



Wisdom related to Blender and 3D in general

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AN ANIMATORS TEN COMMANDMENTS

- 1) Thou shalt design models as simply as possible for the project requirements
- 2) Thou shalt not model what can be faked with maps
- 3) Thou shalt keep thy work organized that it might be reused in thy future
- 4) Thou shalt avoid raytracing as a pox against all mankind
- 5) Thou shalt render to sequenced targa, that thy renders be compositable and not degraded

- 6) Thou shalt never model a background that can be faked 2D
- 7) Thou shalt storyboard thy scenes
- 8) Thou shalt never model without a 2D design and/or reference material
- 9) Thou shalt block out animations with primitives to check thy timing and staging
- 10) Thou shalt remember that modelling is often the least important part of making thy scene work

AN ANIMATORS BEST TOOLS

Pencil and Paper
Tape Measure
References
Mirror
A Brain

WISDOM RELATED TO COMPONENT HARDWARE DESIGN like spaceships & robots

Components should encase one other - go from something and to something
Use simple primitive shapes, but modify with bevels and tapers to add interest
Balance simple shapes with nernie detail

BLENDER NOTES (Stuff I've picked up and am sure to forget if I don't record it)

RELATIVE VERTEX KEYS

go into edit mode and set a base key for your mesh this is your default neutral shape

set each mesh key the way you want it by moving vertices and setting mesh keys

switch to relative keys mode (click the button in the anim window)

delete the default ipo curve - it's useless for this

click each of your vertex keys and make sure you know what the deformations are

click your "key1", "key2", etc for whichever shape you want to set a key for, and the ipo screen goes blank. It's waiting for you to insert an ipo curve for that key shape.

control-left mouse button to insert a vertex. Since it's the first one, you see a 'curve' (actually a straight line) with one vertex - pretty useless!

ctl-left click again, and as you see you can now start to manipulate the curve.

Do the same with other relative keys.

shift click the names of the ipo keys to see multiple relative vertex key curves at the same time

Lattices wont do relative vertex keys

Blender WON'T do relative vertex keys for a lattice, but smesh gives you the basic benefit you're looking for.

Skinning multiple nurb curves (U-LOFT)

Skin a nurb cage with ctl-f in edit mode. Blender looks at this the same as creating faces in mesh mode. So create the spline cage as surface curves, ctl-j to join them if they aren't created as a single object, then jump to edit mode, AKEY to select all control points, then CTL-F to make the skin, ctl-a to convert your nurbs surface to a BE-YEW-TI-FUL SMeshable quad based mesh!

How to fake relative vertex keys with a NURBS model

SOoooo. if you want the benefit of relative vertex keys on a nurb surface, create your nurb surface, then lower the resolution way down to 2 or 3 before converting it to a mesh, then set relative vertex keys but render it in smesh mode - it works!

How to add vertices on the fly

Add vertices with ctl-lmb

A great hotkey for smoothing and hiding options

instant access to subdivide and smoothing options - WKEY. This also has a HIDE option that, for example, lets you hide the vertices on the rear of a mesh so you can edit the front of the mesh without getting confused - kind of like Maya's clipping plane or Max's hide function

A better sphere primitive than ICOSPHERE or UV Sphere

Usually when modeling from a sphere I want a 'symmetrical' sphere - that is, one that has six sides that are each the same. I don't want an icosphere OR a uv sphere. The way to get what I want is to create a cube, hit WKEY and smooth subdivide it 100% twice. This kind of sphere is comprised completely of roughly equally sized quads.

Proportional vertex editing is one of Blenders most powerful modeling features

Hotkey for proportional vertex editing is OKEY (the letter "o", not zero), Change the sphere of influence of proportional vertex editing by hitting your translation key (S,R, or G) and before translating hit + or - on the keypad. The sphere of influence changes visually. In fact, you can even do your translation, then use + and - to dynamically adjust the strength of the 'magnet'. Max, Lightwave, and Maya can't touch this

simple, yet incredibly useful feature.

How to close a curve

Close a curve with the CKEY (make curve cyclic)

How to constrain movement to the grid

Use CTL with grab mode to constrain movement to grid increments. Also, CTL during rotation limits the rotation to 5 degree increments. Very handy.

Joining and Separating Objects

Join objects with CTL-JKEY. Separate objects with PKEY

Dont forget CTL-S

In edit mode it Shears the mesh, of course if you're not in edit mode this is the hot key to save the scene

Quick & Easy way to create lathe models

As cool as patches are, the fact is that the mesh editing tools in blender are state of the art. Want to create a quick n easy lathe? ADD > MESH > CIRCLE > ENTER, then just hit XKEY to delete ALL the vertices, then start drawing your lathe profile with CTL-LMB

Autosmooth is very cool but a little strange

Autosmooth feature requires you to click autosmooth and set the angle, THEN CLICK SET SMOOTH!!!! It doesn't work unless you click SET SMOOTH.

Quick and easy way to mirror a flat polygonal shape

A quick way to mirror a flat polygonal shape is to do a spin of 180 degrees with just one segment

How to render targas so they composite well

Render sequenced targas using the "KEY" option for the alpha calculation (not SKY or PREMUL). Premul actually looks better on the targa image, and KEY looks blotchy, BUT, when you composite, the KEY option causes varying transparency levels (eg halos) to be interpreted correctly by the compositor. High-end stuff.

IPO direct editing tips

Setting IPO curves is easier if you set basic keys, then press TKEY to choose linear interpolation (straight lines, not curves) then when you're done drawing the basic curve, change interpolation back to bezier to smooth transitions out and fine tune. If you don't do it this way it's often easy to try to grab a bezier center handle and accidentally get one of the two tangent handles.

Does your mesh look partly black? Here's why and what to do

CTL-N to ensure vertex normals all point the same way

Fast way to adjust how textures map to your model

Grab an object and hit TKEY to adjust texture space.

Rotation frustration? Here's the deal

Want to change how an object rotates (using it's own center or the cursor)? Use . and , on the keyboard.

What are all the little buttons in the IPO window?

The little buttons next to the IPOs - the wide buttons let you SEE multiple IPOs. The little buttons let you GRAB multiple IPOs.

Vertex Parenting - why you need it and how to use it

Sometimes, you're in edit mode with one object, but you want ot be able to select another object. This is useful if you want to make the second object the child of a vertex of the first object. Select the second object with CTL-RMB

Instantly clear any object rotations

Want to instantly clear the rotation of an object (effectively normalizing the rotation along the axis of creation? ALT-RKEY.

BUG - animation scale

Occasionally, for reasons unclear to me, the animation of an object sometimes gets scaled to 1/100th normal speed. This appears to be a bug that crops up when setting vertex keys. To undo the effect, go tot eh animbuttons and set the mapold value to 100. Somehow it gets erroneously set to 1 sometimes.

File merging to use objects from one file in another

You can import all the things from one file by using * for the name or multiple select objects with the RMBButton

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