

ΓΡΑΦΙΚΑ & ΕΙΚΟΙΝΙΚΗ ΠΡΑΓΜΑΤΙΚΟΤΗΤΑ

Διάλεξη #5

3ds MAX – Polygon Modeling – Advanced (more)

3ds MAX

Polygon Modeling --- Soft-Selection

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□ **Soft Selection influence to the area surround the object we try to transform**

□ E.g. Try to scale a object (Guard) without Soft Selection

- Perspective View – Select “Guard” object
- Ribbon – Polygon - Click to Select the end polygons (right & left to Guard)
- Grab the Scale Tool from Main toolbar --- Scale at “z” axis
- **Only the particular polygons get scaled** --- Undo

----- Undo command– Ctrl + “Z”

□ Enter Soft Selection mode -- Ribbon – Modeling Panel – right down icon

- A new Panel will appears
- Make the selection of polygons you want to transform

Be careful: first enter to Soft Selection Mode and then make the Selection of polygons

- A “heat map” will appear that show to us the influence area
- Click the icon in that panel which has the same appearance to Soft Selection from Modeling Panel
 - Now we can see clearly the size of influence
- We can increase this size using the “Falloff” parameter from the extended menu named “Soft” of Soft Selection Panel
 - Scale at “z” axis and Observe the result
- Set “Bubble” = 1 and “Pinch”= 0 (We can also use the “Edit” button from Soft Selection Panel)

3ds MAX

Polygon Modeling --- Chamfer

3

- **Chamfer creates angles (corners) to objects for better realism**
 - Enter Edge mode & use centimeters as unit --- Perspective View
 - Select an edge loop of “Guard” object (horizontally)
 - Ribbon – Edges Panel – Chamfer --- Shift + Click it to Select (Opens the Caddy)
 - Set Threshold = 0.1
 - Select the three edge loops left to see a preview --- Use Ctrl to do that
 - Selects also the end polygons of “Guard” --- Ctrl + drag a rectangle
 - Turn the “smooth” option off from the Caddy – Uncheck
 - Click the check from caddy

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Polygon Modeling --- Window-Crossing

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□ Selection using Window Crossing

■ Work with the “Grip” Object

- Top View – Select “Grip” object
- Properties – “See-Through” and Quad menu - Convert to Editable Poly
- Ribbon – Polygon Sub-Object mode
- Drag a rectangle to left of the object
- **All rectangles which touches the rectangle we drag were selected**

■ Select the button “Window/Crossing” from Main Toolbar

- If we want to select something we must place it ALL in a rectangle
- Drag the same rectangle and observe now which rectangles are selected
- Delete the rectangles at the left of “Grip” to create an open boarder
- Use Edges Sub-Object mode to select the left edges of the “Grip”
- Move these edges at “x” axis according to image
- Select and move the vertically edges to the place of interesting
- Scale at “y” axis these edges according to the image....

– NOT partially

---- Undo command– Ctrl + “z”

3ds MAX

Polygon Modeling --- Paint-Selection (1/2)

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- Work with “Cylinder” Object --- Perspective View
 - ▣ Modify Panel
 - Height segments = 4
 - Cap Segments = 5
 - Sides = 28
 - ▣ Convert to **Editable Poly**
 - ▣ **Rotate to match the flat area to “Grid” object**
 - ▣ Use elements mode to select all the polygons
 - ▣ Select the Rotate tool from Main Toolbar and rotate the object
 - ▣ Perform a chamfer command
 - Select Edges Sub-Object
 - Select the up and down edges loop using Ctrl
 - Open the chamfer caddy --- Shift + Chamfer (Edges Panel)
 - Set threshold = 0,25cm and check the caddy
- Undo command– Ctrl + “z”

3ds MAX

Polygon Modeling --- Paint-Selection (2/2)

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--- Perspective View

- Make a selection to “Cylinder” Object and transform it according to the image
- Enter Soft Selection mode
 - Falloff = 2,2
 - Polygon Sub-Object mode
 - **Use Paint Selection**
 - Hold down the button “Rectangular Selection Region” at Main Toolbar --- last option
 - Enable “Ignore Back Facing”
 - Reduce the default pixels of Paint Selection by Preferences --- Right click to “Paint Selection Region”
 - Scene Selection – Paint Selection Brush Size = 5
 - Drag the mouse to select three vertical lines of polygons at “Cylinder” Object
 - Move at “x” axis to a touch the “Grid” Object
 - Adjust Falloff = 1
 - Exit Soft Selection and Scale at “y” axis
 - Then Scale at “x” to flat the model and finally press delete to open the boarder

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Polygon Modeling --- Attach

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□ **Attach two Objects**

- Make some corrections to the model
 - Perspective View – Select “Cylinder” object – Press F3
 - Ribbon – Vertex Sub-Object mode
 - Select the corresponding side vertices
 - Use Transform Center mode and scale at “y” axis
--- Undo command– Ctrl + “z”

- Attach the “Cylinder” object to the “Grid” object
 - Exit Sub-Object mode
 - Select the “Cylinder” object (source object)
 - Click “Attach” --- Ribbon -- Geometry (All) Panel
 - Click the “Grid” object (target object)

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Polygon Modeling --- Bridge (1/2)

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□ **Combine to Elements to one Object**

- Work with “Cylinder” and “Grid” object
 - Enter Boards Sub-Object mode --- Ribbon
 - Select the two open borders – Use Ctrl
 - Bridge --- Ribbon – “Bridge” button (Shift + “Bridge”)
 - Check the Bridge caddy (Now we have a single element)

Note: Bridge allow to combine two objects with different numbers of vertices

3ds MAX

Polygon Modeling --- Bridge (2/2)

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- Make some adjustments to the merged area of two elements
 - ▣ Front View – F3 – Ignore Back facing
 - ▣ Work at Front View and Observe at Perspective View
 - ▣ Select some edges and scale it (“z” axis)
 - ▣ Enter Vertex mode – Select vertices at both sides and scale it (“y”)
 - ▣ Cut some edges using cut tool (edit panel)

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Polygon Modeling --- Extrude (1/2)

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□ Extrude an object

■ Make some improvements

■ Polygon Sub-Object mode

- Top View – Select “Cylinder” object
- Select the centered polygons -- drag a rectangle
- Maximize Perspective View
- **Expand the selection** using the “Grow” button from Modify Selection Panel (Ribbon)
- Scale the selection and Move it towards the “Grid” object

3ds MAX

Polygon Modeling --- Extrude (2/2)

II

▣ Ready to Extrude ...

- With the polygons of “Cylinder” object selected
 - **Extrude** the selection by using the “Extrude” button from Polygons Panel (Ribbon)
 - Shift + “Extrude” --- Set Threshold = - 0,4
 - Make a Soft Selection – adjust Transform Center and Scale it

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Polygon Modeling --- Smooth-Hard Edge (1/2)

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- **Determine the edges of a model** (light processing and degrade applied)
 - Smoothing Groups
 - Automate mode
 - Perspective View – Select “Guard” object
 - Modify mode – Properties Panel (Ribbon)
 - Hard
 - Smooth
 - Smooth 30 (Under 30 degrees angle soft – Up hard)
 - Use Selection Brackets ON (Viewport Configuration - Selection)

3ds MAX

Polygon Modeling --- Smooth-Hard Edge (2/2)

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■ Manual Mode

- Perspective View – Select “Blade” object
- Enter Polygon Sub-Object mode
- Select the polygons to build a smoothing group
- Choose “Smooth Selected” option from Smooth button (Click on the down arrow to expand the menu)
- Observe the result ...
- Continue the process to the rest of the model

Ερωτήσεις

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