

RigIT Tips and Tricks

Introduction

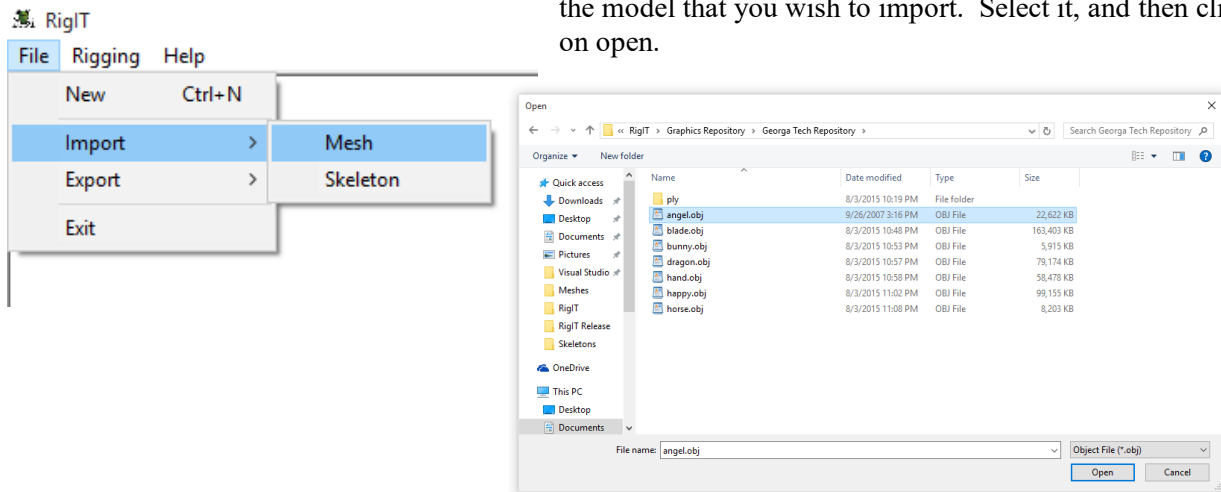
RigIT Tips and Tricks is designed to be used as a quick reference guide on how to use RigIT.

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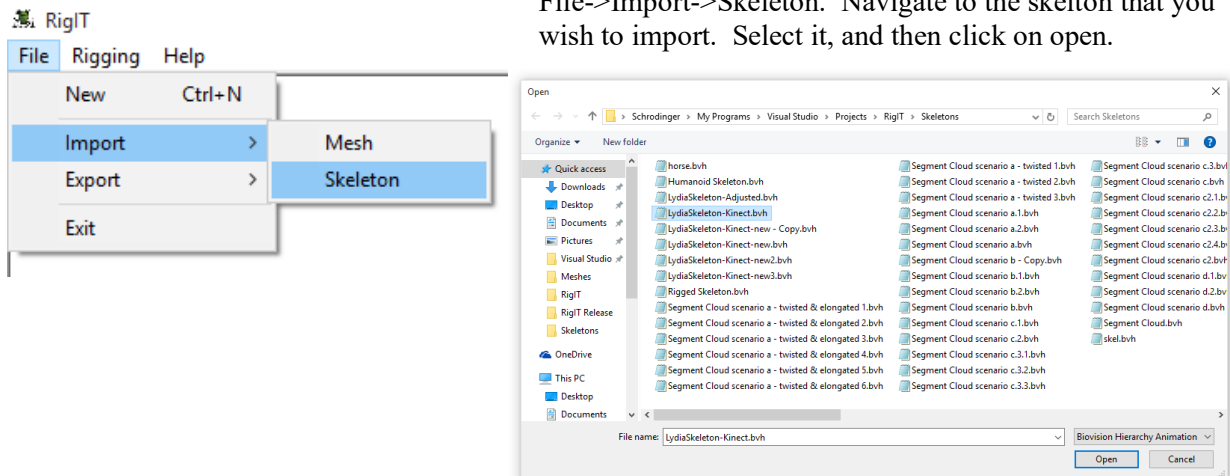
Importing a Model

Models are imported from .obj object files. To import a model, select File->Import->Mesh. Navigate to the model that you wish to import. Select it, and then click on open.



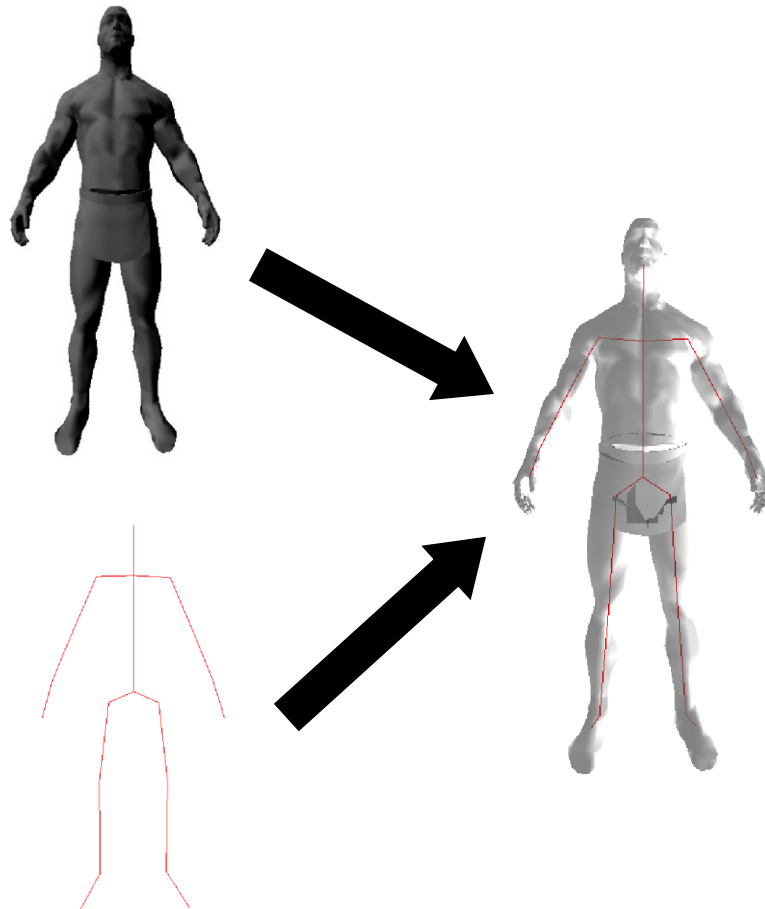
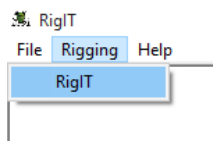
Importing a Skeleton

Animation skeletons are imported from .bvh Biovision files. To import an animation skeleton, select File->Import->Skeleton. Navigate to the skeleton that you wish to import. Select it, and then click on open.



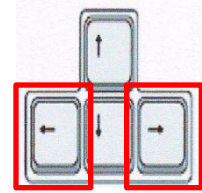
Rigging a Model

To rig an animation model, import both the model and the animation skeleton that you wish to rig to the model. Then select Rigging->RigIT.



Rotating Your Model in RigIT

You can rotate the model or skeleton that you have imported into RigIT by using the left and right arrow keys.



What is a Near Pose Skeleton?

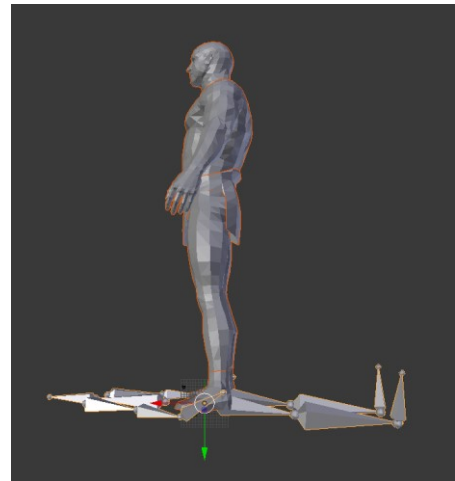
Near pose animation skeletons are animation skeletons that have roughly the same pose as the model that they are being rigged to. While, in many ways, RigIT is more of a rough-pose rigger in that it does have a pose-correction functional it does still rely on the animation skeleton being close enough to the pose of the model that you desire to rig. This close-enough pose has some basic features that must be met. For example, the pose must have the same orientation as that of the model that you wish to rig. This means that the forward, up, and left to right directions of your skeleton should be the same as that of your model when imported into RigIT.



For importing models into RigIT, the preferred orientation is +z-up and +y-forward.

For importing skeletons into RigIT the preferred orientation is +y-up and +z-forward. It is important to import models and skeletons into RigIT using these preferred methods so as to have the most useful view of your model and skeleton.

An example of a non-near pose is when the skeleton is orthogonal to the model. If the skeleton is orthogonal to the model then it is possible that a great number of the bones will not have any mesh vertices assigned to them; or will be starved.



Defining Animation Skeletons

Animation skeletons imported into RigIT utilize the Biovision BVH file format. The specification for the Biovision BVH file format can be found at:

<http://research.cs.wisc.edu/graphics/Courses/cs-838-1999/Jeff/BVH.html>

Biovision files created by Blender can have problems. As such, unless you are an expert at creating animation skeletons in Blender, we recommend that you use Blender to gather joint position information but then actually create the .bvh file in Notepad or WordPad.

When creating the Biovision file, remember that the positions of the joints are defined in terms of translations from their parent, not absolute positions.

Exporting Models from Blender/Preparing Models for RigIT

This section covers information about how to export models from Blender for import into RigIT. The same general principles apply for all other modeling packages.

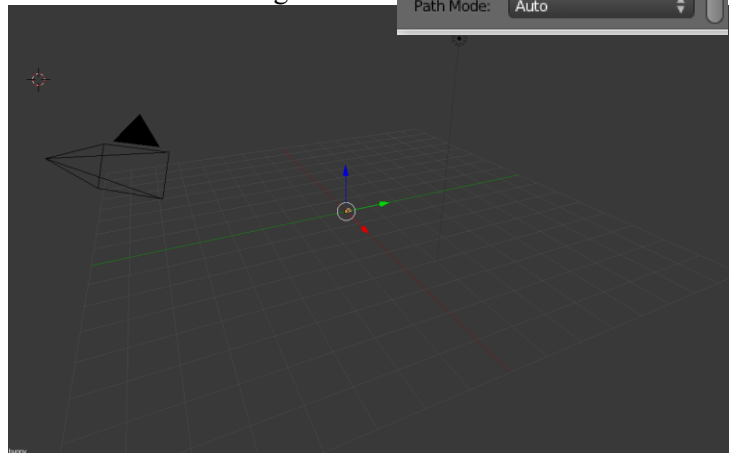
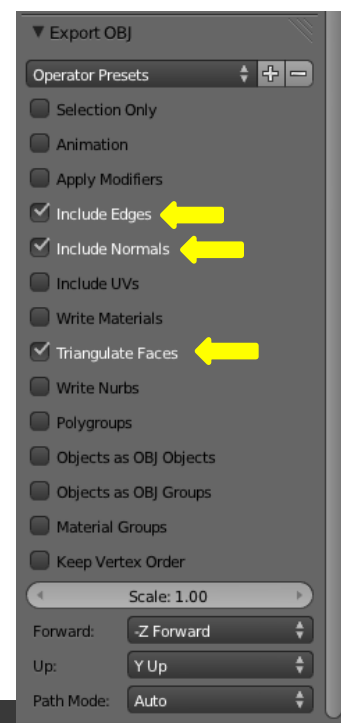
The Basics (What to Export)

RigIT is a very specific tool; namely, it is an automatic rigging package. This means that it does not do a lot of fancy rendering, lighting, special effects, or animations. However, it does require some basic information in order to display your model. This includes vertex information (a default), edge information, normal information, and triangulated faces. Since RigIT expects you to include normals in your .obj file, if you do not include normals then RigIT may crash when it tries to render your model to the screen. You can also include animation information, modifiers, UV's, materials, Nurbs, and material groups; however, RigIT will not retain anything other than the vertex information, edge information, normal information, and animation information.

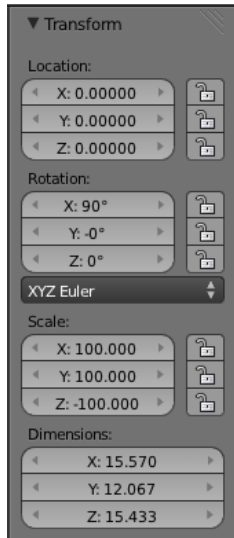
Sizing Your Model

RigIT has an automatic scaling function built into the import mesh function. However, it needs the model to have at least one side larger than

1 unit in order to scale up the model for easy viewing. In general, RigIT really prefers if you have a model that is at least 10 units long on one side in order for the imported model to be viewable in RigIT. For example, if we take the Georgia Tech. Repository bunny model, with an



average side length of 0.144 units it is barely visible in Blender. If we import the bunny model directly into RigIT then it will not be visible in RigIT.



If we then set the transform in Blender to scale our bunny model by 100% (-100% along the z-axis to flip it to the -z-up direction) then we see that we can import and see the bunny model in RigIT.

So we now have the bunny model in RigIT, but it is rendered by RigIT as some weird shadow form. This is because the light source in RigIT is also fixed. As such, for optimal viewing, the size of your model needs to be scaled to accommodate the lighting. This is preferably in the 100 units range. To bring the Georgia Tech. bunny in the 100 unit range we scale the bunny model by 1000%. If we then export the model from Blender, using the above settings, we can subsequently import it into RigIT as seen below.

