

Electric Image™

This document just outlines some of the basic new features of Universe Animator. This way, you'll be up and running faster and can test, document and report any bugs faster to us.

1. **Zoom Tool.** Windows are a little different, as they are now using the same Framework as Modeler. If you look at the lower left corner of each window where the zoom in and zoom out tools used to be, you'll now see just a magnifying glass icon.

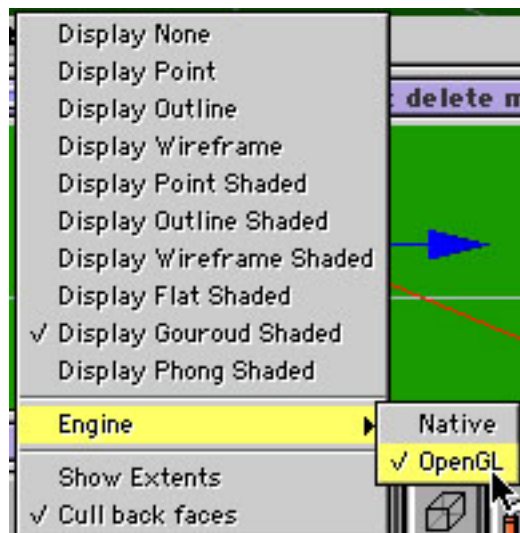


This allows you to interactively zoom, just click and drag; you'll get it.

1. **Control-Click** not option-click. In the windows to click and drag a bounding box is now using the Control key, not the option key. Similarly, the same goes for selecting different cameras in the camera view window, different shadow casting lights in the camera view window, and different roto option in that window too.

Shading Options. There are a couple more shading options for the windows, but the best part is now, no more option key to select, just click and drag to your selection.

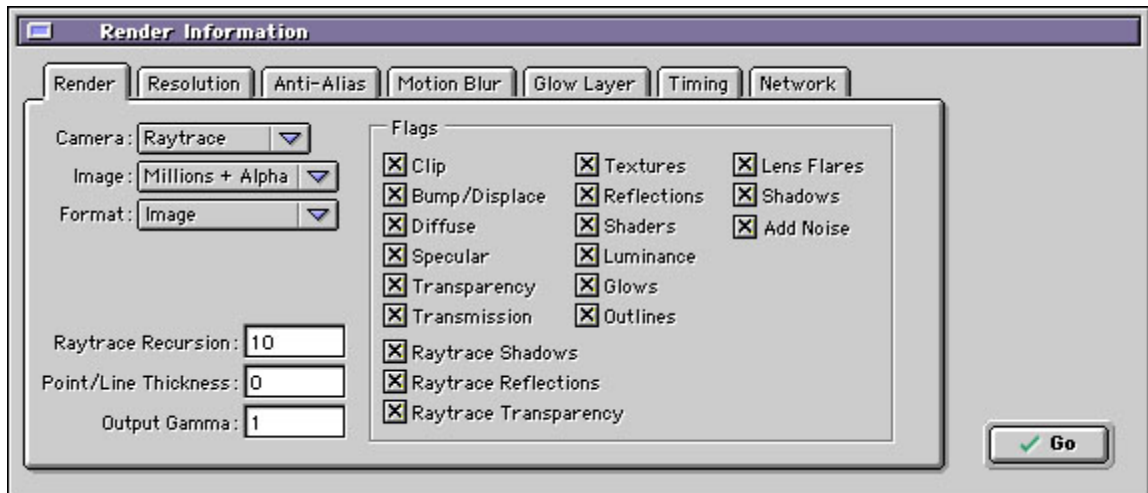
OpenGL.



If you are using an OpenGL card make sure that you select this in your view windows.

5. **Raytracing.** We've now got lots of Raytrace options; here is a brief list of where the controls are and what they do.

Render Window.



Here you've got the option of having Camera render Raytrace by default. If the objects in the scene do not have raytrace properties attached to them, they will still render as Phong. Under normal conditions probably this will be left to render as Raytrace.

In this window you can also turn off/on flags for **Raytrace Shadows**, **Raytrace Reflections**, and **Raytrace Transparency**. We are still king of Multipass rendering;).

Raytrace Recursion. This option allows you to set the number of bounces the raytracer will make. The more bounces the longer the render.

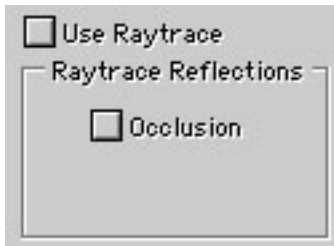
World Info.



This allows you to set the Refraction Index for the entire world and it's objects. If you want to make global changes, this is the way to do it with this option. What is Refraction Index? It's the amount of bend that light will have when it goes through a transparent object.

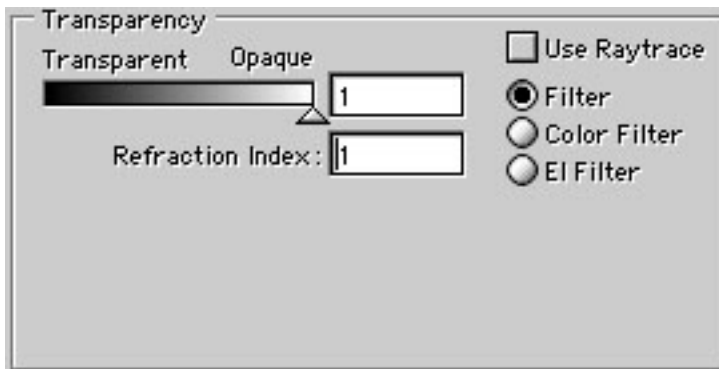
Object Material Properties.

Raytrace Reflection.



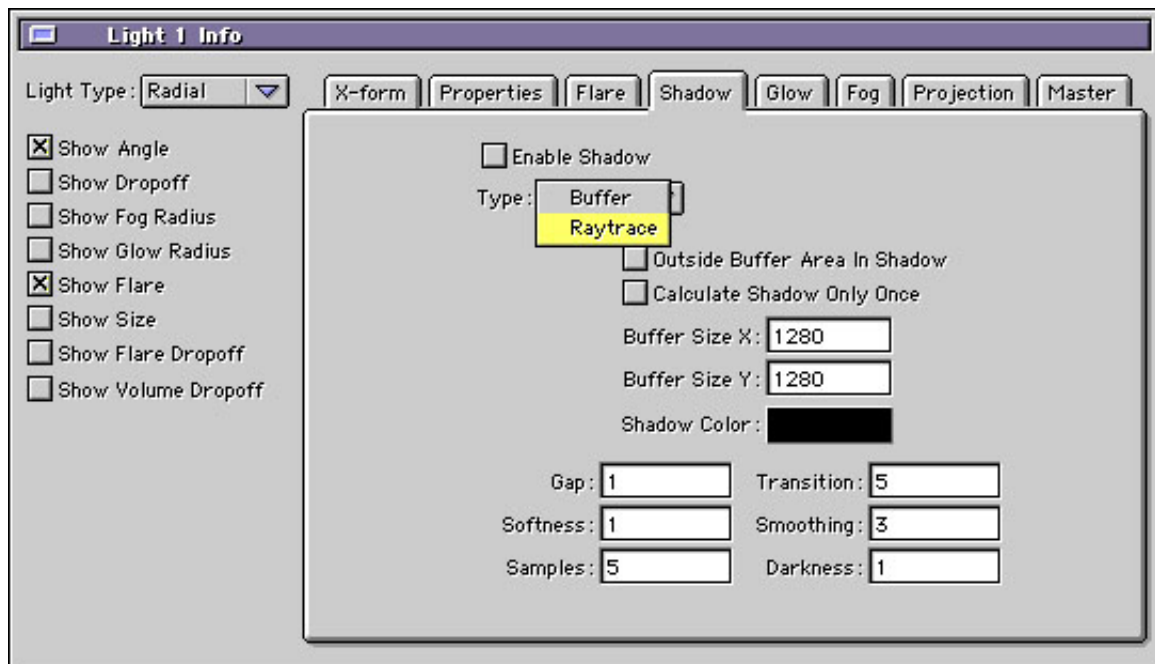
For this, you can just turn on Use Raytrace. The amount of reflection is still controlled the way it used to be. Occlusion is a feature added at the request of an effects house in the bay area that likes to do space operas. It is a one-bounce raytrace, speeds up raytrace rendering, so it doesn't take into account object not in frame.

Raytrace Transparency.



For this, just turn on Use Raytrace. You can also set the Refraction Index per object here.

Raytrace Shadows.



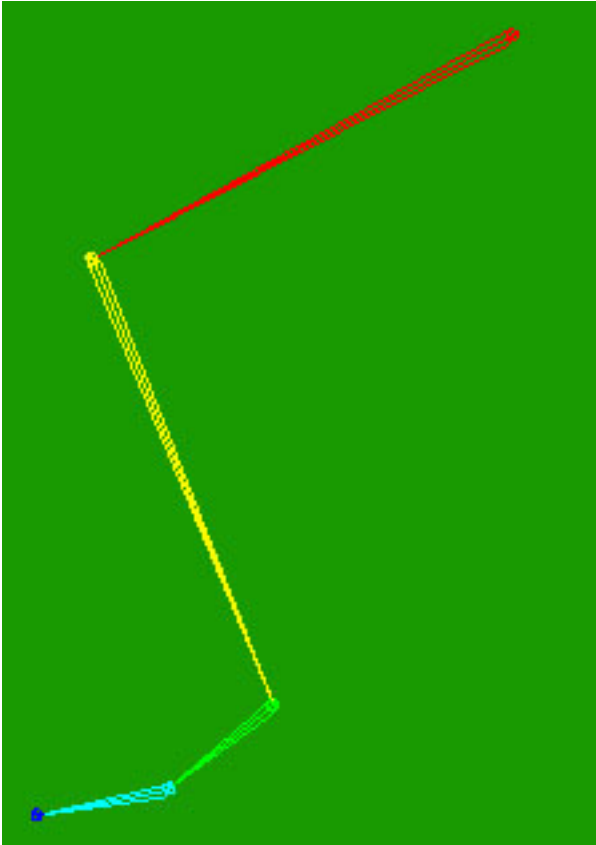
When this option is selected, the options basically go away. The shadow color is taken on from the object, or light. The shadows currently are hard.

New IK and IK Handles

Well, this is a nice new feature, huh? It will dramatically affect your perception of our IK system, guaranteed!

Bones

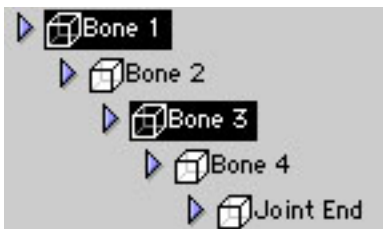
First let's create a bone chain like you would for a human leg. This is done in the same manner, click the bone tool, click and add your bones and then Command + . to stop.



You'll first note, that the bones are slightly different visually. Now they have visual joints. This is the same with skeletal effectors too.

IK Handles

Now in the project window select the bones you'd like to connect the handle to beginning and end.

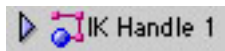


If only the ending bone is selecting the beginning bone by default will be the beginning of the bone chain.

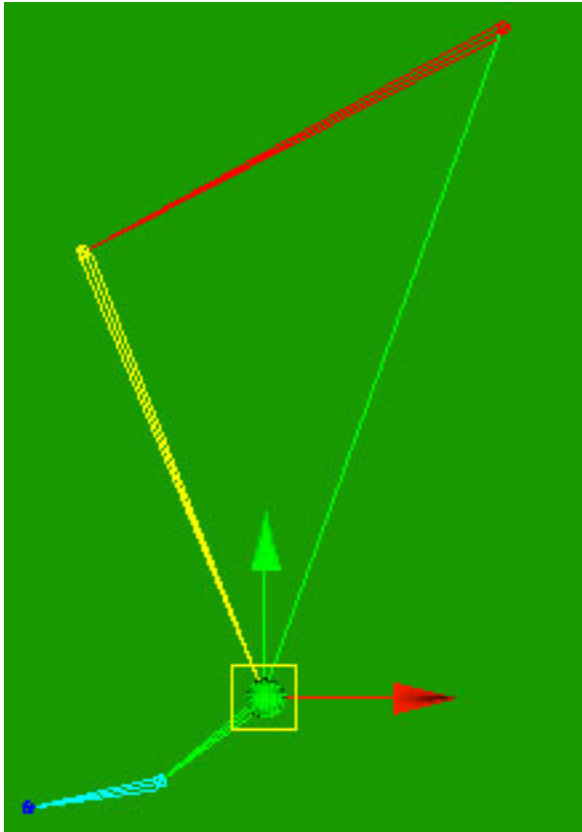
Now click on the IK Handle Object Tool.



This will add an IK handle group to the project window:

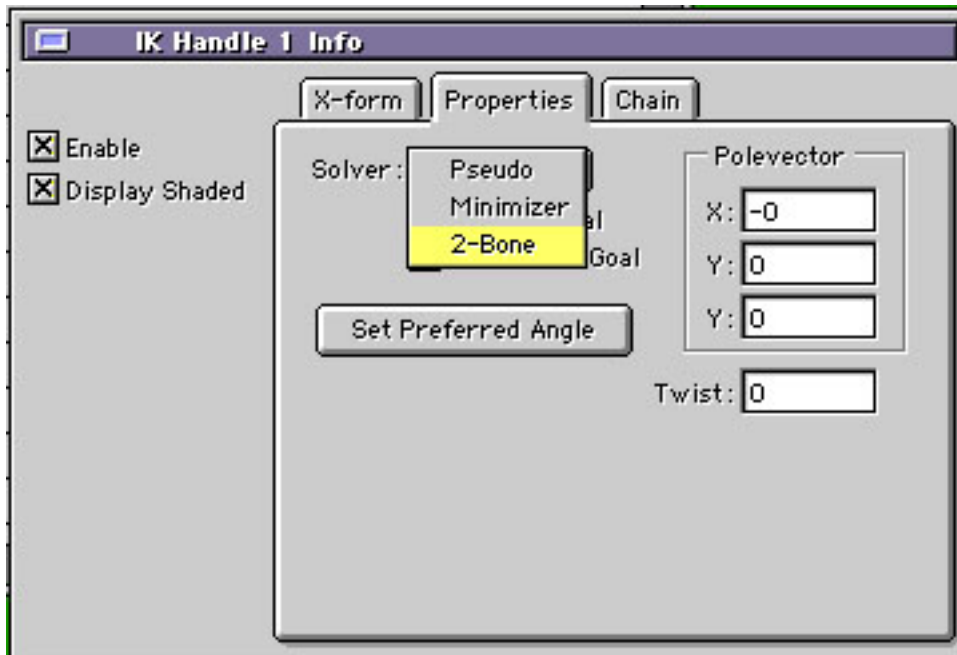


This group is attached to the two bones that were selected, see below:



Now normally you can just lock the bones, and just move the IK handle. Go ahead and experiment.

IK Solvers. In ElectricImage Universe we now have several different IK solvers:



This window is the group info window for the IK Handle. The solvers are:

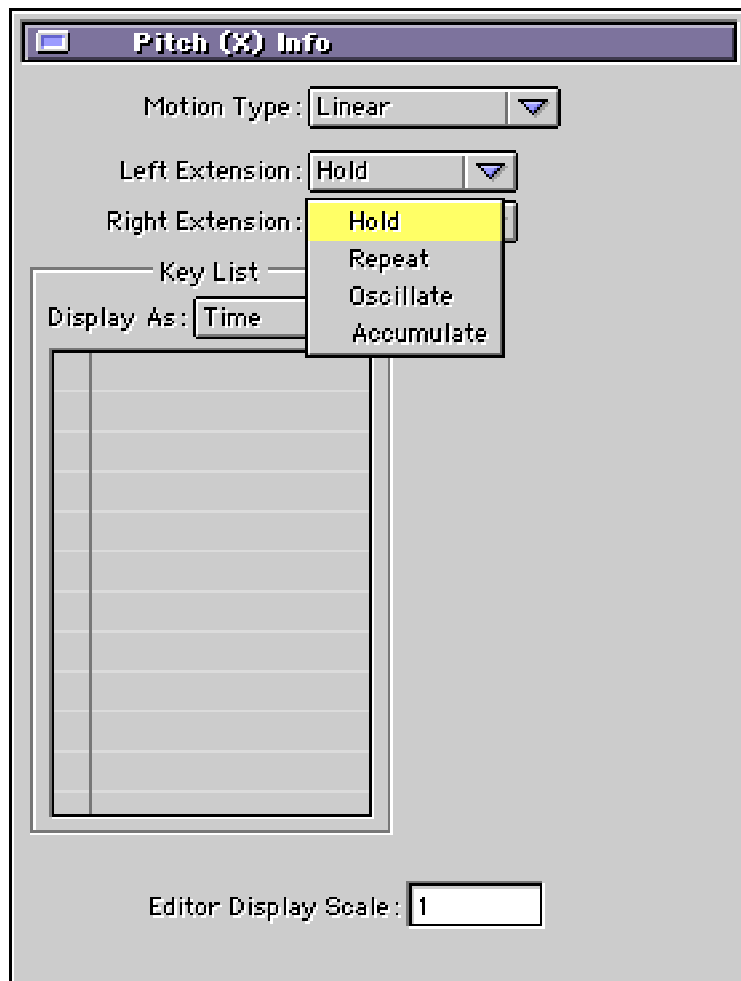
Pseudo: Solves bone chains greater than two, and incrementally solves to get the final solution. It is a little slower than Minimizer is, but slightly more accurate.

Minimizer: This solves bone chains greater than two, but is an immediate solver. Faster than Pseudo, but not as accurate.

It is very fast and very accurate. You can use other solvers for 2 Bone chains, but there isn't really a reason to.

Function Curve Editor

Left & Right Extension Accumulation



This option will take an average of the value between Repeat and Oscillate for the left and right extension. Many times this will give you a smoother curve for these areas than selecting Repeat or Oscillate.