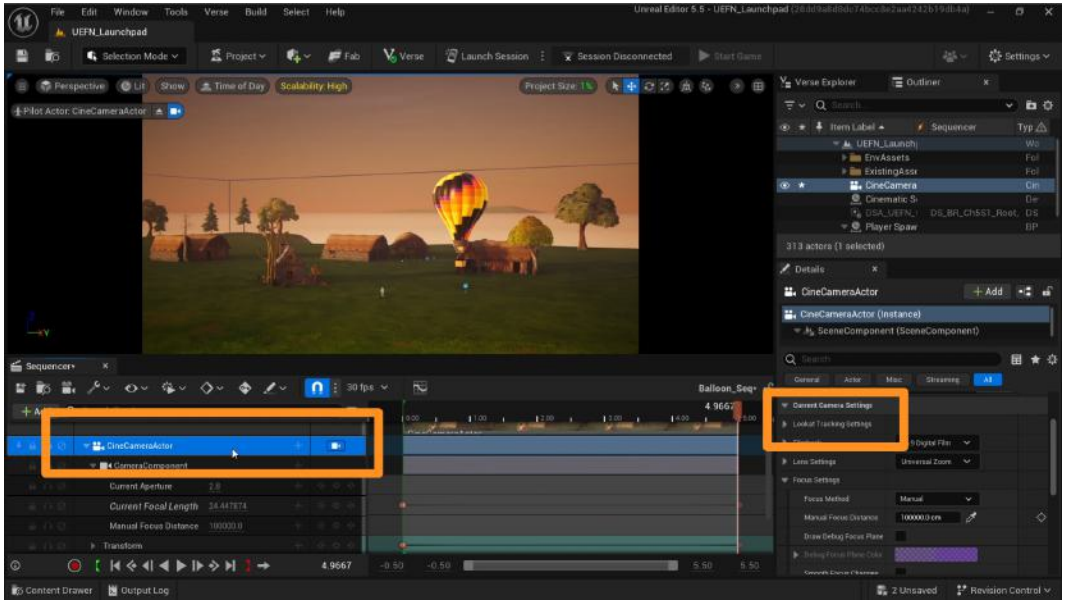
If you ever want to change the point when your animation starts or ends, you can move the keys in your Sequencer to a different point in time.

For example, if you want the camera to start zooming in 2 seconds into your animation, you can click on the first **key on the Focal Length** track and **drag** it to the 2-second mark on the timeline.



CAMERA-ASSET TRACKING

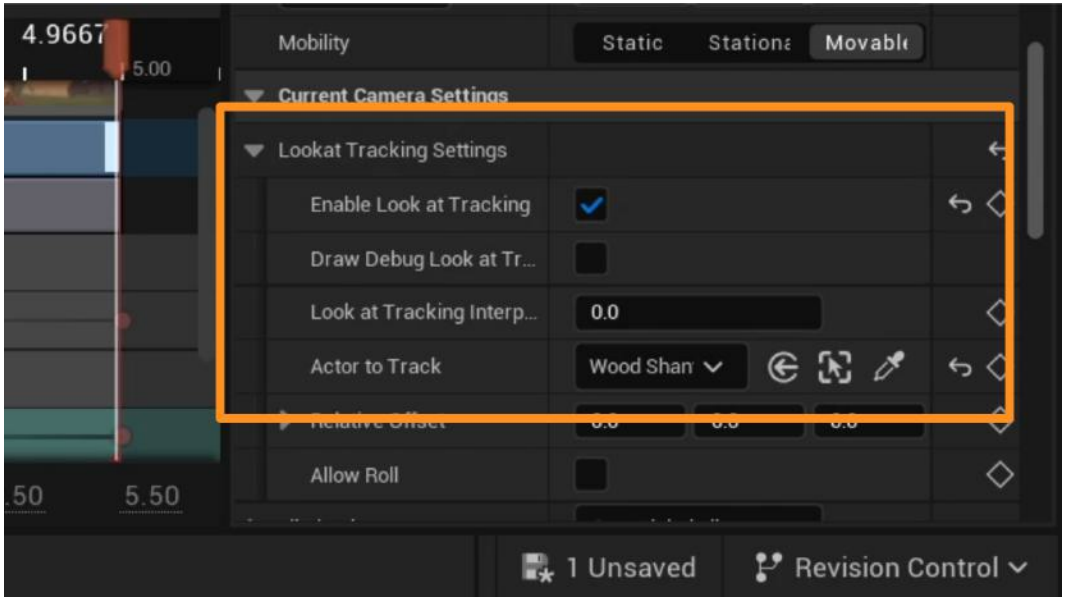
If you want your animated camera to focus on and follow an asset during the cutscene, you can do so with the **Look at Tracking** in your camera settings.



Select your camera in the Sequencer and head to the Details Panel. Extend the settings for **Look at Tracking**.

Enable this setting by clicking on the checkbox. From the dropdown, select the asset you want your camera to follow.

Now, you should have a camera that is moving between two locations, changing zoom, and looking at a certain asset during your cutscene. Keep in mind that these animation features work separately from each other. You can pick and choose which ones you want to use in your camera animation.

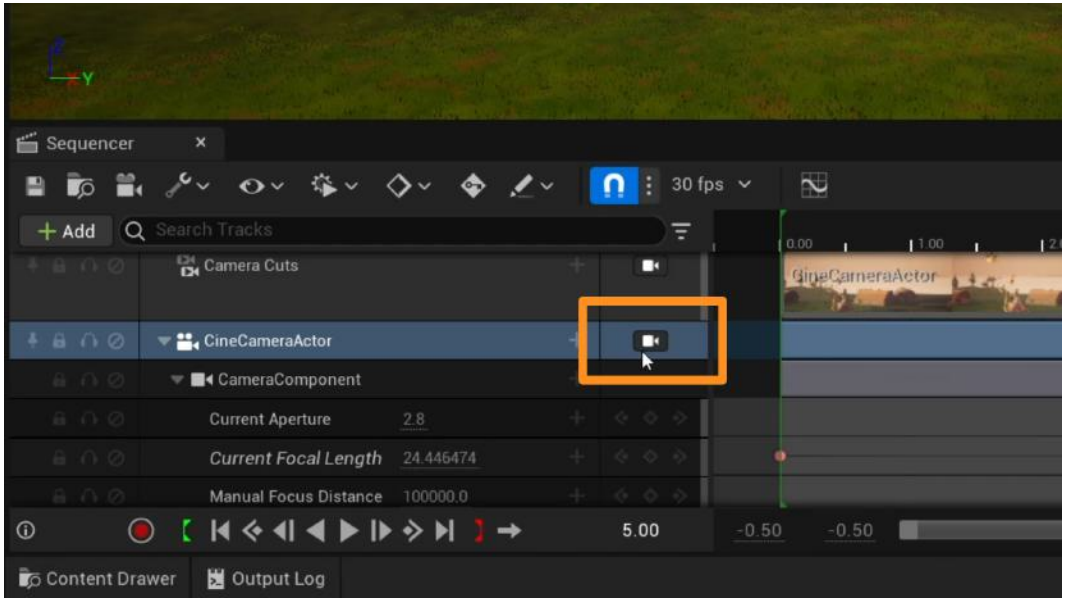


EXITING OUT OF CAMERA VIEWPORT

When you're done animating your camera, you can exit the Camera Viewport by clicking the **Eject Button** on the top-left of the viewport.

You will be brought back to the editor camera, which is not used for animations in the Sequencer.

If you'd like to open the Sequencer camera view again to animate more, click on the **camera icon** next to the desired camera in the Sequencer.



Self Check

Were you able to animate your camera with different settings as you wished?

Step 3: Add cutscenes

Preview

Now that we set up a cutscene animation, we have to let the game know when to play it. You can set up your cutscene to be triggered at a certain time, location, or player behavior by following these steps.

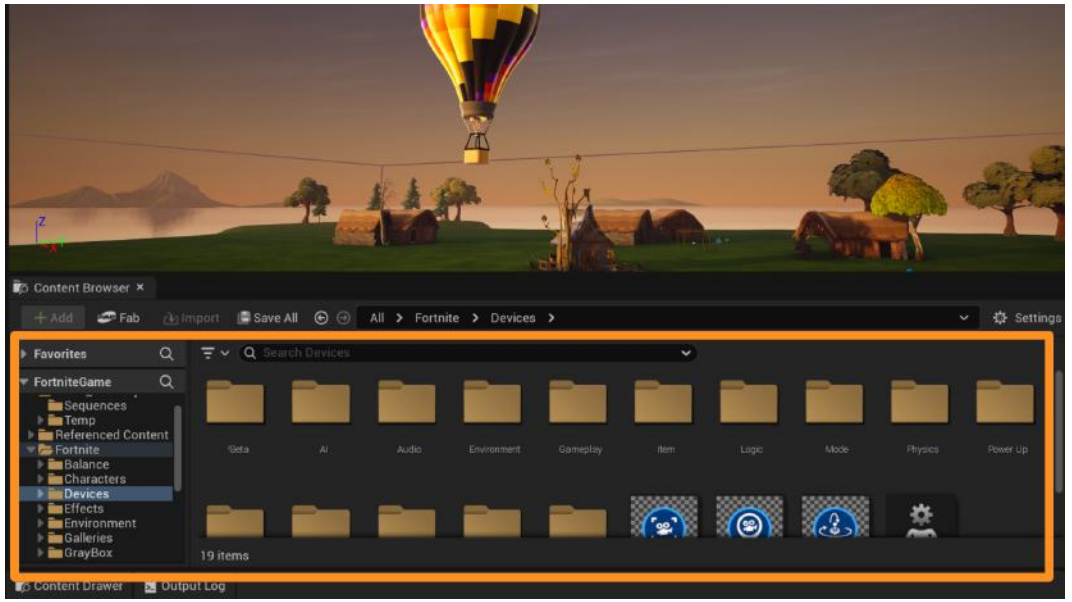
Experiment

TRIGGER CUTSCENES IN GAME

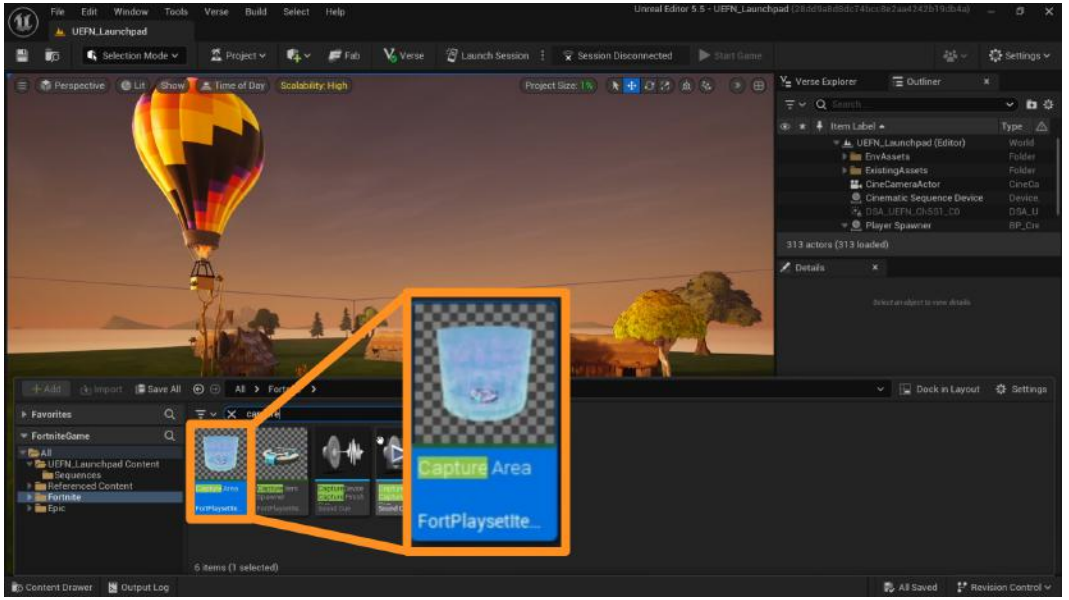
The **Cinematic Sequence Device** on your island can be triggered by any of the devices in UEFN to start a cutscene.

You can find the different device options in the “Devices” folder in the Content Drawer.

This Guide will show you an example configuration with the **Capture Area Device**.

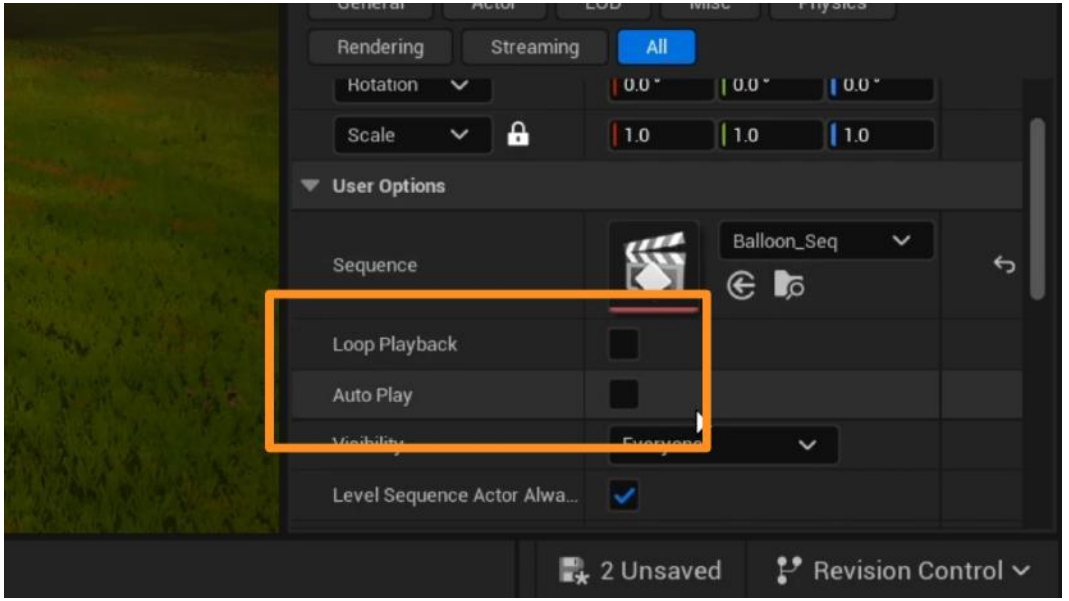


Add a **Capture Area Device** to your island from the Content Drawer.

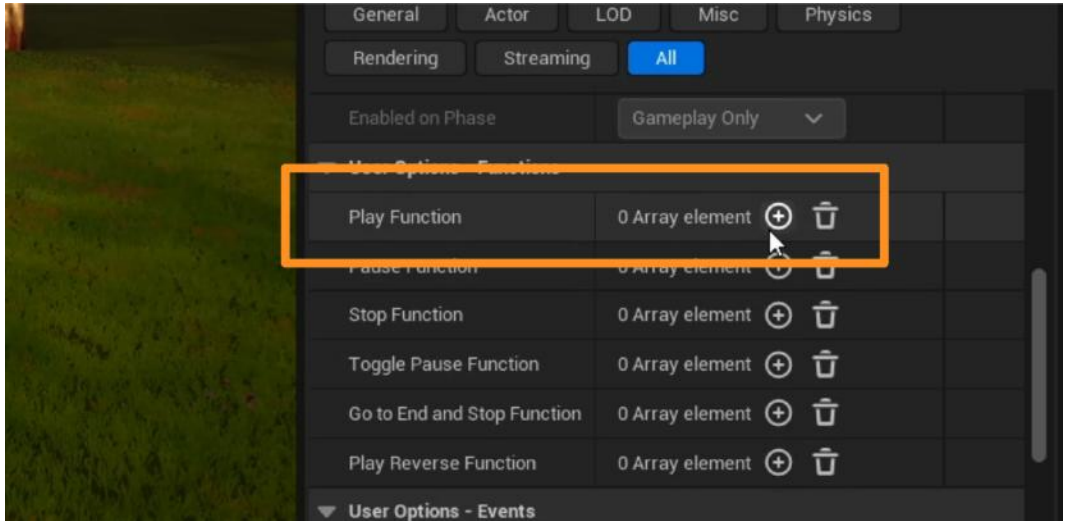


Select your Cinematic Sequence Device and head to the Details panel. Make sure to **turn off Loop and Autoplay** settings.

Loop will play your cutscene forever, making it impossible to start the game. Autoplay will automatically start your cutscene at the beginning, instead of starting based on the device you will be setting up.

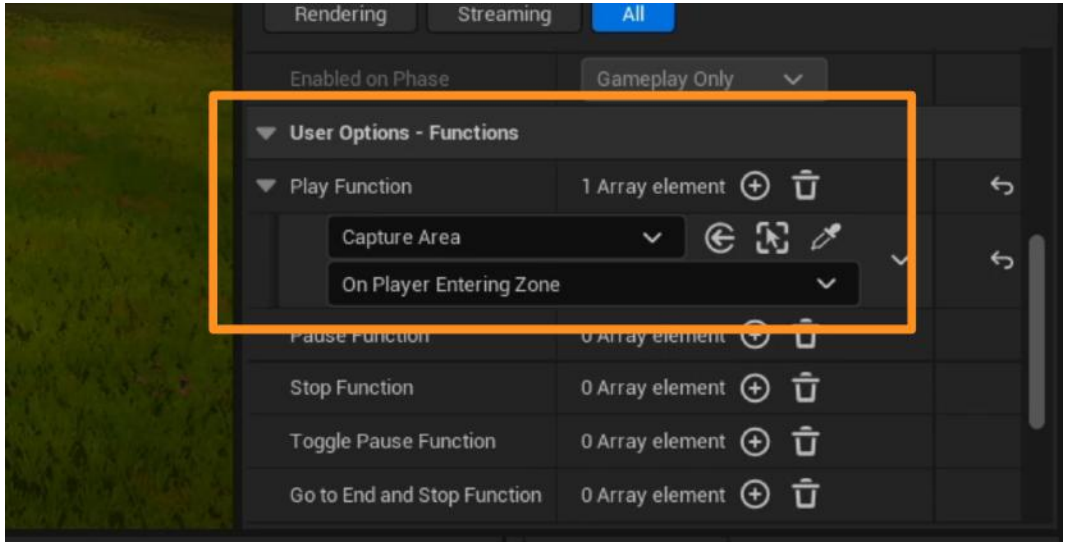


Scroll down on the Details Panel to the **User Options - Functions** settings. Click on the **+ icon** next to the **Play** option.



Select the **Capture Area** for the first dropdown. And select **On Player Entering Zone** for the second dropdown. This way, your cinematic animation will play when a player enters the Capture Area.

Launch Session and start a **Game** to test your animation.



Self Check

Could you add a cutscene to your island and configure a device to play it as you wanted?

Lesson Closure

Demonstration of Learning

You've learned about the Sequencer in UEFN and its properties, and how to use them to animate assets on your island. Similarly, now you can also animate cameras to create cutscene animations on your island and trigger them with different devices.

Exploration Opportunities

After learning the basics of animation in UEFN, you can keep experimenting to animate nearly anything you want. Now that you know how to animate assets, you can apply these skills to animate characters and avatars! If you're interested in learning how to animate your own avatar or a photogrammetry model of a person, check out the following Learning Guides:

- Animate 3D Avatars in UEFN Learning Guide
- Animate Photogrammetry Models of People Learning Guide

Thanks to Michael D'Alton from UMass Boston for contributing to the content of this lesson.