Poly Report | by Josh Buck | CGARTISTRY

Even seasoned 3d modelers can work a mesh to the point where it needs some cleanup, and those new to 3d modeling can completely tie a model in knots. *Poly Report* is a very simple script designed to do one thing: give in-depth details about a polygonal mesh. The script does not cleanup, only highlights areas of a mesh that may (or certainly do) need some love.

If you're an experienced modeler, the reporting details in this script will make sense. For those of you new to modeling, the following contains a description of the reporting metrics and why they're worth paying attention to.

Use:

To use the script, select a SINGLE POLYGONAL MESH and press the report button.

The square boxes are buttons! Pressing one of these buttons will highlight the component(s) the button is next to.

Buttons may turn colors when a report is run.

Green: Good to go, no problem detected
Yellow: Warning. You, as the modeler, will need to decide if a problem is present.
Red: Indicates a problem that should be addressed.

Reporting Details:

The script window is broken up into four sections:

Section 1: General mesh info. The standard information about triangles (usually considered the actual "poly count" of a mesh), faces, edges and vertices as well as additional information about materials, connections, and UV sets.

Of note in this section is the number of shape nodes a transform has (yes they can have more than one), history present on a mesh (keep it clean kids!), and Transformations. The Transformations metric will print "No" or a combination or "Trns", "Rot", "Scl".

Section 2: More specific information about the polygonal breakdown of the mesh.

Quadrilaterals: this should make sense

Defined Triangles: 3-edged faces. Maya reports the triangle count based on “hidden” triangles that make up all polygons. Defined Triangles does not include these hidden triangles.

N-Gons: Faces with more than 4-edges. These will be flagged as a warning.

Vertices w/n Edges: 4-edged vertices are considered excellent geometry. 3-edged vertices are good and necessary. Vertices with 2 edges can be a problem and will be flagged as a warning. 2-edged verts can be the edge of a plane (which is probably fine), or a vertex that isn’t defining the mesh -- these vertices may have been left behind when edges were deleted.

Vertices w/5 or more Edges: Poles. Probably fine, but flagged with a warning so you can decide for yourself.

Section 3: Specific problems of a mesh that definitely need to be addressed. Problems that should be addressed are highlighted in red. Press the red button to highlight the offending components.

Section 4: Notice, Warnings, Errors. A text output report you can read and go from there.

Notice: Just things to be aware of, some you want to fix, some you can leave alone.

Warnings: These are items like vertices on top of one-another, multiple shape nodes, etc., that you probably want to address.

Errors: Standard modeling errors that should be fixed. These include things like non-manifold geometry and UVs, faces and UVs with zero-area, etc.