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Subject: Non-Manifold problems in Blender  
Posted by [natur3](#) on Wed, 16 Jan 2013 11:51:04 GMT  
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]Dear all,

I just started on 3D modeling not long ago.

I have a problem with non-manifold with my 3d model.

I have identified the non-manifold parts in the model. However, I am not sure what is wrong with the model.

There are no "holes" shown by the orange dots.

Can anyone take a look at my model?

I have also attached the .stl file.

Thank you very much!

Best regard,  
Shi Kai

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### File Attachments

1) [Eye.STL](#), downloaded 81 times

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Subject: Re: Non-Manifold problems in Blender  
Posted by [JACANT](#) on Wed, 16 Jan 2013 16:48:29 GMT  
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Get yourself a copy of <http://www.netfabb.com/basic.php> it's free  
Click on the red cross. You will see the yellow triangle is a hole and the orange lines are degenerated faces. These can be repaired. The part that is red on top of blue means you have faces on top of each other with no apparent thickness. This cannot be repaired in Netfabb. You need to give this area some thickness to separate the two faces.  
It would be wise to overlap the three shells so Shapeways software will join them together as one.

## File Attachments

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1) [eye.png](#), downloaded 178 times

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Subject: Re: Non-Manifold problems in Blender  
Posted by [Fredd](#) on Wed, 16 Jan 2013 21:09:41 GMT  
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This is the best description of non-manifold I have seen so far,

" In short: your mesh is manifold when all vertices are connected with edges and those edges are connected to exactly two faces.

ctrl+alt+shift+m tries to select non-manifold parts of your mesh.

Those parts could be: loose vertices, double geometry, inside faces/edges, holes."

Coplanar faces, separate meshes and ngons can also lead to nonmanifold errors.

A good way to check for overlapping faces in Blender is to go to the property panel/object data and unclick double sided. It is similar to the red area in Jacants picture, except these areas will be darker compared to the rest of the mesh in Blender. This will also show incorrectly oriented normals.

### Some tips

When you select non-manifold and the verts get highlighted, you can swap to edge select to clearly define the holes,(should not be creating a plane)

Enabling the measure panel addon will calculate volume, surface area, will tell you if the mesh is nonmanifold and if ngons are present.The settings are in the Npanel. As is display normals.

Experiment with the select similar options for faces,verts and edges. This helps in repair also.

Was this a file from something scanned?

Keith

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Subject: Re: Non-Manifold problems in Blender  
Posted by [natur3](#) on Thu, 17 Jan 2013 04:33:56 GMT  
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Thank you for your prompt replies.

Netfabb is one fabulous software. Makes my job easier.  
Netfabb fixed most of my problems.

The rest of the problems will have to be fixed in blender.  
I am currently experimenting with blender.

Thank you for your insights.

PS: Yes, i have extracted the contours of the human eye from 4 different angles and constructed this 3D model.

Best regard,  
Rick

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Subject: Re: Non-Manifold problems in Blender  
Posted by [JACANT](#) on Thu, 17 Jan 2013 21:40:41 GMT  
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This may explain non -manifold edges for you. That is why you need to 'overlap' them slightly so they don't share the same edge.  
<http://www.shapeways.com/tutorials/things-to-keep-in-mind>

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