

An abstract graphic consisting of several overlapping, flowing green ribbons of varying shades, from light lime to a darker forest green. The ribbons are curved and layered, creating a sense of depth and movement. They are set against a plain white background.

Smooth Camera Rotation



Adobe® Acrobat® 3D



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Created: 4/30/2007 | 1.0

This tutorial shows how to use the provided script to easily control motion of the viewpoint(camera) around the objects in the scene. Many aspects of the camera motion can be controlled using javascript calls. You can limit zooming, limit tilting, and even control how fast the camera comes to a stop when the mouse button is released.

Pitch

Limited

Free

Zoom

Not Allowed

Limited

Field of View

Wide

Narrow

Coasting

On

Off

Friction

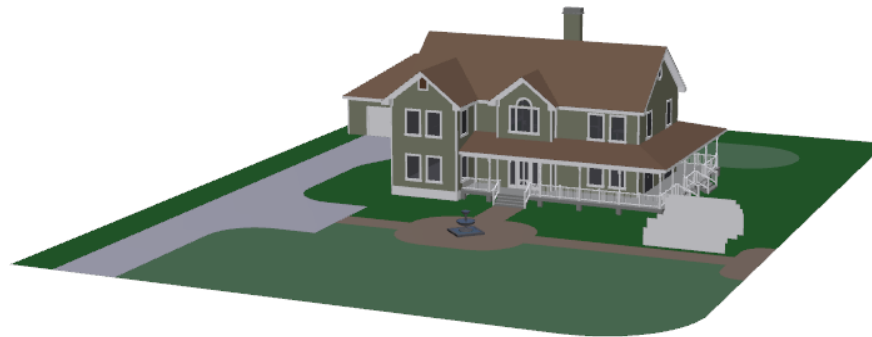
High

Low

Mouse Force

Strong


Weak

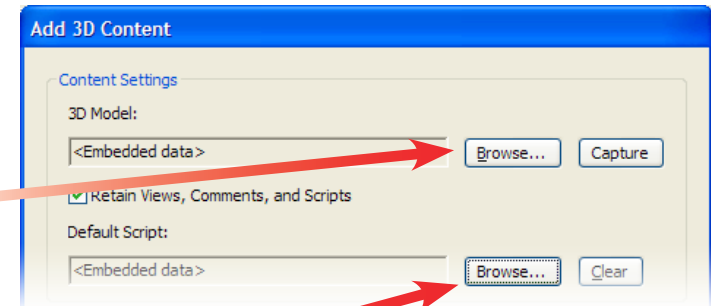
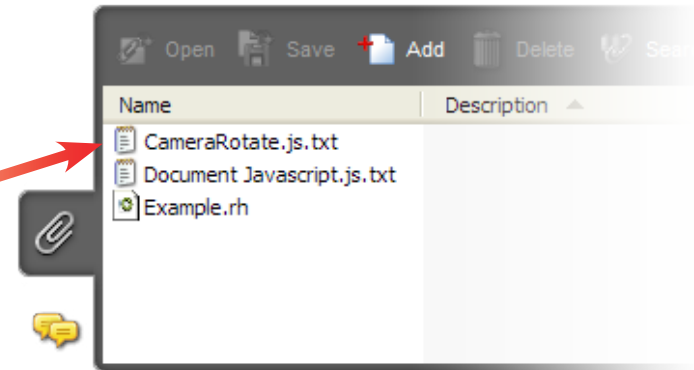


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How to create the example...

1. Obtain a 3D model or use the Example.rh file attached to this tutorial. If you already have a 3D model in your PDF, jump to Step 3.
2. Save the other attachments included with this tutorial in a folder of your choosing. Rename the javascripts by removing the ".txt" at the end of the filename.
3. Drag the 3D model file directly into Acrobat 3D to create a 3D Annotation object in a blank PDF. Or use the 3D Tool  and drag a rectangle where you want to place your 3D object in an existing PDF document.
4. When the "Add 3D Content" Dialog comes up, click the "Browse" button next to the "3D Model:" textbox and select the model file from step 1 or 2
5. Click the "Browse" button next to the "Default Script:" textbox and select the "CameraRotation.js" javascript file from step 2. All of the public functions in this javascript that are used in this tutorial are documented and commented.

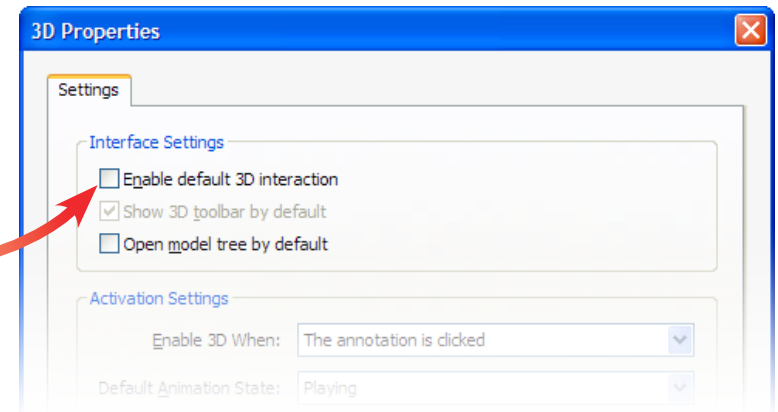


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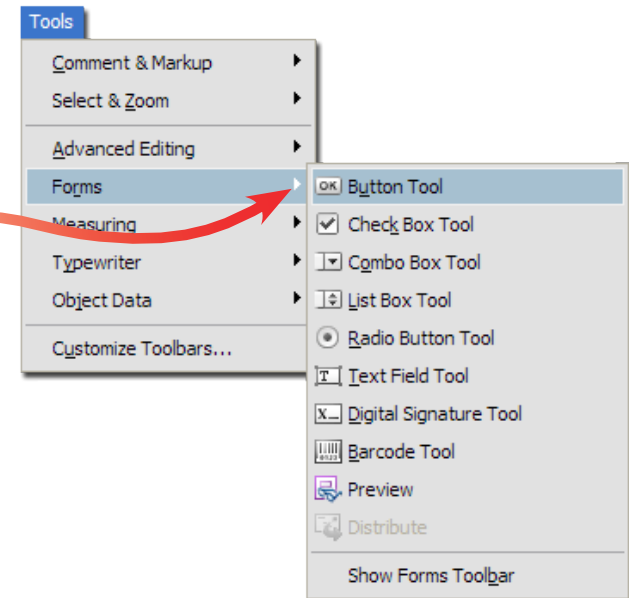
6. Choose the Advanced Editing - Select Object Tool. 
Double click the 3D Annotation to open it's "3D Properties" dialog and uncheck "Enable default 3D interaction".

This disables the default camera rotation and allows us to replace it with our own.



7. Using the same "Select Object" tool from the previous step, select the 3D Annotation and resize it as desired.

Note: this will distort the preview image. Click the "Edit Content" button on the "3D Properties" dialog from Step 6. Select the "Retrieve Poster from default View" option and click OK.



8. Select the Button tool from the menu: Tools -> Forms -> Button Tool. Add a button to the left of the 3D Annotation. Access it's properties dialog by double-clicking it or by "Properties" in it's right-click menu. Under the "Options" tab, change the label to "Limit Pitch".

Note: In the example, the button graphics were made in the source document. The button rectangles were created in Acrobat 3D and have their fill and line color set to "none", making them transparent.

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- Under the “Actions” tab, add a “Run a Javascript” action. Copy the following javascript into the editor.

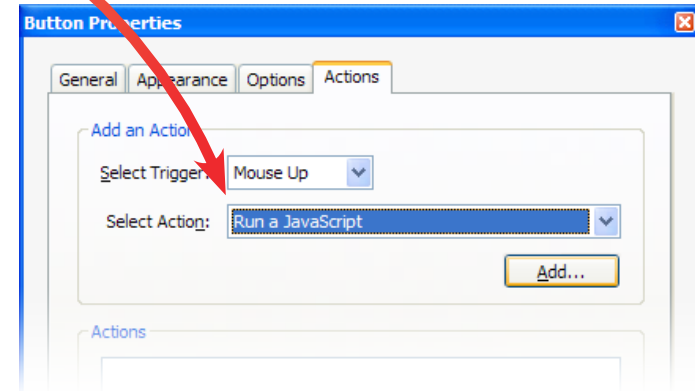
```
AlterPitch(true);
```

- Now create another button labeled “Free Pitch” and paste the following javascript in the same manner.

```
AlterPitch(false);
```

- Create several more buttons with the following labels and javascript actions.

“Allow Zoom” —	<code>AlterZoom(true);</code>
“Disable Zoom” —	<code>AlterZoom(false);</code>
“Coasting On” —	<code>AlterCoasting(true);</code>
“Coasting Off” —	<code>AlterCoasting(false);</code>
“High Friction” —	<code>AlterFriction(8);</code>
“Low Friction” —	<code>AlterFriction(2);</code>
“High Sensitivity” —	<code>AlterMouseForce(4);</code>
“Low Sensitivity” —	<code>AlterMouseForce(1);</code>
“Narrow Field of View” —	<code>AlterFOV(1.2);</code>
“Wide Field of View” —	<code>AlterFOV(0.4);</code>



Pitch

Limited Free

Zoom

Not Allowed Limited

Field of View

Wide Narrow

Coasting

On Off

Friction

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9. Select the Menu: Advanced -> Document Processing -> Document Javascripts. Type “CameraRotation” or any similar name (it’s not important) in the “Script Name” text box and click “Add”. Delete the empty function that is created by default and paste the code on this page into the script editor.

Use the “Select Text” tool to copy this code. This is also attached to this document as “DocumentJavascripts.js.txt”

```
function getCameraController()
{
    return getAnnots3D(1)[0].context3D.MyCameraController;
}

function AlterPitch(limit)
{
    getCameraController().setMaxPitch(limit ? 0.7 : 1.5);
    getCameraController().setMinPitch(limit ? 0 : -1.5);
}

function AlterZoom(allowed)
{
    getCameraController().setAllowZoom(allowed);
}

function AlterCoasting(allowed)
{
    getCameraController().setYawCoast(allowed);
}

function AlterFriction(friction)
{
    getCameraController().setFriction(friction);
}

function AlterMouseForce(force)
{
    getCameraController().setMouseForce(force);
}

function AlterFOV(fov)
{
    getCameraController().setFOV(fov);
}
```

