***Week 5-1: Animation notes***

**Setup-**

Bottom right button: Preferences

Set to 30 fps

(Real time 24 fps)

**Key framing** (make sure timeline is correct- values immediately left and right of the timeline)

-set to first position at beginning frame setting

-shift w to set keyframe

- set second position at second frame setting

\*\*\*\*\*\*\*(shortcut for copying keyframe positions to new frame – go to keyframe with desired settings, drag using middle mouse button to desired keyframe—keyframes shown on top timeline—then with the x,y,z selected right click>key selected)

**To remove previously created keyframe animation** – highlight translate x,y,z in editor, right click, select break connection

Or Edit>Delete by type >channels

**Alternative to keyframing**: **Setting on a path**

Create a path using curve

1. Make curve
2. Select object >shift select path of object
3. Animation module: animate > motion paths > attach to motion path
4. Set start and end frame

\*node attaches at the pivot point

\* can apply to groups

To continually repeat the motion on the path – **graph editor**

1. Select object
2. Window> Animation Editor >Graph editor
3. Switch to fourth-down view mode for easier control

\*useful to do view>infinity in graph editor

1. Curves> post infinity > cycle

Change spline tangents to linear tangents for more continuous looking motion

***Week 6-1: Nurbs modeling non-unified-rational-b-splines***

Insects are a good subject because they are by and large made of hard geometric shapes = segmented exoskeleton

Sames a polygon prims

1. Import top, side, front image planes into new scene

***6-3***

1. Under surfaces module create a few spheres and move them into position \*start with side position.

Show>image planes check or uncheck

Nurbs have seams == thick part of wire frame they can pinched they can be stretch == rules of textiles apply (polygons made of facets very chunky)

\*terminology = blue lines (wf) are isoparms

Right click and “hull” to see control cage of parametric surface (nurb faces)

Right click again to “control vertices” and start manipulating at the vertex level

1. \* rotate nurbs to tailor to spine of organic object (y-axis)

In other words put the seam in the flow of the shapes

In other words align north and south poles with front and back of creature

1. Use scale, rotate, and move tools to approximate position and shape
2. Check from other perspectives and adjust
3. Right click and “hull” to see control cage of parametric surface (nurb faces)
4. Right click again to “control vertices” and start manipulating at the vertex level

\*awesome method

To creative concave curves in your spherical forms ROTATE groups of vertices!!!!!!!! ☺(reference : 10:00 min in vimeo 6-3)

If you incorrectly select a vertex, control and marquee select to remove

\*\*most useful when you are working in the “front” view

1. To add blinn: right click>assign new material>blinn—rename

Make sure you are grouping and renaming command g

1. Do the legs the same way
2. To rename all parts of one leg: Modify>Prefix hierarchy rename
3. To move leg from top consider adjusting pivot point by holding down the D key while the move tool is on, then rotate

**6-5: modeling and positioning the legs**

1. Selecting one of a group and then pressing the up arrow selects the entire group

\*if you don’t group they pivot from their individual axes

so use the group tool strategically to pivot segments

then ungroup edit>ungroup

once your done

select all

modify>freeze transformations

edit>delete by type>history

save

**6-6**

**nurbs editing tools** to connect segments (alternative to overlapping)

control-h to hide legs temporarily (shift h to unhide)

1. Right click>isoparm (wireframe)
2. Select isoparm and drag where you want to make your cut to open up the end surface (repeat for mirroring surface so then you can join them)
3. Edit Nurbs>detach surface
4. Select both object, Edit nurbs>attach surfaces

Options for attach surfaces:

For smooth transition – keep default “blend”

(blend bias .5 = meet in the middle)

\*\*remember there’s history behind the two objects so when you go to move one of two connect sections only that one will move so delete by type history

This is where the hotbox comes in handy—use it to recall most recent (10) steps for repeat

create curve for shape of wing

edit curves> open close curves

surfaces>planar>reset settings> Planar trim

now map export as targa and then apply as project file texture

give it a assign new material>blinn>”wing blinn” press the checker button neck to color “map”

choose right click “file” in left menu and choose create as projection

select “place 3d texture1” see little four box square and rotate 90deg

then in right menu “Fit to bbox”

then choose image of wing in right meny

window>hypershade>select wingblinn> Right click>graphnetwork

uncheck wrap u for 2d texture placement

then scale the image!!!

modify> freeze transformations

-to set in final configuration (zero out translate, rotate, scale) –enables you to control the pivot point (D,Z)

(material-- map transparency to the alpha channel of the image itself)

open graph network (hypershade) wingblinn and then

projection 15 contains all the information about mapping of nodes fees to the color channel (wingblinn)

-hold down middle mouse key and drag projection 15 over wingblinn

automatic window shows of “greatest hits)== choose transparency

(to tweat choose color balance)

to tweak arrangement with transparency projection15

window>rendering editors>hypershade

graph network of winglinn

select projection 15 and move using bottom most tool

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to break connection of transparency and tweak (forgetting about projection 15)

play with translucence

Week 13

Bullet plugin to for Parthenon (less fussy

(rigid body simulations than maya)

(all of columns collapse but roof stays magnetized to dragons legs and then the dragon tries to fly away…)

* for things to appear that they are assembling themselves, pictures the reverse motion of them falling apart then in the graph editor you reverse the frame values at key points

projected texture tutorials- how to connect the image of the wings to the wings geometr

week 7-12 : Texturing using the 3d paint tool to create a color map

1. view assigned blinn
2. assign new material right onto shape – blinn
3. then in rendering module—texturing-3d texture menu
4. choose assign/edit texture (512x512 == targa to edit in photoshop if you want
5. flood paint
6. color paint (select reflection under stroke, adjust opacity)

hold down letter B to to shrink paint side

if you mess up start over by flood painting

1. save texture

\*\*if your paint is not showing up right-click the model and paint>3D texture

week 7-13-- bumps

<https://vimeo.com/channels/cgmodeling1/51605144>

1. attribute to paint: bump map
2. assign/edit texture
3. set flood to a dark color and and color to a light color (white rise, black stays)
4. render to see bumps!

***Rigging***

***7-1***

<https://vimeo.com/channels/cgmodeling1/51603649>

DON’T SKIN

1. group all of geometry

show>none, then show>nurbs surfaces

select all nurbs surfaces and put in a layer (bottom right menu)

1. Select “joint tool” from animation module (or skeleton>joint tool)
   1. Create hierarchy of joints \*make sure to go back to show>all
      1. Starting with leg (go to front orthographic view) click at joints
      2. When happy with PRESS ENTER
      3. Shading>x-ray joints
      4. Position joints so they sit smack dab in the center of geometry

(Hold down D key to move joint placement)

* 1. “Root joint” is determined by the position of the primary pivot point
  2. Select root joint and DRAG OUT to create new pivot point or connect:

(With joint tool select click on the joint you want to extend from)

* 1. To mirror legs:
     1. Select joint just before center joint
     2. Skeleton>Mirror joint options >YZ plane (reflection plane) and “Behavior” checked
  2. Adjust orientation of rotation points (skeleton> orient) (<https://vimeo.com/channels/cgmodeling1/51604340>)
  3. Set “preferred angle” for resting position (select all, skeleton>preferred angle> hierarchy)

1. Make joint the parent of corresponding geometry

https://vimeo.com/channels/cgmodeling1/51603651

Join should pivot from about where the wings are

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absolute minumum:

>dragonfly on motion path

>attach a group node to the motion path (if you rig, then select it’s skeleton “root”

choose control-g to group it to itself(assuming it’s at the center of the world)

>draw curve off camera to mini Parthenon

>attach to path animate>motionpaths>attach to motion path \*\*front axis Z, up axis Y, choose FOLLOW

do two scenes

scene one: dragonfly flies in >end of path Parthenon collapses

then, save as for scene two: delete old path, make new path starting from where old when deposits,

PARENT rof under rig