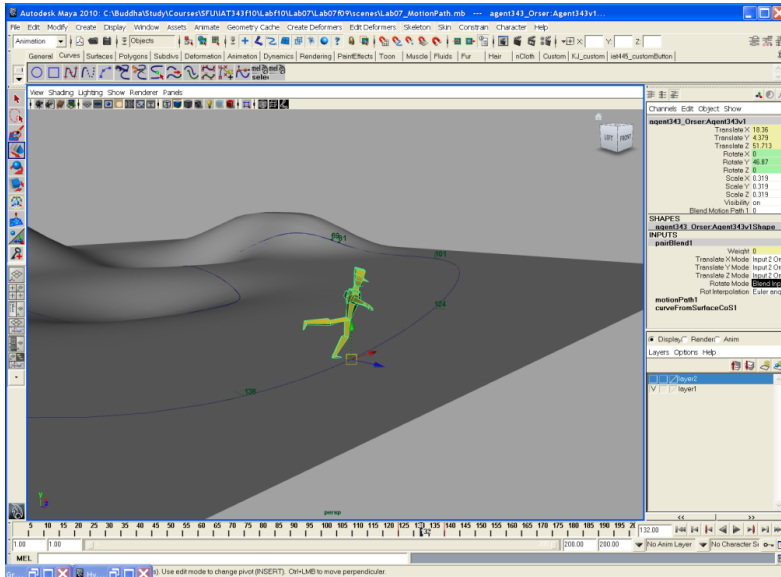
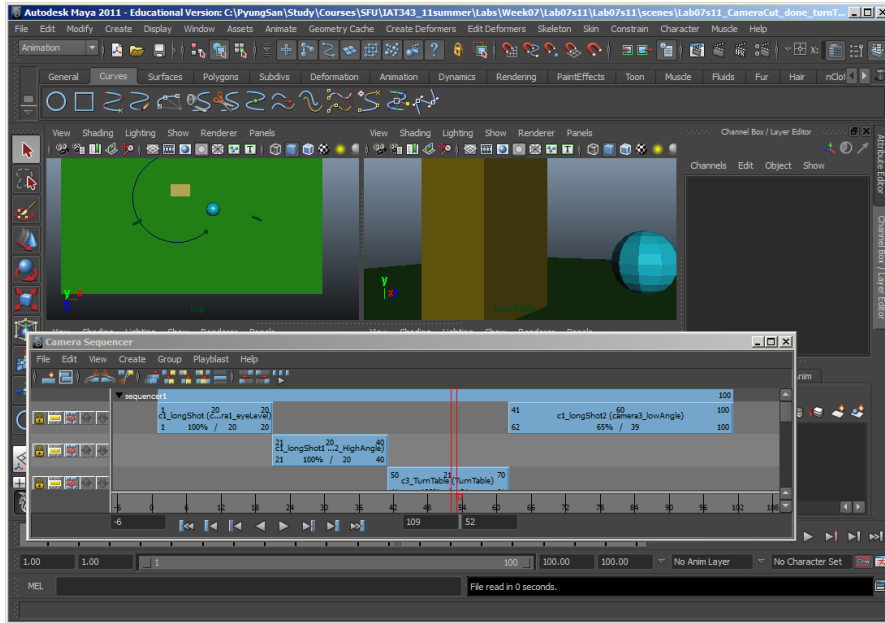


# Lab 8

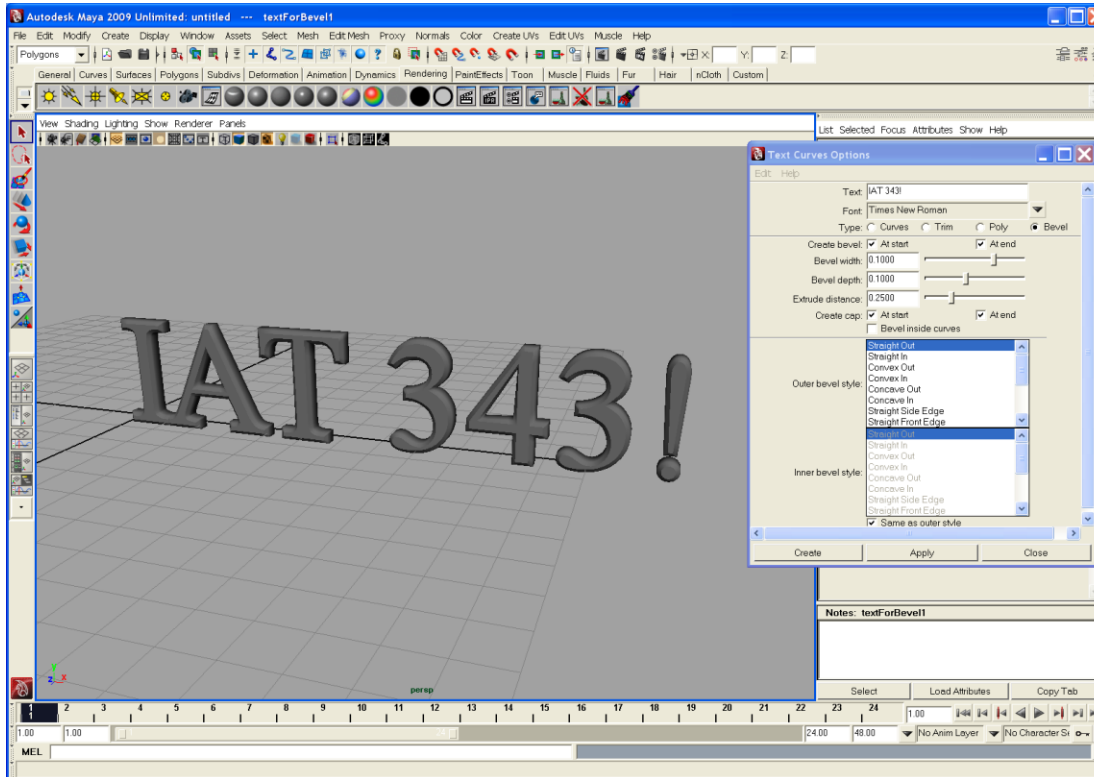
## Spring 2012

# Today's Lab

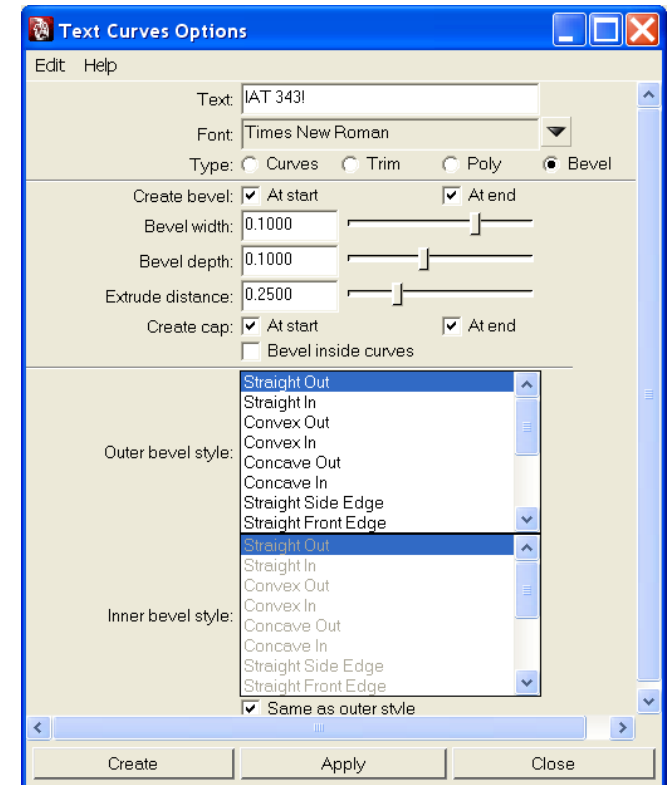
- Camera Sequencer
- Motion Path

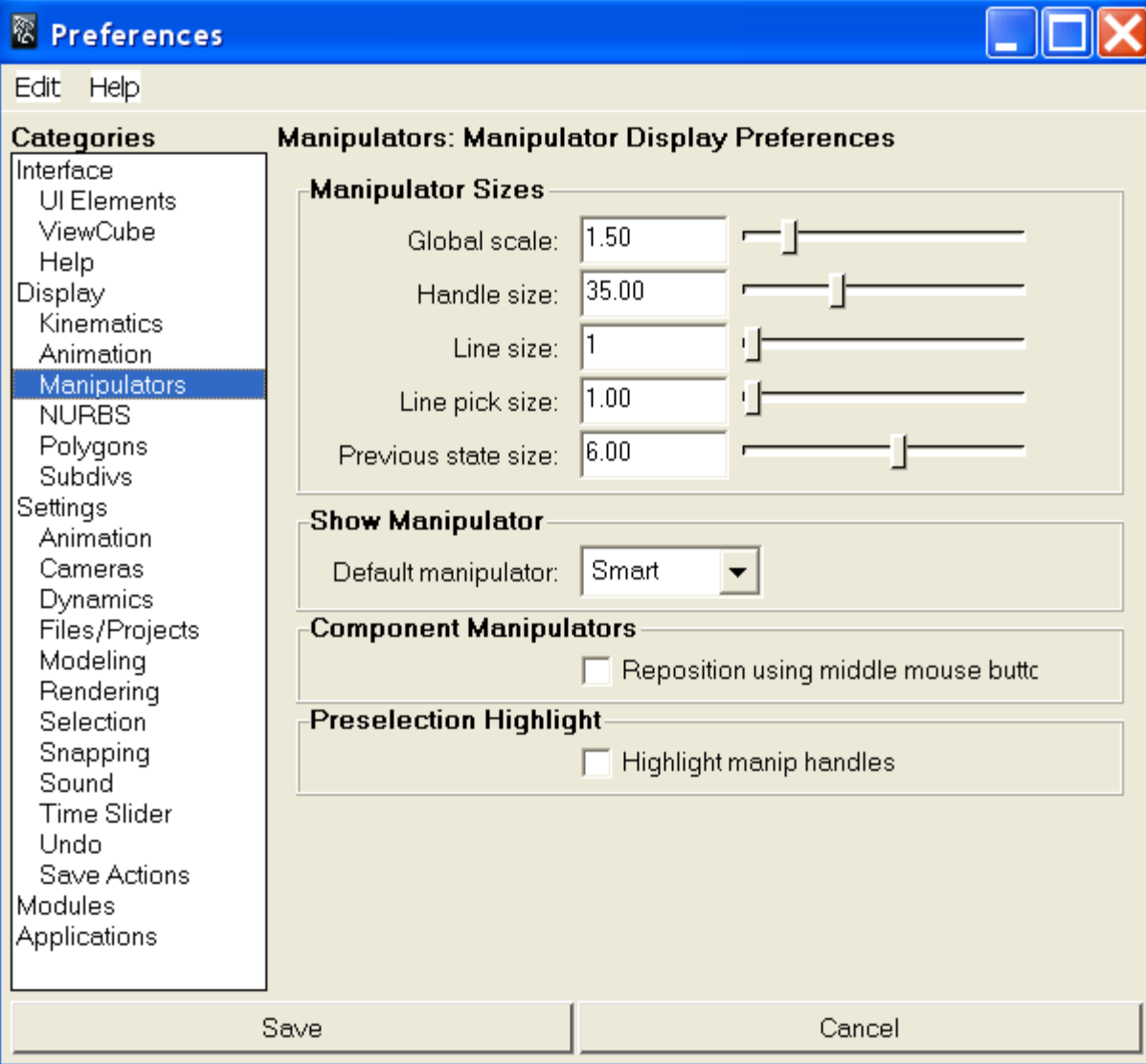


# How to create 'text' in Maya?

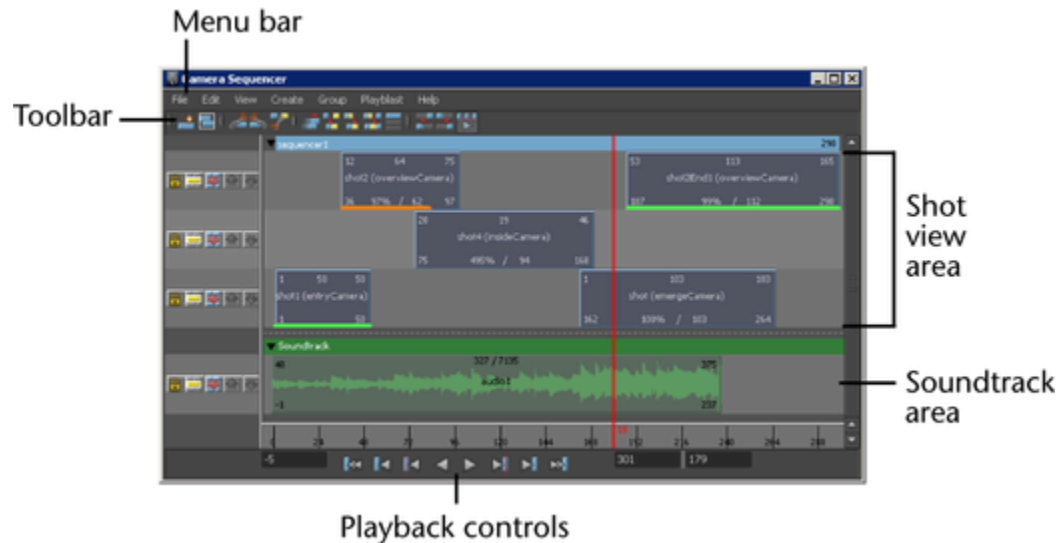


- Create > Text > Option Box





# User Guide > Animation > Animation > Animation Windows and Editors > Camera Sequencer > Camera Sequencer overview



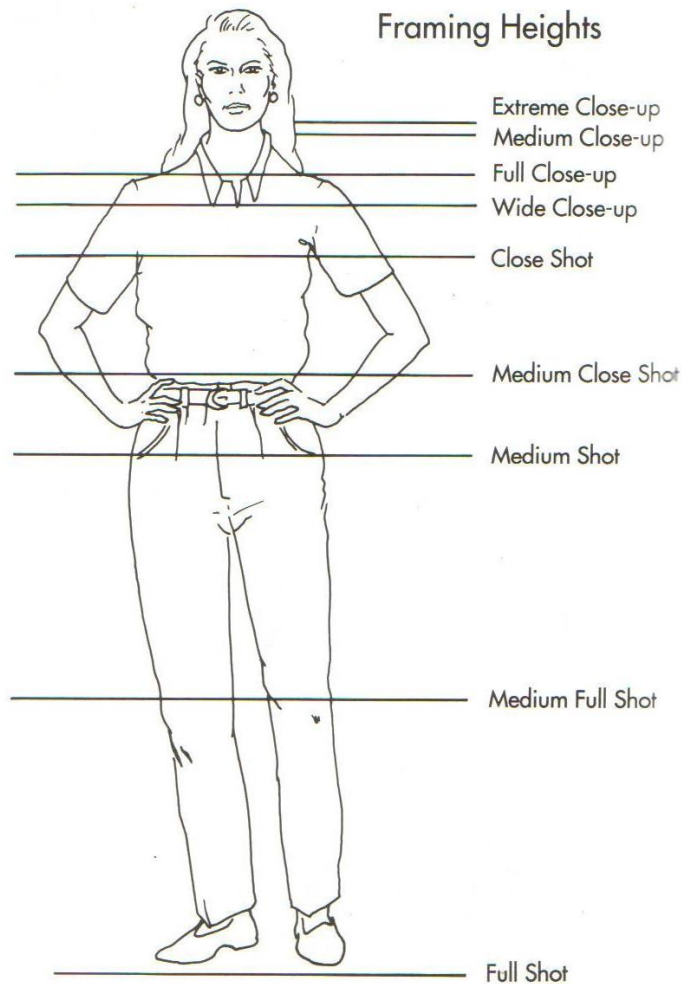
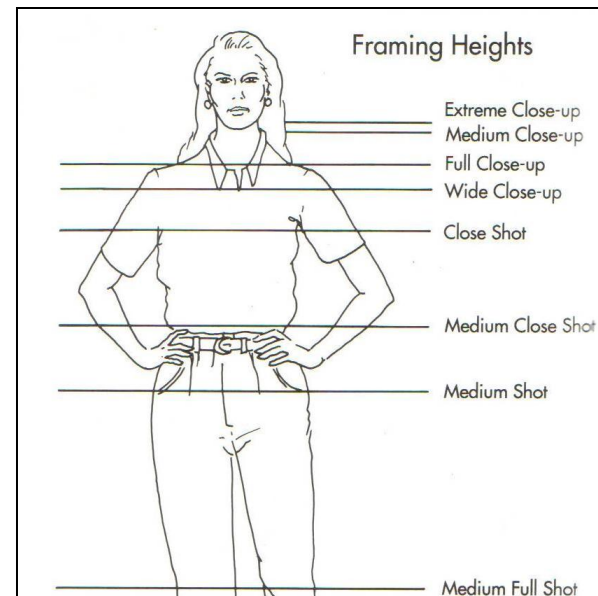
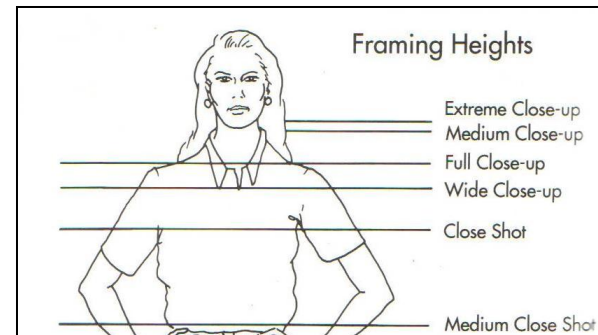
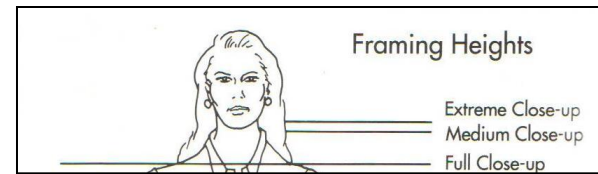


Figure 6.1: Basic Framing heights for the human figure.

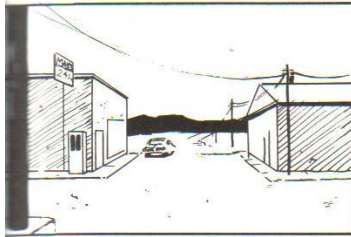
22 Shot By Shot



Source: *Film Directing Shot by Shot: visualizing from Concept to Screen* by Steven Katz

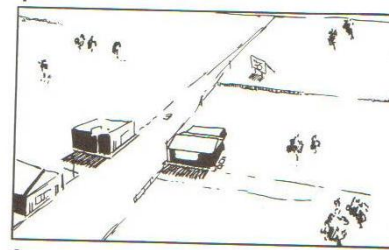
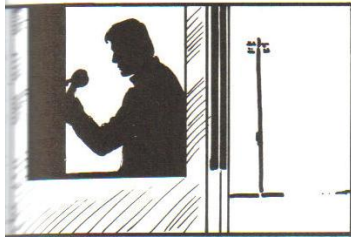
# Camera Height: Involvement & Power

1. Which view brings a character to have more power (or less power)?
2. Which view brings a viewer to feel more powerful (or less powerful)?
3. Which view brings an object more focused (or global view)?



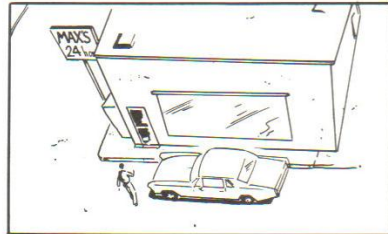
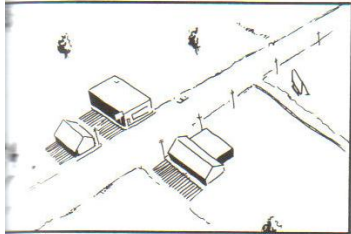
**Eye-Level View**

In this first version I've used straight-on eye-level views. Opening frame 1 uses the flatness of the buildings to reinforce the effect of the road reaching into the distance. Eye-level views tend to be stable and can serve as a contrast to dynamic compositions. Compare these eye-level views with the more angular compositions in the next series.



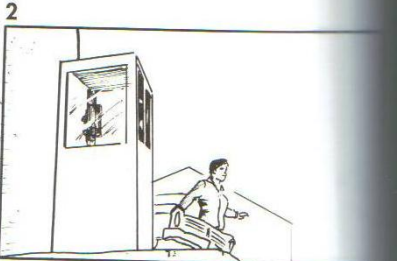
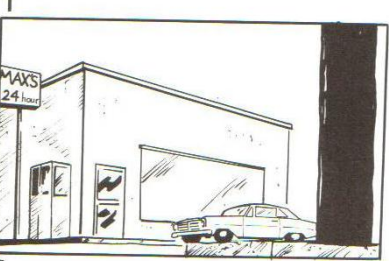
**High-Angle View 2**

This next series is nonprogressive. The contrast that the angular view in one frame confers on the view in the following frame. The direction of the conflict is varied but is more pronounced between the last two frames.



**High-Angle View 1**

Note that these three shots proceed in a generally smooth movement. First, the degree of perspective increases in each frame: Frame 1 has one foreshortened plane, frame 2 has two foreshortened planes and frame 3 shows all three planes receding so that the depth of the shot increases as we go along. Second, the shots become tighter as we move to the phone booth. This creates a sense of forward motion. This type of shot flow is progressive.



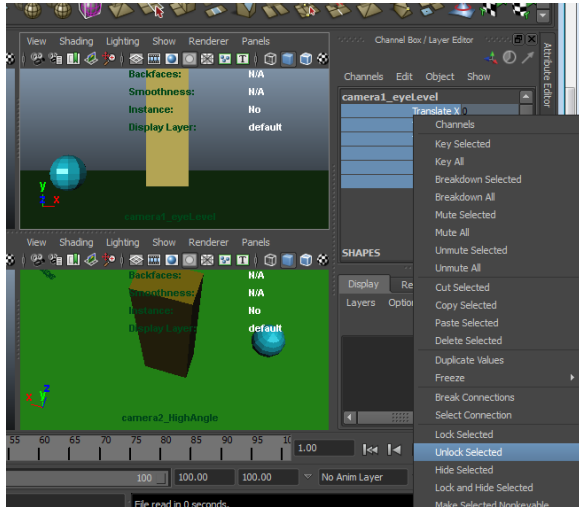
**Low-Angle View**

This is another example of conflicting frames. The contrast here is slight until the last two frames. Compare this with the eye-level views which keep the same general distance from the subject as this series but are far less dynamic.

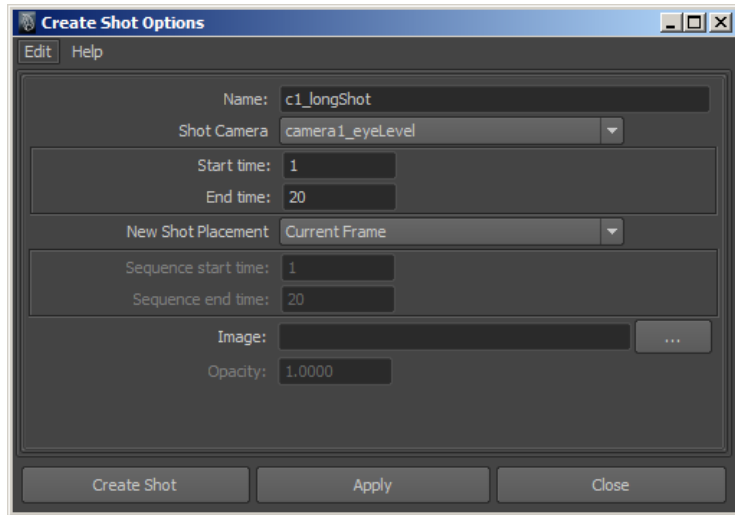




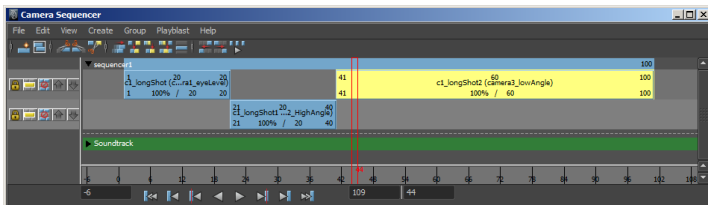
## 7.1 Creating Camera, Camera Cuts & Preview



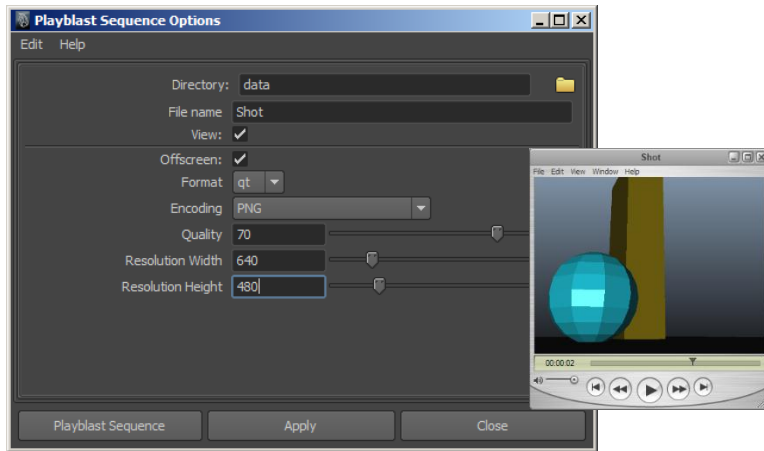
1. Open '**CameraCut.mb**' file. Check the Outliner to see how many cameras are in the scene. Press 'Play' button to review the ball movement.
2. Click inside different viewports and try to adjust the current camera angles through different **Camera Tools (View > Camera Tools or Alt + mouse buttons)**. Unless we unlock the attributes (Translate or Rotate) under Channel Box, (currently highlighted) the camera is not movable. Hold RMB and select **Unlock selected**.



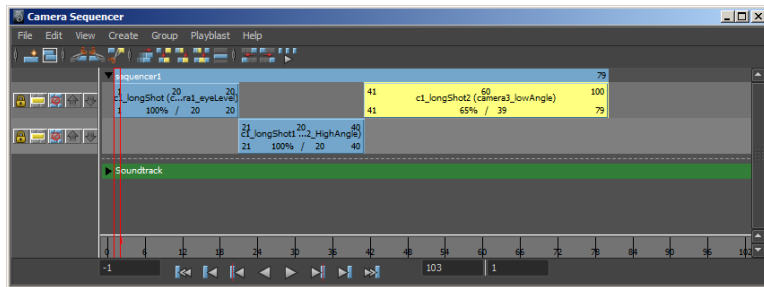
3. To preview multiple cameras in sequence, open Camera Sequencer UI (**Window > Animation Editor > Camera Sequencer**).
4. Go to **Create > Shot** option box.
5. Give a camera **Name**, select a target camera in **Shot Camera** and assign **Start time** and **End time**. Press '**Apply**'.
6. To make a nice sequence, add more camera shots (camera 2 & 3) by repeating previous steps (also change either the **New Shot Placement** option or the **Start-End Time** to show smooth transition). Also, drag different clips to reposition into different frame.



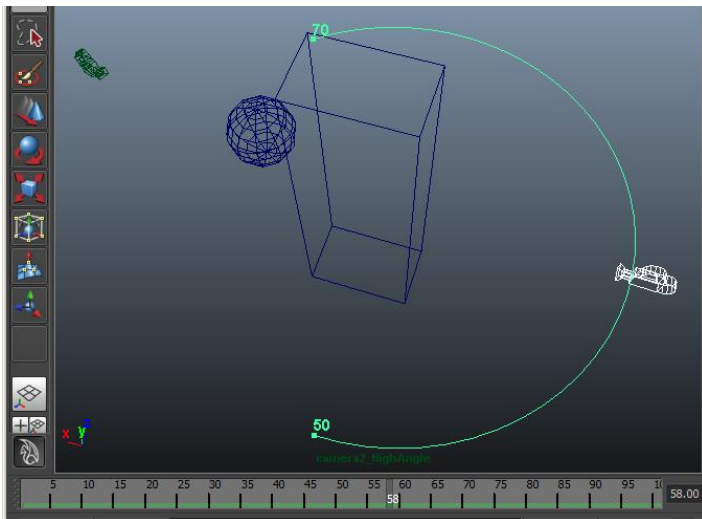




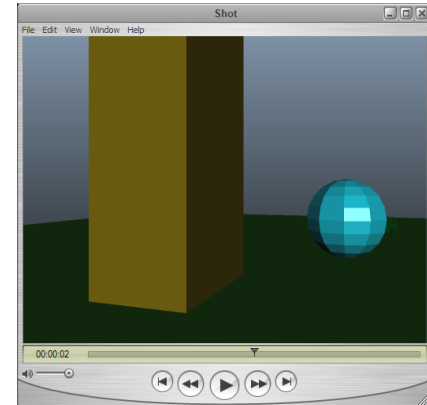
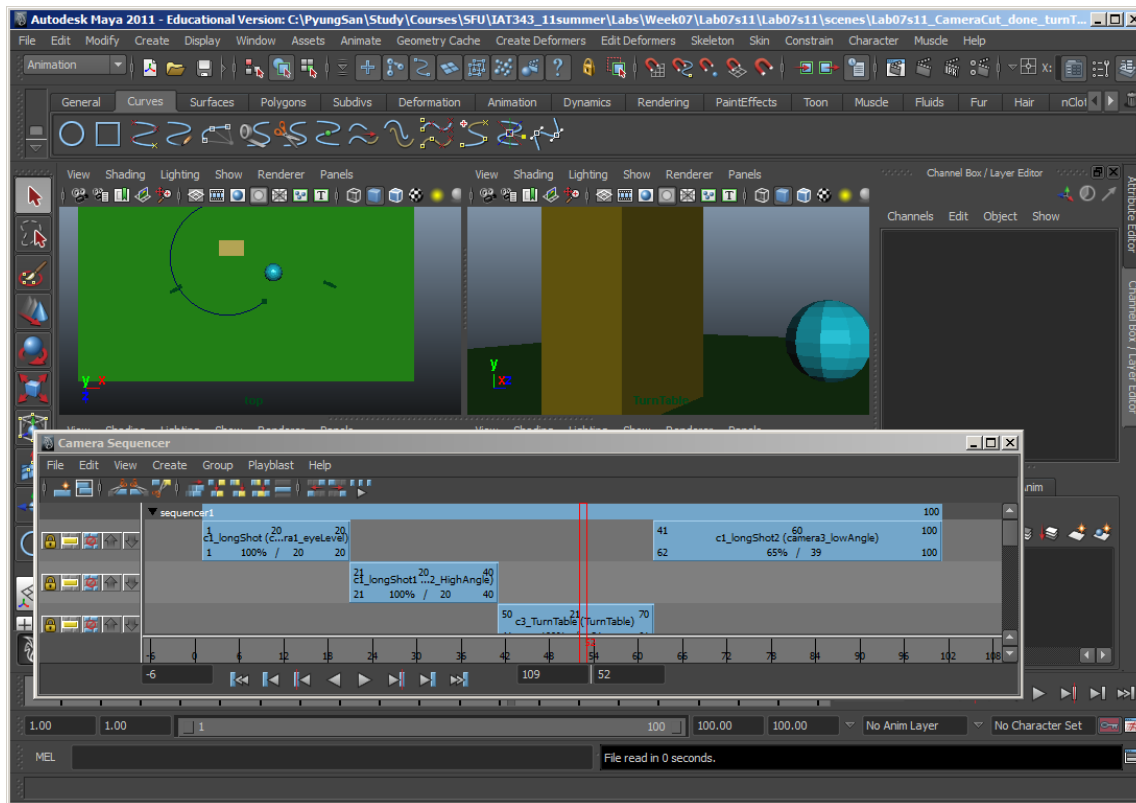
8. To make a movie file, apply select **Playblast > Playblast Sequence**. Could change options by choosing **Playblast > Playblast Sequence option box**. In **Format** option, choose '**qt**' for QuickTime movie. Also, check the current file **Directory** and type new name. Click '**Playback Sequence**' button inside Camera Sequencer to update multiple shots. Execute '**Apply**' button to generate QuickTime movie. Also, click empty space on certain viewport activates different preview modes.



9. To make our scene more interesting, let's add a camera circling around curve (turntable motion path animation).
10. Create a curve (i.e., circle with open space < 360 degree) and add new camera (**Panels > Perspective > New**).



11. To apply the motion path animation, the object and the path should be selected together. Select the new camera object first, hold the **Shift** key, and select the path.
12. Select the **Animate > Motion Paths > Attach to Motion Path Option Box**.
13. Define values for the **Start time** and **End time** (i.e., 50, 70) and press **Apply**. Review the animation.



14. Insert this turntable camera shot into the current **Camera Sequencer**
15. Make a new video file through **Playblast > Playblast Sequence**. Save your file and post your QuickTime video on your website.
16. Feel free to modify the current camera positions and sequence.

## Reference

User Guide > Animation > Animation > Nonlinear Animation > Playblast camera shots > Playblast a sequence of shots

# Path Animation

# What is Path Animation?

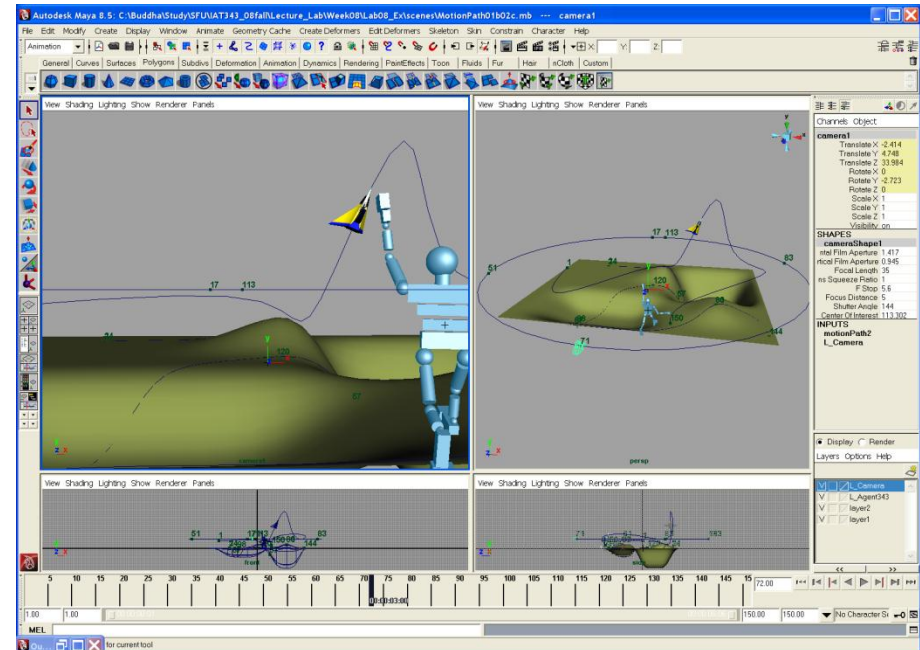
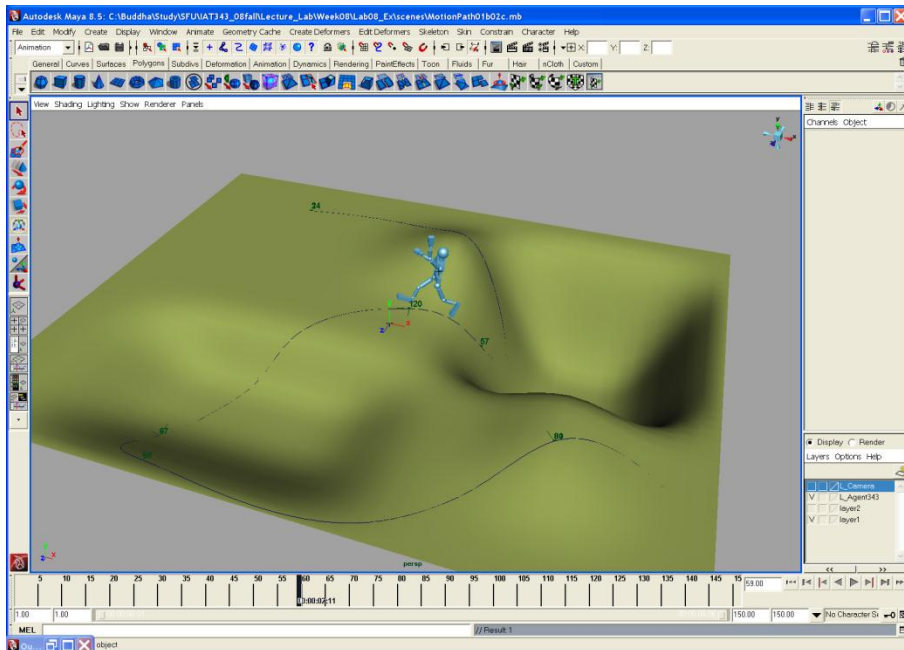
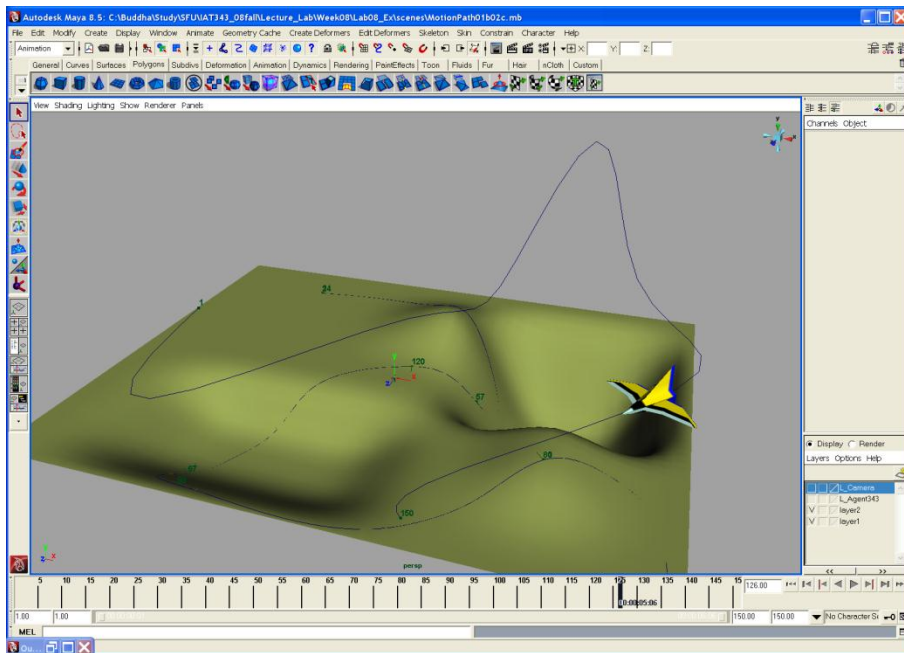
Path animation is a way of animating an object's translation and rotation attributes by specifying a NURBS curve as the object's trajectory. The object automatically rotates from side to side as the curve changes directions. If the object is geometry, it can be automatically deformed to follow the contours of the curve.

- Skateboarding
- Snowboarding
- Fight sequence
- Dancing
- Car racing
- Roller coaster
- [Skating](#)



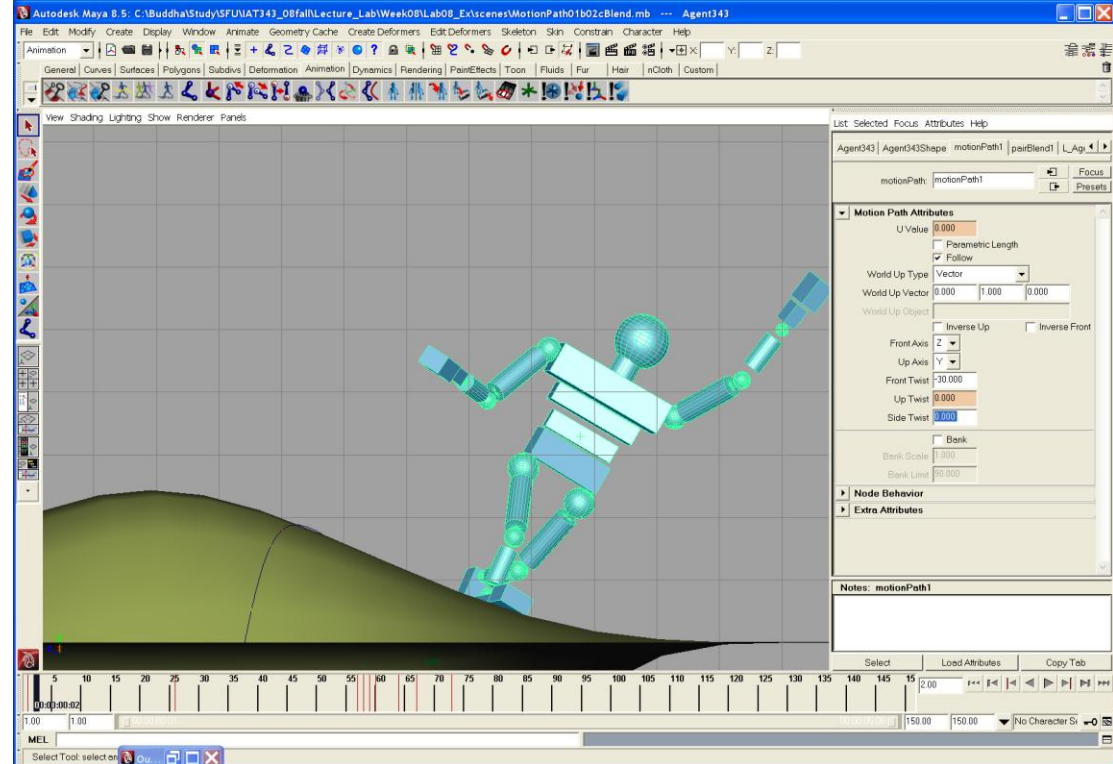
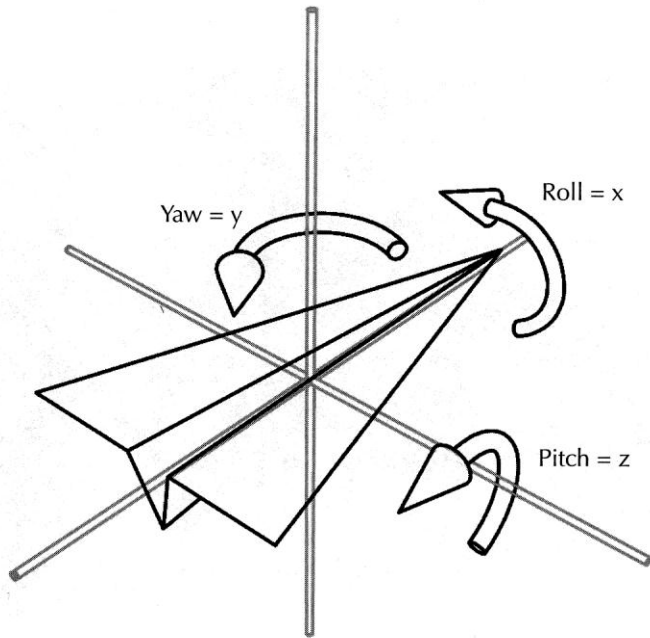
*Speed Racer movie*

# Motion Path





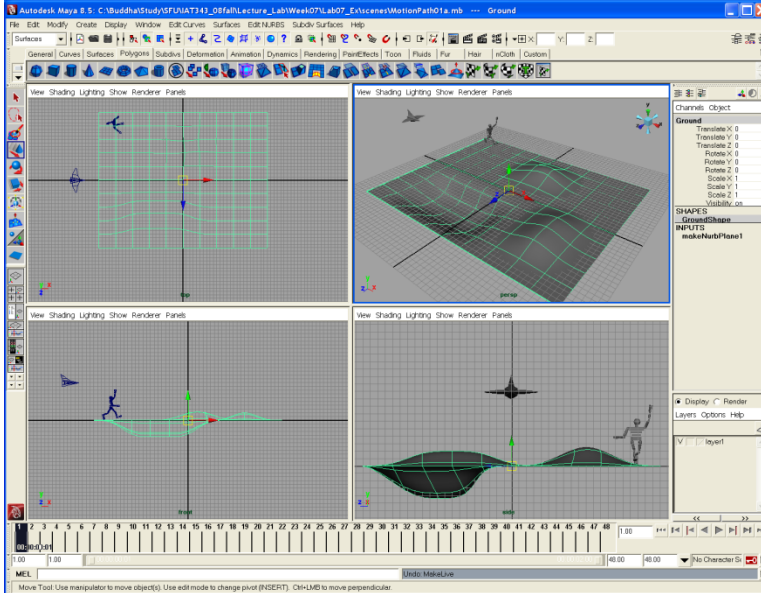
# Motion Path



- Front Twist
- Up Twist
- Side Twist

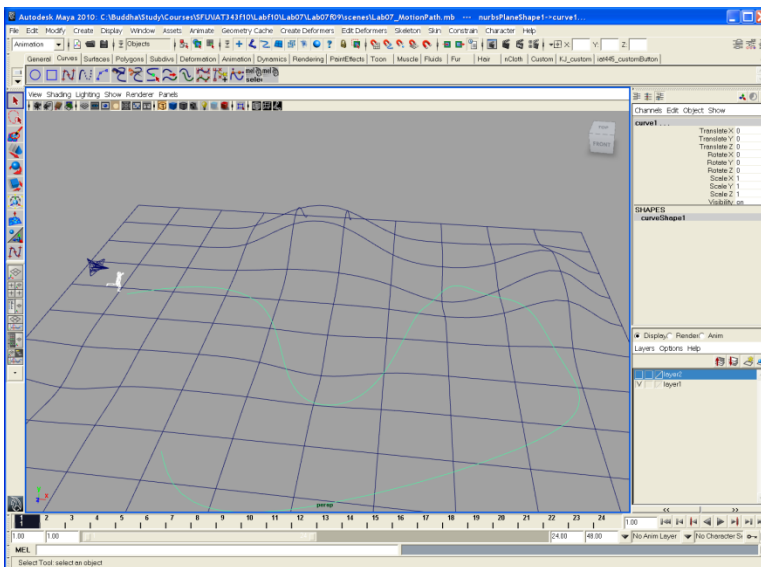
# Exercise 7.2: Path Animation

## Creating Motion Paths



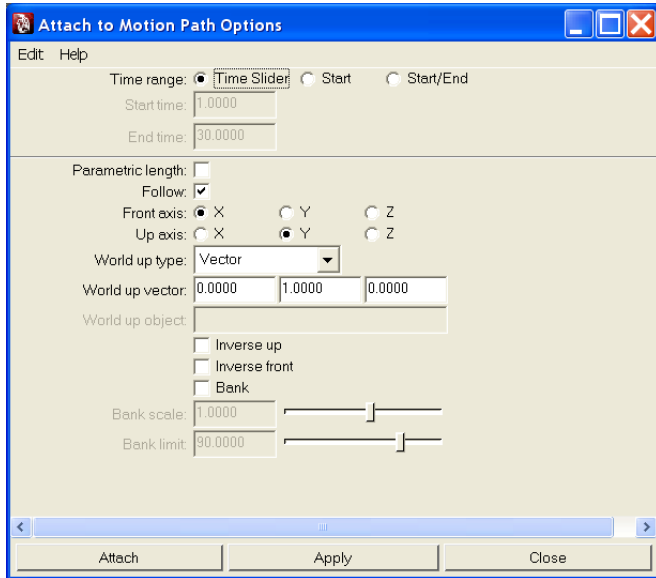
1. Open **Lab07s11\_MotionPath.mb**. In this exercise, you are going to create two motion paths. One path is for a character and a camera.

2. First, let's make a hill (**Create > NURBS Primitives > Surfaces**) by modifying the shape of the ground. RMB on the ground and switch to **Control Vertex**. Grab a couple of points and apply transformations (move, rotate and scale tools).



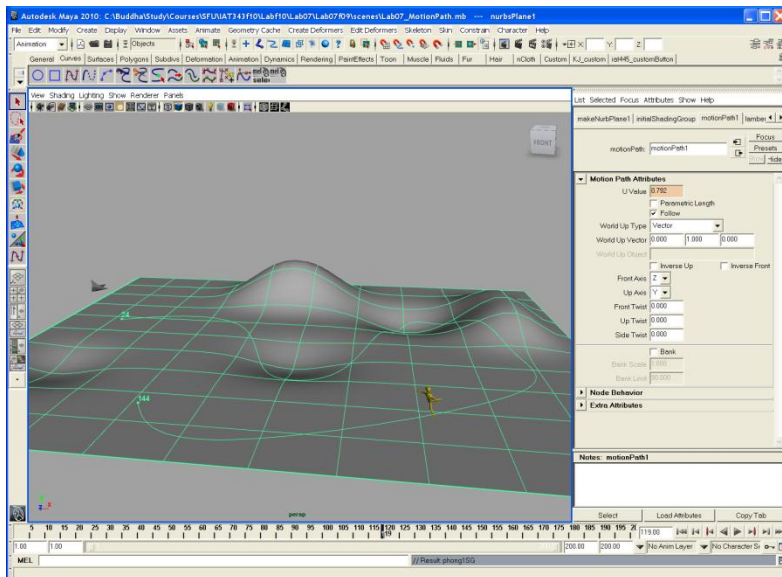
3. To create a motion path snap to the ground, you are going to use a curve tool (i.e., EP Curve Tool) on a live surface. Select the ground and switch back to the **Object Mode** (shortcut key: F8). Apply the **Modify > Make Live**.
4. Create a motion path for the character using **EP Curve Tool**. After completing the path, bring the ground back to the default state. Unselect the curve by clicking an empty space in the viewport. Then, apply **Modify > Make Not Live**.



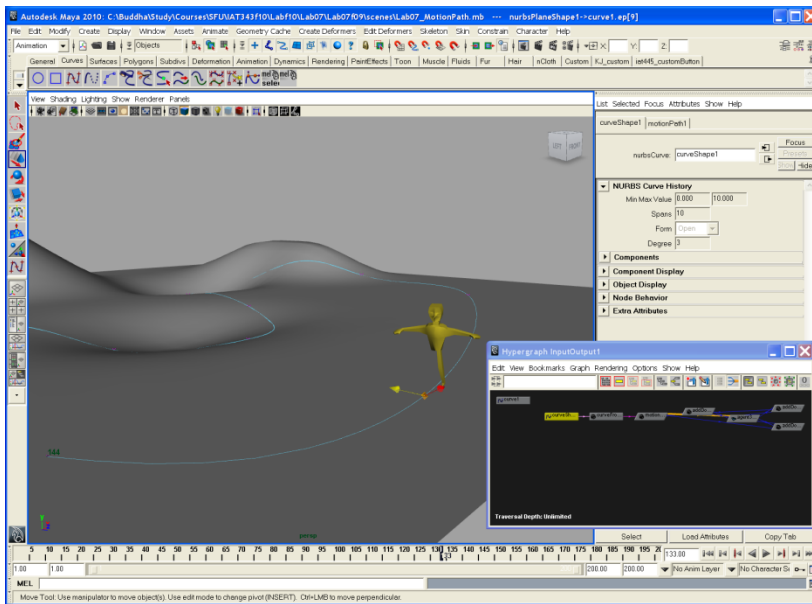


## Attach the agent to the path

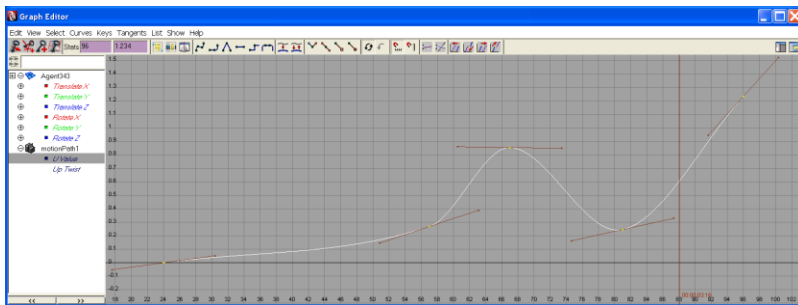
5. Switch to the **Animation** menu (F2).
6. To apply the motion path animation, the object and the path should be selected together. Select the character, hold the **Shift** key, and select the path.
7. Select the **Animate > Motion Paths > Attach to Motion Path Option Box**. Before change any value, apply **Edit > Reset Settings** to bring up the default values.
8. In the **Time range** option, select the **Start/End**. Define initial values for the **Start time** and **End time** (i.e., 24 and 144 for 10 second path animation). Also, adjust the End time (200) in the **Timeline** to provide an enough time for the whole animation. Press **Attach** button.
9. Drag the Time Slider whether the agent follows along the path between 24 and 144 frames.
10. Play the animation.



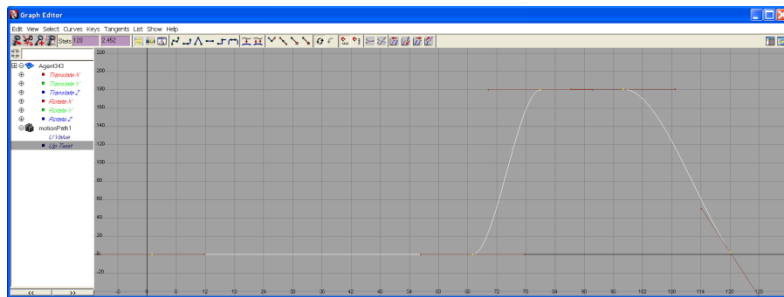
## Edit the direction of the agent & add



11. Select the Agent 343 in the Outliner. To open an **Attribute Editor**, press **Ctrl + A**. Select the **motionPath1** tab.
12. Even though the agent is moving along the path, it doesn't face to the correct direction. To fix this, choose **Z** axis in the **Front Axis** option.
13. Select the curve. To edit the path's shape through adjusting points on the curve, switch to the **Edit Point** component mode. Also, you can turn on the visibility of the points by selecting **Display > NURBS > Edit Points**. Use the Transformation tools to reposition the points.
14. To add more keys along the path, click on the Timeline to identify the time of the new key (e.g., 135f). Select the agent, click the **U Value** label under the **motionPath1** INPUT node in the Channel Box. With RMB, choose **Key Selected**.



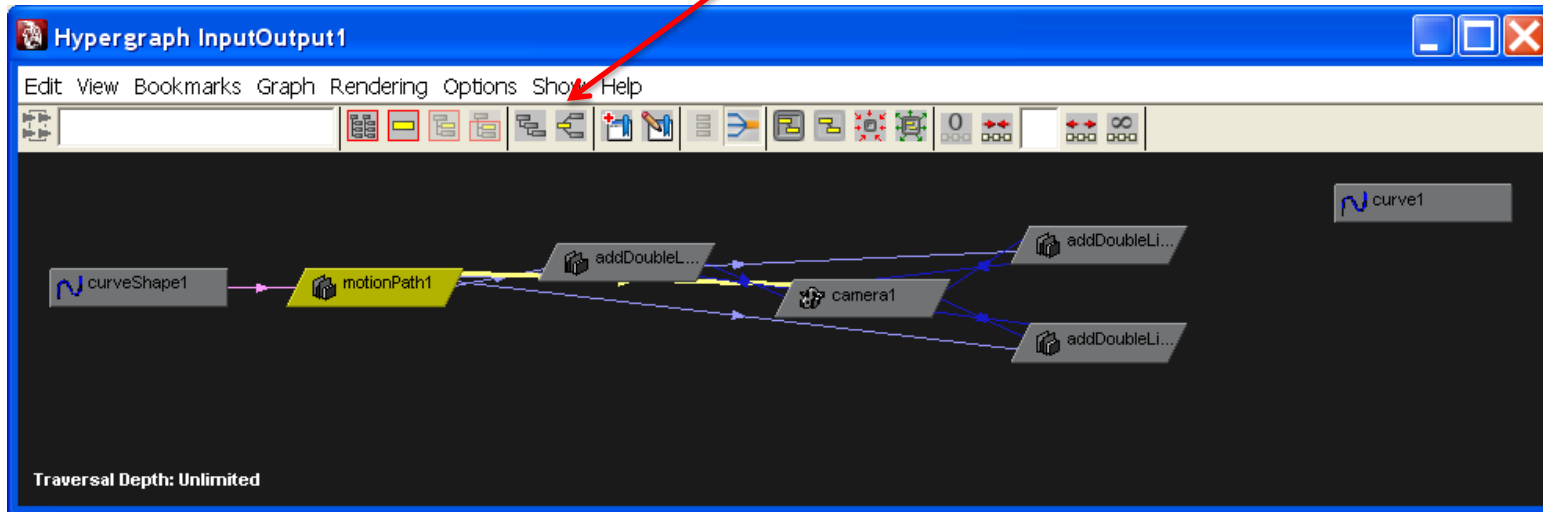
15. Rather than keeping the current motion (linear curve), add some variation. Open the **Graph Editor (Window > Animation Editors > )**. By clicking the **motionPath1** label in the Channel Box, the curve is displayed in the Graph Editor. Using MMB, adjust the curve shape in the **motionPath1** to see different effects.



16. To add a key interactively, click **Add Keys Tool**, press/hold /drag MMB button on top of the curve. Refine your shape holding/dragging MMB.

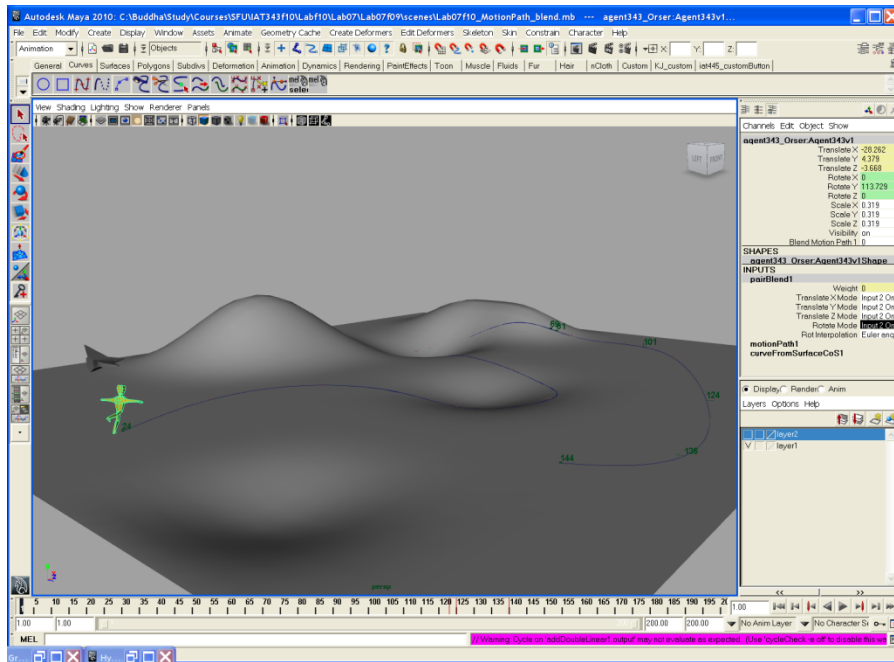
# How to delete the Motion Path?

Input and output connections



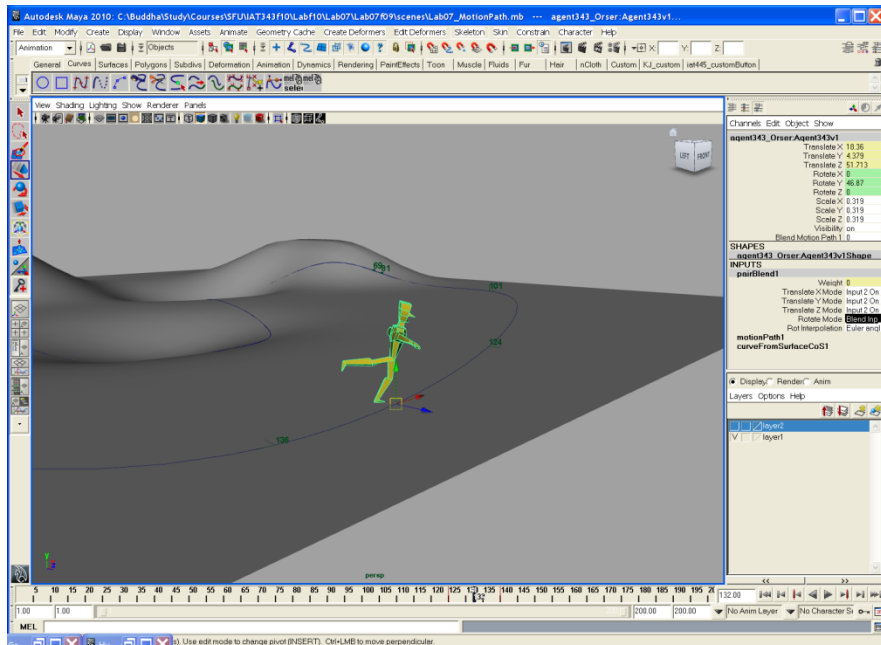
- Inside the Hypergraph, select a target object and click on the 'Input and output connections' node. Press the 'Delete' (or 'Backspace') button.

Connect input and output attributes



## Add a motion path for the camera

18. You can also create a camera and another path, then attach it to the motion path.
19. Save your file.



# Channel Box: Attributes & Colors

Section	Usage
objectName	Lists the keyable transform attributes that translate, scale, and rotate the object's absolute position in the world space. Also shows the object's visibility attribute.
SHAPES	Lists the names of nodes that define the geometry of the object. Other nodes, such as related particle emitters may be found here.
INPUTS	Lists the names of other nodes that affect this one. Typically, these comprise the "construction history" of the node.
OUTPUTS	Lists the names of the output nodes (nodes that receive data) for this node.

State	Color
Locked	Gray
Nonkeyable	Light gray
Muted	Brown
Blended	Green
Keyed	Light Orange
Expression	Purple
Constrained	Blue
Connected	Yellow