

# KeyShot Camera Animations

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# Before we Begin...

- **This will be recorded**
- **Slideshow will be available**
- **KSP will be available**
- **Computer: 3 GHz 8 Core (16-thread)**  
**2013 Mac Pro, 16 Gb RAM**
- **If you have questions...**
- **KeyShot Animation is a Pro feature**





# Camera Animation Topics

- **Animation Examples**
- **KeyShot Camera Animation Principles**
- **What's in a Camera?**
- **Camera Animation Types**
- **Hands On:**
  - **Creating Camera Animations**
  - **Managing Multiple Cameras**
  - **Animation Workflow & Organization**
- **Q & A**



# Examples of Camera Animations

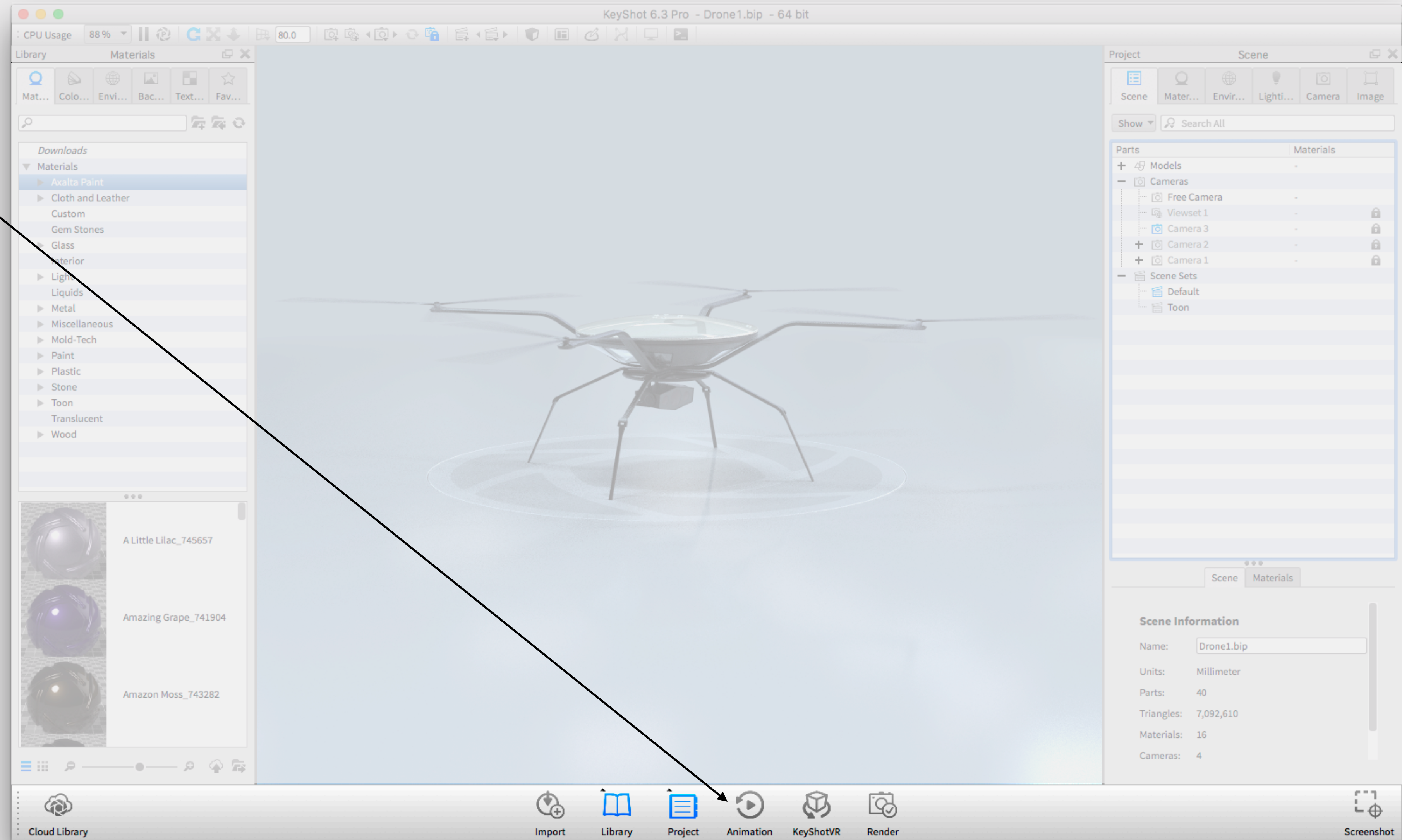




# Access the Animation Workspace

## To Open:

Click the Animation icon  
at located in the Toolbar  
along the bottom of the  
KeyShot interface





# Animation Workspace

## Animation Properties

Make edits to individual transforms

## Timeline

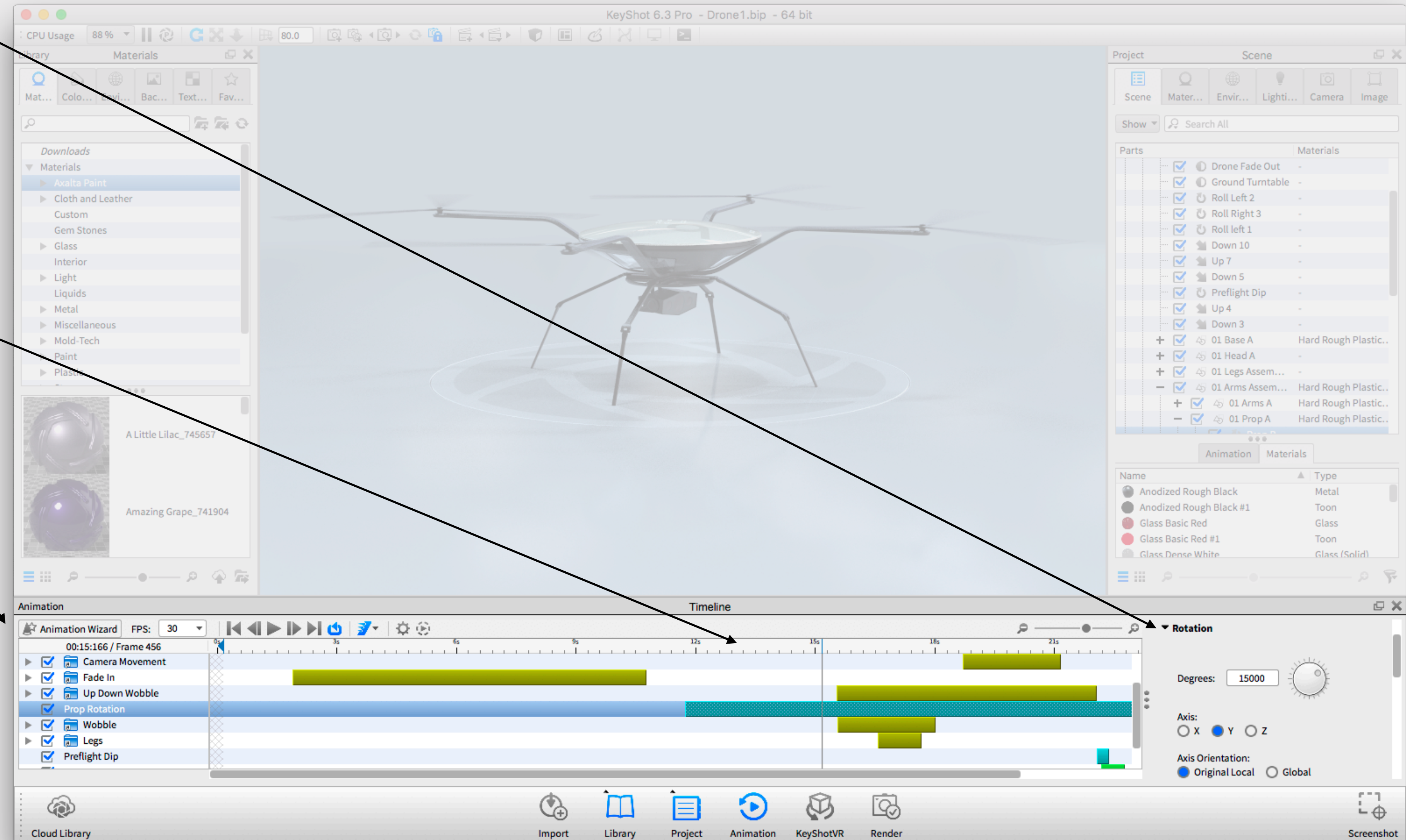
Chronological time-based workspace

## Animation Toolbar

Create transforms and interact with the animation

## Animation List

All animations in the current Scene Set



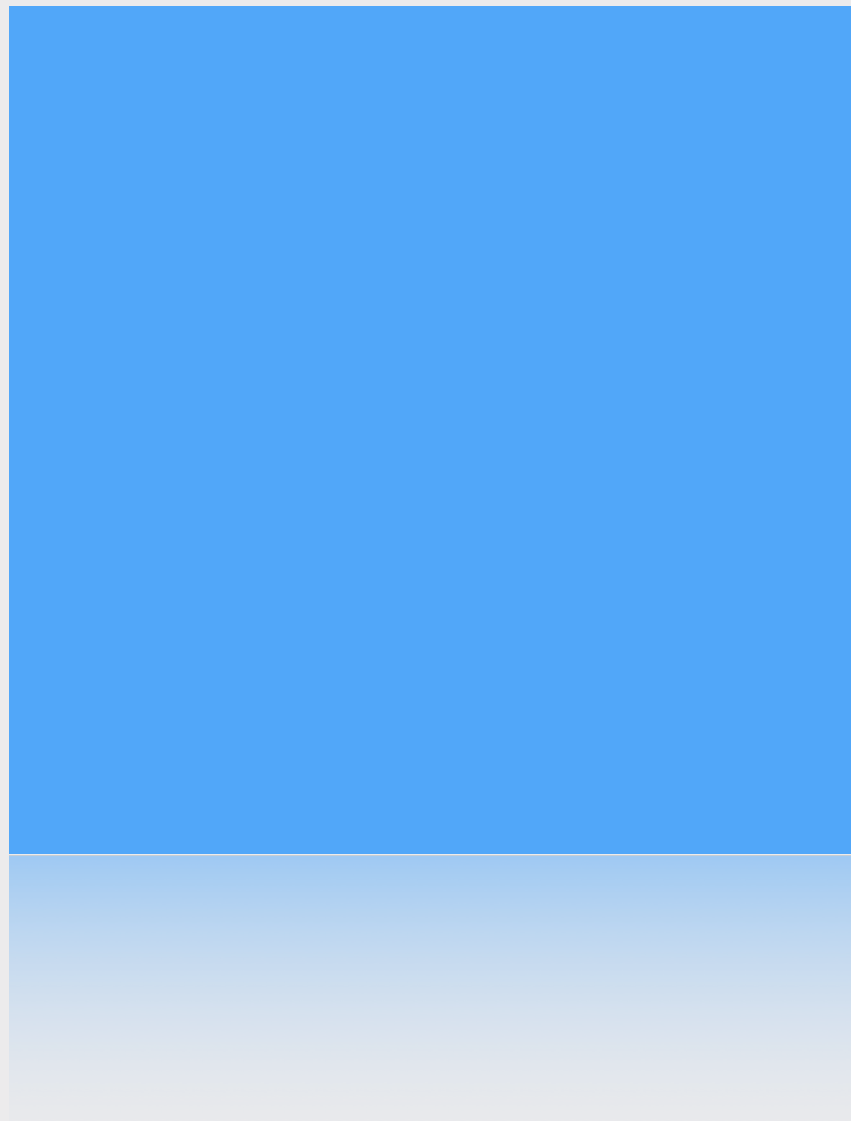
# Camera Animation Principles





# P1: Animation Types

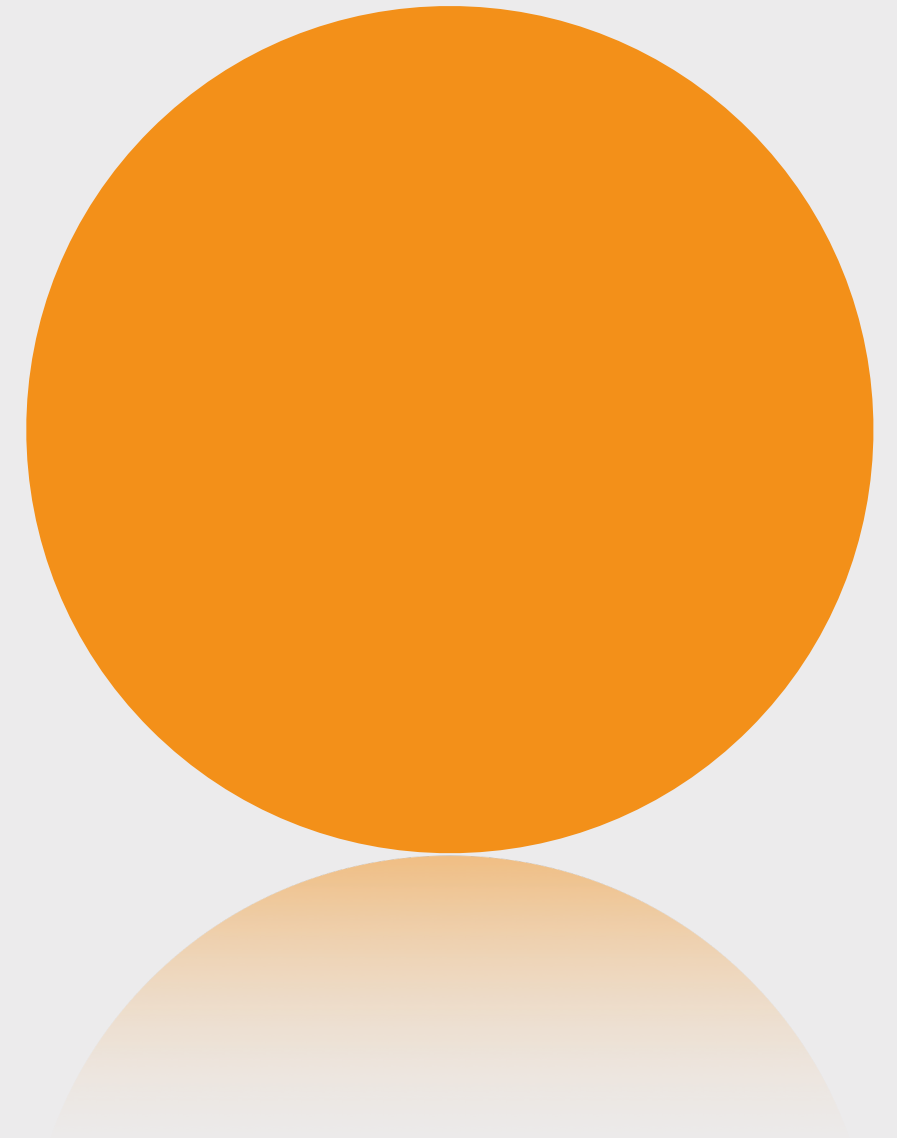
## Part Animations



## Camera Animations

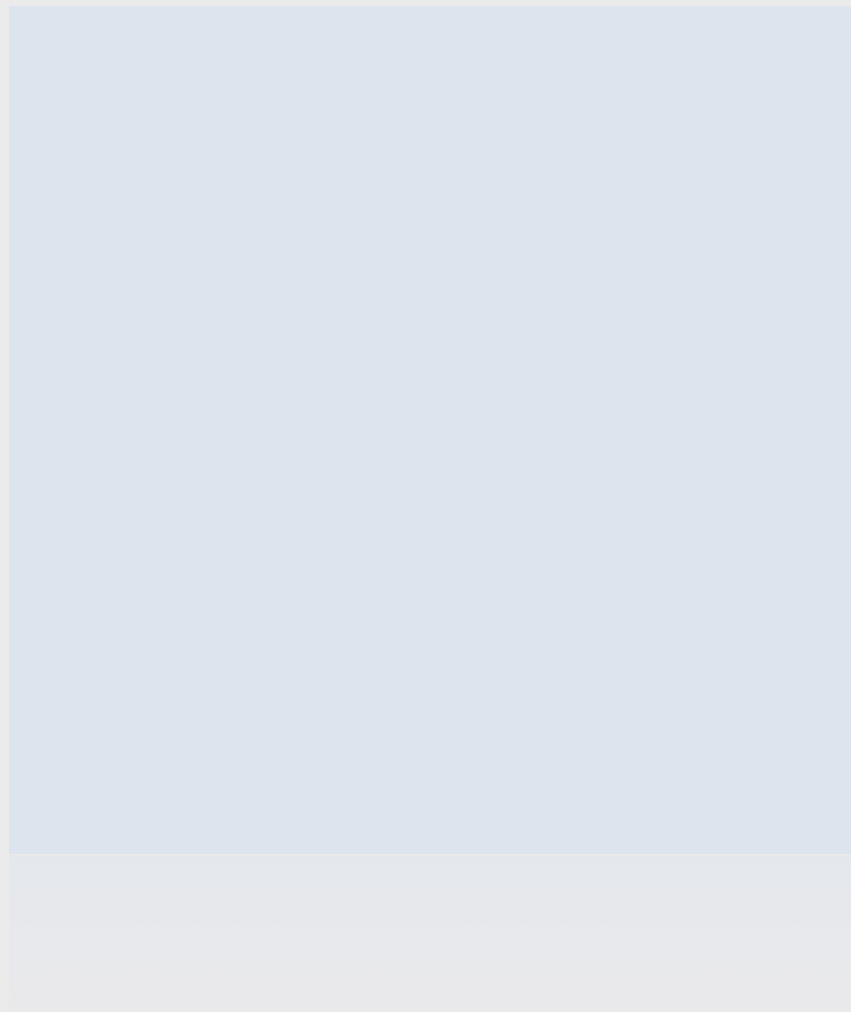


## Material Animations



# P1: Animation Types

## Part Animations



## Camera Animations



## Material Animations





# KeyShot Camera Properties

1. Position & Orientation
2. Lens Settings
3. Lens Effects





# Position and Orientation

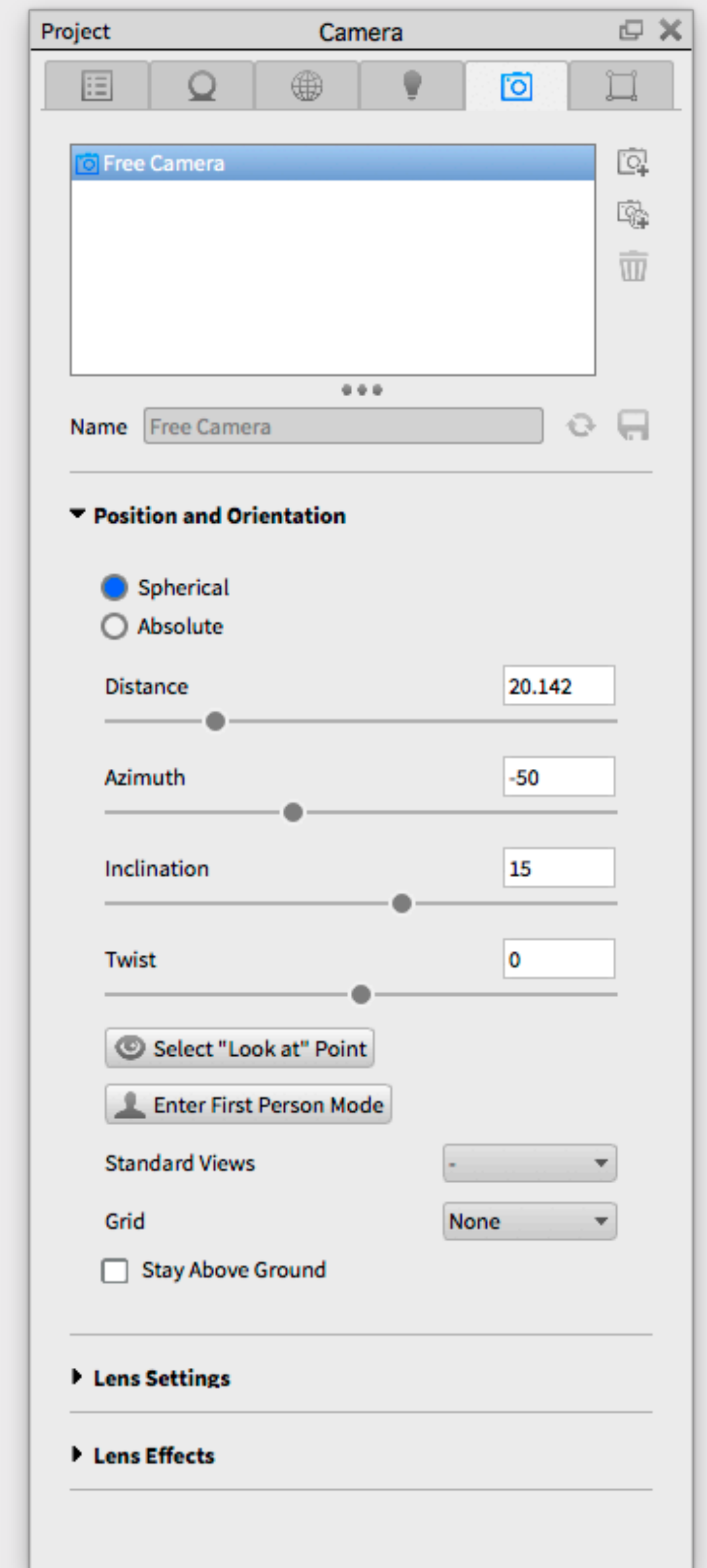
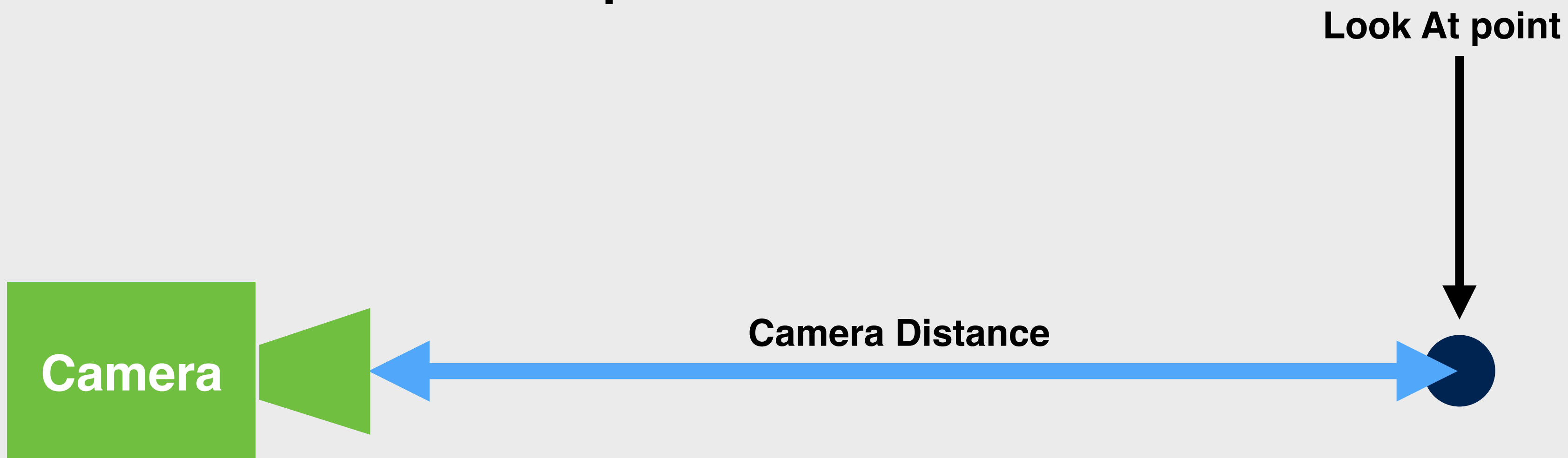
## 1. Position

- Distance from “Look At” point

Sliders control how camera is pointed at subject

## 2. “Look At” Point

- Where camera’s lens is pointed and anchored



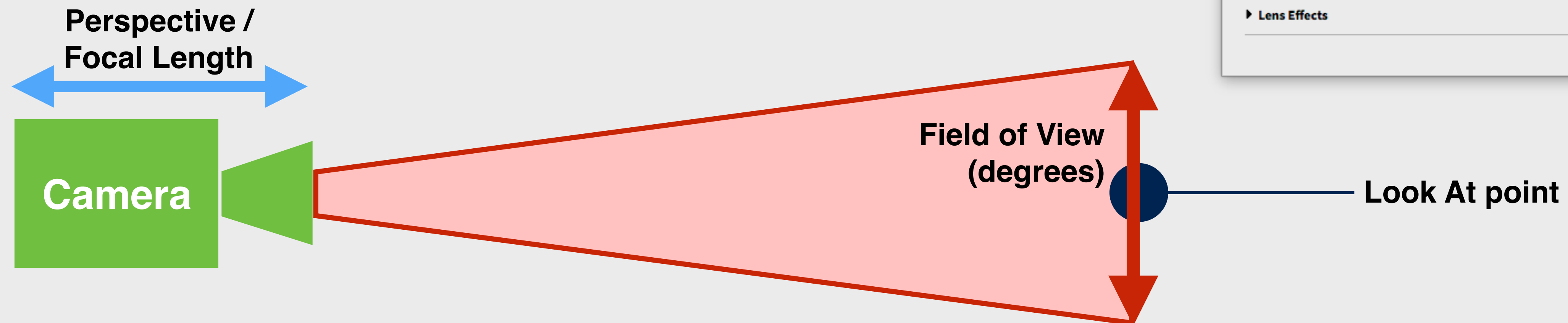
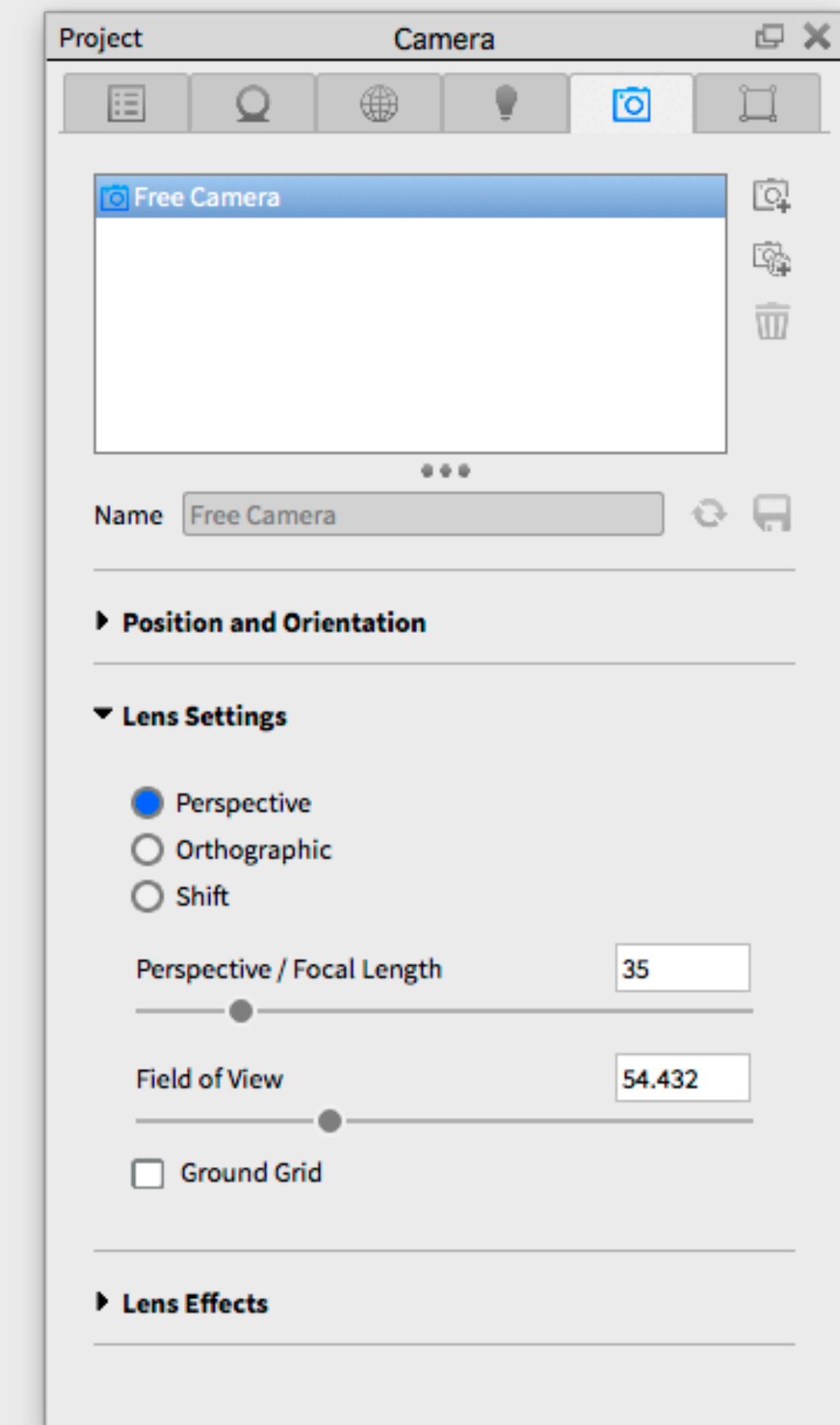
# Lens Settings

## 1. Perspective/Focal Length

- Adjusts amount of vertical convergence
- Focal length and FoV dependent on Perspective

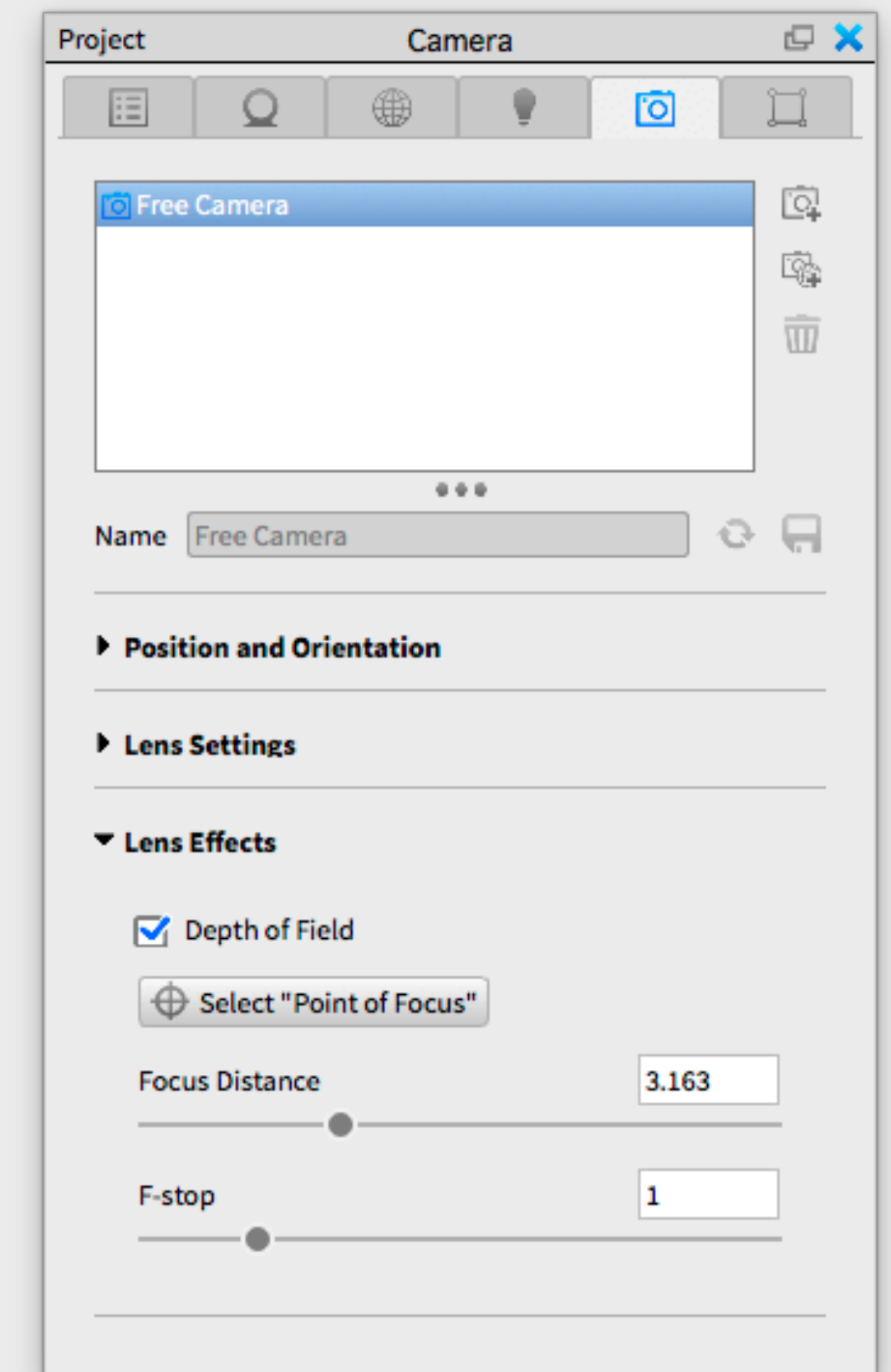
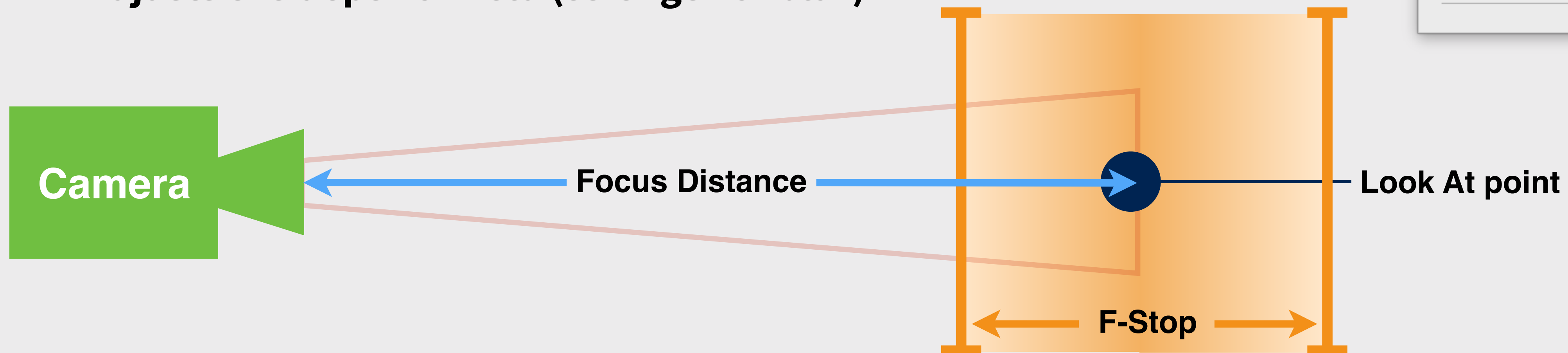
## 2. Field of View

- Adjusts how much of the scene is visible in the frame (measured in degrees based upon top view)



# Lens Effects

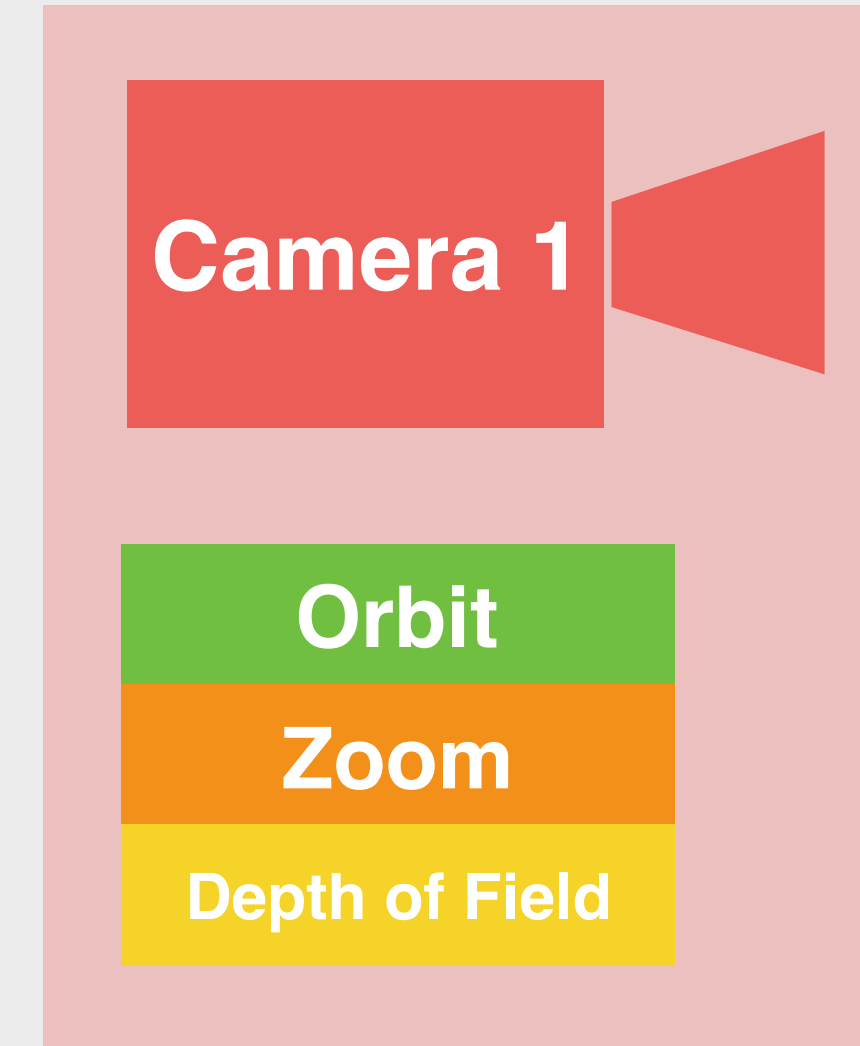
1. Depth of Field
  - Enables only part of the image to be in-focus
2. Focus Distance
  - Distance from camera that will be in focus
3. F-Stop
  - Adjusts the depth of field (strength of blur)





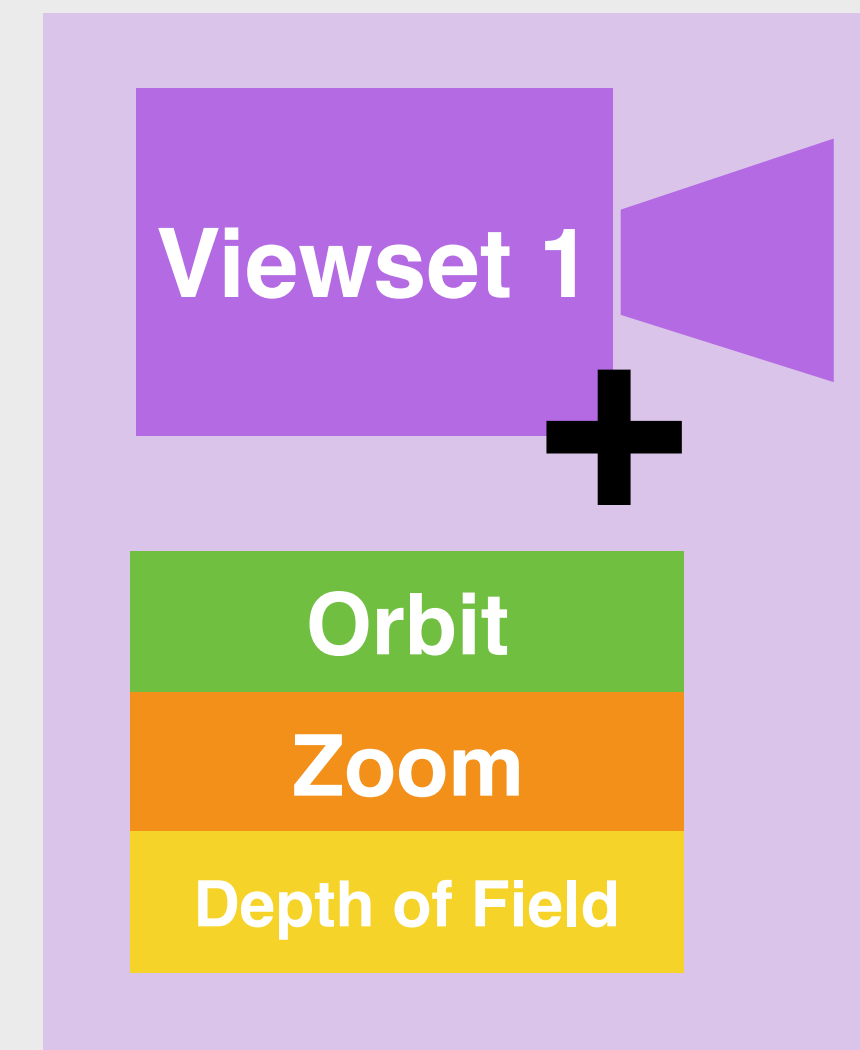
# Cameras are Objects to Animate

- Camera animations are transforms that change the camera properties over time



## What About Viewsets?

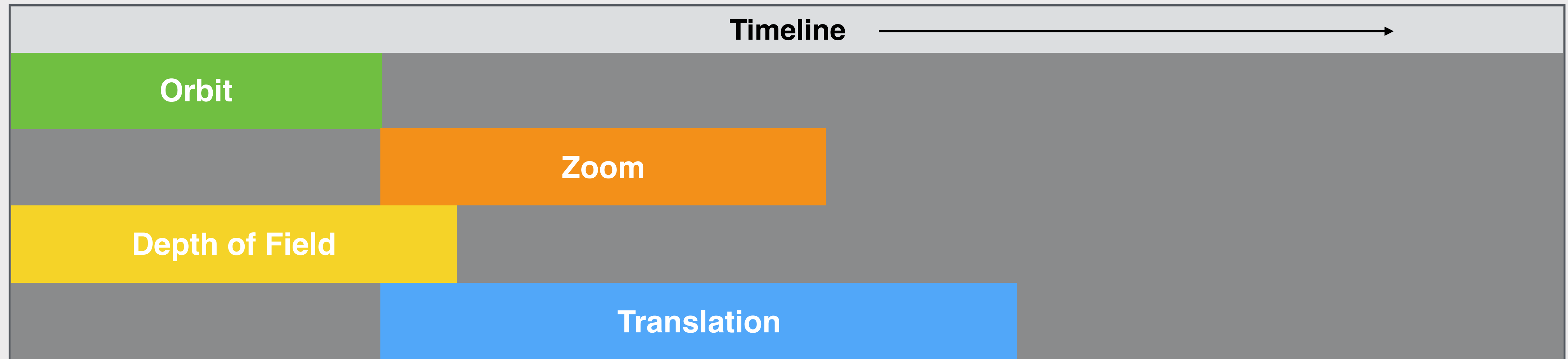
- The same goes for Viewsets, which allow for different lighting settings as well



# P2: Individual Transforms

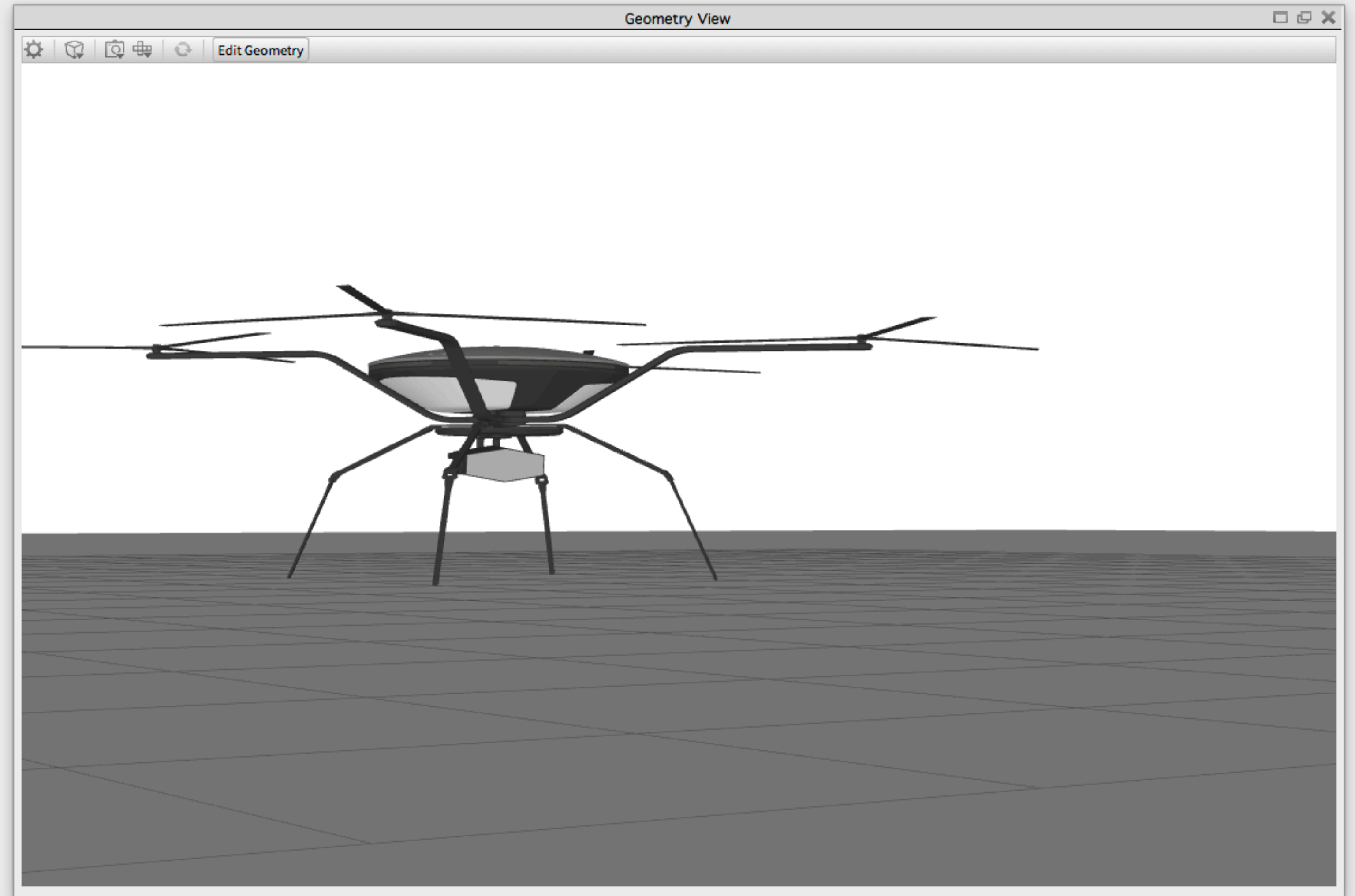
Can be:

- Moved
- Scaled
- Mirrored
- Grouped



# P3: Geometry View

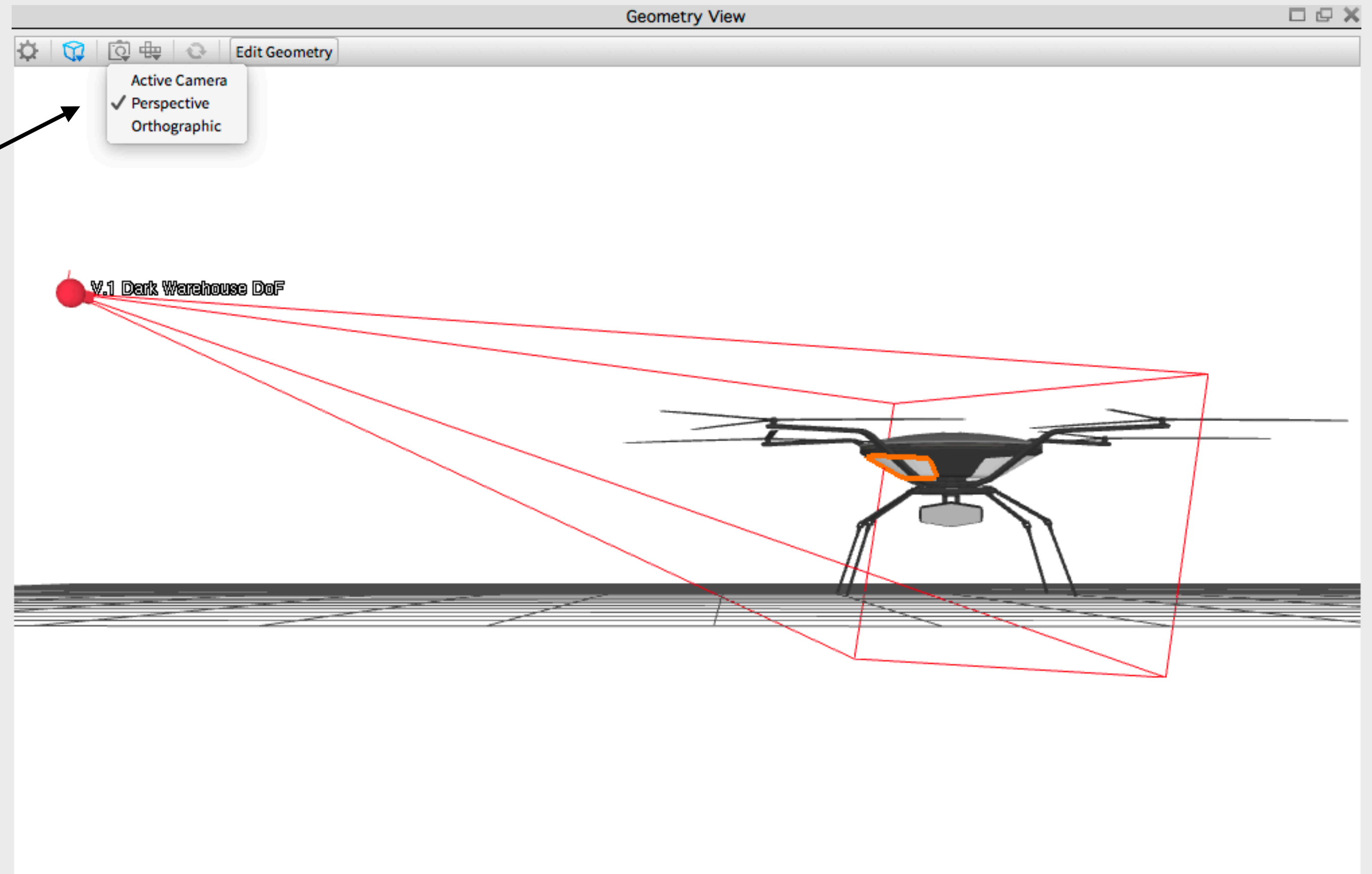
- Provides smoother playback
- Helpful when adjusting animation timing
- Can be accessed through:  
Window>Show Geometry View
- Hotkey: O





# Geometry View Settings

- Settings
  - Show/hide different elements
- Display Style
  - Shaded, Wireframe etc.
- Active Camera
  - Which camera we view the Geometry View through
- Standard Views
  - Quickly adjust the Active Camera view

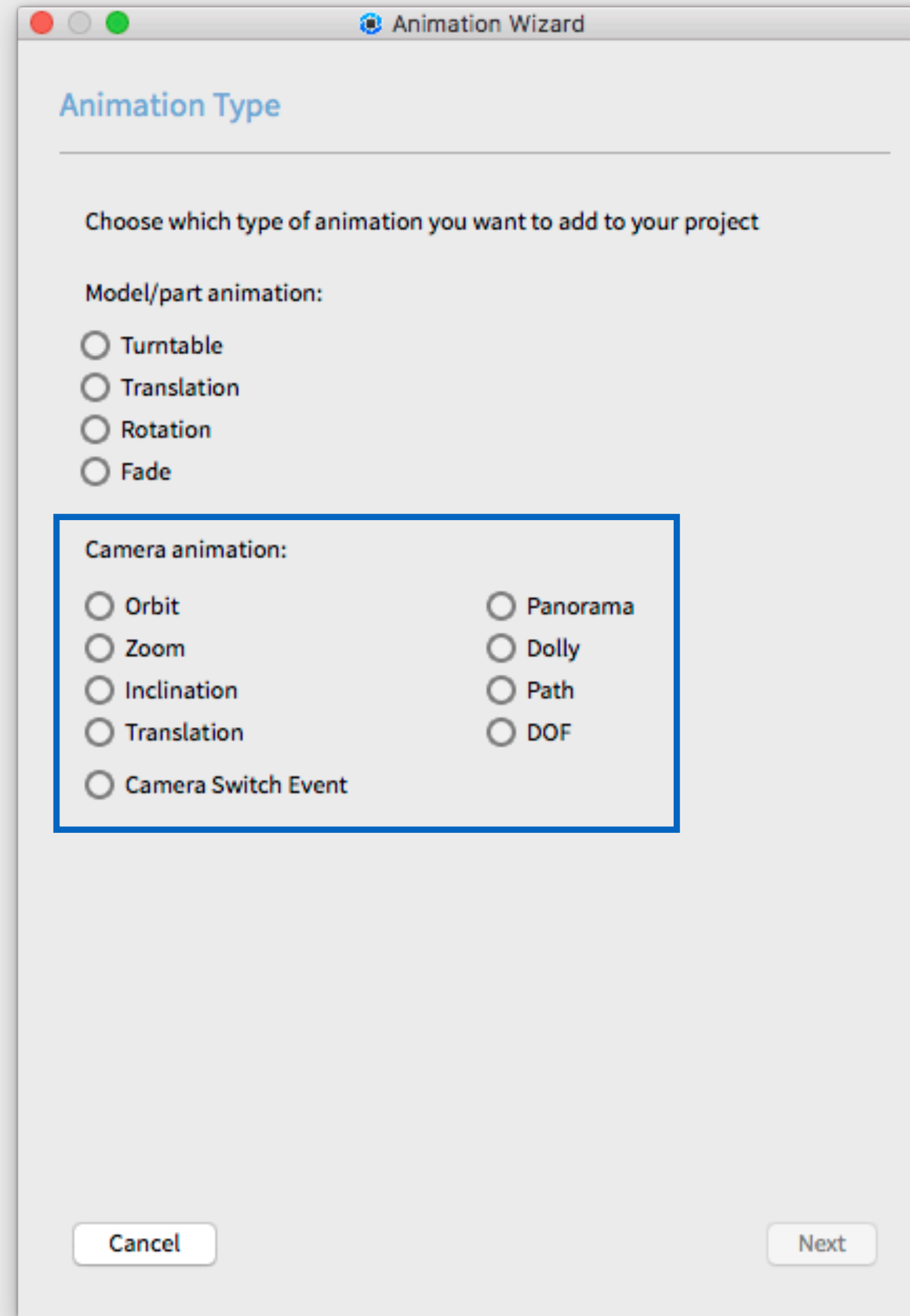


# Camera Animation Types



# Camera Animations

- Orbit
- Zoom
- Inclination
- Translation
- Panorama
- Dolly
- Path
- Depth of Field
- Camera Switch Event



The screenshot shows a macOS-style dialog box titled "Animation Wizard". The main heading is "Animation Type". Below it, a text label says "Choose which type of animation you want to add to your project". There are two sections of radio button options. The first section, "Model/part animation:", includes "Turntable", "Translation", "Rotation", and "Fade". The second section, "Camera animation:", is enclosed in a blue rectangular border and includes "Orbit", "Zoom", "Inclination", "Translation", "Camera Switch Event", "Panorama", "Dolly", "Path", and "DOF". At the bottom, there are "Cancel" and "Next" buttons.

Animation Wizard

Animation Type

Choose which type of animation you want to add to your project

Model/part animation:

- ☐ Turntable
- ☐ Translation
- ☐ Rotation
- ☐ Fade

Camera animation:

- ☐ Orbit
- ☐ Zoom
- ☐ Inclination
- ☐ Translation
- ☐ Camera Switch Event
- ☐ Panorama
- ☐ Dolly
- ☐ Path
- ☐ DOF

Cancel Next



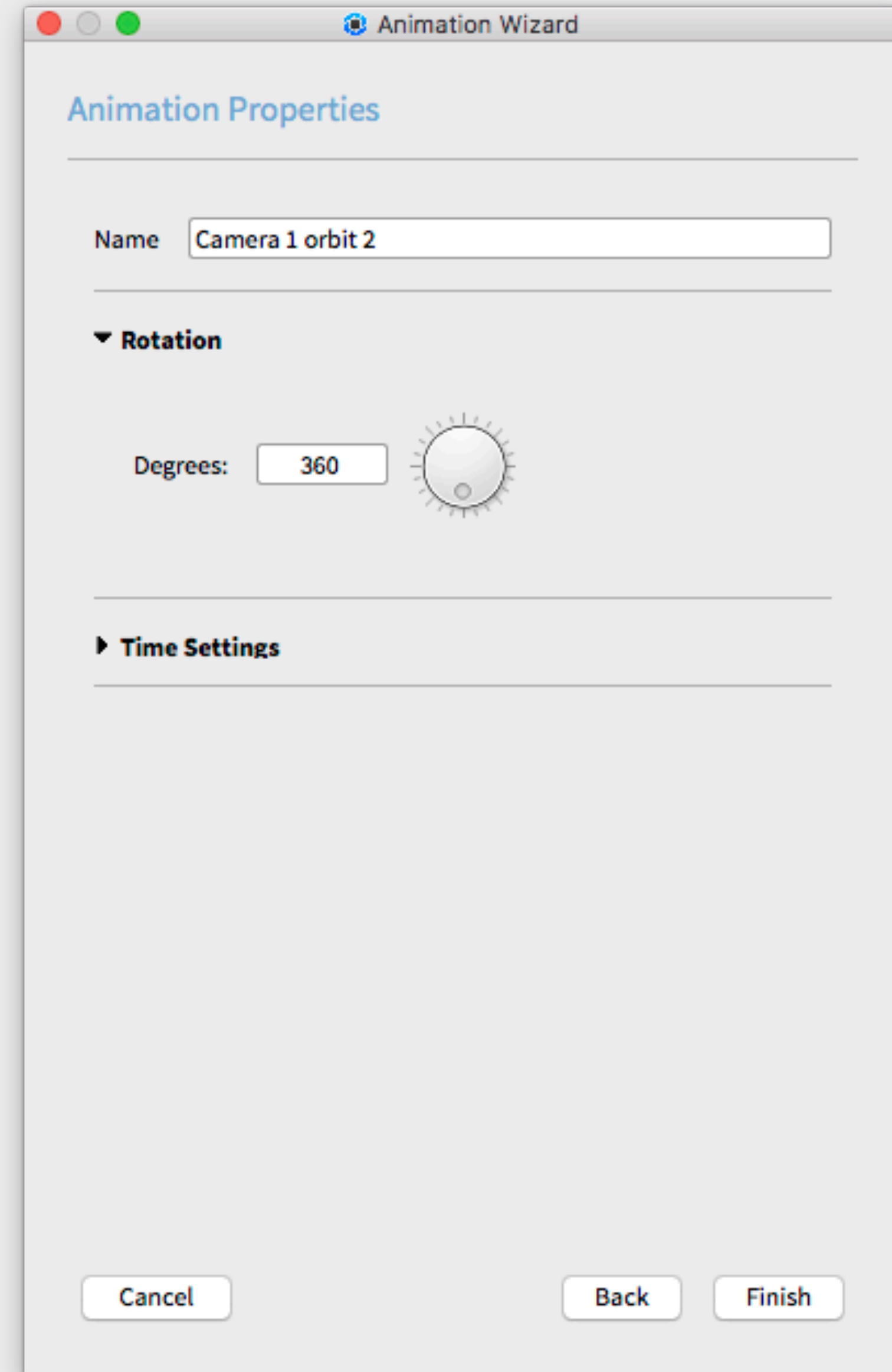
# Orbit

- *Rotate the camera around active Camera's "Look At" point*

## Properties

Degrees: Total number of degrees the camera will move

(Use negative values to change direction of orbit)



The screenshot shows a window titled "Animation Wizard" with a standard macOS-style title bar (red, yellow, green buttons). The main content area is titled "Animation Properties" in blue text. Below this title is a horizontal line. Underneath the line is a "Name" label followed by a text input field containing "Camera 1 orbit 2". Another horizontal line follows. Below that is a section header "Rotation" with a downward-pointing triangle icon to its left. Under "Rotation" is a "Degrees:" label followed by a text input field containing "360" and a circular slider control with a small handle. A horizontal line follows. Below that is a section header "Time Settings" with a rightward-pointing triangle icon to its left. At the bottom of the window are three buttons: "Cancel", "Back", and "Finish".



# Orbit





# Zoom

- *Make the field of view larger or smaller (camera stays put)*

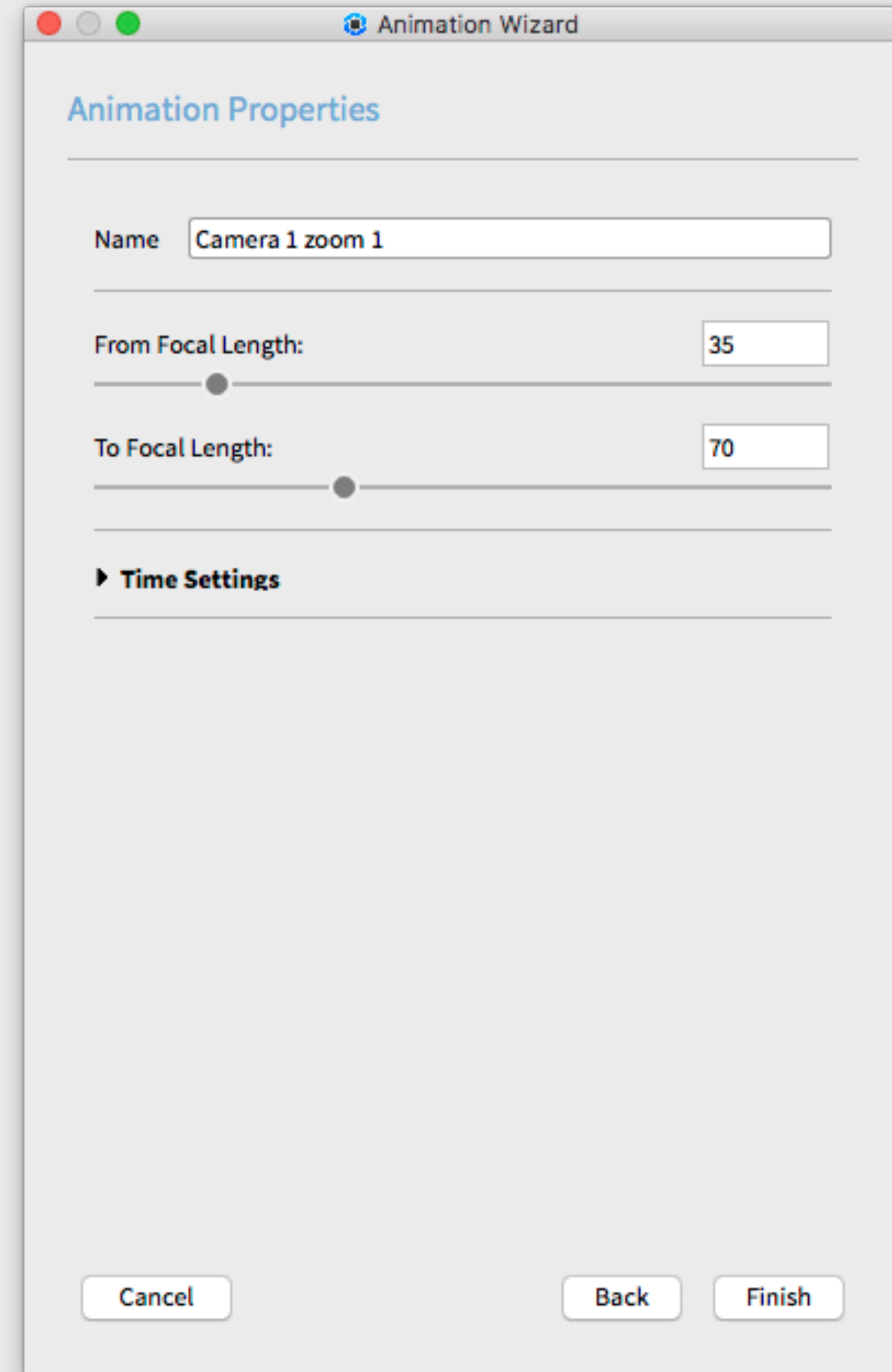
## Properties

From Focal Length: Beginning Focal Length

To Focal Length: Ending Focal Length

(Larger number 'Zooms In', smaller number 'Zooms Out')

\*Smaller number results in more extreme vertical convergence



The screenshot shows a window titled "Animation Wizard" with a sub-header "Animation Properties". Below this, there is a "Name" field containing "Camera 1 zoom 1". Underneath, there are two focal length settings: "From Focal Length:" with a value of 35 and a slider, and "To Focal Length:" with a value of 70 and a slider. A section titled "Time Settings" is partially visible below these. At the bottom of the window are three buttons: "Cancel", "Back", and "Finish".

Property	Value
Name	Camera 1 zoom 1
From Focal Length	35
To Focal Length	70



# Zoom



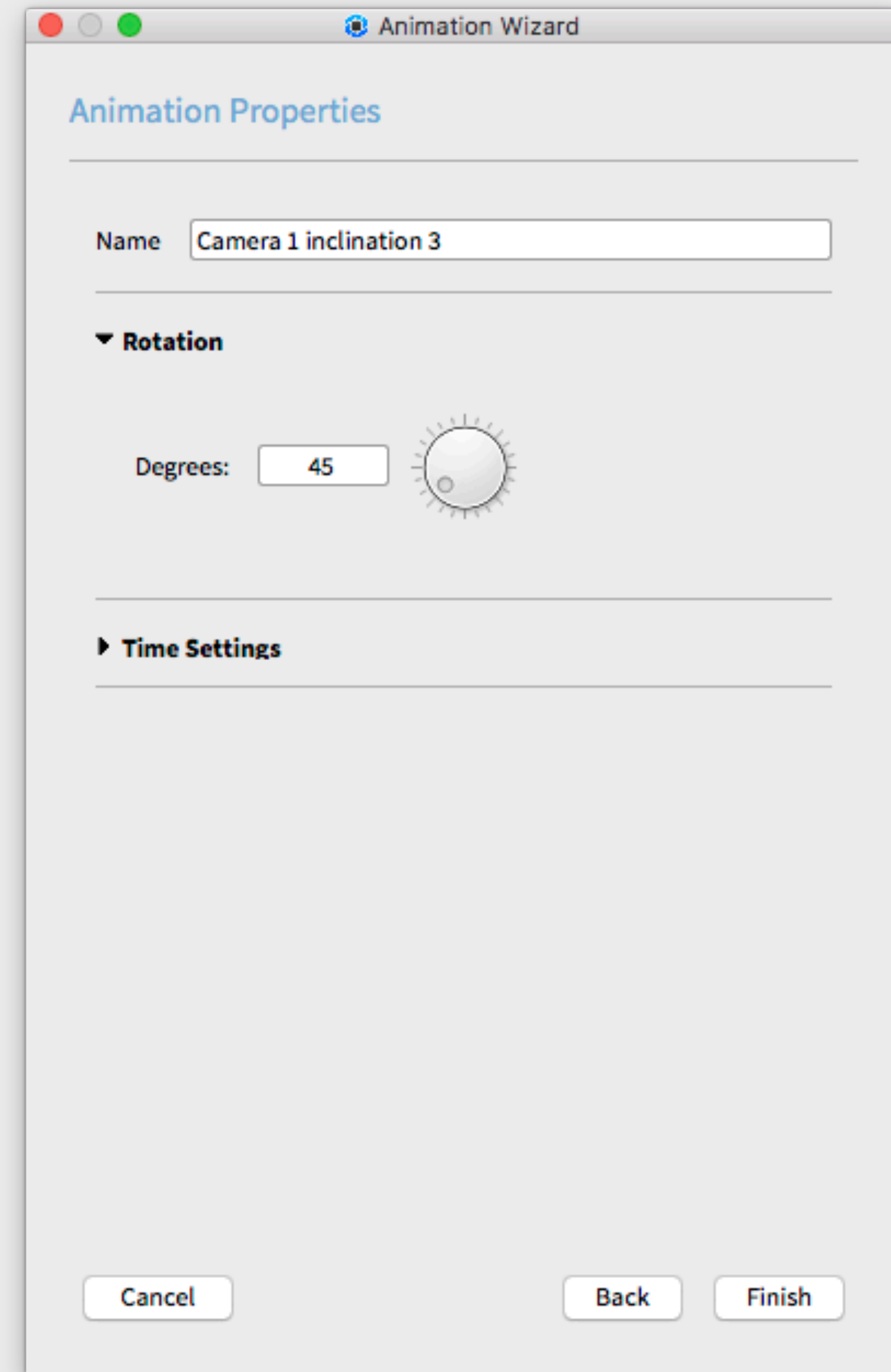
# Inclination

- *Vertical tilt around the camera's "Look At" point*

## Properties

Degrees: Total number of degrees the camera will tilt

(Enter negative values to change direction of inclination)



The screenshot shows a window titled "Animation Wizard" with a sub-header "Animation Properties". Below the header is a "Name" field containing "Camera 1 inclination 3". Underneath is a section titled "Rotation" with a dropdown arrow. Below this is a "Degrees" field with the value "45" and a circular slider control. At the bottom of the window are three buttons: "Cancel", "Back", and "Finish".

Animation Wizard

Animation Properties

Name: Camera 1 inclination 3

Rotation

Degrees: 45

Time Settings

Cancel Back Finish



# Inclination



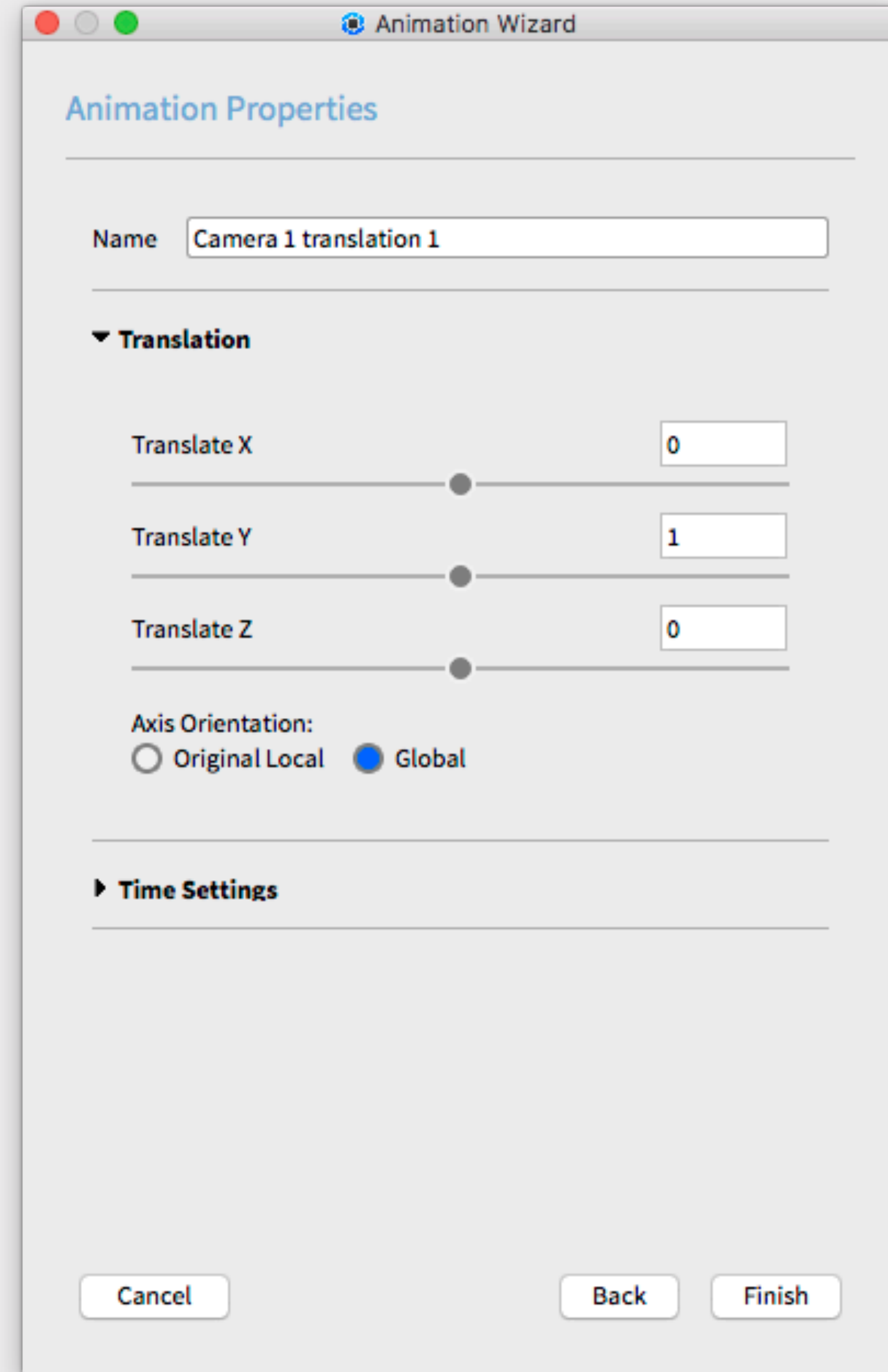
# Translation

- *Move the camera in a linear path from one place to another*

## Properties

Translate X,Y,Z: Distance the camera will be moved along each axis. (Uses scene units)

Axis Orientation: Move along camera's axis or KeyShot world axis (helpful if camera was previously moved)



The screenshot shows the 'Animation Wizard' window with the 'Animation Properties' tab selected. The 'Name' field is set to 'Camera 1 translation 1'. Under the 'Translation' section, the 'Translate X' slider is at 0, 'Translate Y' is at 1, and 'Translate Z' is at 0. The 'Axis Orientation' section has two radio buttons: 'Original Local' (unselected) and 'Global' (selected). At the bottom, there are three buttons: 'Cancel', 'Back', and 'Finish'.

Animation Wizard

Animation Properties

Name: Camera 1 translation 1

▼ Translation

Translate X: 0

Translate Y: 1

Translate Z: 0

Axis Orientation:  
☐ Original Local ☒ Global

► Time Settings

Cancel Back Finish





# Translation



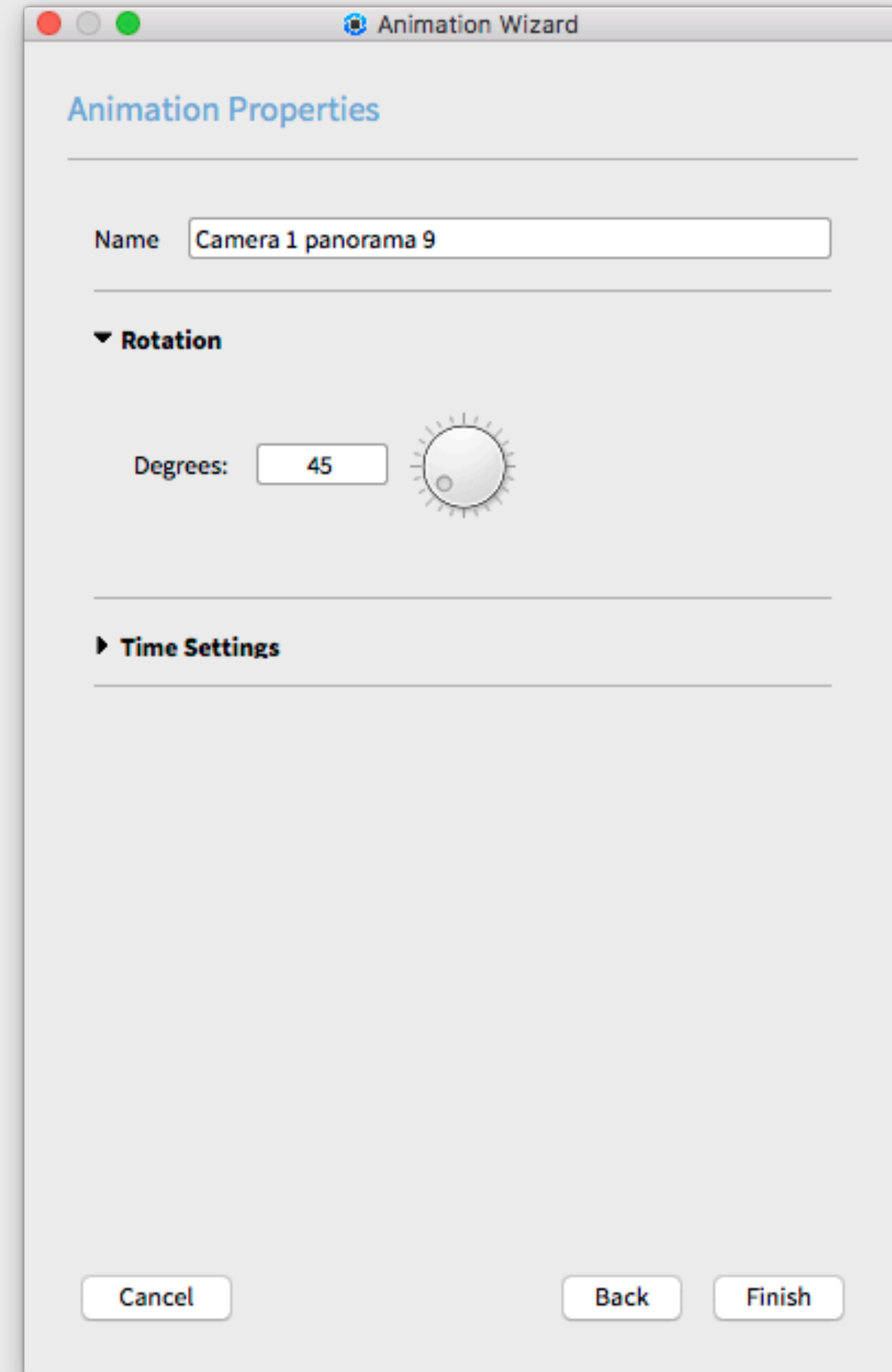
# Panorama

- *Pivot around the camera's center from side to side*

## Properties

Degrees: Total number of degrees the camera will pivot

(Use negative values to change direction of pivot)



The screenshot shows a window titled "Animation Wizard" with a standard macOS-style title bar (red, yellow, green buttons). The main content area is titled "Animation Properties" in blue text. Below this title is a horizontal line. Underneath the line is a "Name" label followed by a text input field containing "Camera 1 panorama 9". Another horizontal line follows. Below that is a section header "Rotation" with a downward-pointing triangle icon to its left. Under "Rotation" is a "Degrees:" label followed by a text input field containing "45" and a circular slider control with a small circle indicating the current value. A horizontal line follows. Below that is a section header "Time Settings" with a rightward-pointing triangle icon to its left. At the bottom of the window are three buttons: "Cancel", "Back", and "Finish".





# Panorama

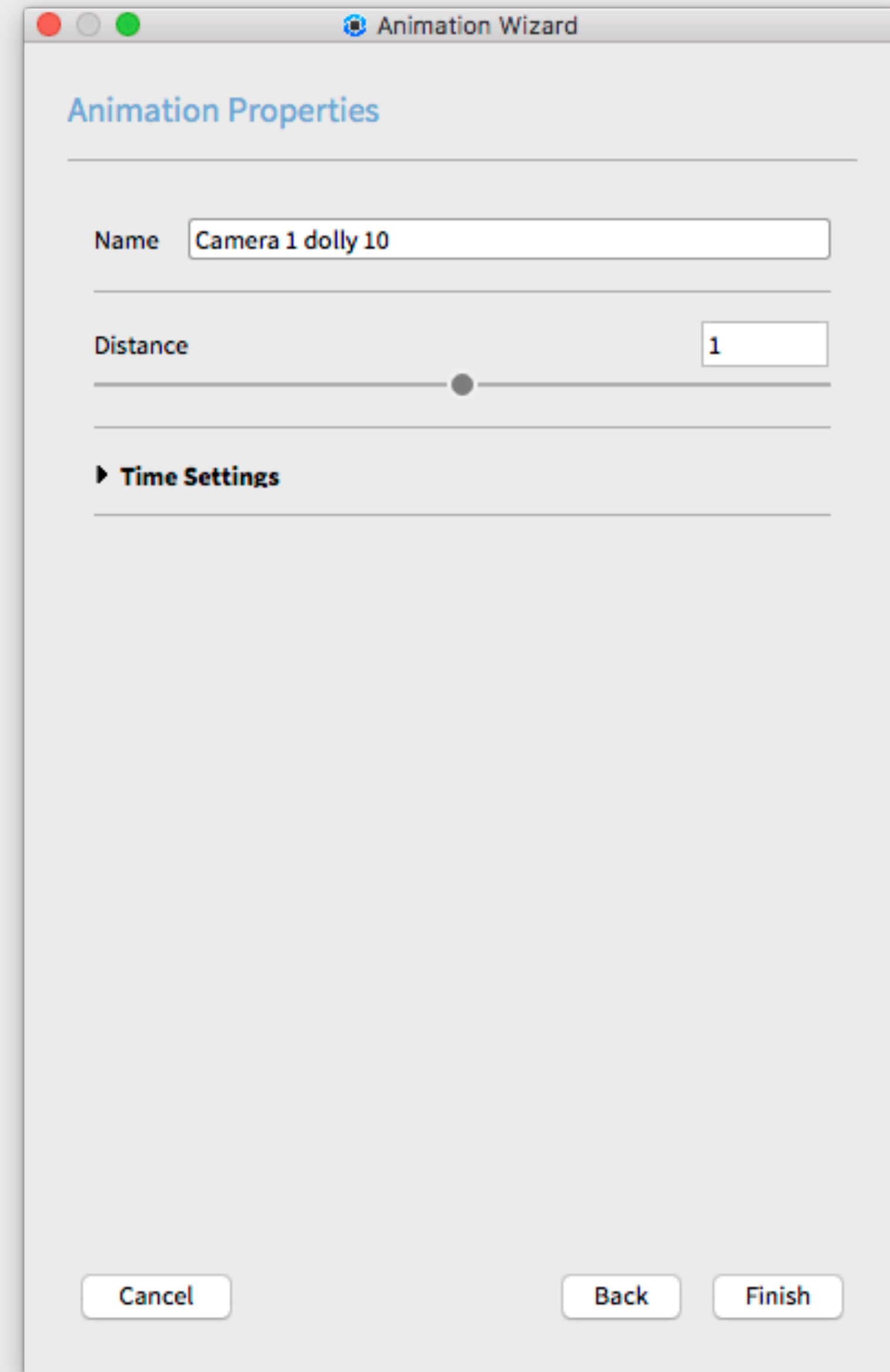


# Dolly

- *Move the camera closer or further from subject*

## Properties

Distance: Number of units the camera will move



The screenshot shows a window titled "Animation Wizard" with a standard macOS-style title bar (red, yellow, green buttons). The main content area is titled "Animation Properties" in blue text. Below this title, there are three sections separated by horizontal lines. The first section has a "Name" label followed by a text input field containing "Camera 1 dolly 10". The second section has a "Distance" label followed by a slider control and a small numeric input field containing "1". The third section is titled "Time Settings" with a right-pointing triangle icon. At the bottom of the window, there are three buttons: "Cancel", "Back", and "Finish".

Animation Wizard

Animation Properties

Name Camera 1 dolly 10

Distance 1

► Time Settings

Cancel Back Finish





# Dolly



# Depth of Field

- *Change the focal point and how much of the frame is in focus*

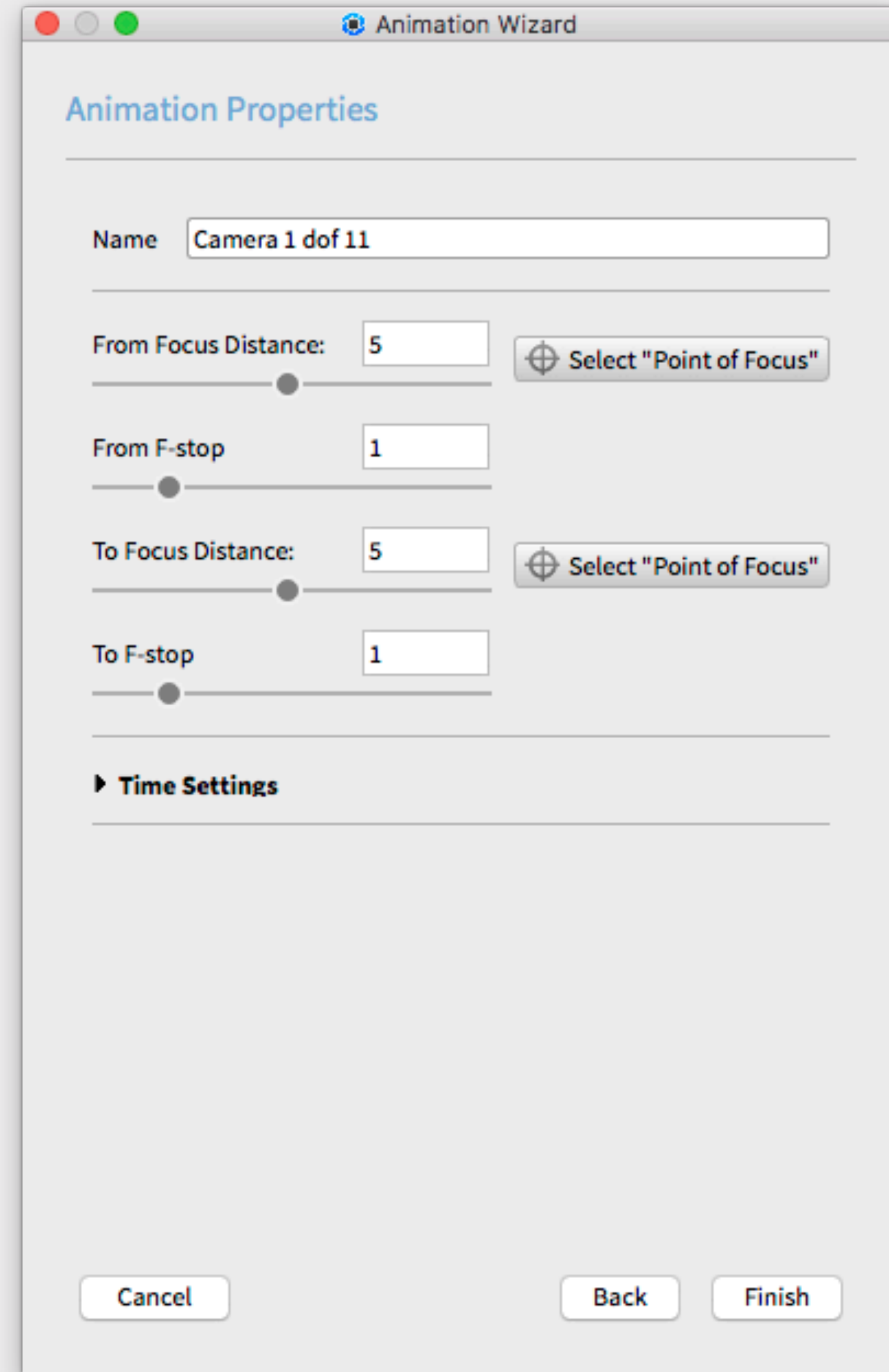
## Properties

From Focus Distance: Starting focal point

From F-stop: Size of starting aperture

To Focus Distance: Ending focal point

To F-stop: Size of ending aperture



The screenshot shows a macOS-style window titled "Animation Wizard". Inside, the "Animation Properties" section is active. It features a "Name" field with the text "Camera 1 dof 11". Below this are four rows of controls for Depth of Field: "From Focus Distance" (slider and input field with value 5), "From F-stop" (slider and input field with value 1), "To Focus Distance" (slider and input field with value 5), and "To F-stop" (slider and input field with value 1). Each distance row includes a "Select 'Point of Focus'" button with a crosshair icon. A "Time Settings" section is partially visible below. At the bottom are "Cancel", "Back", and "Finish" buttons.

Animation Wizard

Animation Properties

Name: Camera 1 dof 11

From Focus Distance: 5 [Select "Point of Focus"]

From F-stop: 1

To Focus Distance: 5 [Select "Point of Focus"]

To F-stop: 1

► Time Settings

Cancel Back Finish





# Depth of Field



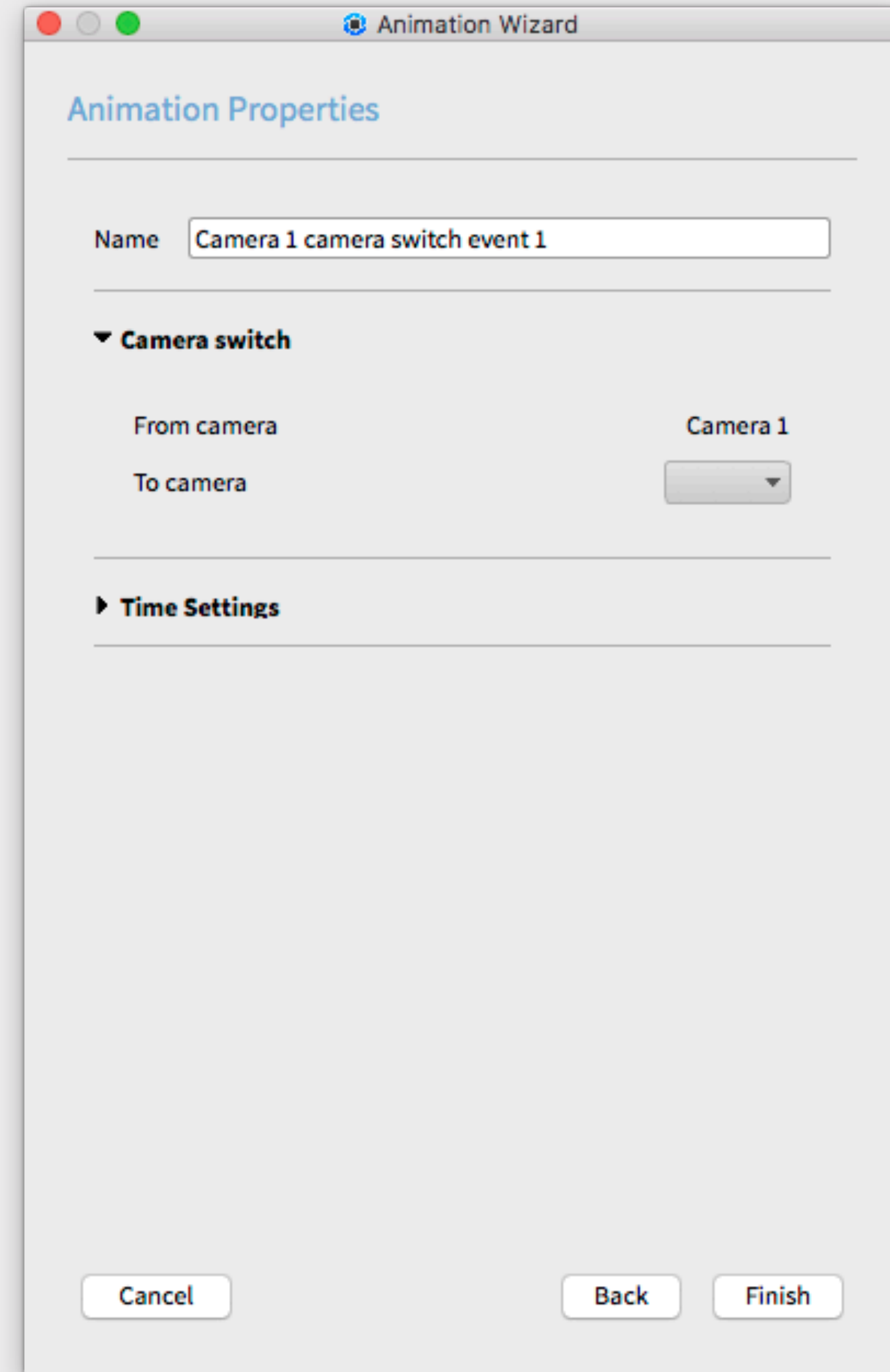
# Camera Switch Event

- *Jump from one camera or Viewset to another*

## Properties

From Camera: Starting camera or Viewset

To Camera: Ending camera or Viewset



The screenshot shows a macOS-style window titled "Animation Wizard". Inside, the "Animation Properties" section is active. A text field labeled "Name" contains "Camera 1 camera switch event 1". Below this, the "Camera switch" section is expanded, showing "From camera" set to "Camera 1" and "To camera" with a dropdown arrow. The "Time Settings" section is collapsed. At the bottom are "Cancel", "Back", and "Finish" buttons.

Animation Wizard

Animation Properties

Name: Camera 1 camera switch event 1

▼ Camera switch

From camera: Camera 1

To camera: [dropdown arrow]

► Time Settings

Cancel Back Finish



# Camera Switch Event





# Time Settings

- *Control the timing or speed of animation*
- All animations share the Time Settings parameter

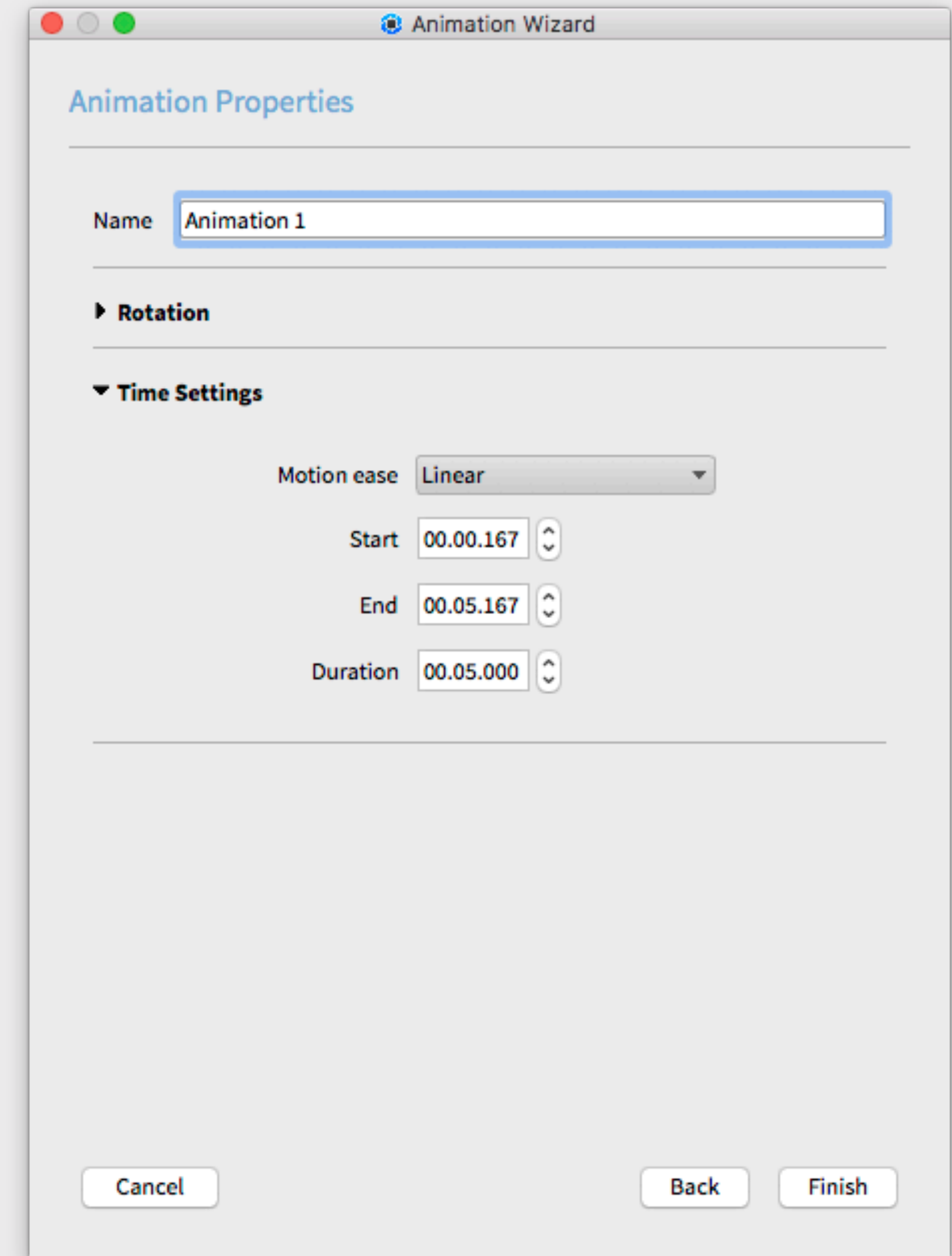
## Properties

Motion Ease: Linear, Ease-in, Ease-out, Ease-in/out

Start: Beginning of transform in timeline

End: Conclusion of transform on timeline

Duration: Total length of transform



The screenshot shows a macOS-style window titled "Animation Wizard". Inside, the "Animation Properties" section is visible. A text field labeled "Name" contains "Animation 1". Below this, there are two expandable sections: "Rotation" (collapsed) and "Time Settings" (expanded). The "Time Settings" section contains three rows of controls: "Motion ease" with a dropdown menu set to "Linear", "Start" with a text field showing "00.00.167" and a spinner, "End" with a text field showing "00.05.167" and a spinner, and "Duration" with a text field showing "00.05.000" and a spinner. At the bottom of the window are three buttons: "Cancel", "Back", and "Finish".



# Linear Motion vs Easing

**Linear**



**Ease In, Ease Out**



# Motion Blur (Part Animation)

**Disabled**

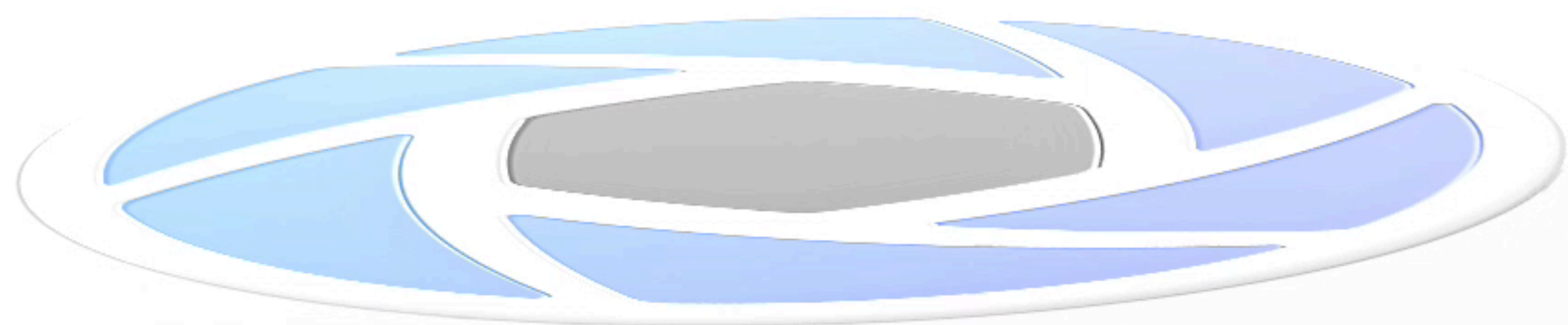


**Enabled**

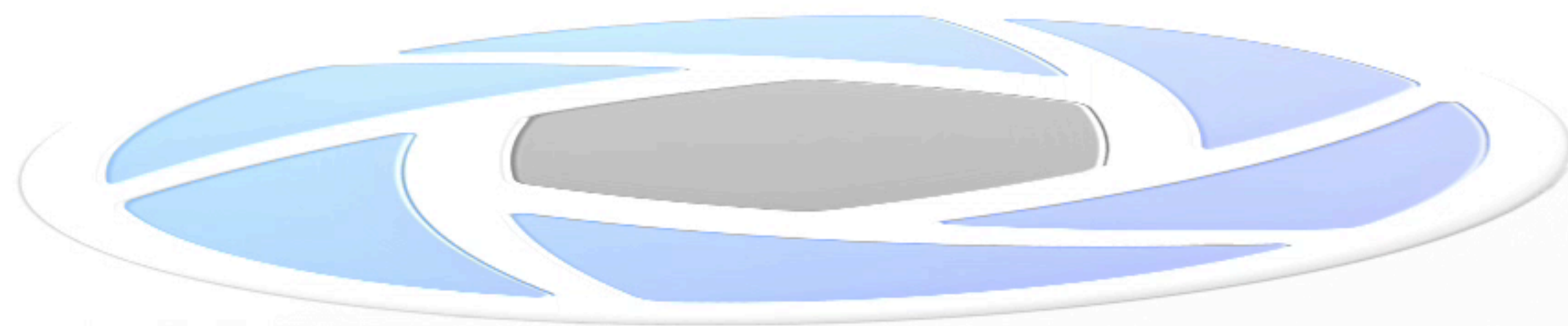




# Motion Blur (Camera Animation) - Disabled



# Motion Blur (Camera Animation) - Enabled



# Best Practices

- **Storyboard: Plan each sequence of your animation first**
- **Begin with a fresh scene**
- **Save your scene in stages**
- **Create a camera or Viewset before animating it**
- **Be aware of adjusting cameras after they've been animated**
- **Camera Switch Events with Depth of Field can cause Realtime-view to struggle**
- **Don't make your animations too slow**
- **Motion Easing and Motion Blur make animations look more natural and realistic**





# Hands On



# Q&A

