Subject: Center of gravity?
Posted by Dragoman on Tue, 16 Oct 2012 07:51:25 GMT
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Hello

I have to check whether a complex shape will balance properly.

Can somebody advice how to find the center of gravity of an object (before actually printing it)?

I use Blender and can handle Netfabb.

Greetings
Dragoman

Subject: Re: Center of gravity?
Posted by bvr on Tue, 16 Oct 2012 23:12:20 GMT
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Dragoman,
Not sure if that is a feature of Blender. The cad software I use has a checkbox for it, and it sure is handy for pendants and things that hang. Do you have any cad software available?
bvr

Subject: Re: Center of gravity?
Posted by Fredd on Wed, 17 Oct 2012 01:42:26 GMT
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Actually I think Meshlab can detect it. Import your model, click Filter/Quality Measures and Computations/Compute Geometric Measures. Then click show layer dialog icon. Looks like a sheaf of papers(It is under the Window in the top header) Center of mass looks like what you are looking for. Plus gives bounding box dimensions, surface area and volume. Lots of goodies, besides it being free.
Keith

Subject: Re: Center of gravity?

Posted by Dragoman on Thu, 18 Oct 2012 18:51:34 GMT
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Thanks.

I installed Meshlab and I got it to work. On some test cases, the CG seem to be where I expect it to be.

Greetings
Dragoman

Subject: Re: Center of gravity?
Posted by bartv on Mon, 12 Nov 2012 15:02:58 GMT
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That's a great trick Fredd, thanks!

Bart

Subject: Re: Center of gravity?
Posted by stop4stuff on Mon, 12 Nov 2012 17:33:41 GMT
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Fredd wrote on Wed, 17 October 2012 01:42Actually I think Meshlab can detect it. Import your model, click Filter/Quality Measures and Computations/Compute Geometric Measures. Then click show layer dialog icon. Looks like a sheaf of papers(It is under the Window in the top header) Center of mass looks like what you are looking for. Plus gives bounding box dimensions, surface area and volume. Lots of goodies, besides it being free.
Keith

A most excellent top tip

Thanks

Paul

stop4stuff Modeller for hireShapeways ShopTwitterYouTube

Subject: Re: Center of gravity?
Posted by bartv on Tue, 20 Nov 2012 11:39:39 GMT
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Hi Fredd,

we thought this tip was good enough to share with a larger audience and turned it into a blogpost!

http://www.shapeways.com/blog/archives/1771-Quick-Tip-Findin
g-the-Center-of-Mass-of-a-Model.html

Thanks again

Bart

Subject: Re: Center of gravity?
Posted by Fredd on Tue, 20 Nov 2012 18:12:27 GMT
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I am just curious for how long people have been looking for that info?
Oh well, I am glad it could be of some help, and thanks.

Keith

Subject: Re: Center of gravity?
Posted by Plumguy on Mon, 24 Dec 2012 14:02:02 GMT
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While using Blender, would the best format for MeshLab to import be STL?

Subject: Re: Center of gravity?
Posted by Fredd on Mon, 24 Dec 2012 17:20:57 GMT
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It doesn't really matter. Beware though if you are going to use it, and are going to let SW boolean join some meshes together when your model gets uploaded, there will be a discrepancy.
Bigg news though!!! Blender 2.65a release has an option to move the origin to the center of

mass, which is the same thing. Do this in object mode from the tool panel.

Subject: Re: Center of gravity?
Posted by roofoo on Wed, 09 Jan 2013 14:32:23 GMT
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Fredd wrote on Mon, 24 December 2012 17:20 Bigg news though!!! Blender 2.65a release has an option to move the origin to the center of mass, which is the same thing. Do this in object mode from the tool panel.

Sweet, thanks for that tip!

Subject: Re: Center of gravity?
Posted by Tigermoth on Sun, 17 Feb 2013 22:47:28 GMT
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Great advice Fredd!
This should be an important feature in all 3d apps imo.

For the Rhino users, select object > Analyze/ Mass properties/ Volume Centroid.

I've been working on some balancing acts myself...dunno how well this actually works, but will know more when my next shipment arrives!