
Subject: I'd like your feedback: new non-manifold tutorial
Posted by [bartv](#) on Mon, 16 Mar 2009 14:05:19 GMT
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Hiya,

I've been busy writing a new tutorial on finding and fixing non-manifold areas in your model. Before I publish it 'formally', I'd love to get some feedback on it.

<http://www.shapeways.com/tutorials/fixing-non-manifold-model> s

Is there anything that isn't clear enough, or that I forgot to add?

Thanks!

Bart

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [loonsbury](#) on Mon, 16 Mar 2009 17:02:10 GMT
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I think the short videos do a great job of explaining the issues. Something I had trouble with in my STL uploads was identical vertices: not connected but apparently read as the same by Shapeways checks. This will never be obvious in Blender, but it results in manifold errors so you may want to include that in your list of causes.

Now, I'm not sure of the mechanics on the Shapeways server, but I assume it's much like importing the resulting .STL and removing duplicate vertices - now we have manifold problems.

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [ewco](#) on Tue, 17 Mar 2009 08:09:14 GMT
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Same problems here i think.

Most of our identical vertices, cant be deleted, they are used for different objects.

Is it possible to make a local check with the Shapeway software that checks our model? it is a hell of a job to go true all those steps to upload the model, and then wait to get a mail if it is ok.

(20 times a day is no joy)

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [OracleofWuffing](#) on Thu, 19 Mar 2009 16:27:30 GMT
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I know for the purposes of creating a "general" guide to cover common errors, this might be overstepping bounds, but is it possible that you could list some of the keystrokes you're using in the tutorial movies?

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [bartv](#) on Fri, 20 Mar 2009 12:55:43 GMT
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@Oracle of Wuffing:

I guess the most important ones are these:

TAB - switch from object to edit mode
X - delete selected vertices/edges/faces
F - fill selected polygon

You'll find a full hotkey list here:

<http://wiki.blender.org/index.php/Doc:Reference/Hotkeys>

Cheers,

Bart

Subject: Re: I'd like your feedback: new non-manifold tutorial

Posted by [bartv](#) on Wed, 25 Mar 2009 16:19:04 GMT

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@loonsbury: I thought about that specific problem, but I think that in the end it boils down to the 'overlapping faces' type of problem, so I don't think I'll need to add it to the tutorial. Interestingly enough, if you upload such a model *before* unifying the vertices, our server will accept the model just fine.

@ewco: do you mean integrated into your own 3D app, or as a stand-alone app?

Cheers,

Bart

Subject: Re: I'd like your feedback: new non-manifold tutorial

Posted by [loonsbury](#) on Wed, 25 Mar 2009 17:31:55 GMT

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bartv wrote on Wed, 25 March 2009 16:19 Interestingly enough, if you upload such a model *before* unifying the vertices, our server will accept the model just fine.

Mine haven't worked for that reason in the past, maybe I should try again.

Subject: Re: I'd like your feedback: new non-manifold tutorial

Posted by [tones3-d](#) on Sat, 23 Jan 2010 03:36:49 GMT

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I, too, would love to be able to check my files before uploading, using the same software that Shapeways uses.

This would save a lot of time and effort, and a bit of network bandwidth, too.

Subject: Re: I'd like your feedback: new non-manifold tutorial

Posted by [erich666](#) on Tue, 24 May 2011 01:44:16 GMT

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Little bugs in the tutorial:

"sube" should be "cube"
"undoubtably" should be "undoubtedly"
"containind" to "contained"
"vizualisation" to "visualization" or "visualisation"
"remodelling" to "remodeling"

On the subject of manifold surfaces, it would be good for you to point at the original tutorial, <http://www.shapeways.com/tutorials/things-to-keep-in-mind>. In that tutorial, I had a question: you show a Blender operation to make the object non-manifold. What does this operation do? Does it simply move the two touching edges back a bit from each other?

I'm looking forward to unleashing the mesh manipulator MeshLab to clean up my meshes, so I want to understand "manifold" a bit more in other packages.

Eric

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [dizingof](#) on Tue, 24 May 2011 03:21:29 GMT
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Hey Bart

I dont know if it's a far-fetched idea... but do you think shapeways can negotiate a deal either with the authors of netfabb or magics for a slim down version of their software for this community ?

Shapeways has managed to introduce and expand 3D printing to a vast audiences of hobbyists, students, designers, of all ages and occupation - this market requires a slim version of a "fix-it-all" software to fix stl files - so designers can actually spend their time and focus on designing and not (sometimes) be frustrated with an illusive non manifold error or any other common errors.

Sure, shapeways Meshmedic is a quantum leap vs. what we had to deal with before its installation still, an affordable-for-all professional software such as those pricey packages is the next big step in my opinion.

everyone wins.

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [TurtlesAreCool](#) on Tue, 24 May 2011 03:31:40 GMT
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erich666 wrote on Tue, 24 May 2011 01:44

On the subject of manifold surfaces, it would be good for you to point at the original tutorial, <http://www.shapeways.com/tutorials/things-to-keep-in-mind>. In that tutorial, I had a question: you show a Blender operation to make the object non-manifold. What does this operation do? Does it simply move the two touching edges back a bit from each other?

Ctrl+Alt+Shift+M "shows" non-manifold, not "makes" non-manifold. It selects the vertices which are non-manifold in the object currently in edit mode. Note that the command does not deselect everything first, so if you only want non-manifold vertices, you should deselect everything (two taps of the a key will suffice), then use the command.

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [stannum](#) on Tue, 24 May 2011 04:55:13 GMT
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And before show non manifold, (join all the meshes, select all the vertices and) run remove doubles (then unselect all), so you are sure you get all the problematic edges and vertices marked, not just the ones in current unwelded object.

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [Manjuvajra](#) on Fri, 08 Nov 2013 12:43:19 GMT
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Thanks very much for a very clear intro to this stuff - I'm a beginner in modeling and this was a

great help.

Subject: Re: I'd like your feedback: new non-manifold tutorial
Posted by [bartv](#) on Sat, 09 Nov 2013 15:42:39 GMT
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Thanks! This tutorial is quite old though, so please know that our software is now capable of automatically fixing some of these issues. Still, it's always better to learn how to design well.
