Subject: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 15:54:40 GMT
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Hi

I recently made a two part necklace piece for my sisters confirmation, but since this is my first model,
it turned out to have some errors which, I think, would make it unprintable.

I'm looking for someone, who could fix it/make it printable, and tell me if the parts would fit together.
It would be prefered if you would make it for free, as the price of the parts/shipping is already high.

Parts attached below

Thanks alot

File Attachments

1) Top.stl, downloaded 49 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 16:09:52 GMT
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Here's one of the parts that I fixed using The Netfabb cloud service. Top_fixed.stl

And the corresponding Netfabb page to that is here.

I'll assume you forgot to upload the bottom part. If you upload it I'll fix it too and do a clearance check.

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 16:15:56 GMT
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second part

File Attachments

1) Bottom.stl, downloaded 45 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 16:30:00 GMT
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Thanks alot, I've uploaded the second part, which i forgot to upload earlier

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Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 16:34:13 GMT
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K, I fixed it and put the two together to check the clearance and the clearance is zero. There is no clearance for the top to interlock with the bottom. What material did you want to 3D print this in?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 16:38:02 GMT
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I wanted to print both in stainless steel, and have the top gold plated Is it possible?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 16:44:43 GMT
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Yes, but you will need to make two different orders, one in gold plated and one unplated.

This dose not fit together in reality I'm afraid to say. Either the top or the bottom will need to be remodeled to make it fit together like you want. How much time do you have for this gift?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 16:49:15 GMT
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Well, if it takes a month to ship to Europe, I have a week

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 16:53:12 GMT
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What country are you in? Shapeways has it a factory in Holland. Are you near there?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 16:54:07 GMT
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Yeah, I live in Denmark. How long would shipping from Holland take?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 17:08:25 GMT
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Oh, never mind I just remembered that it takes a little over two weeks just to make it. Shipping wouldn't be that long to Denmark, but it takes too long to make it.

If you wanna pay BIG BUCKS I know a company here in the US that can make that and ship it to you OVERNIGHT!

They don't do stainless steel and they don't do electroplating. So you would have to do the gold part in gold and the other part in sterling silver. In US dollars it would be around $30 for overnight shipping, $70 for the rush order, around $150 for the printing, several hundred dollars to cast the gold and around $100 to cast the silver. You'd have to contact them for exact quote though.

I can give you their contact information privately if you'd like to try them.

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 17:46:53 GMT
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Sadly, I don't want to spend too much money on it
What would it take to make the parts fit IRL?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 17:55:09 GMT
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Yeah I'm working on that right now. I'm seeing if I can do some CAD magic on it to make it work without having to remodel it. I'll post up what I find out later.

There is also a company in Belgium that will make it in plastic overnight.

Give some time to work on it. I'm experimenting around.

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Mon, 18 Mar 2013 20:44:35 GMT
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Thanks, I appreciate it alot

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Mon, 18 Mar 2013 21:19:29 GMT
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Looks like I cannot do it automatically. Well, I can, but it doesn't come out 100% perfect as parts of the inside corners get rounded off. I'll be going to sleep now and I'll take a look again later to see if I can think of anything.

One way would be to convert it to a solid and then use a solid modeler to manipulate the surfaces to allow for clearance. Another way is to just remodel the top so that it has built in clearance. I noticed you made this in Sketchup. Do you have the Sketchup file version of this? Cuz if you do I think Sketchup can make the clearances pretty quick, provided it is in the original Sketchup format. If you have the original Sketchup version of this attach it here and I'll look at that too when i wake up. Otherwise, I'll take a look again when I get a chance to see else can be done.

Nice design by the way! That's very clever how the top slides on the chain to open and close!

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 06:04:14 GMT
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Thanks alot for the feedback
Yes i have the original Sketchup files. Here they are.
Thanks alot for the help

File Attachments

1) Top.skp, downloaded 35 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 06:05:43 GMT
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Second part

File Attachments

1) Bottom.skp, downloaded 34 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Tue, 19 Mar 2013 07:15:18 GMT
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Shoot! It cannot be fixed at the current scale!

What happens is, when you try to add clearance (which, is very easy to do in Sketchup with the original file by simply using the push/pull tool on one face and then double left clicking on any of the other faces you want to adjust) it simply makes the blocks not square anymore. Making a clearance on a block of 0.1 mm reduces the block size from 0.938 mm to 0.738 mm, which makes it look not square anymore. Also, the minimum detail size for embossing and engraving is 1 mm in Shapeways Stainless steel so that breaks the design rule by quite a bit. You might be able to get away with 0.938 mm but not 0.738 mm. I also tried 0.05 mm but that too was noticeably not square and still that too is way under the design rule minimum.

Consequently, in order to fix it the whole design needs to be scaled up at least double the current size. That way, when editing in clearance at 0.1 mm it wouldn't be that noticeable that the edge blocks are not square by removing 0.2 mm and there would be plenty of room to allow for the design rules.

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 08:39:55 GMT
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So it would have to be double the size to be fixed?
What if it were 0,5 times bigger? Would it work?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Tue, 19 Mar 2013 09:13:49 GMT
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Yes, but when you have it in your hand and looking at it you might notice that the end blocks are smaller than all the rest of the blocks using the Sketchup push/pull correction method.

Another way to do it would be to scale the whole thing up slightly and then do a 0.1 mm reduction on all the blocks of just the top or bottom. So the blocks are currently 0.938 mm and if you scaled so that they are all 1.138 mm and then reduced all the faces of all the blocks on one side with the push/pull tool by 0.1 mm that would give the clearance. Again though, you may notice in the final print when you have it in your hand that the blocks are of a different size on whichever side you did the reduction on. One side would have 0.938 mm blocks and the other side would have 1.138 mm blocks.

If it were my design I would keep it at around 19 mm or so and I would completely remake it with 2 mm blocks and I'd design in a clearance of 0.2 mm between each block between the two halves. I'd use 0.2 mm clearance instead or 0.1 mm clearance just to be sure there was no interference between the two halves due to manufacturing inconsistencies. I'd use 2 mm blocks cuz they are easier to see with the unaided eye.

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 10:18:14 GMT
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Ok, so I made it 0,25 times bigger, and minimized almost every wall with 0,1
Is it printable now?

File Attachments

1) Bottom 2.stl, downloaded 32 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 10:19:36 GMT
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Btw, I only did it with the top

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1) Top 2.stl, downloaded 29 times

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Tue, 19 Mar 2013 11:44:15 GMT
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Nice job!

I checked the clearance and there are no interferences. It looks good too!

But wait, there's one more thing you might want to change to make it print out good. On the bottom half, see how some of the cubes sticking up from the surface are barely sticking out? Yeah, you should raise those up cuz, well, they're most likely not going to show up once it's printed and sintered. Some of those are only sticking out 0.094 mm! And what does the design rules say for stainless steel? It says that the minimum for embossing (things that stick out from a surface) should be at least 1 mm. Now, that's not true though, I've seen prints from Shapeways in stainless steel that have far more detail than 1 mm, however, I highly doubt that an embossing of 0.094 mm is going to show up once printed. It's up to you, cuz I know that's a lot of double clicking!

One other minor thing is to send your STL files, once finished, to the Netfabb Cloud Service, cuz the normals are messed up on these STL files and that might cause Shapeways to automatically reject any submission attempts.

Did you find a way to get it made in stainless steel in less than a week?

Subject: Re: Modeler needed to finish project, preferably for free

Posted by DK295 on Tue, 19 Mar 2013 11:50:58 GMT
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Thanks alot
Yeah, it will be done in time, so if you could send the netfabb fixed files, i would be grateful

Thanks alot for the help.
Now, I'm fairly new to Shapeways, but I can set you as co-creator for the model, right?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Tue, 19 Mar 2013 12:02:20 GMT
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Nah, I just gave some technical tips, you're the artist on this. By the way, remember how you're trying to save money on the initial making of this? Well, this is a really great design! If you put this in your store once it's finished you'll be able to sell it and get your money back plus make a profit over time.

Yeah I can send those to the cloud if you want and post them here. You're not gonna go with raising the embossing on it I take it, right?

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 12:18:11 GMT
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Nah, I worked alot on it, and I think it will be alright anyway
(And maybe I'm a little lazy)
Thanks alot

Subject: Re: Modeler needed to finish project, preferably for free
Posted by UniverseBecoming on Tue, 19 Mar 2013 12:30:59 GMT
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I know all about that cuz I'm the MASTER OF LAZY!

Top

Bottom

The Netfabb Cloud Service is here, for when you work on something else someday.

Post pics once you get it made!

Subject: Re: Modeler needed to finish project, preferably for free
Posted by DK295 on Tue, 19 Mar 2013 13:10:28 GMT
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Will do