
Subject: I think I Meshed this up.
Posted by [rithmikansur](#) on Thu, 09 Aug 2012 00:03:42 GMT
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When i comes to 3D file formats i'm pretty much a total noob.
I'm curious if someone out there can tell me what the correct terminology is to describe the difference between the two meshes shown in the attached image. At this point i'm not even sure what i should be googling.

The sphere on the left is an OBJ exported from Sculptris, opened in MeshLab. The sphere on the right is an STL exported from Autodesk Inventor and opened in MeshLab.

If I attempt to export the sphere on the right as an OBJ and open it in Sculptris, all heck breaks loose. For the sphere i get an error message.
"too many connections to a vertex". For other shapes, it may import okay.
BUT, it there's usually a tremendous amount of distortion.

Any light that can be shed on this is greatly appreciated!
Thanks in advance!
Rith.

File Attachments

1) [MeshDifferences.jpg](#), downloaded 113 times

Subject: Re: I think I Meshed this up.
Posted by [stop4stuff](#) on Thu, 09 Aug 2012 10:57:21 GMT
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Basically, Sculptris cannot cope with more than, iirc, 24 lines (face edges) connecting to a vertex (point), although the number may be plus or minus 8.

The distortion you see from models loaded into Sculptris is due to the way Sculptris works - basically it will try to smooth out any shapes, the fewer faces shapes have, the more the distortion will be. Try loading a cube in and see what happens.

With your two spheres, the difference is the way the meshes are constructed, the one on the left is more economical with triangle distribution basically for smoother mesh manipulation within Sculptris. As to what the types are called I haven't a clue (sorry) but it may be worth having a dig around on the Scultris website to see if there's any answers there.

Subject: Re: I think I Meshed this up.
Posted by [rithmikansur](#) on Fri, 10 Aug 2012 14:40:32 GMT
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I see,
I did check out the Sculptris forum but they didn't seem to know if there was a different name for the different types of meshes.
I guess maybe there really isn't a difference. It must just be how the software decides to make the mesh. Either that or no one knows..lol

It's not an elegant solution. But, i was able to lessen the distortion by remeshing/subdividing in MeshLab with the Catmull-Clark or Middle filters. Took some of the guess work away from Sculptris i guess.

Thanks!
Rith

Subject: Re: I think I Meshed this up.
Posted by [stannum](#) on Sat, 11 Aug 2012 00:22:21 GMT
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In Blender you get similar spheres to those by using icosphere or uv sphere.

Subject: Re: I think I Meshed this up.
Posted by [rithmikansur](#) on Mon, 13 Aug 2012 01:46:56 GMT
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Aha! Now that sounds like something i can start googling.
Thanks!
Rith

Subject: Re: I think I Meshed this up.
Posted by [tkaap](#) on Sun, 19 Aug 2012 02:07:50 GMT
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The left image is closer to a "geodesic" shape, with triangles that are much closer to the same shape as each other.

The sphere on the right is far easier to write a program to generate, and easier to map UVs onto. (but it has massive polar distortion)

Subject: Re: I think I Meshed this up.
Posted by [Fredd](#) on Mon, 20 Aug 2012 18:09:47 GMT
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You can always take a cube, use subdivision(catmull/clark) on it several times. Much less distortion at poles, since there are none.Lol

Subject: Re: I think I Meshed this up.
Posted by [rithmikansur](#) on Wed, 29 Aug 2012 22:53:21 GMT
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Well I wasn't able to dig up much.
Other than uv or vsphere and icosphere seem to be the proper terminology to describe them both. My end goal was to have inventor choose one type over the other when creating an STL with spherical portions of geometry.
It appears that its not possible. Not a huge loss. I recapped the offending poles in blender. I appreciate everyone's help in seeing the attempt through.

Rith
