MorphemeRiggingTools

Morpheme Rigging Tools:
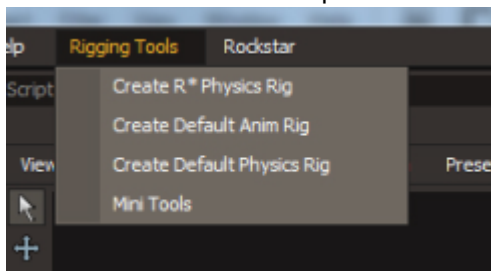*Sebastian Huart*
Senior Technical Animator & Product Specialist
*NaturalMotion Limited*

The Menus:

The menus can be found up in the main toolbar under "Rigging Tools".

Create R* Physics Rig:

This tool allows you to create a euphoria ready character from a template. A default template is supplied but this can be set to another character. The defaults can be modified in rigBuidler/Options.lua. New template rigs should be copied into the provided Templates folder to avoid confusion and accidental overriding.
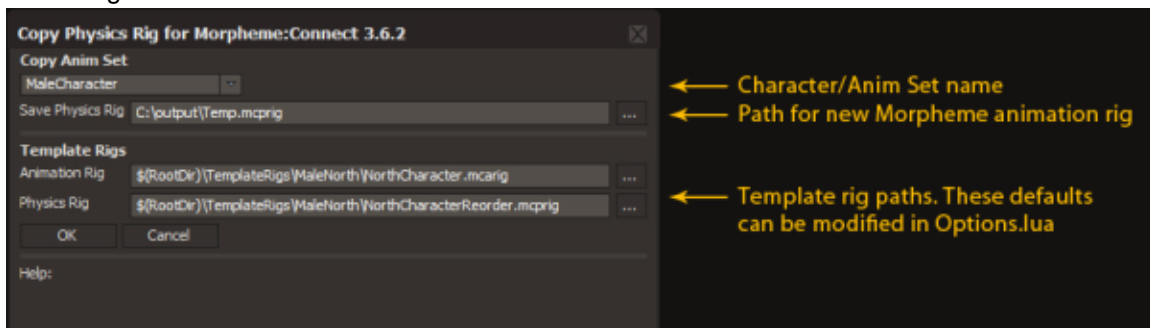

Create Default Anim Rig:

This tool allows you create a default morpheme animation rig. You will specify the name and the source .xmd file from Max or Maya. If a rig template is valid, it will use it. You can create humans and animal morpheme animation rigs from this tool.
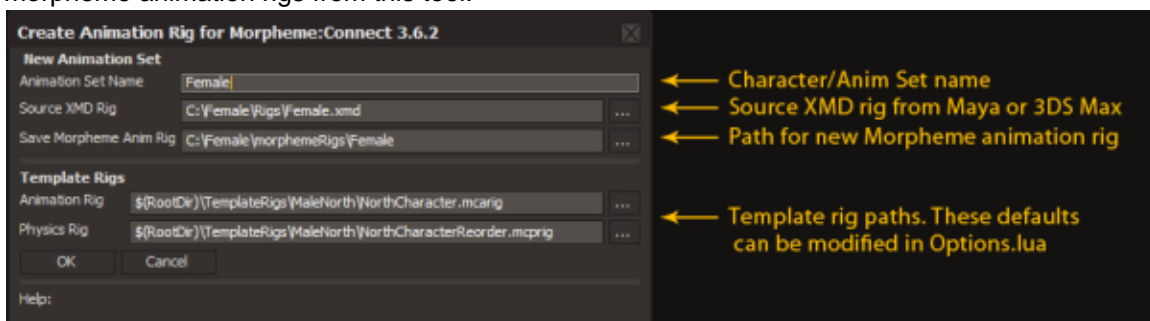
Create Default Physics Rig:

This tool allows you to create default morpheme physics rigs. This allows you to start from scratch for creating humans or animals. You can select the Animation Set on which you want to create the physics rig. You will need to specify where the physics rig will be saved and how big the volumes should be when the rig is created. If the capsules are too big, you can re-run this process with a smaller value.
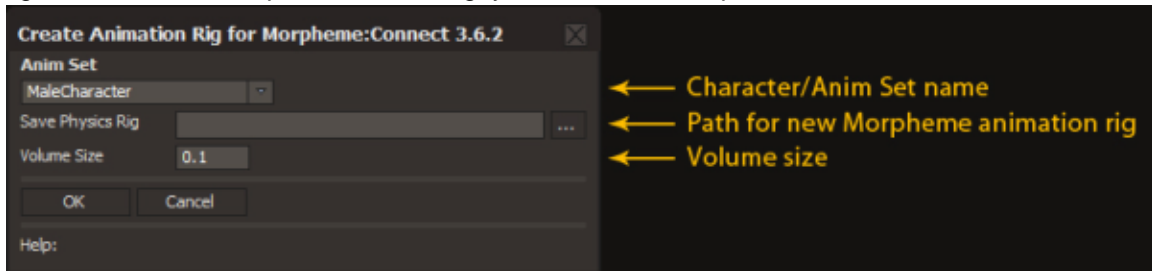
Mini Tools:

This group of small tools are shortcuts to all the vital rigging tools you might need. Roll up menus can be collapsed to save space. Here's list of what each tool does:
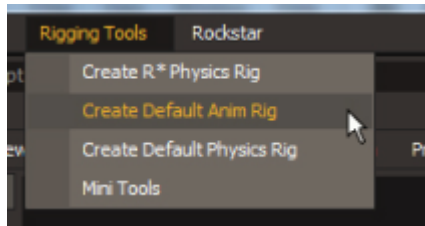

Tutorials:

Creating a R* Euphoria Character:

1. In this step we will create a new animation rig.

a. If you haven't already created an animation rig, start by clicking on **"Rigging Tools > Create Default Anim Rig"**. If you have, move on the step 2.

b. You will be presented with a new menu. Give your character a name in the Animation Set Name box. This will be the name of the Animation Set in morpheme.

c. Next select the location of the source XMD file from Max or Maya.

d. Then select where the new morpheme animation rig (.mcarig) will be saved.

e. If there's a template character to copy from, select the correct template rigs.
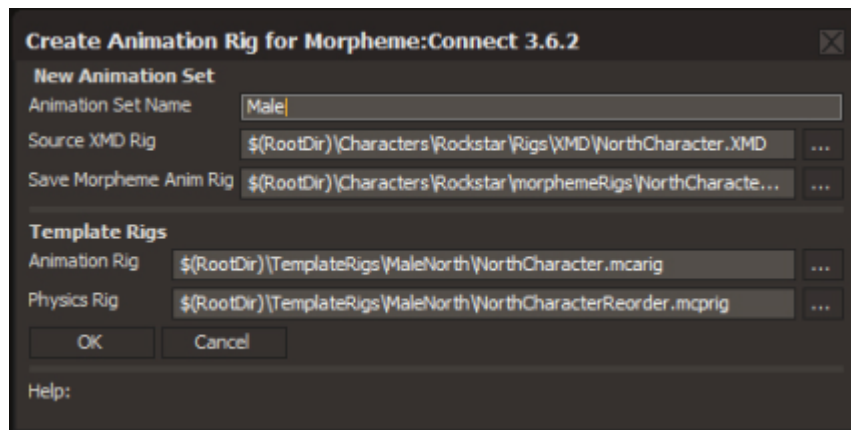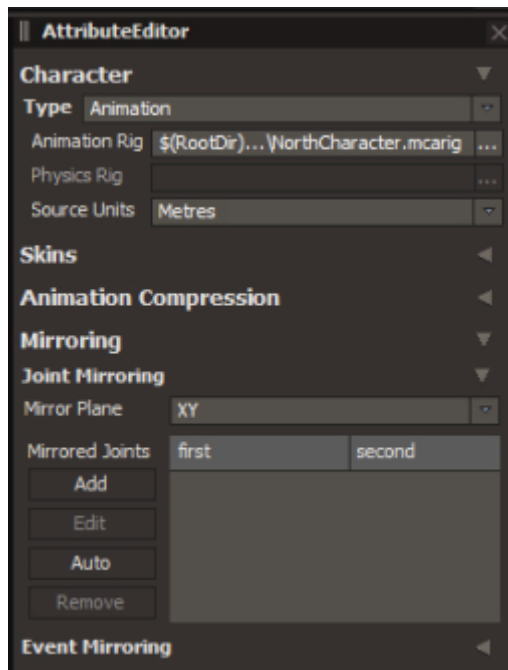

f. Click **"OK"** to create the animation set.

2. In this following step, we will set up the mirror mappings if they are not already set
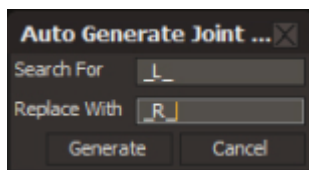
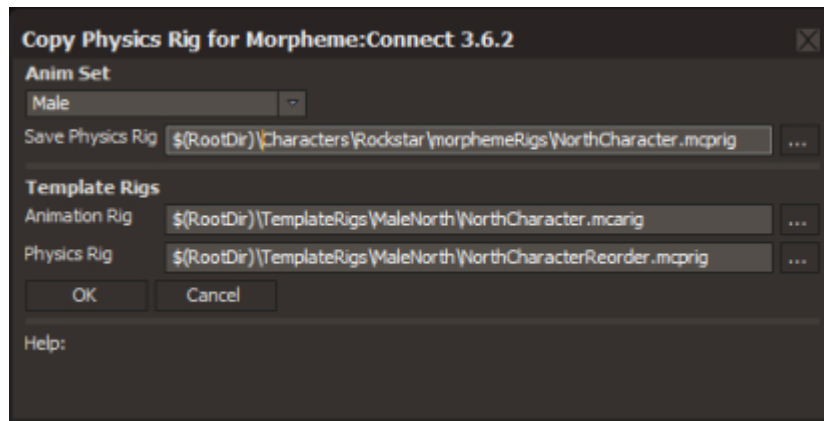a. Select your character in the Animation Sets area of the **Asset Manager**.
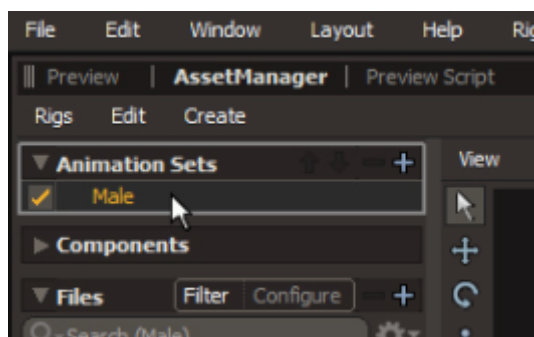
b. In **AttributeEdito**r window, select the **"Mirroring"** roll-up to expand it and then select the **"Joint Mirroring"** roll-up to expand it.

c. Select the **"Mirror Plane"** to be **YZ**. This is the plane in which the mirror will be computed. This should the facing direction of the character and the up vector of the scene.

d. Next select the **"Auto"** button and chose the search names that will set up the left/right mirroring. In this case set **"L"** as the first term and **"R"** as the second. This will create a mirror mapping of all the joints that have "*L*" in the name to joints that have "*R*".

e. Click **"Generate"** and you should have a list of all left and right mapped joint in the rig.

3. In this step we add a physics rig and copy the physics and euphoria data from a template physics rig.

a. Click on the **"Rigging Tools > Create R** Physics Rig".* You will be presented with a new menu for creating euphoria human rigs.

b. In the window, select your character from the drop down menu. This drop down menu shows all the characters in the current opened scene.

c. Next, select where you want to save the new morpheme physics rig. (.mcprig)

d. Then select the template character to copy from.

Copy Physics Rig for Morpheme:Connect 3.6.2

Anim Set
Male

Save Physics Rig $(RootDir)\Characters\Rockstar\morphemeRigs\NorthCharacter.mcprig ...

Template Rigs
Animation Rig $(RootDir)\TemplateRigs\MaleNorth\NorthCharacter.mcarig ...
Physics Rig $(RootDir)\TemplateRigs\MaleNorth\NorthCharacterReorder.mcprig ...

OK Cancel

Help:

e. Click **"OK"** to create the new euphoria character.

4. You can now modify volumes to best fit the mesh.

a. Use the Move ("**W**"), Rotate ("**E**") and Manipulator ("**R**") tools to modify the volumes and limits.

b. Select **"Rigging Tools > MiniTools"**. This palette of shortcuts will help you modify your character. To mirror your edits from one side to another, make sure the mirror toggle is on. When selecting a volume, the other side should be a pink colour, if not go to step 2. The "Mesh" and "Volume" toggle buttons will allow you to get a better view when editing. To get the feet aligning with the world, select the one of the box volumes and click on the "Align With World" button.

c. **NOTE**: The volumes are rotated to the correct orientation for Euphoria export. Try not to rotate these as it will break any behaviours. Only scale and move the Volumes.

5. You are now ready to export the rigs to xml for Ragdoll and Euphoria.

a. Go to **"Rockstar > Export Rig"** in the tool bar at the top.
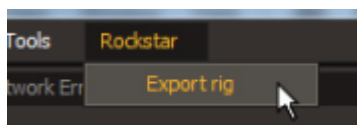
b. Select where the ragdoll should be saved and where the euphoria character should be saved.


Rockstar Export
Exported Ragdoll C:\xml\Ragdoll.xml ...
Exported Euphoria C:\xml\Euphoria.xml ...

Export Cancel
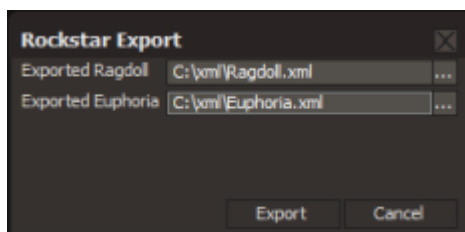
c. Click on "Export" to export them both.

Creating an animal physics rig:

1. In this step we will create a new animation rig again.
   a. If you haven't already created an animation rig, start by clicking on **"Rigging Tools > Create Default Anim Rig"**. If you have, move on the step 2.
   b. You will be presented with a new menu. In the Animation Set Name box, give you character a name. This will be the name of the animation set in morpheme.
   c. Next select the location of the XMD file exported from Max or Maya.
   d. Then select where the new animation rig (.mcarig) will be saved to.
   e. If there's a template character to copy from, select the correct template rigs.
   f. Click **"OK"** to create the animation set.

2. In this following step, we will set up the mirror mappings if they are not already set

   a. Select your character in the Animation Sets area of the **Asset Manager**.

   b. In attribute window, select the **"Mirroring"** roll-up to expand it. Select the **"Joint Mirroring"** roll-up to expand.

   c. Select the **"Mirror Plane"** to be YZ. This is the plane in which the mirror will be computed. This should the facing direction of the character and the up vector of the scene.

   d. Next select the **"Auto"** button and chose the search names that will set up the left/right mirroring. In this case set "*L*" as the first term and "*R*" as the second. This will create a mirror mapping of all the joints that have "*L*" in the name to joints that have "*R*".

   e. Click **"Generate"** and you should have a list of all left and right mapped joint in the rig.

3. In this step we add a default physics rig to work with.

   a. Click on the **"Rigging Tools > Create Default Physics Rig".** You will be presented with a new menu for creating default physics rigs.
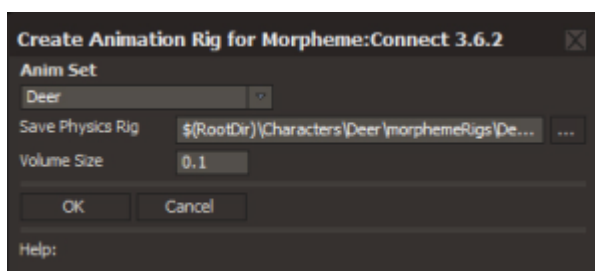

   b. Select your character from the Anim Set drop down menu. This will be the character on which you create the new morpheme physics rig. This drop down menu shows all the characters in the current opened scene.

   c. Next, select where you want to save the new morpheme physics rig. (.mcprig)

   d. Then set the size of the volumes width. If once you've created the physics rig and the volumes are too big, re-run this process with a smaller value. A value of 0.1 is good for human/big animal sizes. A value of 0.05 is good for smaller animals.

   e. Click **"OK"** to create the physics rig character.
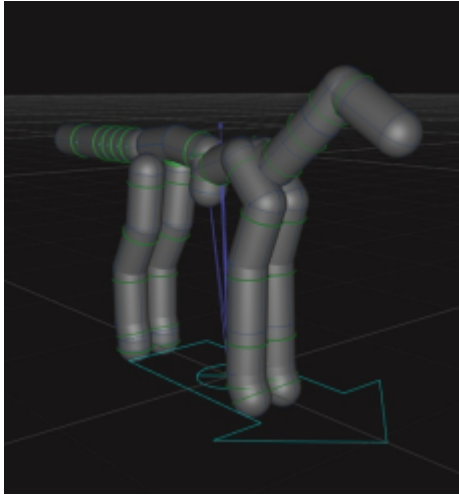
4. You can now modify volumes to best fit the mesh.

   a. Use the Move ("**W**"), Rotate ("**E**") and Manipulator ("**R**") tools to modify the volumes and limits.

   b. Select **"Rigging Tools > MiniTools"**. This palette of shortcuts will help you modify your character. To mirror your edits from one side to another, make sure the mirror toggle is on. When selecting a volume, the other side should be a pink colour, if not go to step 2. The "Mesh" and "Volume" toggle buttons will allow you to get a better view when editing. To get the feet aligning with the world, select the one of the box volumes and click on the "Align With World" button.
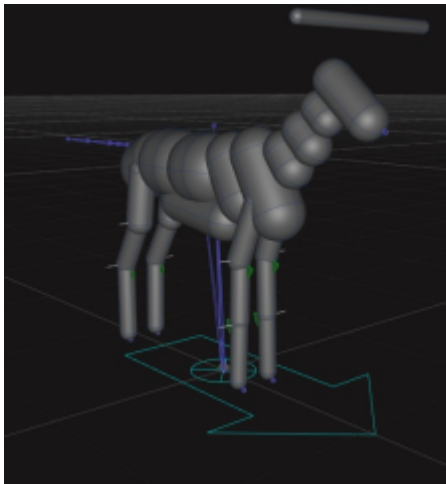
Template Deer Rig:
TemplateRigs\Deer\Deer.mcarig
TemplateRigs\Deer\Deer.mcprig