Subject: The VRML Guide for Maya Artisan Designers
Posted by akeno on Mon, 15 Feb 2010 00:16:26 GMT
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Hi

Let me start off that I had a long post but never got around to finishing it and decided it was more of a rant then it was information so this is just a rewrite of this.

This post is directed towards Maya users who develop in the sense of ZBrush, Character sculpting and creating, and anything that portrays way past the definition of Prototyping in a "new world" environment.

To start off, this is done purely in Maya 2008. As of right now there is no high solution for 2009+ Mayan users who wish to export in VRML97 format which is required as normal VRML will not export properly.

There is a particular workflow which, if in order for your mesh to be fully compatible and not give you hours of headaches with no hope of fixing or remedy, that you must follow.

WORKFLOW FOR NEW PROJECTS ONLY
The order: Mesh, STL fixing, OBJ convert, UV, VRML.

MESH
1. Create your mesh, fully, to its finished product. Within this stage you must not worry or concern about UV's at this given time as it will not matter until very late in the creation process.

STL FIXING
2. Fix your mesh so its water tight, and has no manifolds. There is a huge misunderstanding within the community that gives a humongous headache during this process if your UVs are already set out and they are textured.

If you use such program as Magics RP or Netfabb, once your mesh is no longer a complete disaster you will realize that faces of your mesh were deleted by the software, thus removing the particular UV map from that face, and replaced with a new face that has NO UV MAP. This can highly effect your completed object if it's already textured and will give you a giant headache in the end if you map before this.

OBJ CONVERTING
3. Move your fixed STL, watertight mesh, into Meshlab and convert it to an OBJ (or equivalent extention), you will still not have UV's at this point in time so no worries, but your mesh will be clean and ready for printing with no manifolds and/or  any errors when it's time to re export.

UV MAPPING
4. This is the time to UV map your object. Make sure you set UV's to your object, save your file, and then do an export test in Maya with the VRML file and open Accutrans to make sure that the mesh is still water tight. If there are errors go back to step 2 and fix those errors or fix them inside Maya merging all the error verticies and using the Cleanup tool. Maya is able to use multiple maps overlaying each other with no problems as long as the files are in the same folder. I use Roxee.

Remember: This is for 2008 only. 2010 Mayan's will have to find a downgraded version unless they update their script plugin's or another is created from scratch for the new client.

VRML Export
5. Load your plugin and Export. Maya has a huge glitch to where it won't export in many cases a single item, so if there are things you do NOT want exported, delete them, because you will have to Export All. Do NOT use Export Selected.

Check Export textures. Delete the sub directory, leave it blank. Put your texture files in the same folder as the .ma/.mb Maya project folder. Make sure it's set to the same path in the hypershade and is not in any sub folders. You do not want your textures in the images folder.

If all goes well you should be able to successfully export and upload into shapeways with no problems.

FOR PRE-EXISTING PROJECTS OR 3D COLOR SCANNED DATA.

Please see this tutorial using Magics.

http://www.shapeways.com/tutorials/fixing_maya_full_color_vr ml_with_magics

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Subject: Re: The VRML Guide for Maya Artisan Designers
Posted by bruce@artcenter on Wed, 23 Jun 2010 16:47:07 GMT
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Knowing the unattainable ability of fixing 3D scanned/pre textured VRML files (from Next Engine Scans), I sat down once again hoping to overcome the problem and that somehow after months of giving up, someone had figured out how to do it. This thread gave me no hope...

Relentlessly dejected I continued the usual routine of fixing the file as an stl in Geomagic 10... however this time I humored the idea of opening the VRML file to see the result... miraculously

enough, it kept the texture map!  I couldn't believe it! the VRML gods smiled upon me for once... I patched the holes and sent the file off for 3D color printing...

-=Bruce

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Subject: Re: The VRML Guide for Maya Artisan Designers
Posted by akeno on Wed, 23 Jun 2010 17:43:36 GMT
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Sorry bruce, this thread was a bit outdated, but there has since been a fix for fixing color 3D stuff using Magics in a tutorial I wrote also. It's since then been updated. Thanks.

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