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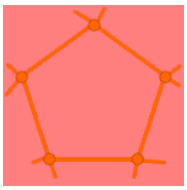
Box (Box-Cage) Topology

This is an absolute expert-use topology, which prohibits the use of all elements that can potentially cause trouble later, save bad shaping / form-tweaking and bad design, offcourse. This is something I've come up with over the years. I won't claim this to be solely my invention, because I'm sure most expert modelers have come to this point at some time in their lives.

The workflow usually starts either from working from one single-segment box (in case you don't have a specific preset you could use to adjust for this model) or a perfectly-made box-topology preset, like a generic male human, or female human, or, per-se, a generic horse or dog model. A preset model *should* already have proper texture coordinates (UVs) defined for it, since it is easier to adjust UVs of a preset than to make them from scratch every time.

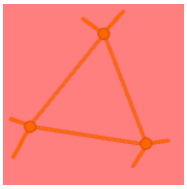
In the first case, you strictly stick to segmenting the box across , vertically through front and back, or verticaly through the side, or sides if you're not using symmetry (segments are also known as edge rings, though "segment" generally refers to the polygon-strip between two edge rings) In the latter case, you keep adjusting your preset's form, also segmenting where you need more geometry with the **edge ring tool** in Maya or the **edge connect tool** in 3Ds Max. Using these tools generally doesn't mess up your UV coordinates too badly, though you usually have to relax them a bit after the editing.

In case of modeling from just a simple box, you start out with only eight 3-edged vertexes to begin with. This means that you have no holes, no triangles, no N-gons, dense areas, 5-or-more-edged vertexes, or any other sins to begin with. You start out a clean slate, no matter what you do, if you stay within the specified workflow, you tend to avoid these trouble-makers. Also, the process makes defining UVs all so much easier. You don't even have to use pelt-mapping in most cases - just simple back/front, up/down, left/right mapping combined with stiching and relaxing will do it in a few minutes. With a preset already UVd beforehand, it should take only a few seconds.



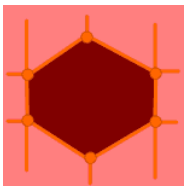
N-gons

Absolutely unallowed.



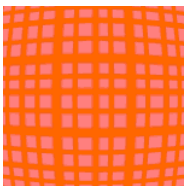
Triangles

No chance.



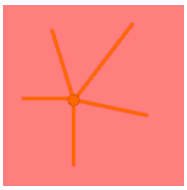
Holes

Never.



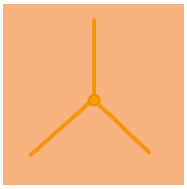
Dense / High Polycount Areas

Every polygon should count, every polygon should have a purpose, even every vertex should have its own purpose. If you can't think of one, the whole polygon strip maybe shouldn't even be there.



5-or-more-edged Vertexes

This shouldn't be happening within your model. If you do this, these places will be hard to define UVs for later. They, as already mentioned in other conventions, also potentially cause disruptions (bulging, shrinking) in motion.



3-Edged Vertexes

These should be kept to the minimum that you start with. When you start with a box, you should have only 8 of these at most, so don't add any more. These are the "corners" of your box-cage.

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