Poly count: is it better to go small or large?

Posted by Abby - 2011/12/03 01:42

I'm a 3D modeler, and never tried to print anything in 3D. Is it better to upload a low poly model, or does that cause problems?

I assume that a ridiculously high poly count would cause problems or make it expensive. And I guess that a very low poly count would make the thing too angular or blocky, or make it have very sharp edges.

It would be nice to see an image of an ideal mesh for 3D printing. Does it vary based on the print material?

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Re:Poly count: is it better to go small or large?

Posted by scottyd - 2011/12/03 01:51

It may vary if the previews of some the most expensive, and least expensive items are any good indicator. Marco it seems has provided a highly detailed tank model for a low price in a rather cheap material.

Abbey,

I apologize I cannot provide you a smaller link : http://www.kraftwurx.com/index.php?option=com_virtuemart&page=shop.product_details&flypage=flypage_kraftwurx.tpl&product_id=271&Itemid=60

I also glimpsed at a sterling silver.... rhino I believe it was. Well over 100 USD. I am curious to all of this to. I'll await a response from one of the company representatives.

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Re:Poly count: is it better to go small or large?

Posted by admin - 2011/12/03 16:07

You would be surprised how low of a poly count is needed. The best way to think about it is based on the size of whatever you upload. If the facets are big, then the object will be blocky. If the mesh is dense it will not. Two million polys is the upper limit. Anything more is waste.

A good rule of thumb is to try to visualize the item at its actual size. If you cannot visualize it, then I would aim for any sort of middle ground.

The best way to experience what is needed is to upload a small test item and order it for yourself. Vary the mesh density and experiment.

Kraftwurx is looking for people in your community to help others and to educate the makers. If you wish,

we can help you via video chat and messaging to get you up to speed.

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Re:Poly count: is it better to go small or large?

Posted by admin - 2011/12/03 16:35

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Scottyd,

Prices vary for different materials. Precious metals....which includes sterling and fine silver are more expensive than other materials because they are made through investment casting of 3D printed models. Essentially it is an extra step.

As of today...their is still no better way to make jewelry than lost wax investment casting. There are machines that can directly3D print precious metals but they have not made their printers available on Kraftwurx yet. When they do, we will add them to the system as an available method.

With that said, the direct print gold has not been demonstrated to put ultra detail into products such as letters.

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Re:Poly count: is it better to go small or large?

Posted by scottyd - 2011/12/04 14:18

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Recently I was searching for information detailing the process from creating a 3D object to having it made into a physical item and what methods work best. It seems displacement maps are not an acceptable method of producing the detail from a sculpted 3D model to a physical item. My assumptions for normal, and bump maps were correct as well as they do not provide surface detail as would displacement maps.

Any details must be on the surface of the model. If these details require me to sculpt them from a sub-divided mesh of 7 or 8 levels I'm glad to know 2,000,000 (Two Million) is an acceptable upper limit.

I'm also glad I can upload data at an average of 4 MB/s. The file size for an object subdivided 7 or 8 times tends to breach 1,500,000 polygons and is usually larger than any other file I have on my HDD.

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Re:Poly count: is it better to go small or large?

Posted by Marco CM - 2012/01/30 11:51

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True you need actual polygons not displacement maps etc. You can always use zbrush's decimation master to reduce the polygon count. I find most sculpts can be reduced to 500k-800k. Making the exported .stl very reasonable in size and still retaining all the detail of the original sculpt.

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