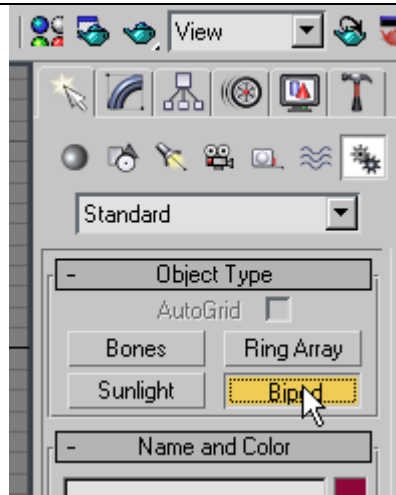
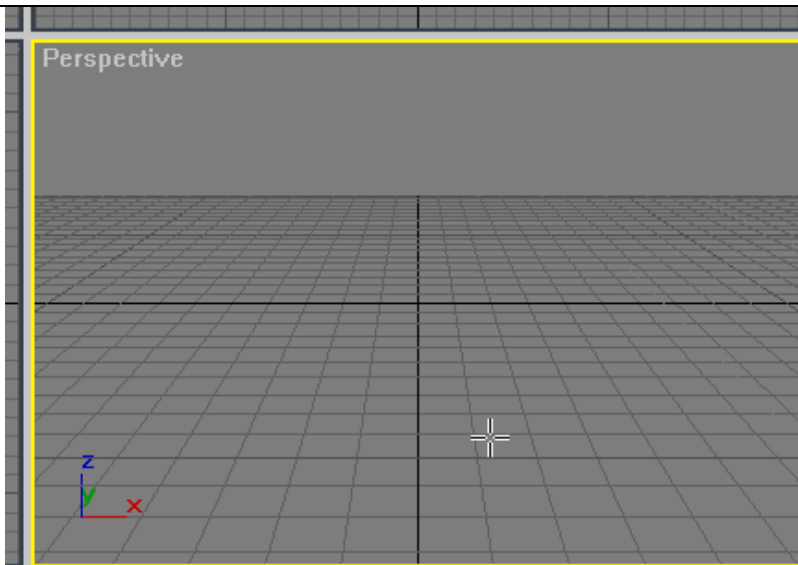


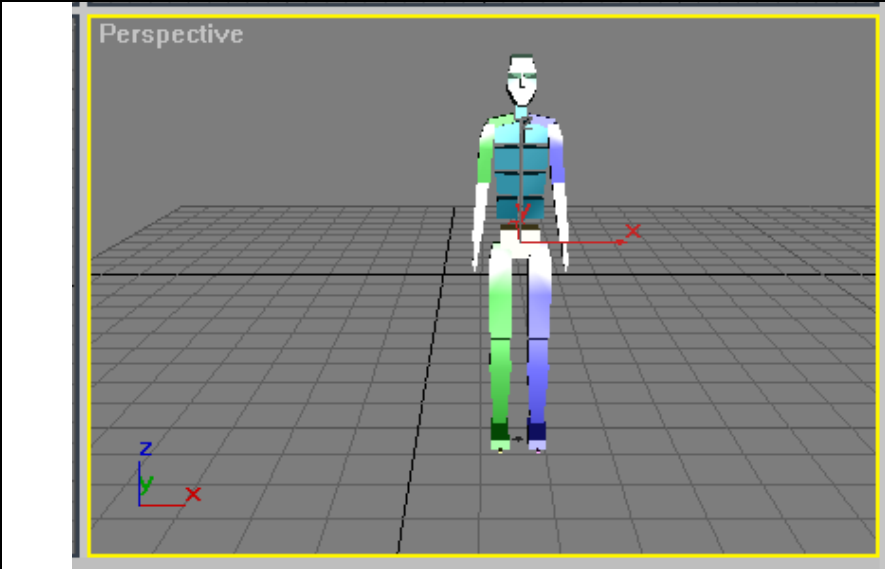
Open a new Max scene and select the Systems icon in the Command Panel.



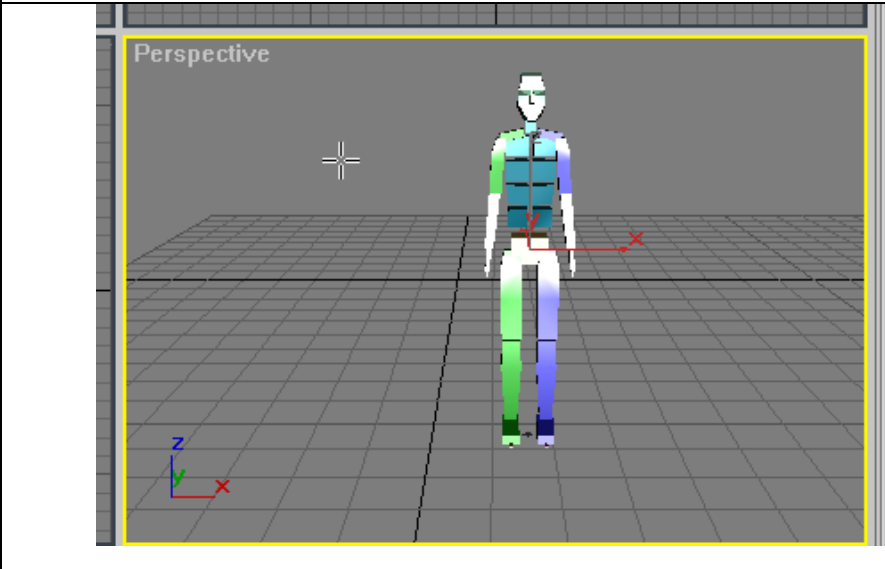
Then select Biped



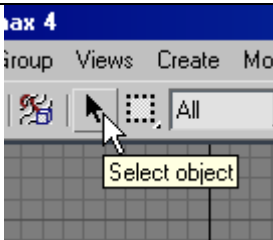
The cursor changes to a cross-hair. Near the bottom of the perspective window, click and drag upwards to create a biped as shown in the next window



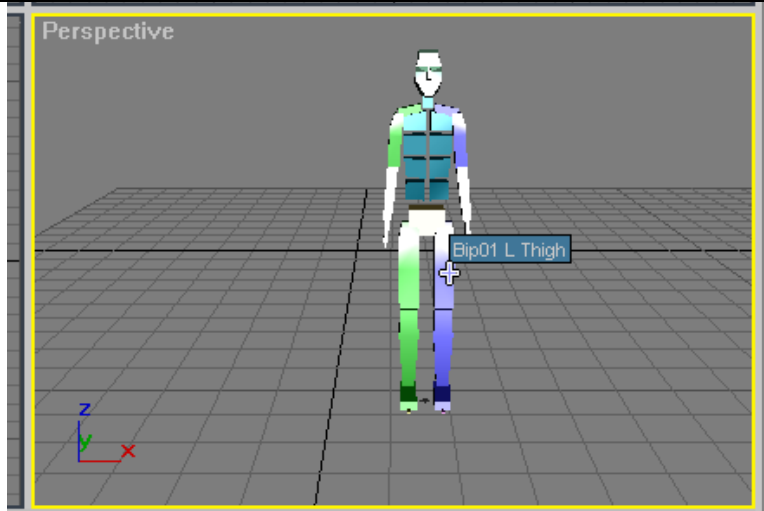
We should have something like this



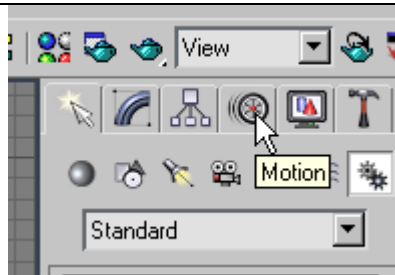
Your cursor still probably looks like a cross hair....don't click again in a window otherwise you will create another biped



Lets click the Select Object icon to get out of the create biped mode



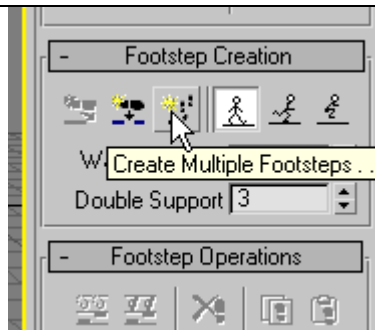
Click on any part of the Biped so that we can animate it



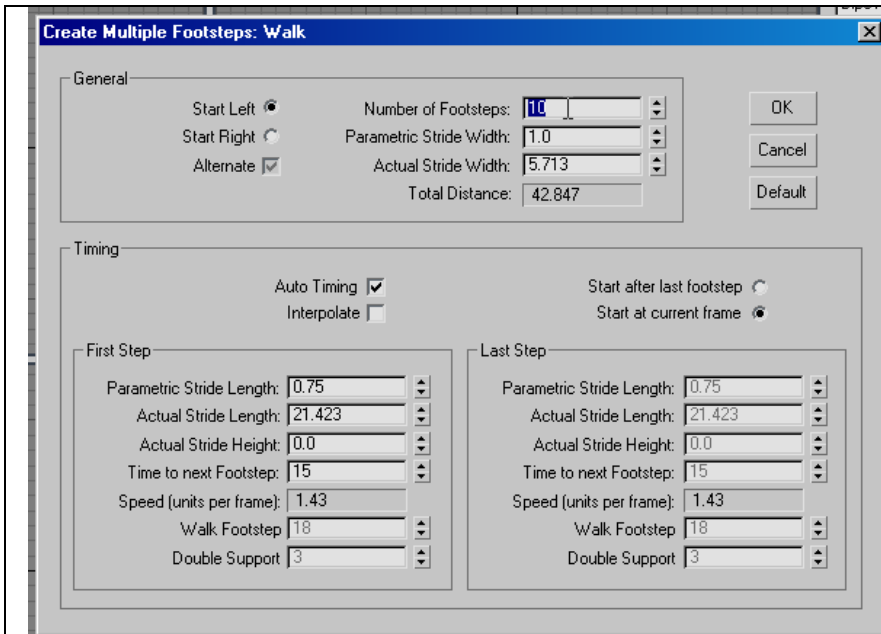
Once a piece of the biped as been selected, pick the Motion tab in the Command Panel



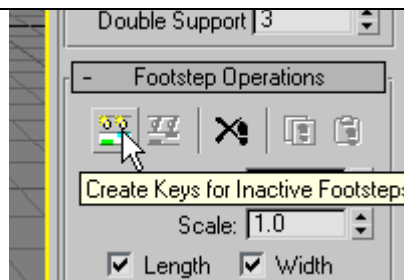
Click on Footstep mode



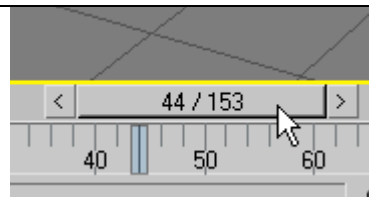
Then click on the Create Multiple Footsteps icon



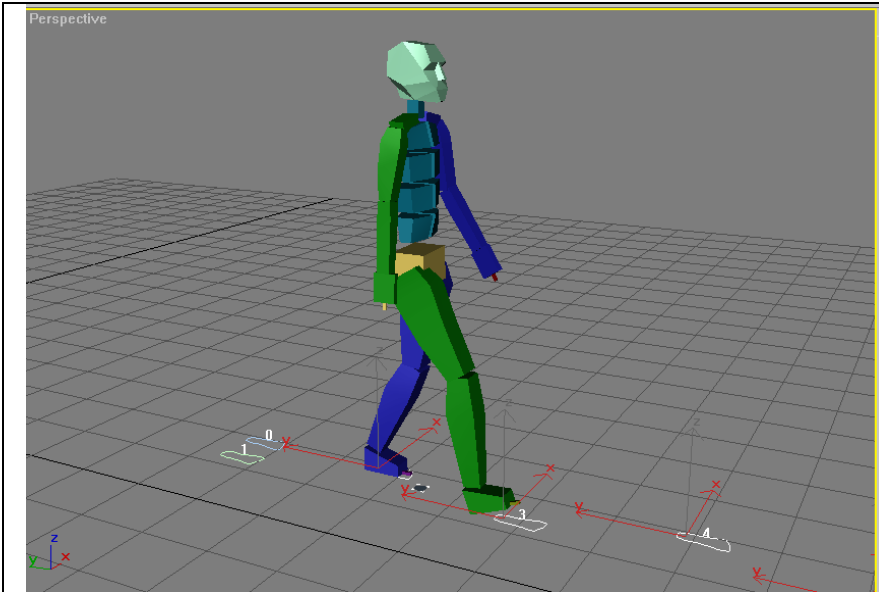
The Create Multiple Footsteps: Walk dialog box should open. Change the Number of Footsteps to 10 and click on OK to close this box



Click on the Create Keys for Inactive Footsteps icon



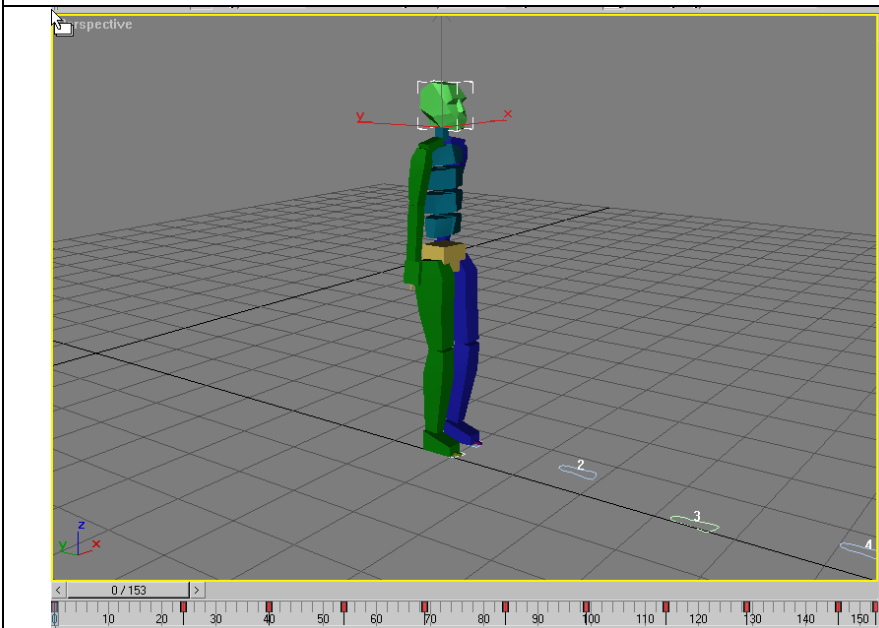
Drag the time slider back and forth.....




.....and we should see out biped walk

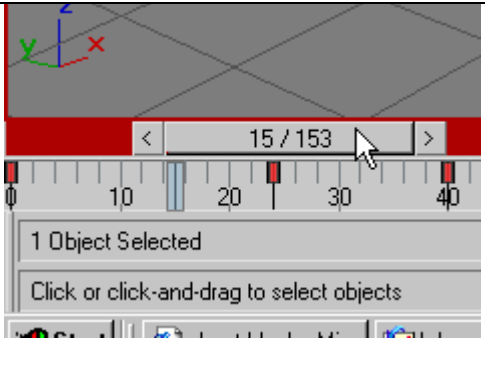


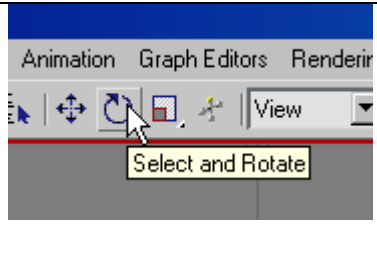
Turn off footstep mode by clicking on the button

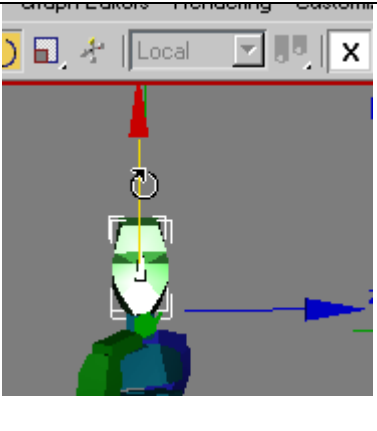


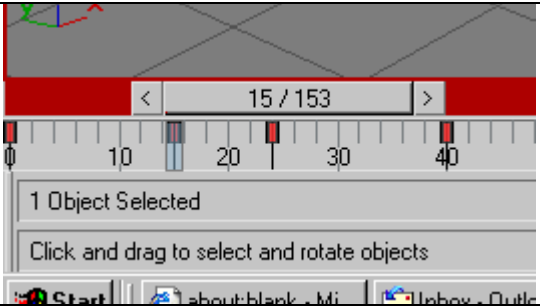
Select the head of the biped. In the time window you will see all of the keys that have been set for the head

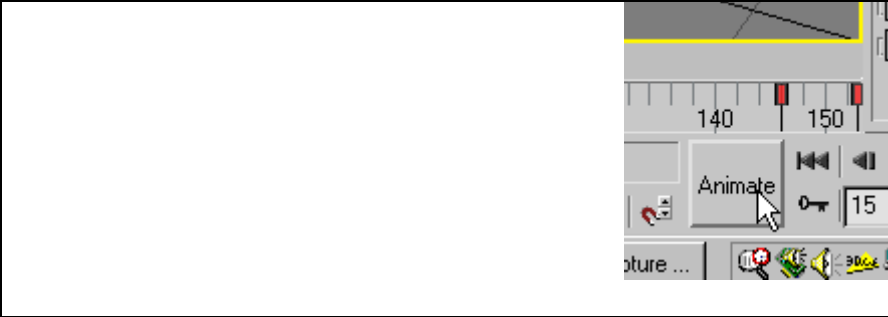
		<p>Turn on the animate button by selecting it. Note: This tutorial is for Max 4.2. If using Max 5.0 turn on Auto Key instead.</p>
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		<p>Drag the time slider to frame 15</p>
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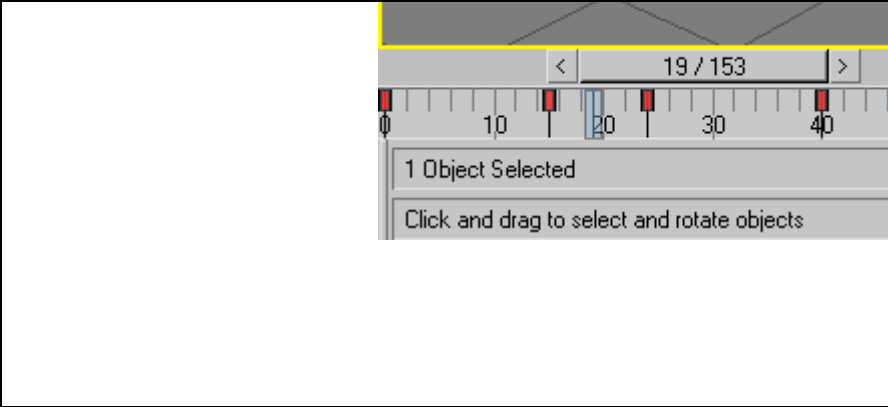
		<p>Click on the Select and Rotate icon</p>
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		<p>Rotate the head along the z-axis as shown</p>
--	--	--

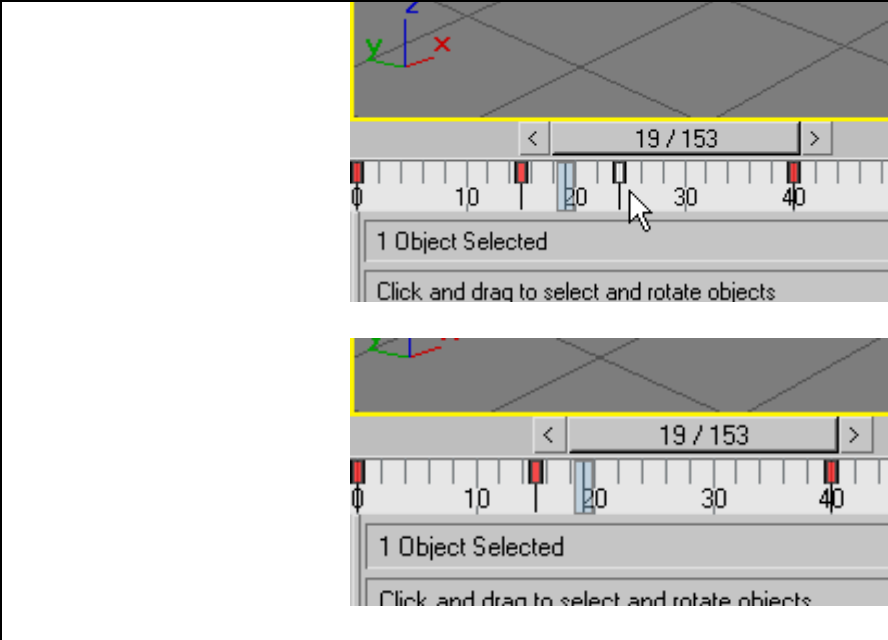
		<p>You will see that a new key has been placed for the head at frame 15</p>
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Turn off the animate by clicking it

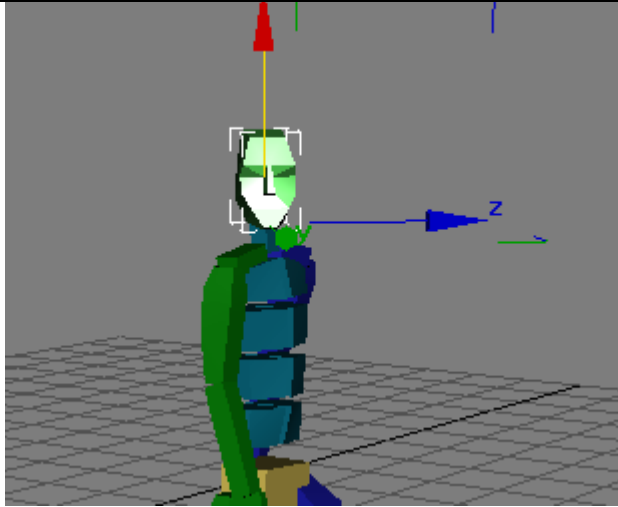


Drag the time slider and notice how the head begins turning at frame 0 and completes the turn at frame 15. It turns back and looks forward again at frame 22 because there is a key set at frame 22

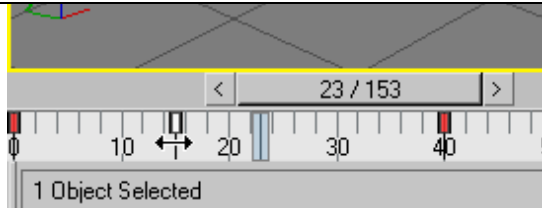


Select the key at frame 22 by clicking on it. It will turn white when it has been selected.

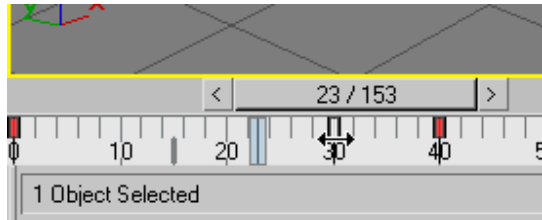
Hit the delete key on the keyboard to delete it



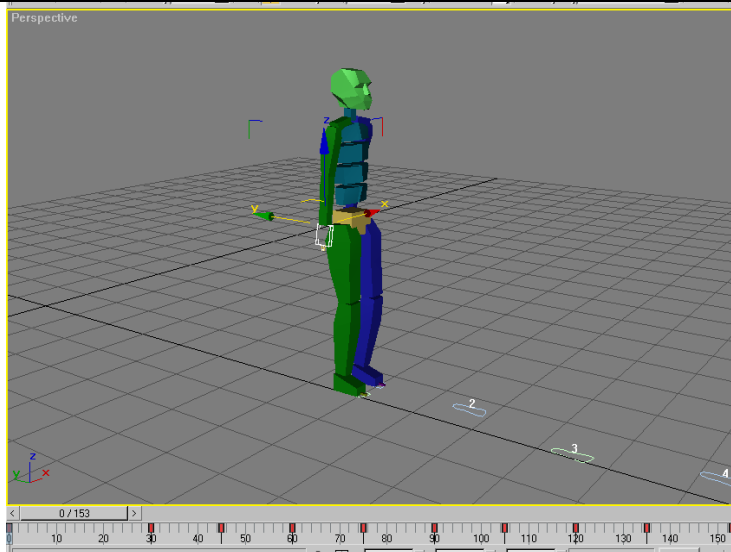
Now drag the time slider and note that the head begins turning at frame 0, is turned at its maximum at frame 15, but now doesn't turn and face forward until frame 40 is reached



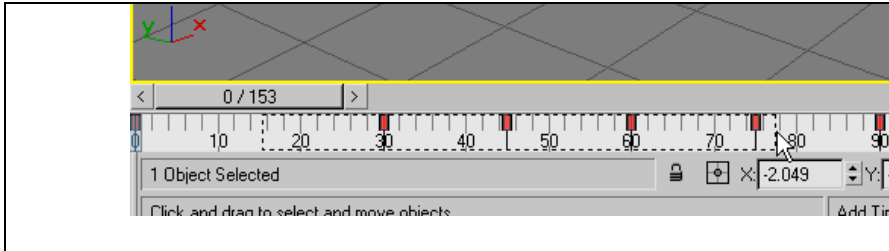
We can move keys around!! Select the key at frame 15.....



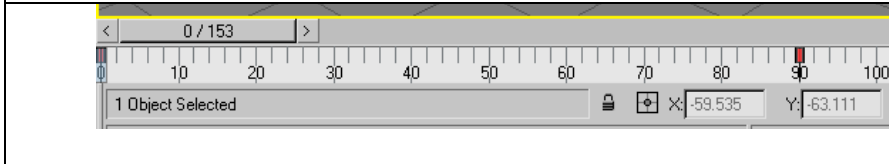
.....and drag it to frame 30. Now the head will begin turning at frame 0 and won't finish turning until frame 30



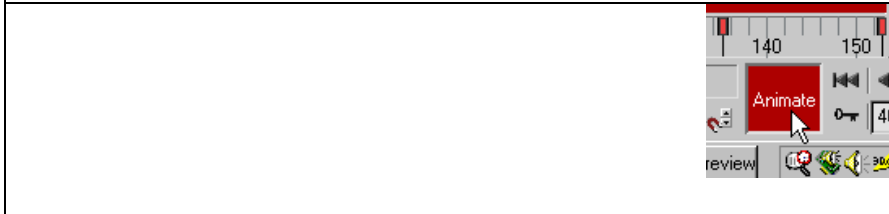
Now lets animate the right hand. Select it and note the keys associated with it.



Drag a box to select the keys from frame 30 to frame 70 and delete them



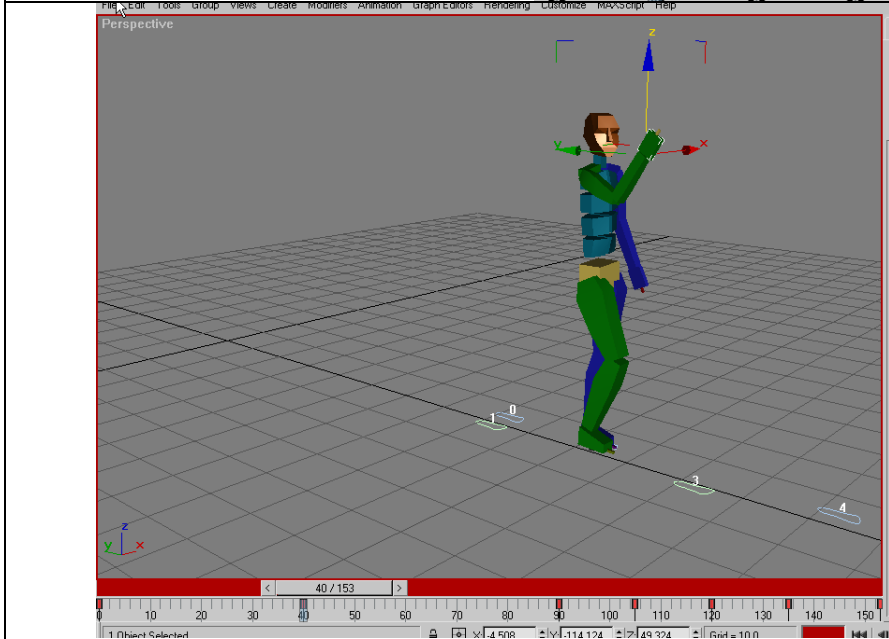
We should now have a key at 0 and the next one at frame 90



Turn on Animate



Drag the time slider to frame 40

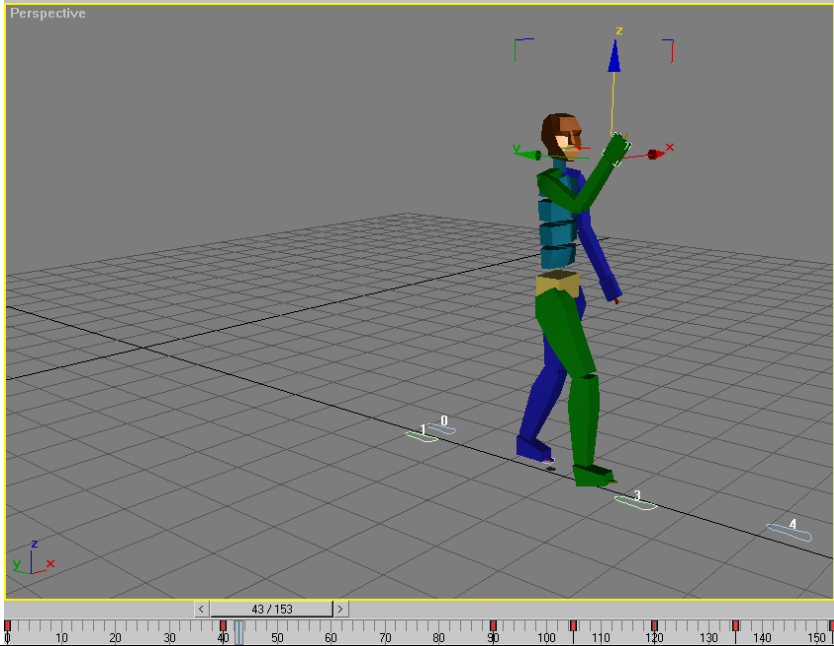


Move the hand as shown. This type of motion is called Inverse Kinematics (IK). We move the end effector, the hand, and the arm follows.

The opposite of this is called Forward Kinematics (FK). If we used this method and wanted to get the hand in shown position, we would first have to first rotate the upper arm and then the forearm to position the hand as shown. IK is easier because we just move the hand itself and the rest of the body parts follow.



Turn off the animate button



Drag the time slider back and forth and observe the motion