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

![Diagram showing camera and look at point relationship]
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
Individual Transforms

Can be:

- Moved
- Scaled
- Mirrored
- Grouped

Timeline

- Orbit
- Zoom
- Depth of Field
- Translation
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
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)
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
**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)
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)
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)
Panorama
Dolly

- *Move the camera closer or further from subject*

Properties

Distance: Number of units the camera will move
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
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
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
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