Greenbriar Studio

Rigged Character Import and Animation Tools for Maya

Maya Plugins
CR2 Loader 1.3
Animation Loader 1.0
Conformer
Compressed Morph System
Compressed Morph to Mesh
Mesh to Compressed Morph

For more information on Greenbriar Studio's line of 3D tools Contact:

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Mandi by Dark Whisper   Vickie 3 by DAZ

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Tools Overview and Summary

The Greenbriar Studio tool set has been designed to accomplish two goals: to enable Maya users access to the most sophisticated character animation figures available at low cost to the general market and to simplify the process of creating realistic animations with sound.

Figures designed for the Poser market come in up to 75K polygon meshes, some with over 3,000 preinstalled body and animation morphs, with complete skeletons and with multi surface discontinuous uv texture mapping. In other words, everything that is needed for high end character animation work. However, accessing these features has been very difficult. Tools available to date have only been able to load single .obj file mesh shells, leaving out morphs and skeletons and requiring re-texturing. All these features are now available through our tool set.

Our tools also provide a way to share rigged models between different applications. We will be adding more applications to this inexpensive system as fast as possible.

Here is a summary of our tools and their use.

CR2 Loader

This plugin creates a welded single mesh with no normal problems. Keeps all Poser named parts and surfaces. Imports ALL morphs. Can join multi part morphs into body level morphs. Imports all material colors, texture, trans and bump maps and settings, applying them correctly for Maya. When CR2 loader finds a texture map in use, settings are made for projection, setting the created UV Map and loading the image. Imports the Poser skeleton and joint positions. Correctly parents all bones. Loads multiple figures from a file and will also load props, each as a seperate object. Loads external props, props with morphs and inline geometry props. Loads Poser PZ3, PZZ, CR2, CRZ, HR2, HRZ, PP2, PPZ files. Creates smooth or rigid bindings as a start on weight map creation. It also scales, moves, rotates and parents props and secondary figures that were in the CR2 file. With version 1.3, it now also loads Poser 6 format models.

Animation Loader

Animation Loader works with our compressed morph system or the standard Maya blend shapes system to import morph and bone based animations. It imports DAZ Mimic lipsyncing files, Poser pose and animation files and also Poser bvh files.

Compressed Morph System (Available soon for Maya)

Due to the extremely large number of morphs on some DAZ and Poser figures, we had to create a new morph system that accomodate the high number of morphs in limited memory and also provide a new morph mixing interface to make it easier to work with the large morph sets and multiple figures. The compressed morph system allows you to load more morphs than with the standard Maya system and gives you a control panel that can control all morphs in a scene.

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Compressed Morph to Mesh (Available soon for Maya)

This utility expands a compressed morph to a complete mesh of the base object plus the morph at 100% expression for easy editing..

Mesh to Compressed Morph (Available soon for Maya)

This utility creates a compressed morph from a selected mesh object and adds it to the currently selected morphmixer. This allows you to easily alter existing morphs or create new morphs without having to have more than one full size morph mesh in use at once.

Conformer (Available soon for Maya)

This utility sets clothes (boned figures) to atuomatically follow a base boned figure's movement, similar to the Poser conform function.
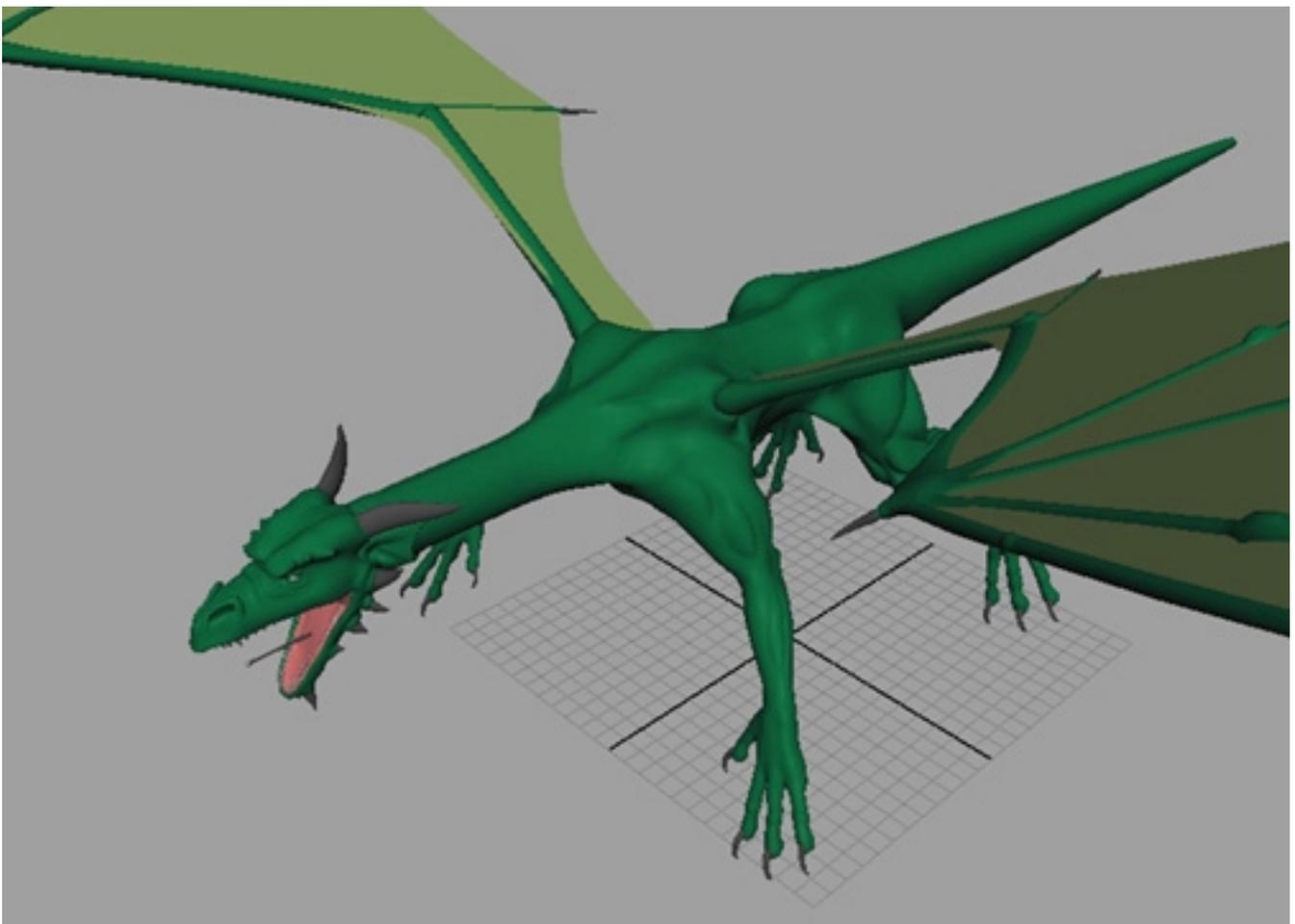
DAZ Millenium Dragon

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Install and Use - License Key - Step by Step

Installation of plugins - for all plugins

You should place any of our plugin files in the Maya bin/plugins directory. If it is a zip file, place it here also and unzip. Run Maya and select loaded, and auto load if desired, for each new plugin, from the Window : Settings/Preferences : Plug-in Manager. Installation is complete.

The first time you run a plugin requiring a License key it will ask you for your key.

Type in, or cut and paste, the License key string you received with the plugins. Upper and lower case letters and the dashes are important. Hit OK and a License file will be created for you. It will be in C:\Program Files on the PC or in the Maya main folder on the Mac.

If you hit OK without entering a key, a blank file will have been created and then next time you run the plugin it will say invalid License key. Just search for GS_CR2* (PC users note - not *.*). Remove this file and then run the plugin again. If it doesn't see a License file it will ask you to enter the Key.

Imprtant Note - Some of our pugins (Compressed Morph) are node plugins. If you do not already have a Greenbriar License installed, you will need to run the 'InstallGBLicense' command, and enter the license as above. Without a valid License installed, the morph system can be created, but will not run. It will install to let you have access to the command to install the license.

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First Run with CR2 Loader

After installing the plugin and entering the key into CR2 Loader, try a test CR2 load. Open a Poser file, a single character .cr2 is recommended for a first test. These will be found under the Poser runtime/libraries/character/ and then an assortment of directories from different sources. The file must end in .cr2. Since this is the first time, when the settings panel comes up you will need to select the Poser executeable (so it knows how to resolve the Poser partial paths) and a work directory. This work directory is only used to store temp files of inline morphs to speed up processing. Since this is the first run, also select Save Settings or your paths will not be saved. Select this anytime you wish to change the default settings. It remembers all button selections and the file paths. Select Skip Morphs, if you are unsure about the number of morphs on themodel. Now hit OK. How long it takes depends on the model, the version 1 and 2 Mill figures take about 30-45 seconds, Victoria three can take more than 5 minutes.

Note - To select the work directory you must select a FILE in the work directory. This is a limitation of the current plugin system, hopefully it will be corrected soon.

After the program has loaded the base geometry and morphs, you may see a pop up window asking you to find the first texture map, if the model you chose uses any (not for new Poser 5 files - they contain full texture map paths, so these load fully automatically, unless the texture map is missing). Hit the button to browse and find the texture map requested. Then hit OK. If all the maps are together in one place, you will not be asked to locate another. Most texture maps are located in runtime/textures. You are asked to locate the first map since the pre-Poser 5 CR2 does not contain full texture file paths and also so you can optionally copy these over to your Maya project directory before loading and then your Maya objects can be set to reference these local copies of the maps.

If you have a problem with textures not loading, simply restart Maya. These models make multiple connections to the texture file nodes and it appears that some of this info is not removed by 'New Scene'. As a result, sometimes a model will not have the texture maps applied if it is not the first one you have loaded in a session. We are trying to get this resolved.

You should now have a figure, and if you open the Hypergraph, you should have a set of groups for each body part, a set of bones, a set of morph objects and surfaces.

Poser Standard Character Warning

Some of the standard characters that come with Poser have no outside geometry file reference to an object file. Instead they have something like:

figureResFile GetStringRes(1052,42)

figureResFile is normally followed by the obj file path such as:
figureResFile :Runtime:Geometries:Poser 4 Lo:Blendlobusman.obj

Curious Labs has declined to make this information available, so we can not load these files at this time.

Glamorous Vickie, by Jim Burton, based on Victoria 3, loaded into Lightwave. The clothes were loaded as separate props and retextured in Modeler with some of Jim's textures, since they use only reflection maps in Poser. Only the hair had to be realigned in Layout. Vickie 3 supports up to 2,500 morphs.

CR2 Loader Reference

CR2 Loader imports characters from Poser CR2 format files. It imports the base mesh, all morphs, all materials and the skeleton. It can load multiple figures and props from a CR2 file, creating each as a separate object in Maya.
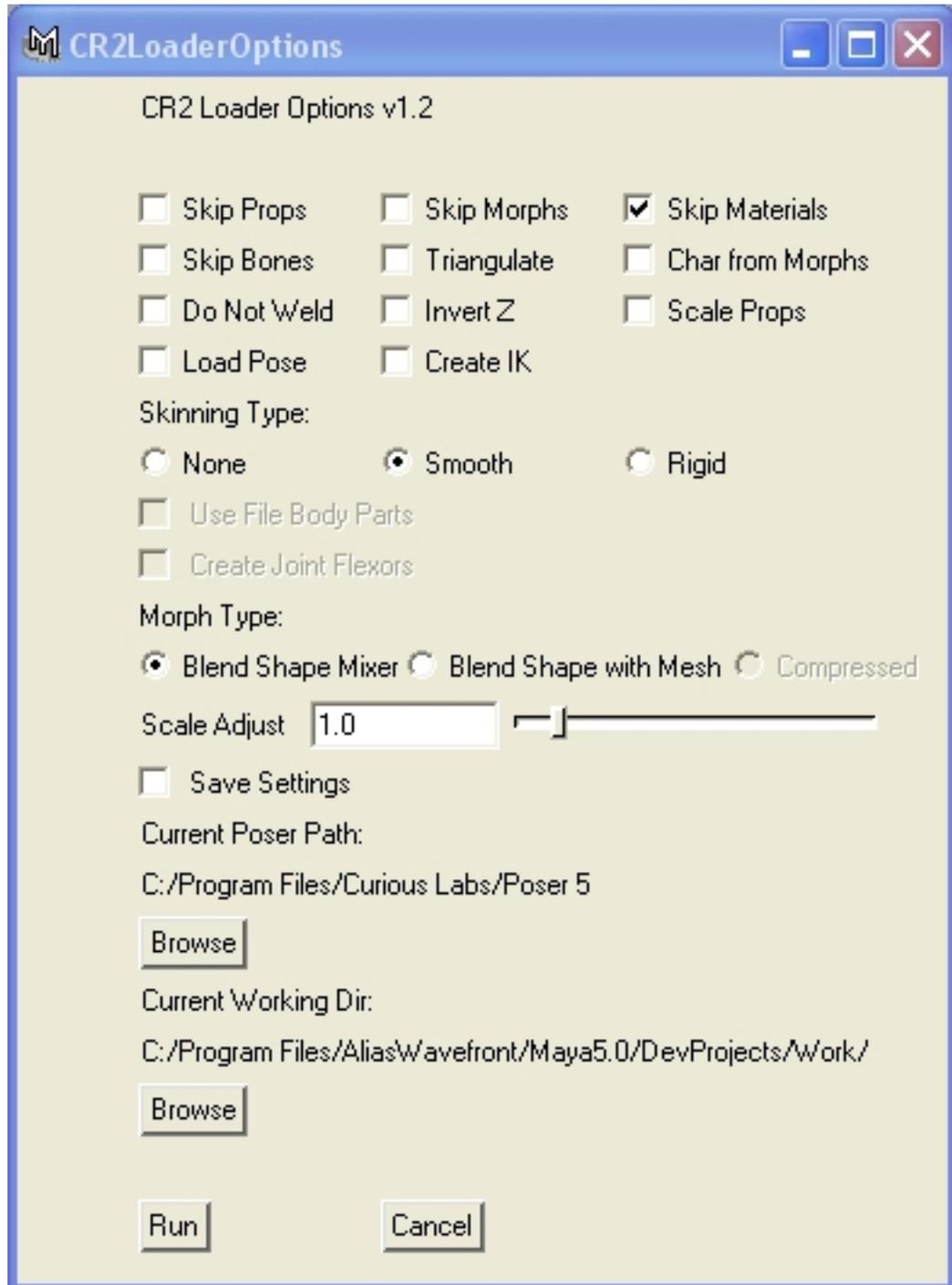
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To start a load -type the command - 'CR2Loader;' in the command window (or setup the command with a shelf button) and browse to locate the input PZ3, PZZ, CR2, CRZ, HR2, HRZ, PP2 or PPZ file (Scene, Character, Hair or Prop).

Current Poser Path – This locates the directory that is the base for the references in the Poser files. Hit the button and browse to locate the Poser application.

Current Working Dir - This locates a directory where temp files for props will be written, so they won't appear in all of your project files. The temp names are reused, so they will not accumulate.

These are the only required fields, for your first runs just select a CR2 file and select Skip Morphs until you know how many morphs this figure has (after the run, look in Output Window, you'll see the number of morphs, total objects and props that were in the file).

Optional Settings

Skip Props – Ignore props in the CR2 file (Button ignored if loading a PP2 or HR2 file - duh!). This is used to disable prop loading for files where the props will not correctly load from the CR2. This allows you to load the figure from the CR2 and then load the props from their PP2 or HR2 files.

Skip Morphs – Do not load any morphs from the file.

Skip Materials – Do not load any textures from the file.

Skip Bones - Do not load the bones or or do skin bindings from the file.

Triangulate - To prevent non-planar faces during animation, you can now optionally convert all polygons to triangles during load. Does not affect point count or order.

Create Char from Morphs - This is a function that allows you to 'spin the dials' in Poser and create a new character and when you import it into Maya, all the creation morphs will be applied to the base mesh instead of being loaded as morphs. This helps reduce the number of morphs to a Maya manageable level. With release 1.3, it functions by applying, at the dial setting, any non-zero (and non-2.0) morphs and dropping all morphs set to zero. You can also flag morphs that are just to be loaded as an animation morph. To flag a morph to be imported, set the morph to 2.0 and save as a new figure. Then load that .cr2. Uses body level Poser dial settings as well as part level settings when merging character morphs. NOTE - this has changed, before you flagged morphs to drop (which could be thousands) now you only flag the morphs you want to import for animation. Finally allows users to import Vic3 with just the morph set they need and can handle.

Do Not Weld – leaves all the duplicate points between parts that are used by Poser. Must be selected if you are going to make Poser morph targets to maintain point count and order.

Invert Z – invert the Z values to reverse the model orientation (not normally needed in Maya as Poser and Maya have the same orientation). Must NOT be selected if you are going to make Poser morph targets or your targets will appear backwards in Poser.

Scale Props - Apply the scale info from the .cr2 file to props. In some cases this helps fit props and in

some makes them worse, depending on how the parts and .cr2 were created. So it is available as a user option.
Load Pose - Loads the pose of boned figures along with the model from the input file. Skeleton is set for rest position first. (Note - there is still a bug in Maya 6, so this rest setting is lost once you save the scene.)

Skinning Type - Creates two types of default skinning. Smooth uses the Maya smooth skinning to attach the entire mesh to the skeleton. This method requires less follow up work on the joints, but the eyes have to then be separated from the mesh. Rigid binding has several options. With just rigid selected, it does a complete mesh to skeleton binding, with the Use File Body Parts selected, the Poser part definitions are used for a bone by bone binding (this keeps the eyes free from the head). You can also select to add to either rigid binding option the auto add Joint Flexors at all joints.

Morph Type - Selects between using the Maya blend shape system, with morphs meshes removes (to reduce memory use) or with all meshes present for editing. The third selection Compressed, is to select the Greenbriar Studio Compressed morph system that reduces memory use and allows you to load figures with higher numbers of morphs. This option will be diabled if you do not have the Compressed Morph system installed.

Scale Adjust - Allows you to alter the default scale for importing figures. The default is 1. (Do not change from 1 if you intend to export meshes back to Poser.)
Note - Leave at 1.0 if you will be using the Animation Loader to import animations. Animation Loader rescales to match the default scale, plus has special scaling for Poser BVH so the BVH output will match a saved pz2 output.

Encountering Loading Problems with CR2 Load

There are many quality levels of files out there made by many large and small shops. Some are much better than others. They have been created many different ways. If you find files that you can't load, both let us know about it and try loading only the figure if it is a figure with props. Then load the props from the individual prop files. There are many models that we have not yet been able to test. Let us know about problems.

Hi-res Vickie 3 from DAZ Productions

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Variations with Props and Poses

Depending on how props are created, when CR2 Loader tries to scale and place them, there will be varying degrees of difference from the Poser placement. Many props have to be hand adjusted before the character is finished. While Loader gets the correct and exact geometry, it can not always be very exact due to the different way that Maya and Poser handles scaling and figure joints. Loader tries to get as much of the hard work done as possible, and we keep working to get it closer, but it will never be perfect. You will find some items that load perfectly and some that load way off. It depends on how they were constructed and posed onto the figure.

Alexis by Angielyn

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What the CR2 Loader Plugin does NOT do

In order to avoid any confusion or misunderstanding, we list in this section the capabilities that we would like to add to our tool set, but are not yet available. Check our website for updates on new available features.

The current version of our plug ins do NOT create a completed weight map set. We currently create two versions, a smooth skinned and a rigid skinned version. At the moment, joints still have to be edited in Maya. Since the CR2 Loader plugin does create a fully skinned figure, the characters are animatable as is, but the joints need to be much smoother.

The CR2 Loader does NOT currently apply Poser pose type files. We import rigged characters, but not pose and pose animation data. We now have a separate product, Animation Loader, that reads all Poser pose and animation files, Mimic files and .bvh files. (Although CR2 Loader with the 1.2 release can read the pose from a CR2 file at the same time as it loads the model.)

We do NOT yet read Poser 5 cloth and hair. We can read anything else from Poser 5 including all compressed files.
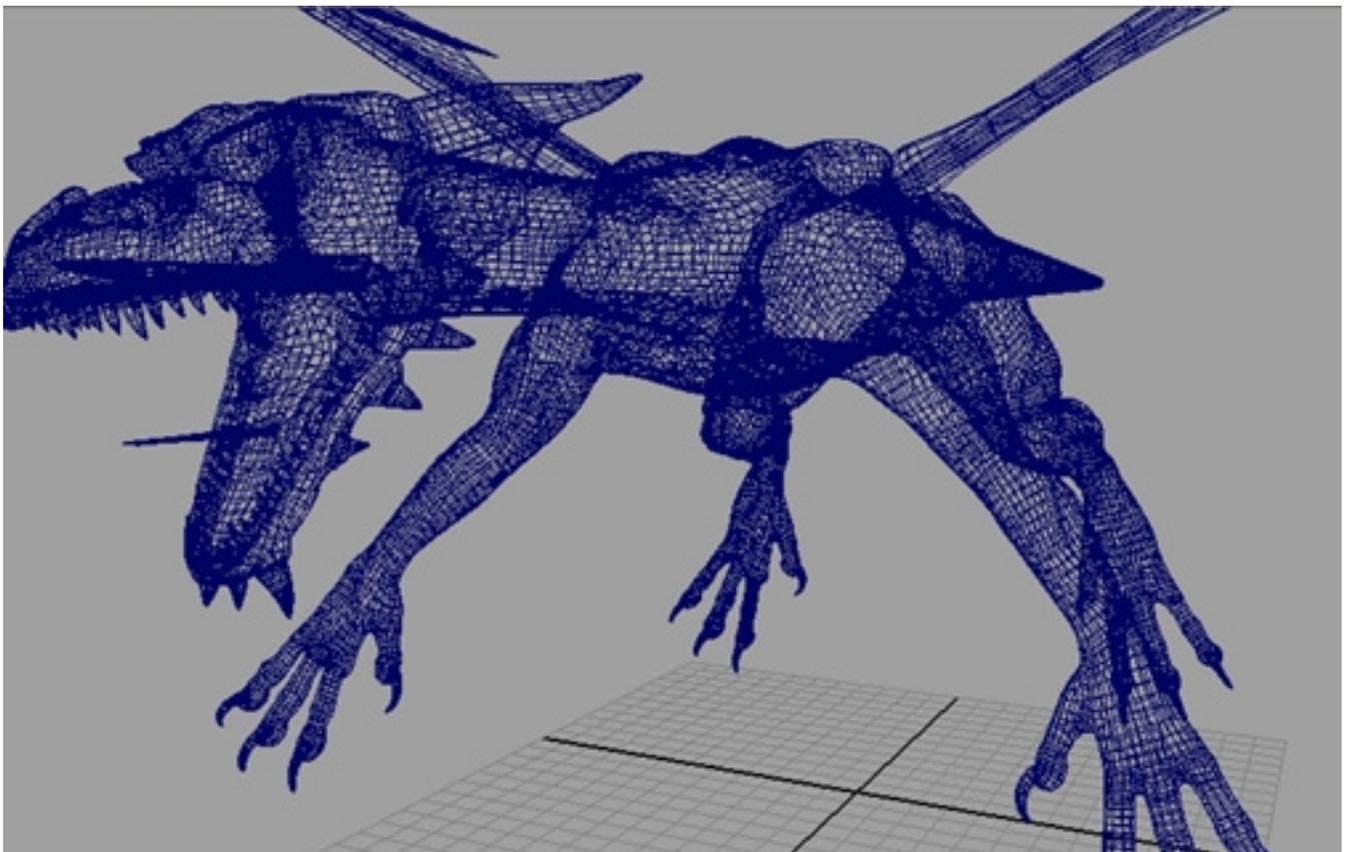
Wireframe of DAZ Mill Dragon

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Example of hardware texturing and a render showing the application of tranparency maps to the hair bangs and eyelashes. (DAZ PreTeen Mill Girl with Cayenne Hair by Thorne.)

On screen hardware texturing.

Quick Render

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Animation Loader

The Animation Loader for Maya allows you to import poses and complete animations on to CR2Loader imported figures. This importer does not create a new skeleton, but rather adds the animation data to an existing figure. Models must have been loaded with scaling set to the default 1.0, else translations will be off. Load first and then scale the whole model, if you need to change the scale.

Animation Loader adds two new commands.

LoadPoserBVH

(Why not LoadBVH? Because that is already in a package of mocap importers/exporters/translators that we will be releasing shortly.)

LoadPoserBVH accepts a Poser BVH file, either exported from Poser as a SCALED bvh. Since the two types are very different in how translates are exported, we had to pick one and adjust for it. A scaled bvh will give you the same results as a saved multi-frame PZ2. You can also import commercial BVHs sold as Poser compatible. BVH only supports bone animations, not morph animation.

Note- BVH defines a key for each frame. If you want the same sparse keys in Maya that you created in Poser, use the PZ2 format to transfer, it only makes one key for each key in Poser.

Note- You must have selected either the top transform of the model, or the root bone (hip) to run this importer.

LoadPZ2

This command lets you import any of the PZ2 type files - PZ2, PZZ, FC2, FCZ, HD2, HDZ and Mimic. The command imports both morph and bone based animations.

To create a new PZ2 in Poser -
Put the animation slider on the last frame you want to export. Select a Pose library on the right. Hit the + button to add to the library. You can then select single frame (pose) or multi frame (animation) to export. For multi, you will see the frame range that it will be saving. Give it a name and you have a new pose or animation that you can use in Poser and load into Maya.

Note- You must have selected either the top transform of the model, if the animation contains morphs, or you can select the root bone (hip), if the animation only contains bone rotations to run this importer. Top Transform works for all situations.