Ted's Tips for 3D Studio MAX

On-line Help

Getting Started — Pick the Help icon in MAX to get specific instructions and tips on how to use 3DStudio MAX2.5. When you install MAX, it also installs Internet Explorer 3.02 to allow you a direct link to the Kinetix website. Visit the web site at ***http:\\support.ktx.com\~8*** ,in any case, to ask questions to Kinetix staff and it's volunteer assistants.

Modeling

Efficiency — Create models with as few faces and vertices as possible for a given mesh. Objects that will be farther from a camera may be less complex than objects close and will still look fine. When lofting objects, use the Optimize checkbox, and for other objects, use the Optimize modifier to reduce the complexity of mesh objects.

Lofting — The process of lofting a 2D cross-section along a 2D path can be used to create very complex objects that would be difficult to create in CAD. Once lofted, an object can be modified using the Deformations at the bottom of the Modify panel. You can Scale, Twist, Teeter, Bevel, and deform Fit the lofted object.

Starting with 2D — You can create many objects by starting with a 2D shape, then Loft, Lathe, or Extrude it into a 3D mesh. Compound 2D objects, such as a rectangle with a circle inside that have been Attached or created with the Start New Shape option, can be Extruded or Lofted into a box with a hole. This is much more efficient that trying to subtract a 3D cylinder from a 3D box.

Importing from Mechanical Desktop — Importing objects from Mechanical Desktop is a good way to work in 3D. Turn off the Weld and the Unify Faces options in MAX2.5 Import for Mechanical Desktop objects.

Materials

Bitmap size — Try to avoid using high-resolution images in the Material Editor. For now, avoid using all JPG files because of a known bug that causes them to use much RAM.

Reflections — Reflections can add to the render time of a scene. Use mapped reflections for the most efficient method and automatic reflections for good results with acceptable speed. Use raytraced reflections only where the highest quality is necessary and speed is not important.

Grunge — Grunge in 3DS MAX is making materials less perfect looking by adding Noise, Smoke, Cellular, Splat, or Speckle map types to the Diffuse, Bump, and Shininess map slots especially. Investigate using Blend materials and Mix, Mask, and Composite maps to keep materials from appearing too plastic looking.

Color Saturation — When sending your entry on video tape, keep the material Diffuse color to a Saturation value of less than 180 in the Color Selector. Bright colors can cause halo effects *when written onto VHS tape.*

Drag and Drop/Asset Manager — Use the new Asset Manager in the Utilities Panel to drag and drop images and scenes into MAX2.5. Materials can also be drag and dropped from the Material Editor directly onto objects in the scene.

Animation

Path Controllers — One of the most productive animation tools can be the Path Controller. It allows an object to travel along any Spline you draw. For best results, use the Constant Velocity checkbox, then in Function Curve mode, use Ease Curves and Multiplier Curves to adjust the speed.

Spline paths can be converted to keys, and keys can be converted to Splines in the Trajectory section of Motion Panel.

Dummy Helper Objects — Use Dummy Helper objects and Hierarchical linking to create complex animation. For example, a path could control the forward motion of a dummy, and the object itself could be animated up and down. You have complex animation, but each portion can be edited independently.

Lighting

Shadow casting — Shadow casting lights are expensive in render time, but important to realism in a scene. Only use shadow casting on the lights that really need to cast shadows.

You can use the Exclude feature of lights to exclude objects from the influence of lights and/or shadows. For instance, the floor in a room should not have to be included in shadow casting if nothing is below it.

You can also right-click on a selected object in a viewport, choose Properties in the menu, and turn its shadow casting ability off.

Attenuation — Use Attenuation on ***all*** lights to control how far a light can cast its effect. Attenuation causes lights to look more realistic and shadows don't have to be calculated beyond attenuation Far Range limit.

Color — Lights can be colored, but wait until you have all your materials looking correct before adding colored lights.

Storytelling

Short animation segments — Use short animation segments, say 30-300 frames long, and edit them together to create your story. This makes the MAX files and animation manageable. Watch television and movies for examples. Count the seconds that any camera scene is on screen before a cut to new action. You will be surprised how short it can be.

Minimum action — Keep the action in a scene to a minimum. Use motion to make a point, not just for the sake of motion. Focus audience attention on the important elements of the action.

Video Post — Take advantage of the Video Post module in MAX. You can perform powerful editing sequences in MAX without additional software or hardware.