7.0 Keyframing

Open and Initialize the Model

1. open a Blender file containing a fully-rigged model
2. open two new windows (below the 3D View): a *Timeline* window and a *Dope Sheet* window.
3. notice the following items in the *Timeline* window:
   - the boxes for *Start* and *End* frames,
   - the *current frame* counter box (to the right of the *End* box), initially set to "1",
   - the "direction controls" (similar to a video player),
   - the Red *"Start Recording"* button,
   - the green "current frame" bar in the Timeline window also at "Frame 1", and
   - the arrow keys (or the mouse) move the bar (also changing the value in the *current frame* box).
4. change the *End* time to 50, and put the green bar on time 0.

Create an Initial Keyframe

5. in the 3D View window, select **Object Mode**
6. RMB select the **Armature** (*all bones*)
7. select **Pose Mode**
8. in the **Toolshelf** left sidebar, under **Pose Tools**, note the buttons for **Keyframe Insert** and **Remove**
9. select *all bones* (press the **A-key** until all the bones are highlighted)
10. press the "Insert Keyframe" button, and select **LocRot** ("location and rotation") in the popup menu. This should add a keyframe at time 0 for all bones.
11. drag up/down with MMB in the **Dope Sheet** window to verify there are start points on all bones

Create a Second (or Final) Keyframe

12. enter another value (such as 50) in the "Current Time" box (to the right of the "End" box)
13. move the bones to place the model in a different keyframe pose
14. A-key, A-key (again) to insure ALL BONES are again selected
15. select **Insert Keyframe** and again choose **Loc/Rot**
16. repeat the steps until all of the desired poses are reflected as keyframes in the dopesheet
17. press the **PLAY** button to Start/Stop the animation.

Notes:

- when moving bones, it may be useful to do it in Front/Side/Top **ORTHO** View, or to use X/Y/Z keys to *constrain* the movement in the desired plane(s).
- animations should typically *loop*; that is, finish back where they started. This means the LAST keyframe needs to be the same as the FIRST keyframe. This is easy to do: in the DopeSheet, select all the components of the first keyframe (e.g. using **B-key** box-select), then press **Shift-D** to Duplicate the keyframe components; drag the copy with the mouse to the ending location and deposit with **LMB**.