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Subject: How do I fix these corner gaps?

Posted by [DrBill37](#) on Mon, 26 Nov 2012 15:17:23 GMT

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Hello

Can someone please tell me what approach is needed to fill in the gaps seen in the attached model of a cube? Is there some magical MeshLab filter that can be used to do this? -I've tried a few with no luck (Convex Hull fills them in but creates a snubbed cut off corner, whereas I need the edge to be a sharp corner.

thanks

Bill

#### File Attachments

1) [Cube\\_3.stl](#), downloaded 55 times

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Subject: Re: How do I fix these corner gaps?

Posted by [stonysmith](#) on Mon, 26 Nov 2012 18:56:17 GMT

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Meshlab is not going to be of any benefit here.. you need a program where you can edit individual vertexes.

I used Truespace, but Blender and several other programs can likely do this.

#### File Attachments

1) [Cube3.stl](#), downloaded 48 times

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Subject: Re: How do I fix these corner gaps?

Posted by [Fredd](#) on Mon, 26 Nov 2012 19:33:01 GMT

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It seems it would be close to impossible to make manifold with beveled corners. I know that in blender you can chamfer(bevel the corners) on a cube, inseting the sides of the cube at the same angle will cause a mess. Let me work up a possible option

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Subject: Re: How do I fix these corner gaps?  
Posted by [DrBill37](#) on Tue, 27 Nov 2012 00:47:35 GMT  
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Hey

This looks really good, but how exactly did you do this with TrueSpace? -I wasn't aware of TrueSpace but I do have Blender -what I am missing are those critical keystrokes to make what you did happen...

much appreciated  
Bill

P.S.  
I'll get a copy of TrueSpace.

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Subject: Re: How do I fix these corner gaps?  
Posted by [DrBill37](#) on Tue, 27 Nov 2012 00:49:34 GMT  
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Hi Fredd

I look forward to what you come up with. It seems I have everything to learn when it comes to 3D modelling.

thanks  
Bill

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Subject: Re: How do I fix these corner gaps?  
Posted by [stonysmith](#) on Tue, 27 Nov 2012 01:47:13 GMT  
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You have to have Truespace 7.6.0 (not 7.6.1) to import/export STLs

Your model was made up of several overlapping shells. I first ran it thru Netfabb Cloud to turn it into one shell.

Then I imported it into Truespace, and un-rotated it so that the sides were perpendicular to the

X/Y/Z axes.

I then turn on the Object Info panel so I can see the coordinates of what I'm working on.

From there.. I go into Edit Vertex mode, select a point that was sunk in, and then type in the coordinates to get it to the right spot. in this case [X,Y,Z]=[12.4,12.4,12.4] and so forth. I figured out those values by selecting other points around the model for where I wanted it lined up.

This method is reasonable if you're fixing 8 only points. It's a bit tougher if you have half a million vertexes to fix. <GRIN>

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Subject: Re: How do I fix these corner gaps?  
Posted by [Fredd](#) on Tue, 27 Nov 2012 03:49:16 GMT  
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Well I hope this was the look you wanted. Even not it is cool.

#### File Attachments

1) [chaminset.stl](#), downloaded 36 times

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Subject: Re: How do I fix these corner gaps?  
Posted by [DrBill37](#) on Tue, 27 Nov 2012 15:26:18 GMT  
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Hi Fred,

-Very cool looking indeed. Alas, StonySmith provided an example which has addressed how to close those open corners with straight edges, essentially completing the geometry. Your result is prettier and more complex but (as a newbie) I am trying to learn the techniques of how to do this. Right now, I am trying to keep it simple (which is nearly impossible).

Anyway, your fine effort will join my personal collection

thanks  
Bill

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Subject: Re: How do I fix these corner gaps?

Hi StonySmith

Me again

>>You have to have Truespace 7.6.0 (not 7.6.1) to import/export STLs

-Located, downloaded, installed v 7.6.0

The app is a bit of an eye-chart with all of those tiny icons, but looks very powerful (once you know what you're doing of course)

>>Your model was made up of several overlapping shells. I first ran it thru Netfabb Cloud to turn it into one shell.

-I repeated this step with my original model, amazed at how fast the processing/turnaround time is on NetFabb Cloud!

>> Then I imported it into Truespace, and un-rotated it so that the sides were perpendicular to the X/Y/Z axes.

-I imported the STL and (after some floundering around) got the hang of the clever little rotation widget and reoriented the model.

>>I then turn on the Object Info panel so I can see the coordinates of what I'm working on.

I had this open at one point but it vanished and I couldn't seem to get it back. Is there a shortcut key combo for that panel?

>>From there.. I go into Edit Vertex mode, select a point that was sunk in, and then type in the coordinates to get it to the right spot. in this case [X,Y,Z]=[12.4,12.4,12.4] and so forth. I figured out those values by selecting other points around the model for where I wanted it lined up.

-I actually got into edit mode and was able to select the recessed point and extrude it as a test, but got lost when it came to identifying the coords you point out. I now have a much better idea, however, of what you did to extrude the recessed vertex. I just could not get that last step.

Another test (if you have the time to spare). I have attached another STL which has small indentations (squares/triangles depending upon which vertex). Within TrueSpace, I used the rectangular selector in edit mode and can highlight these regions but now I need to know how I can extrude them, fill them in -or whatever- to make them go away. I've attached an STL that has

already been cleaned on NetFabb Cloud, if you could please take a look at it. I would sure like to know if there is a general way of fixing these things, something like the healing brush in Photoshop, but for meshes would be perfect. or some global thing I could do to the object. Anyway, I'd appreciate your advice on how to do this.

many thanks for helping  
Bill

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### File Attachments

1) [DL\\_fixed.stl](#), downloaded 51 times

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Subject: Re: How do I fix these corner gaps?  
Posted by [JACANT](#) on Tue, 27 Nov 2012 21:20:35 GMT  
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The easiest way to do this is to create 'spheres' of the same diameter as the 'pipes' and 'Boolean Union' them together. Have a look at this model. That's how I did it.  
<http://www.shapeways.com/model/772608>

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Subject: Re: How do I fix these corner gaps?  
Posted by [DrBill37](#) on Wed, 28 Nov 2012 00:12:57 GMT  
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Hi Rob,

What you have done is exactly what I am after. What tool did you use to add the spheres you mention?

thanks  
Bill

P.S.  
Very nice geometry on the pendant.

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Subject: Re: How do I fix these corner gaps?  
Posted by [Fredd](#) on Wed, 28 Nov 2012 02:49:17 GMT  
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Thank you Jacant. The tip about using dupliverts and booleans is superb . I can get some use now out of extruding edges in Blender now

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Subject: Re: How do I fix these corner gaps?  
Posted by [JACANT](#) on Wed, 28 Nov 2012 02:58:49 GMT  
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Hi Bill,  
It depends on what software you are using. I use AutoCad.

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