

1. Overview

In this tutorial, I will first briefly introduce the purpose of Meat for NGG9 and the software that this add-on relies on. Then we will install these software to set up the running environment of Meat add-on. At last, we will make two animations to introduce the use of Meat for NGG9 in detail.

2. The purpose of Meat add-on

If we want to make an animation in DAZ Studio to show the interaction between female genitals and male genitals or toys, we not only need to animate the male genitals or toys, but also need to use NGG9's morphs to change its shape in each frame to simulate the changes in the appearance of female genitals when interacting with other objects in the real world. This is a tedious and time-consuming task. Now with Meat for NGG9, we only need to focus on designing the animation of male genitals or toys. The Meat add-on will make NGG9 automatically change its shape when interacting with other objects.

3. Installation

3.1 Install Blender

Meat for NGG9 is divided into two parts: one that runs in DAZ Studio and the other that runs in Blender. Therefore, in addition to DAZ Studio, we also need to install Blender. This software is free, and you can download its latest version from the following page:

<https://www.blender.org/download/releases/>

We don't need to set up Blender, as long as it can start properly.

3.2 Install Sagan

Sagan is a free DAZ Studio plug-in. It can save the animation scene we made in DAZ Studio completely as an alembic file, and then we can import this alembic file in Blender and play the animation.

Please get the latest version of Sagan from the following page:

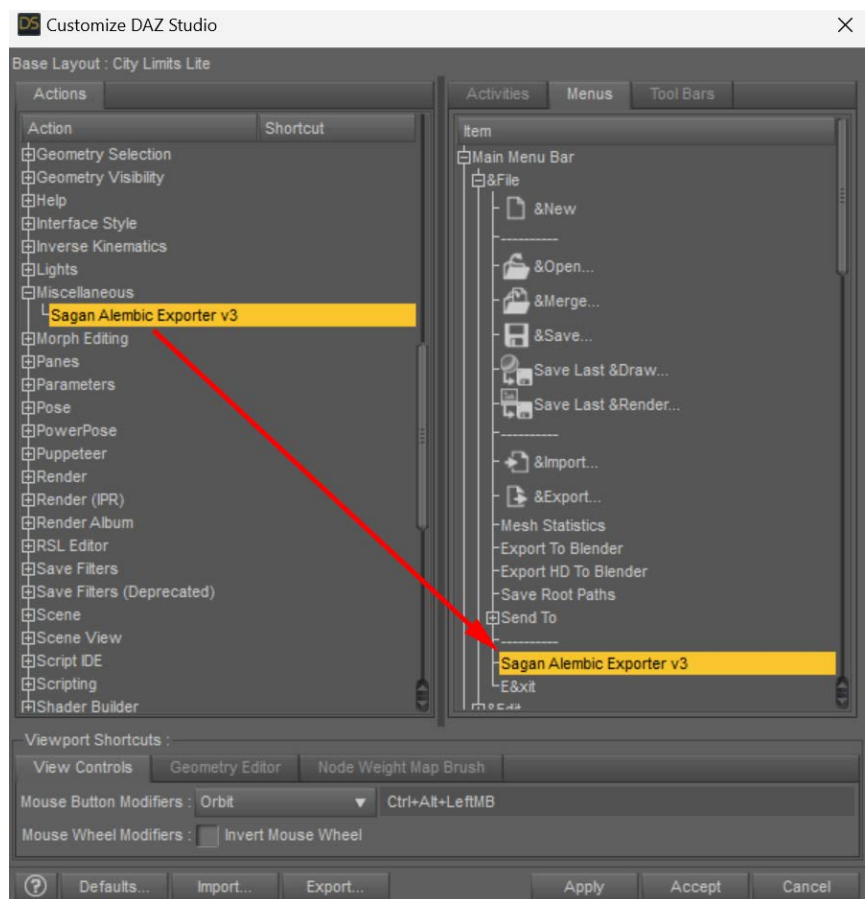
<https://www.daz3d.com/forums/discussion/428856/sagan-a-daz-studio-to-blender-alembic-exporter>

The installation of Sagan is very simple. We just need to copy the .dll file in its installation package to the plug-in folder of DAZ Studio, and then restart DAZ Studio.

The following is a video tutorial on how to install Sagan:

<https://rumble.com/v1ojvso-installing-sagan-alembic-daz-to-blender-pipeline-tutorial-1.html>

After installing, we need to manually configure Sagan to appear in DAZ Studio's menu. In DAZ Studio's Windows menu, select 'Workspace > Customize...', find 'Sagan' on the left-side pane under 'Miscellaneous', and drag it to the desired location on the Menus tab of the right-side pane. For example, under File menu.



3.3 Install Diffeomorphic

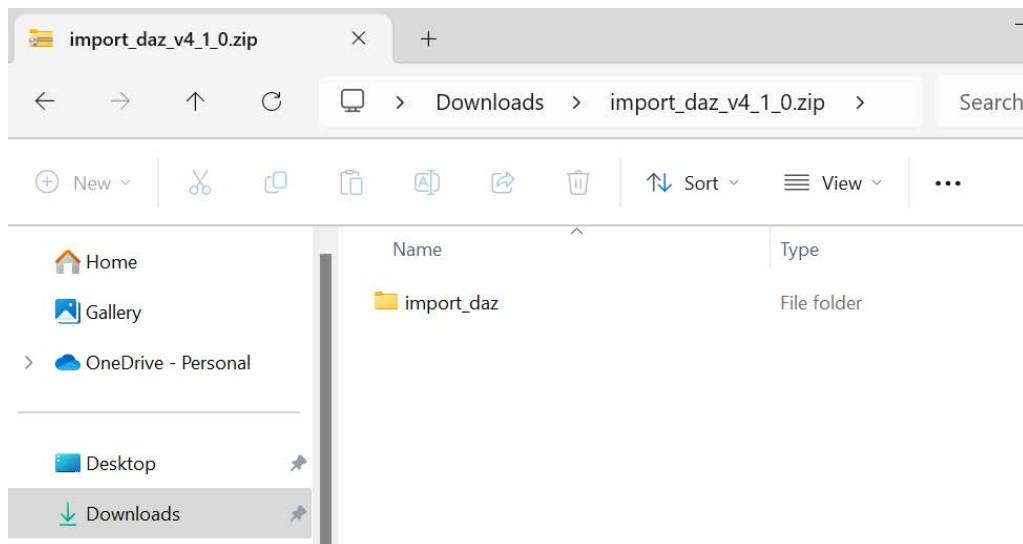
Diffeomorphic is a free toolkit. Its DAZ Importer add-on can help us import the entire DAZ Studio scene into Blender. You may wonder why we need to install both Sagan and DAZ Importer with similar functions. This is because they will be used to deal with different scenarios. Simply put, in an animation, when NGG9 interacts with an object, If NGG9 is stationary and the object is moving, we should use Sagan. Otherwise, if NGG9 is moving and the object is stationary, then we must use DAZ Importer. I will explain this further in the examples.

Now, please download the latest stable version of DAZ Importer from the following page:

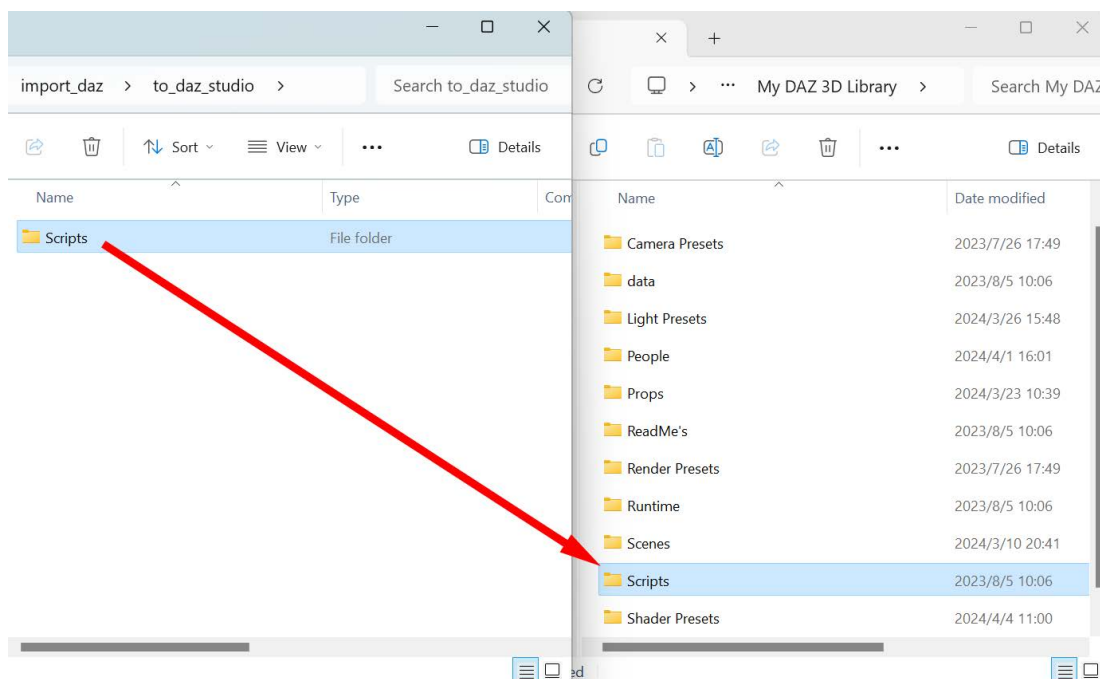
https://bitbucket.org/Diffeomorphic/import_daz/wiki/Home

This page already contains detailed installation and usage tutorial of DAZ Importer. You can also install DAZ Importer by following the steps below:

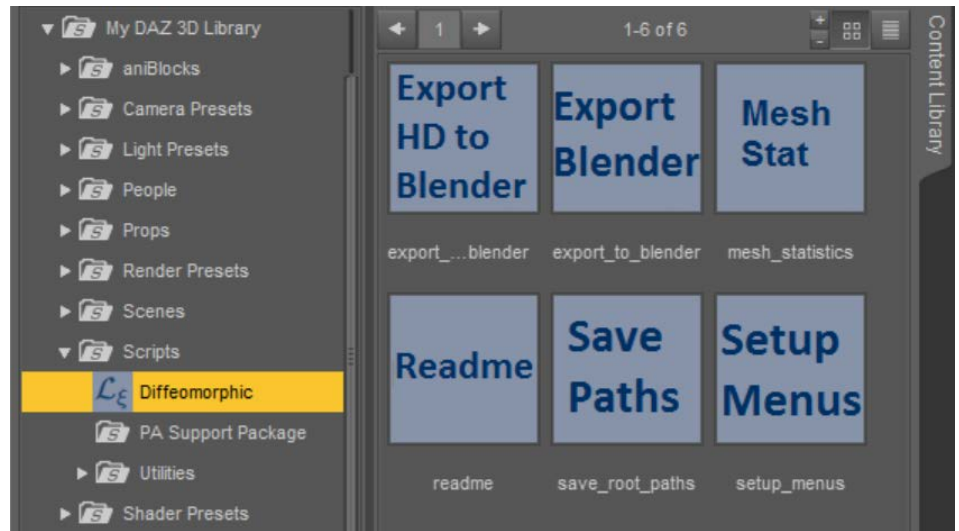
3.3.1. In the zip file we downloaded, there is a subfolder called 'import_daz', which is the DAZ Importer add-on we need.



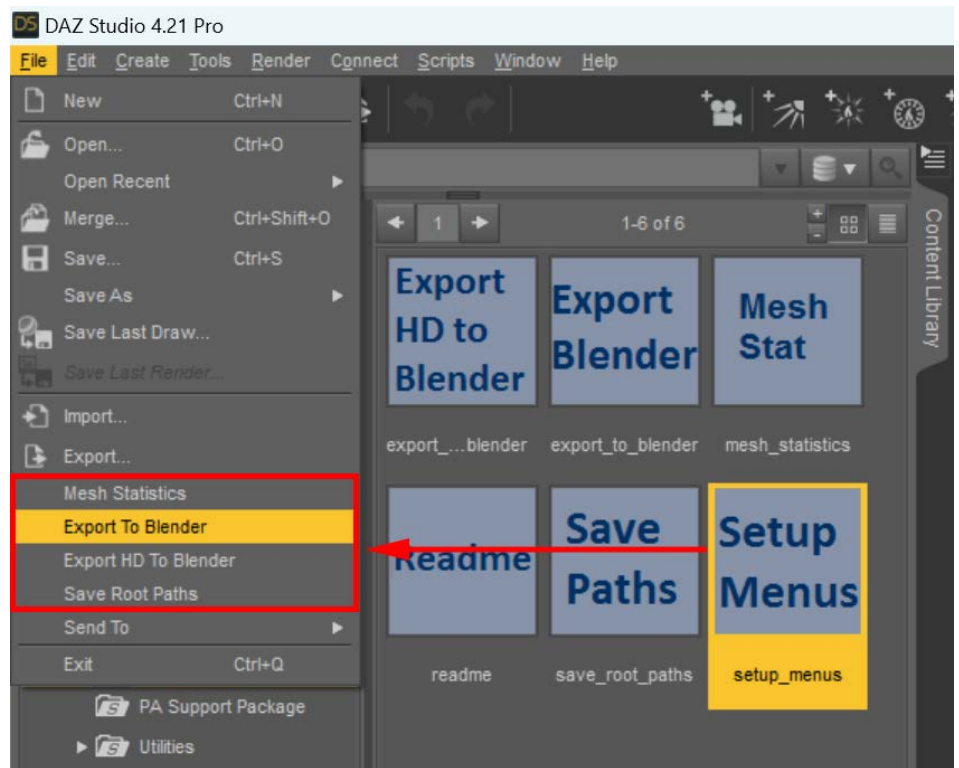
Double-click 'import_daz'. You will see a subfolder called 'to_daz_studio'. This contains the part of DAZ Importer that runs in DAZ Studio (DAZ scripts). This subfolder contains a separate folder called 'Scripts'. Please copy the 'Scripts' folder to one of your DAZ Studio library folders.



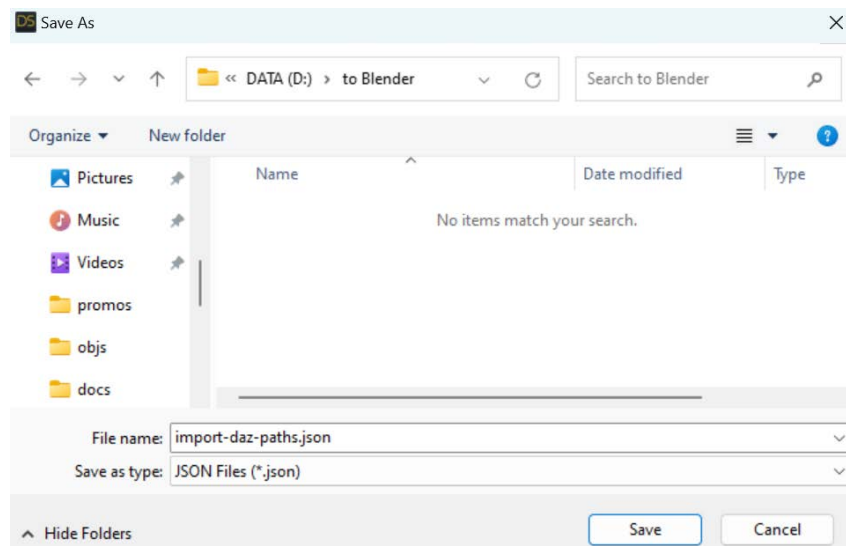
3.3.2. Now start DAZ Studio. In the Content Library pane, open the Scripts folder and then the Diffeomorphic subfolder. It contains six scripts.



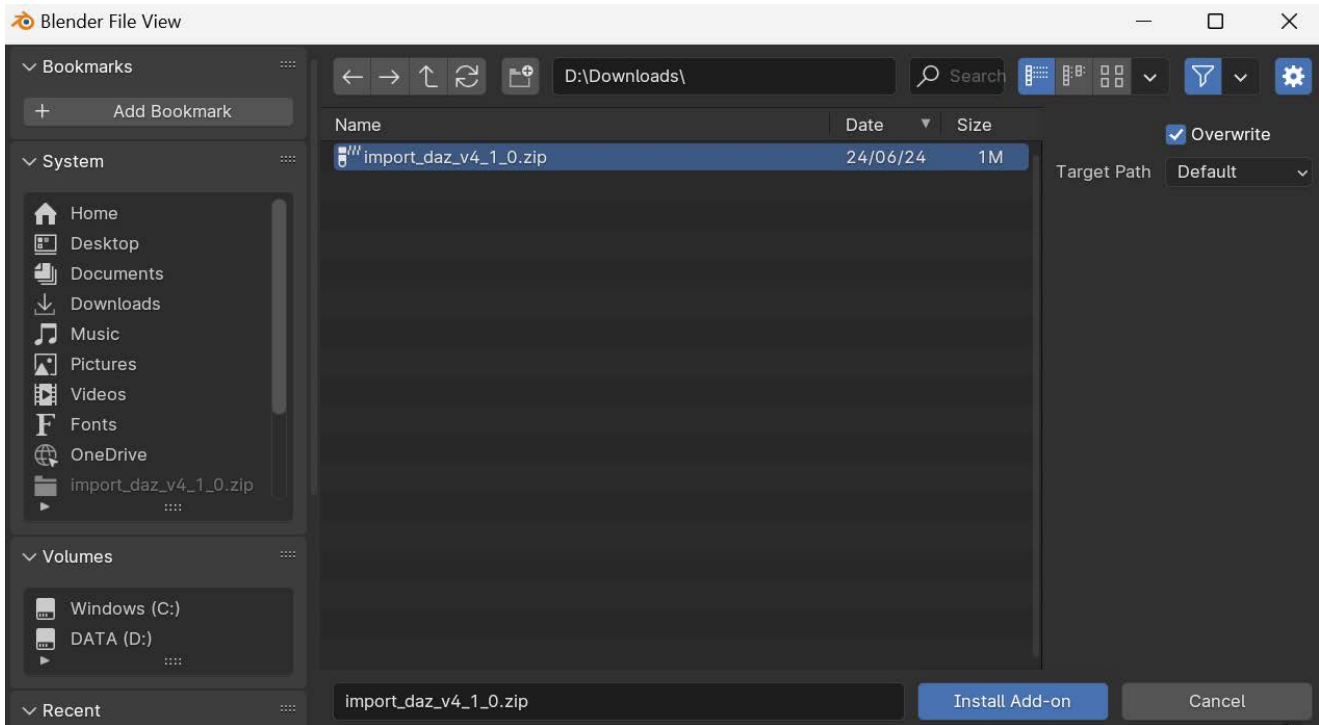
3.3.3. Double-click the script 'Setup Menus' and 4 new menu items will be added to DAZ Studio's File menu. These menu items link to the scripts in the Diffeomorphic subfolder. So in the future we will be able to quickly execute these scripts from the File menu, which is very convenient.



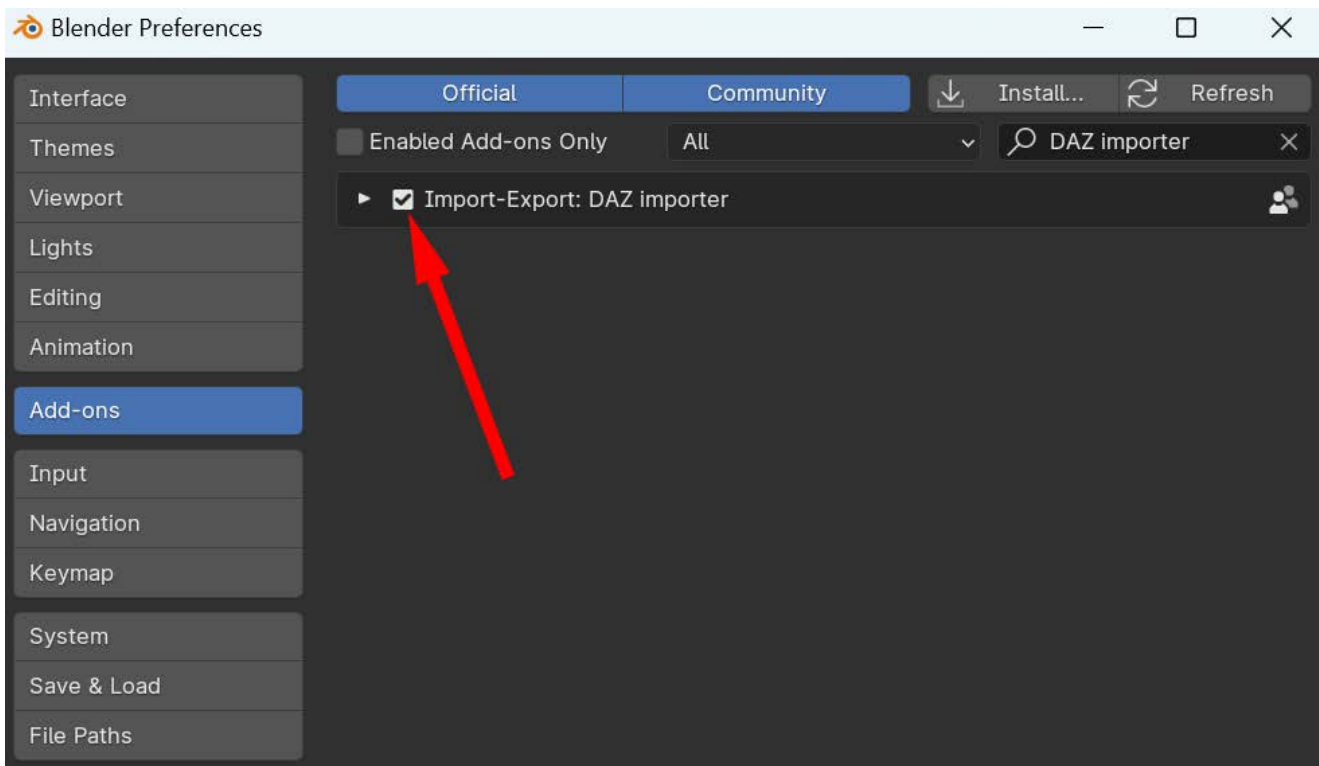
3.3.4. The part of DAZ Importer that runs in Blender (Blender add-on) needs to know the paths to all the DAZ assets in order to import the DAZ Studio scenes into Blender properly. So all the root paths of DAZ Studio need to be passed to Blender via a JSON file. In the File menu of DAZ Studio select 'Save Root Paths' and then select a folder to save the JSON file in the file selection window that pops up.

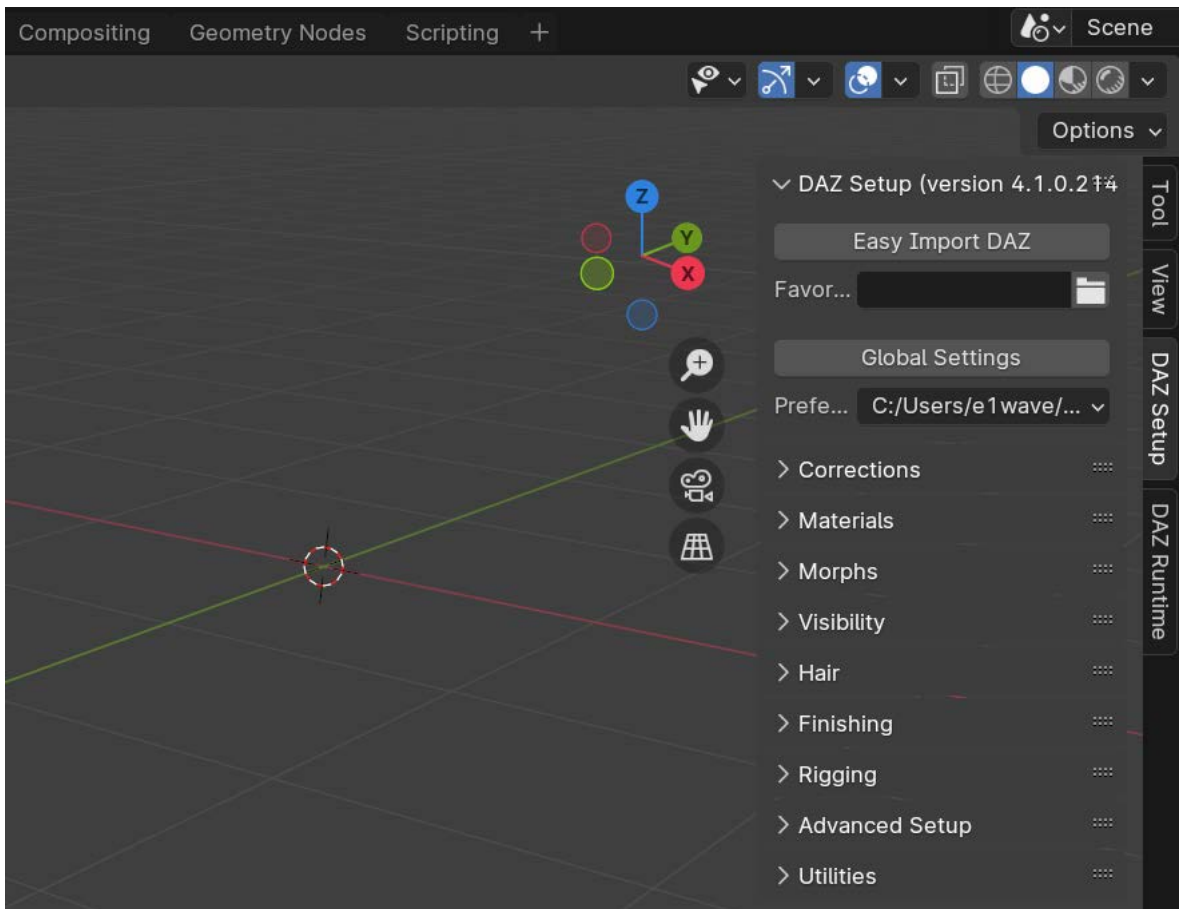


3.3.5. Next, install and configure the Blender add-on for DAZ Importer. Open Blender, click 'Edit > Preferences...' to open the Blender Preferences window. In the Add-ons tab, press the 'Install...' button to open the file selector. Navigate to the downloaded zip file and press 'Install Add-on'.

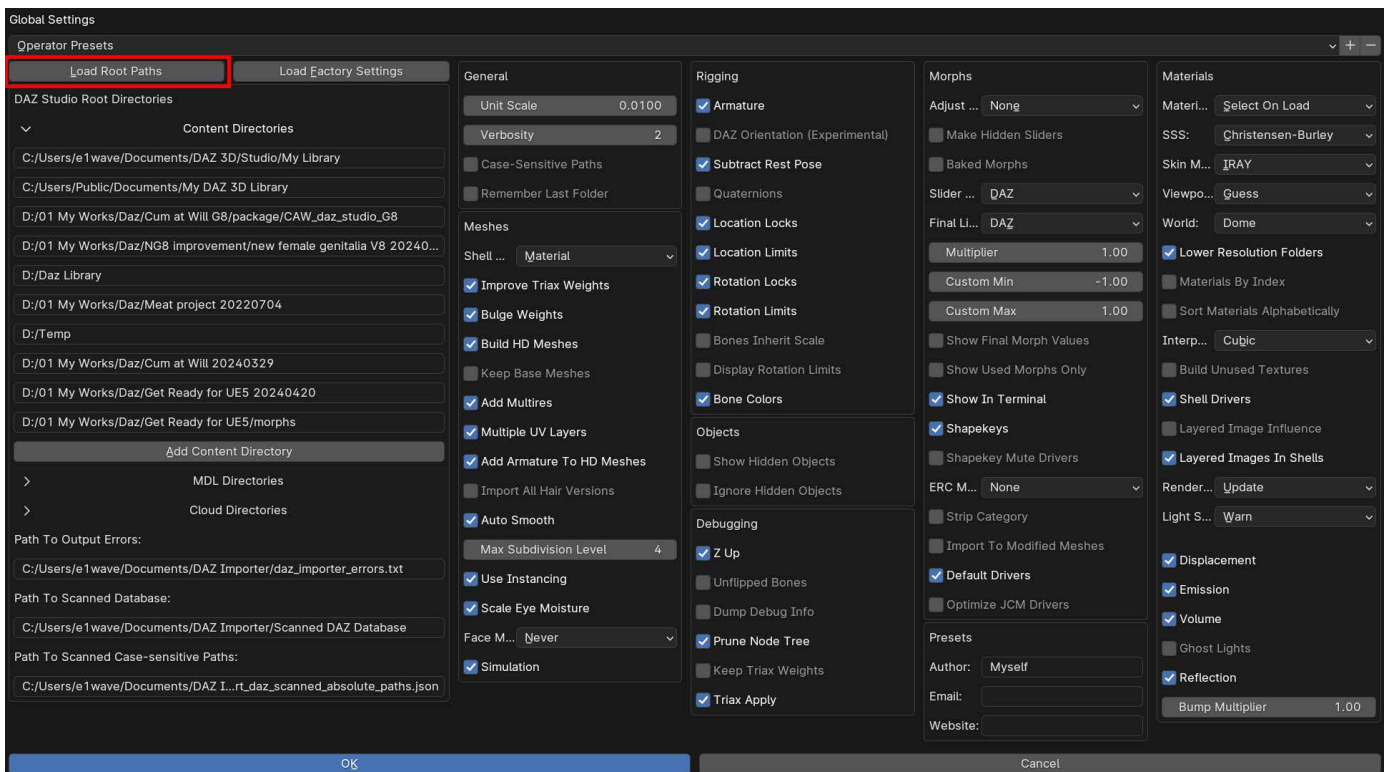


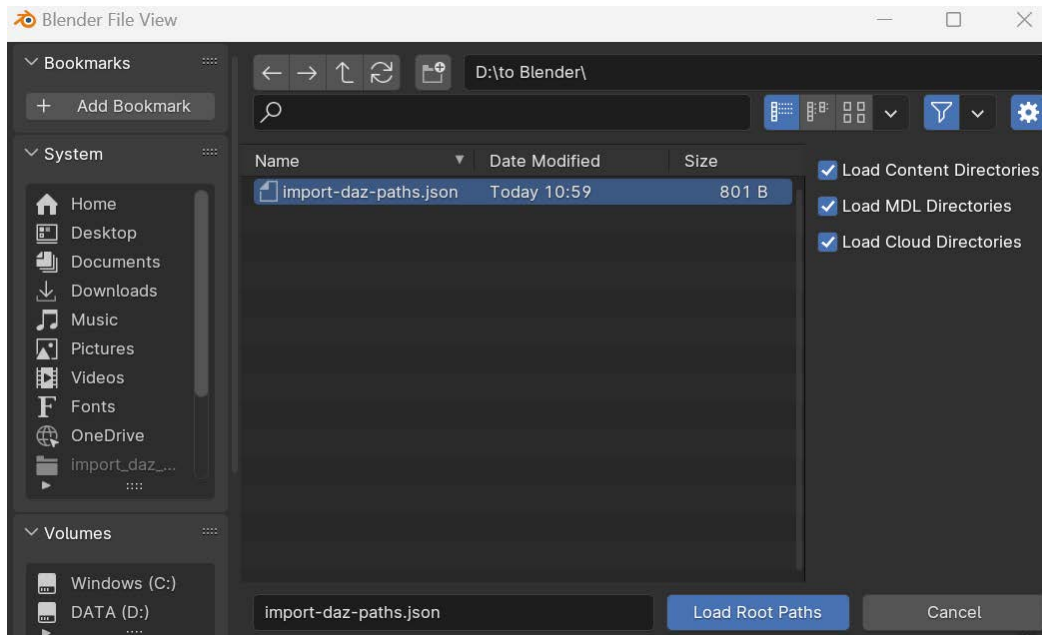
3.3.6. The add-on is now copied to your Blender add-ons folder. Select the checkbox on the left to enable the DAZ importer. New tabs named 'DAZ Setup' and 'DAZ Runtime' now appear in the UI panel to the right of the viewport.





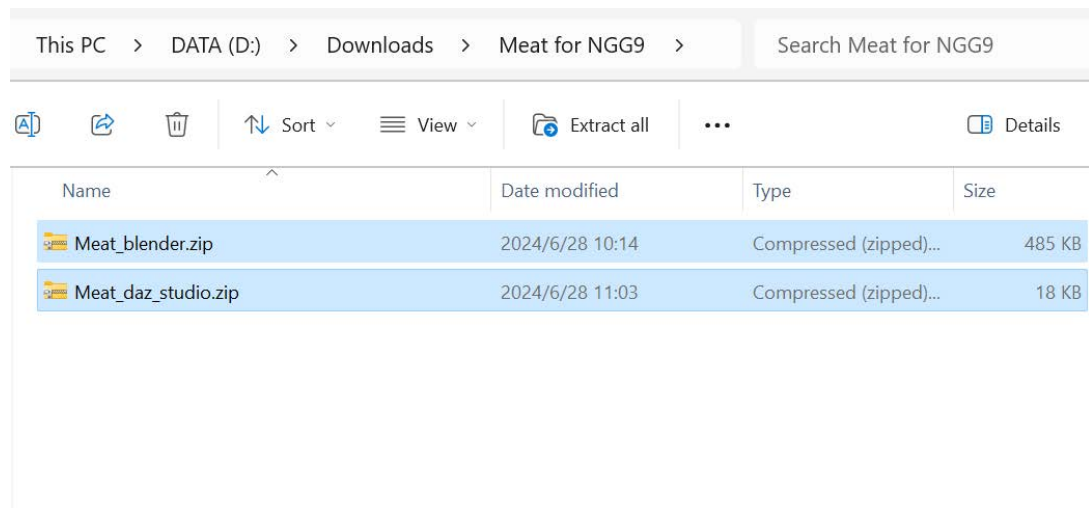
3.3.7. Click on the DAZ Setup tab. Press the 'Global Settings' button to open the settings dialog, and then press the 'Load Root Paths' button. In the file selector, find the JSON file containing the root paths that you saved earlier in DAZ Studio. At last, press the 'Load Root Paths' button.



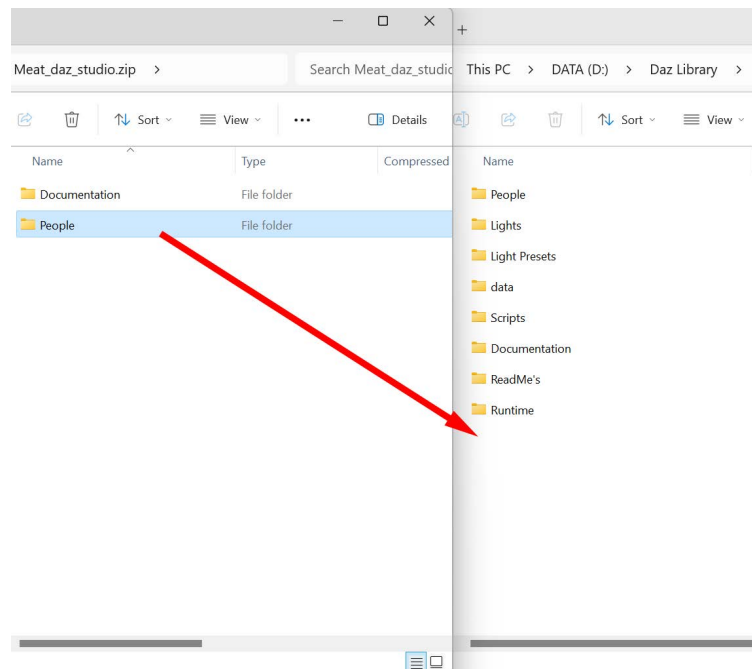


3.4 Install the daz script of Meat for NGG9

Unzip the Meat for NGG9 zip file to a temporary folder and we will get two new zip files, Meat_daz_studio.zip and Meat_blender.zip.



Similar to DAZ Importer, Meat for NGG9 is also divided into the daz script that runs in DAZ Studio and the add-on that runs in Blender. Let's install the daz script first. Double-click to open Meat_daz_studio.zip and copy 'People' folder to the DAZ Studio library folder where NGG9 is located.

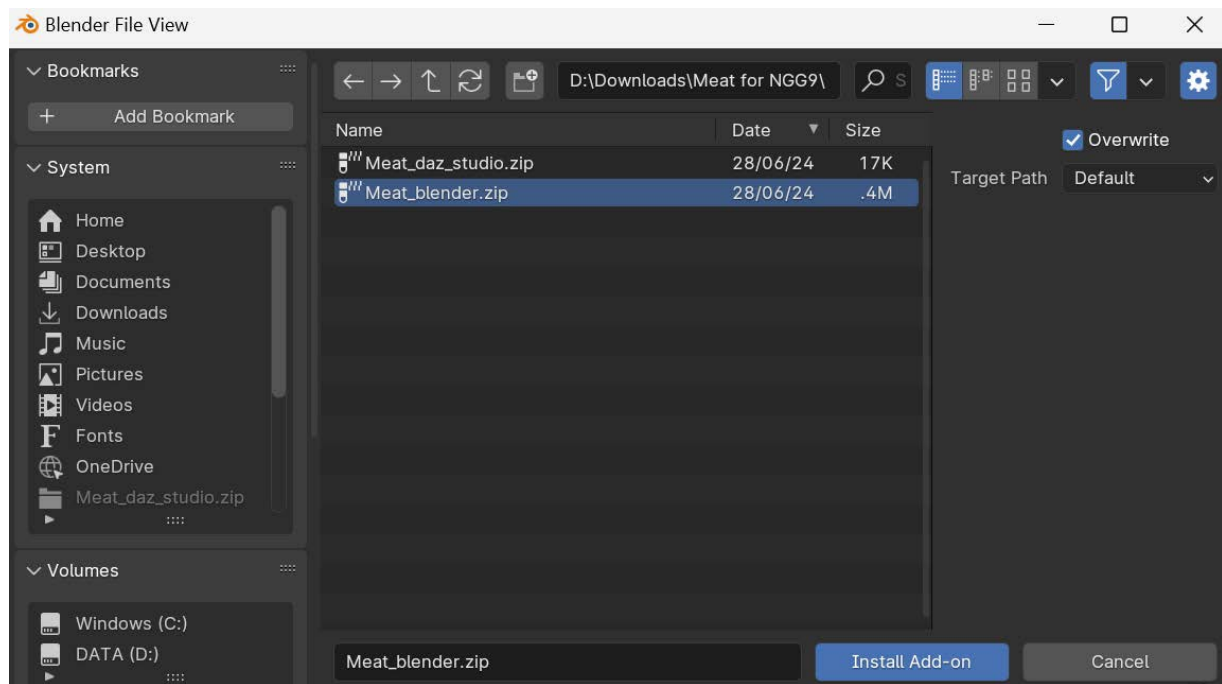


After copying, start DAZ Studio. In the Content Library pane, under 'People > Genesis 9 > Anatomy > New Genitalia for Genesis 9 > Meat for NGG9'. You will see a script called 'Meat for NGG9'. This script is used to convert the obj sequence exported from Blender into NGG9 keyframe animation in DAZ Studio.

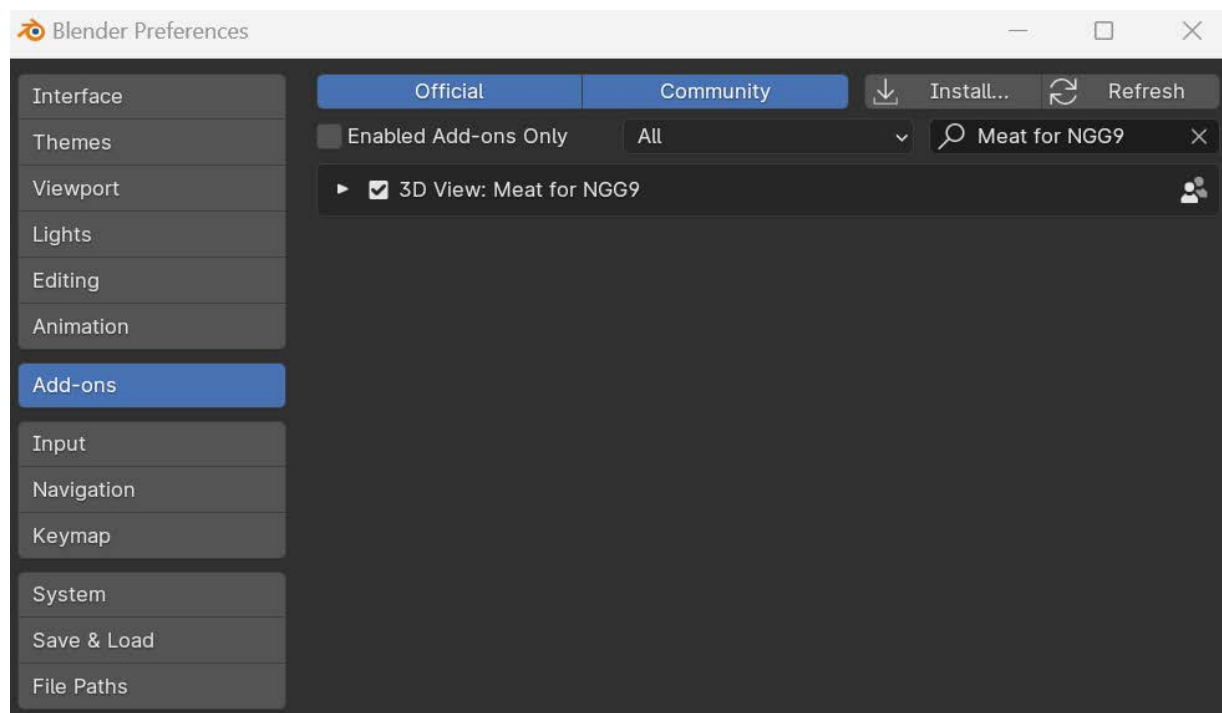


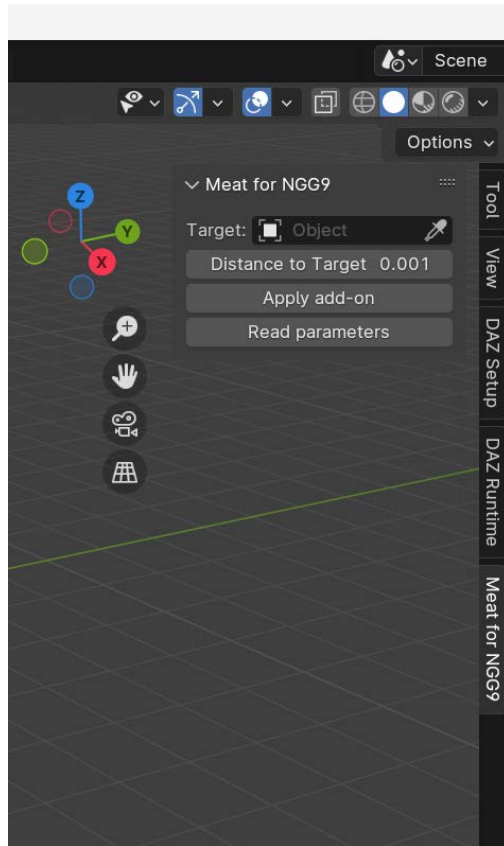
3.5 Installing the Blender add-on of Meat for NGG9

Open Blender, click 'Edit > Preferences...' to open the Blender Preferences window. In the Add-ons tab, press the 'Install...' button to open the file selector. Navigate to the 'Meat_blender.zip' and press 'Install Add-on'.



The add-on is now copied to your Blender add-ons folder. Select the checkbox on the left to enable Meat for NGG9. Then a new tab named 'Meat for NGG9' now appears in the UI panel to the right of the viewport.





4. Example 1

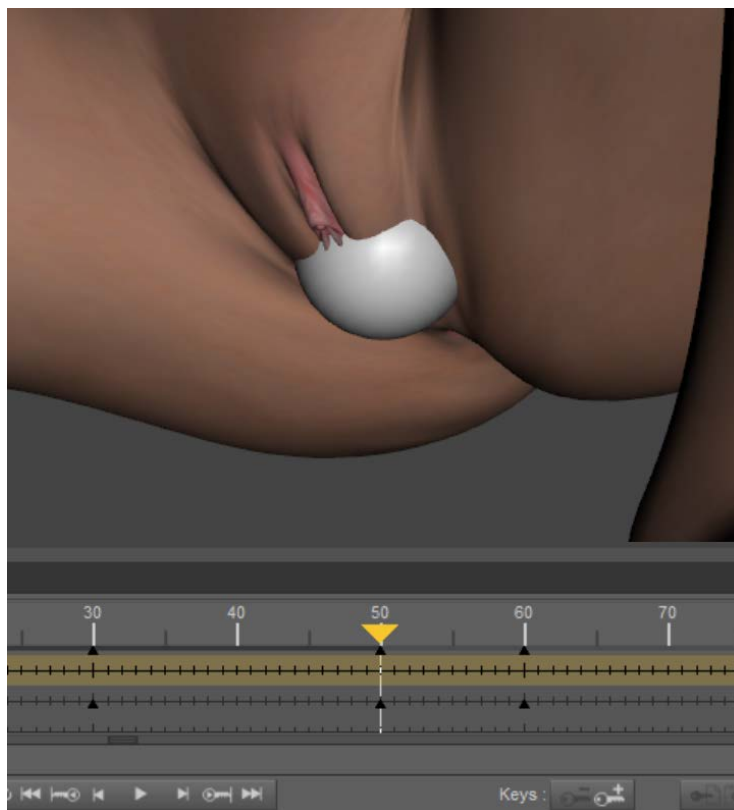
First, we will create a simple animation in DAZ Studio with only one character and one toy. In this animation, we let the character remain motionless while the sphere is extruded and falls from the inside of NGG9.



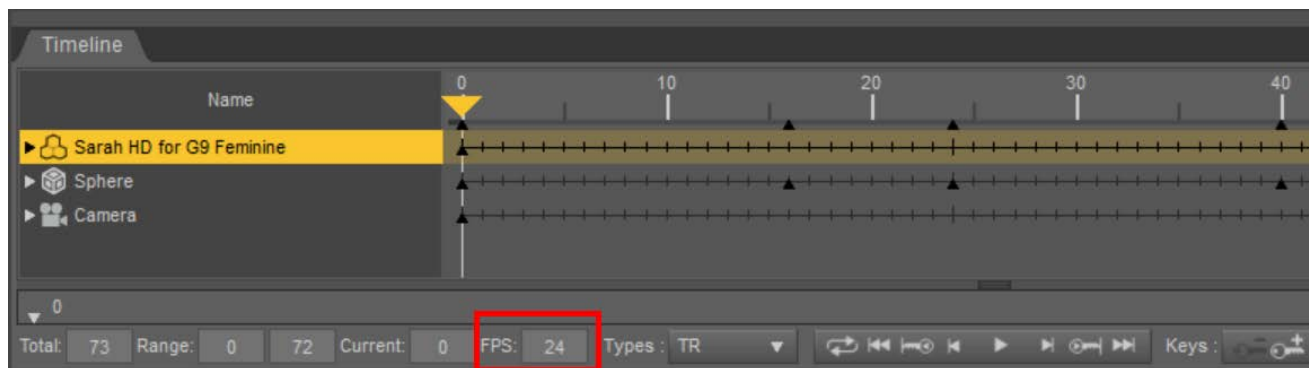
Of course, the sphere now only pass through the surface of the NGG9 model without causing any changes to its shape.

Next, we will use the Meat add-on in Blender to add shape variations to NGG9. As mentioned earlier, since it is mainly the object (the sphere) that is moving, we will then export this animation to Blender using the Sagan plug-in.

Please note: When animating, we need to be aware that the range of motion of male genitals/toys is actually limited. After all, in reality, their range of motion is also limited by the female physiological structure.



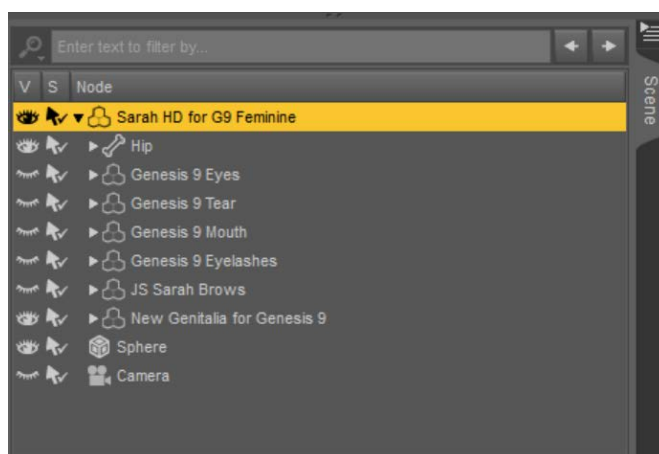
4.1 When making animations, find the FPS in the Timeline pane and set its value to 24.



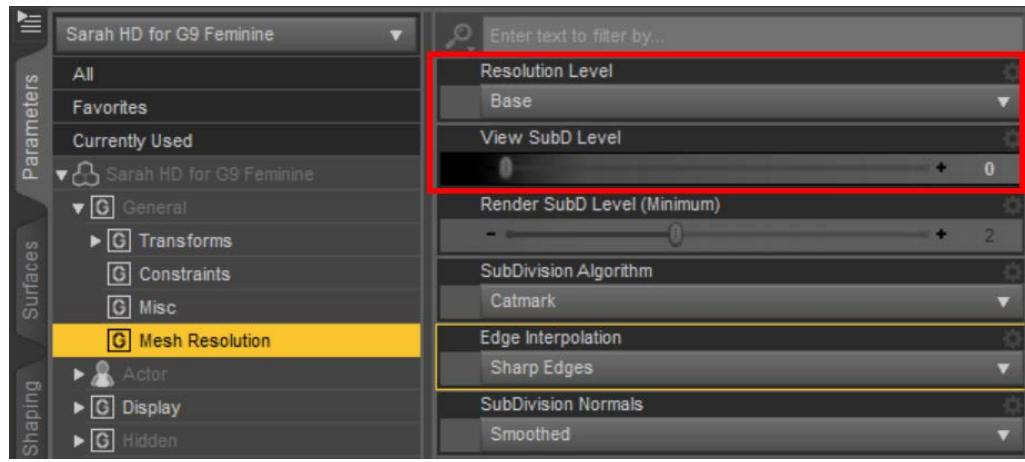
If we don't set the FPS to 24, then after importing the alembic file in Blender, we will find that the frame number of the imported animation is inconsistent with the frame number in DAZ Studio. This is what we do not want to see.

After setting the FPS, save the scene.

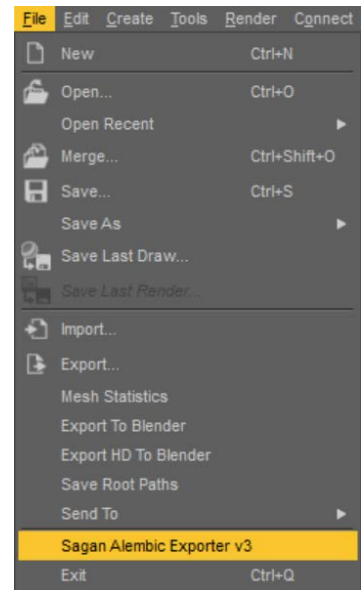
4.2 (Optional) Hide all nodes in the scene except the character, NGG9 and the toy. This step is not necessary, it is mainly for the consideration of saving space. Because Sagan ignores hidden nodes by default. If your scene is very complex, doing this can significantly reduce the size of the alembic file.



4.3 Select the character in the scene, and in the Parameter pane, set its Resolution Level to 'Base' and View SubD Level to 0. Similarly, select NGG9 in the scene, and in the Parameter pane, set its Resolution Level to 'Base' and View SubD Level to 0. This is to ensure that the obj sequence exported after running the Meat add-on in Blender can be correctly imported as NGG9's morphs.

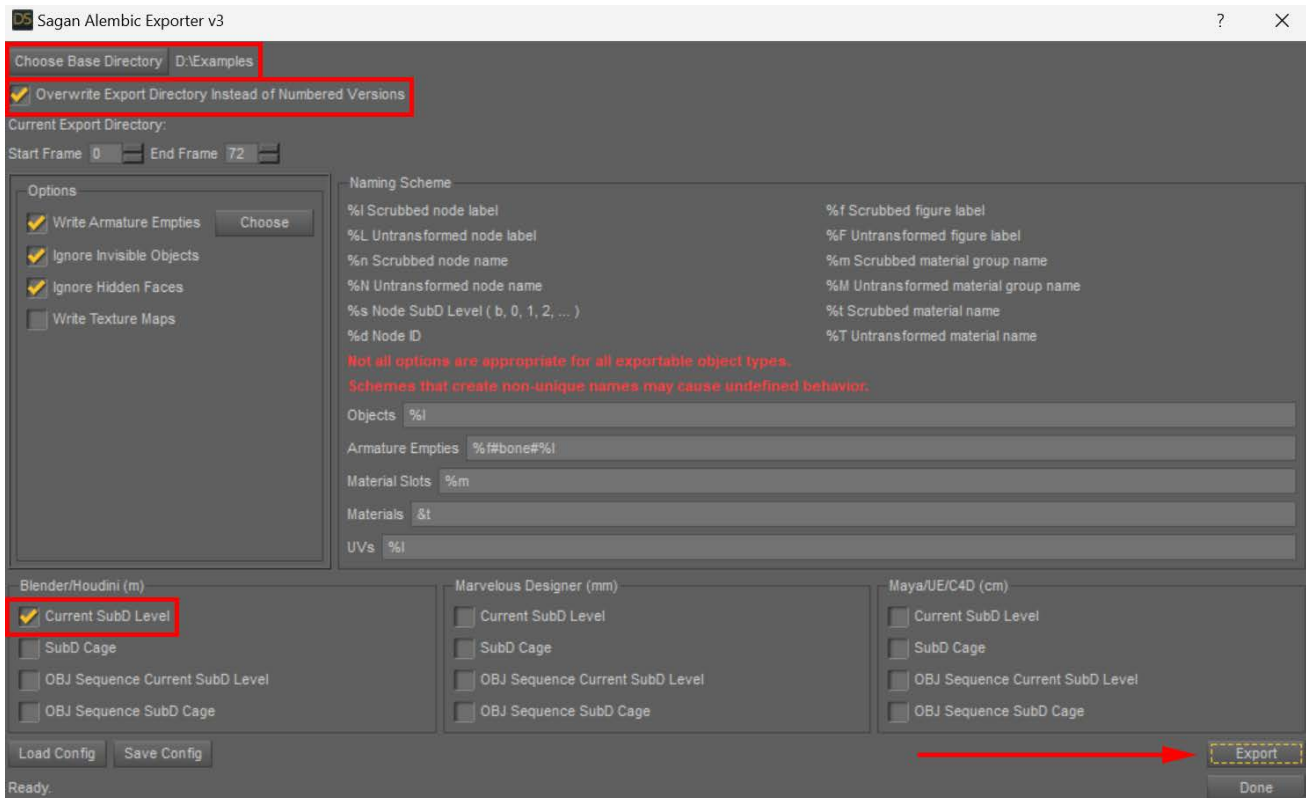


4.4 Go to DAZ Studio's File menu and click 'Sagan Alembic Exporter v3'. In the pop-up window, click the 'Choose Base Directory' button to select a folder. The Sagan plug-in will create a subfolder named after your scene in this folder and then store the alembic file in the subfolder.

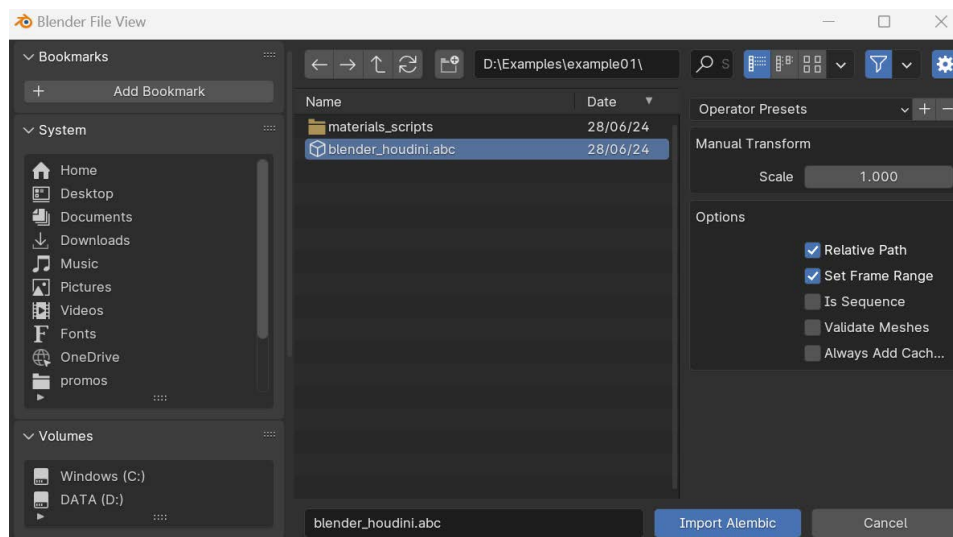
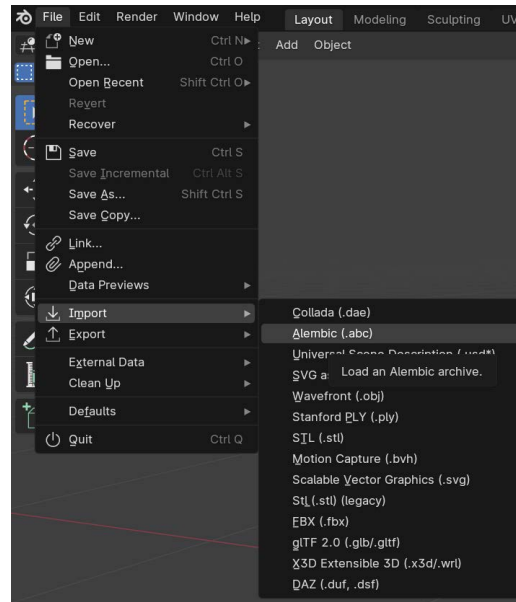


4.5 (Optional) Check 'Overwrite Export Directory Instead of Numbered Versions'. This way if we export the animation again, the Sagan plug-in will overwrite the last saved alembic file instead of creating a new version for it.

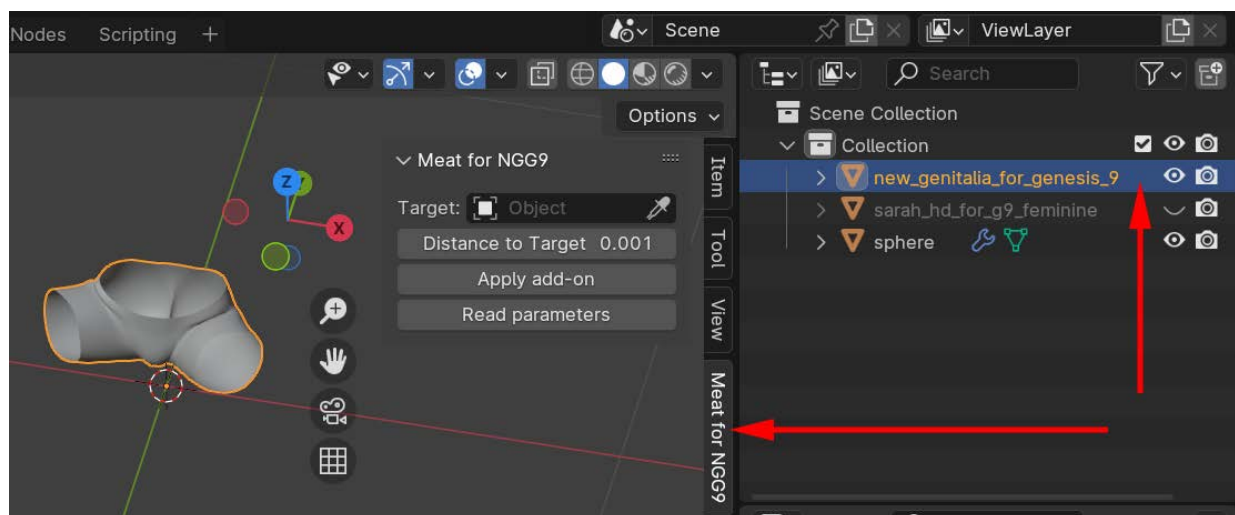
4.6 Make sure 'Current SubD Level' is checked in the 'Blender/Houdini (m)' column, then click the 'Export' button to start the export.



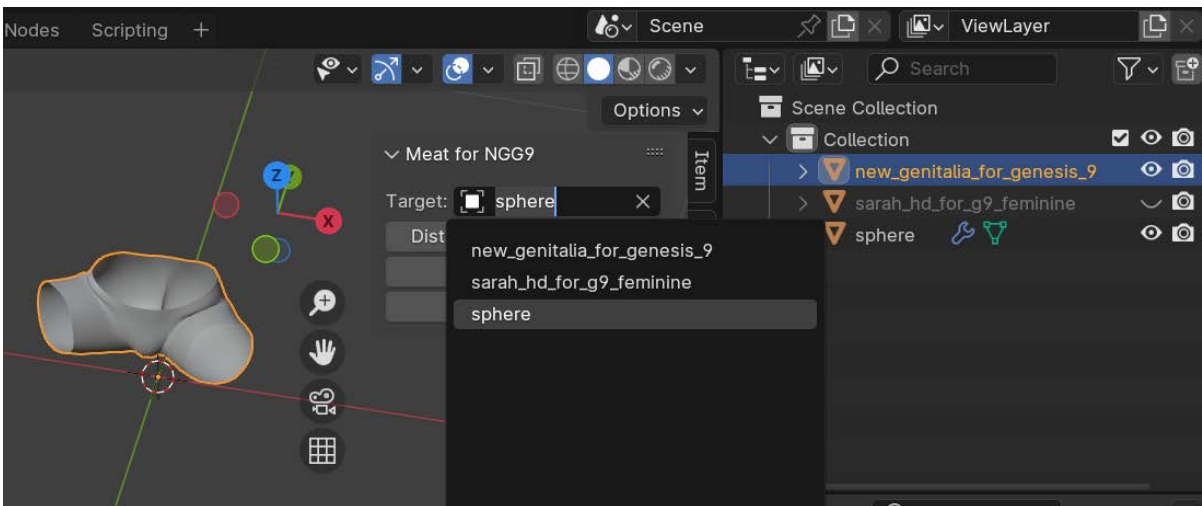
4.7 Open Blender, delete all default objects, select 'File > Import > Alembic (.abc)', find the alembic file we exported in the previous step in the Blender File View window, and then click the 'Import Alembic' button.



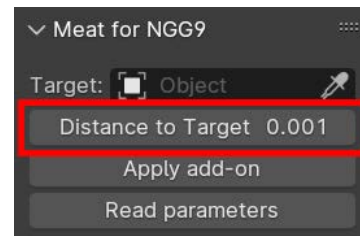
4.8 After the import is complete, hide all objects except NGG9 and the sphere in the outline. Then select NGG9 and click the 'Meat for NGG9' tab in the UI panel on the right side of the viewport.



4.9 We can see that the Meat add-on has a very simple user interface. User can click the Target column and select the sphere as the target object from the drop-down list. Or click the eyedropper on the right side of the Target column and then click the sphere in the viewport or outline.



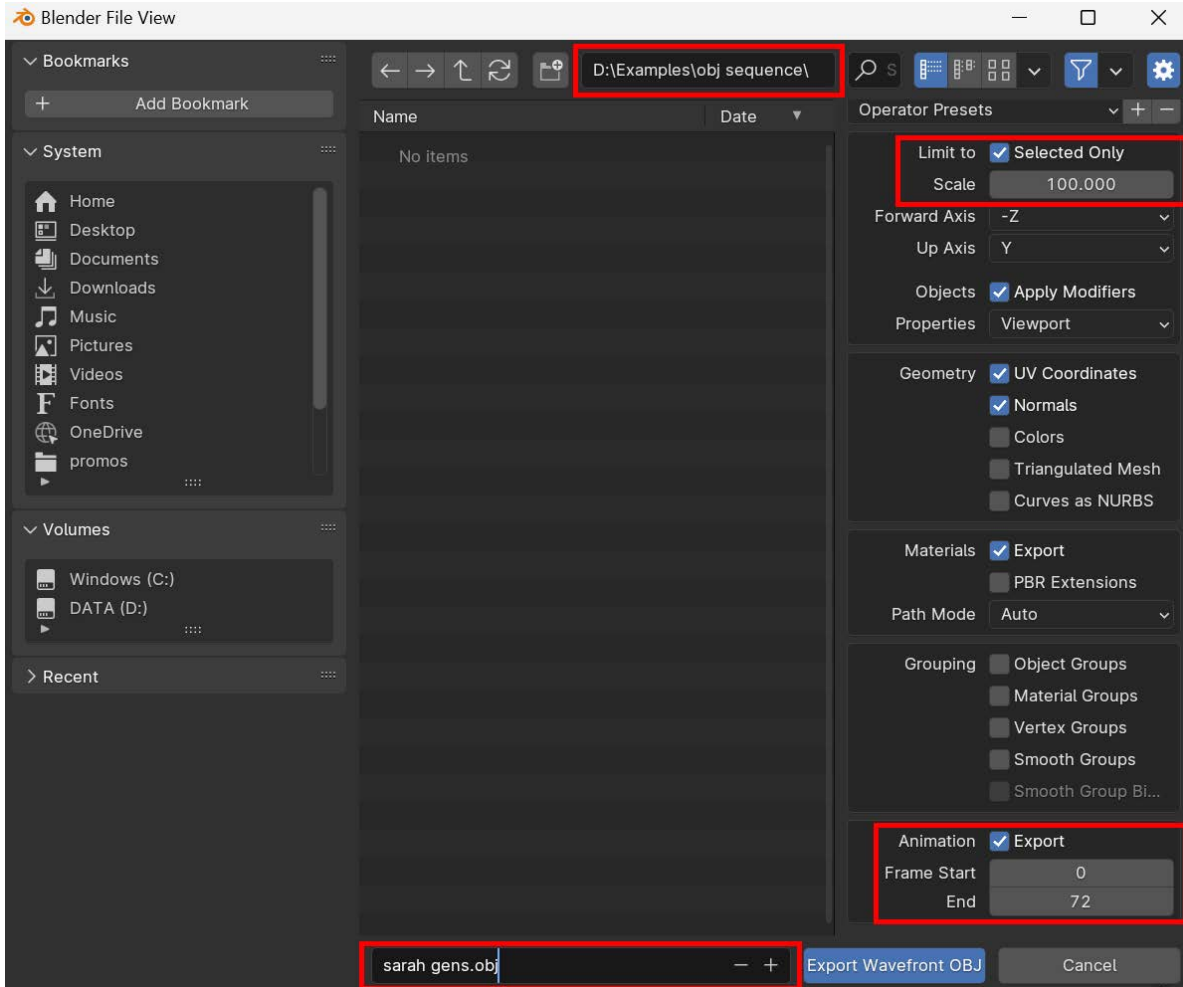
4.10 The default value of Distance to Target is 0.001, which is 1mm. After applying the Meat add-on, if you find that poke-through occurs between the sphere and NGG9 when playing the animation, you can go back here and slightly increase the value of Distance to Target to eliminate this phenomenon.



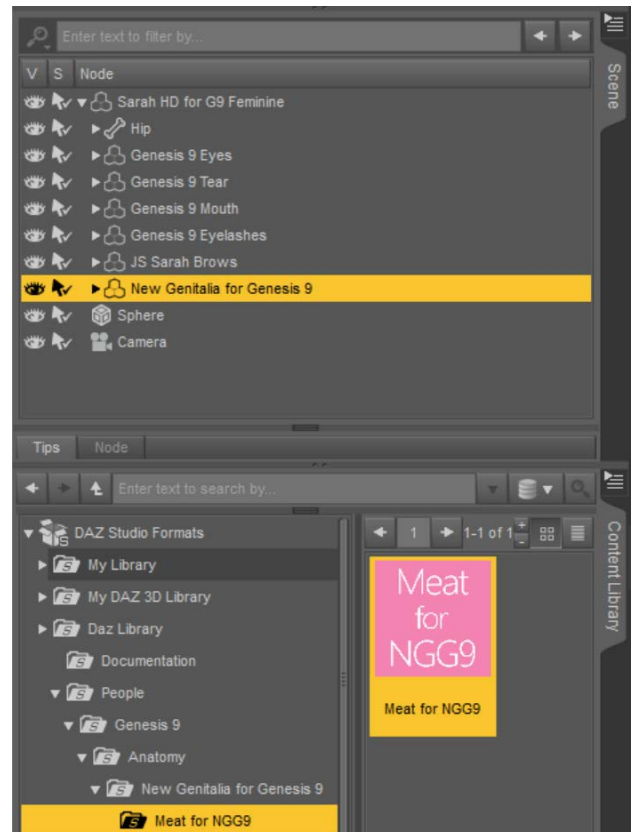
4.11 After setting the target, make sure NGG9 is selected and click 'Apply add-on' to apply the Meat add-on. Then press the spacebar to play the animation, or manually drag the time slider to observe the shape changes of NGG9 in each frame.

4.12 Please note that if poke-through is found, we need to select NGG9 again and click the 'Read parameters' button, only in this way can we correctly adjust the value of Distance to Target. This is because there may be multiple NGG9s in the scene, and the Meat add-on needs to get the parameters of a NGG9 before the user can modify them. If we need to change the Target, the same steps are required.

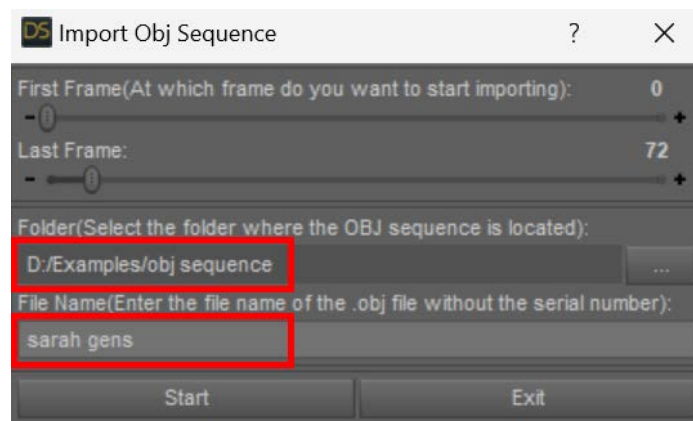
4.13 Now we are going to export the obj sequence. Select NGG9 and choose 'Export > Wavefront (.obj)'. In the Blender File View window, select a folder to store the obj sequence and set the file name of the .obj file. On the right side of the window, check 'Selected Only' and change 'Scale' to 100. Find 'Animtaion' and check 'Export' to its right. At last, click the 'Export Wavefront OBJ' button.



4.14 Return to DAZ Studio, reload the animation scene and select NGG9. In the Content Library pane, go to 'People > Genesis 9 > Anatomy > New Genitalia for Genesis 9 > Meat for NGG9' and run the Meat for NGG9 script.



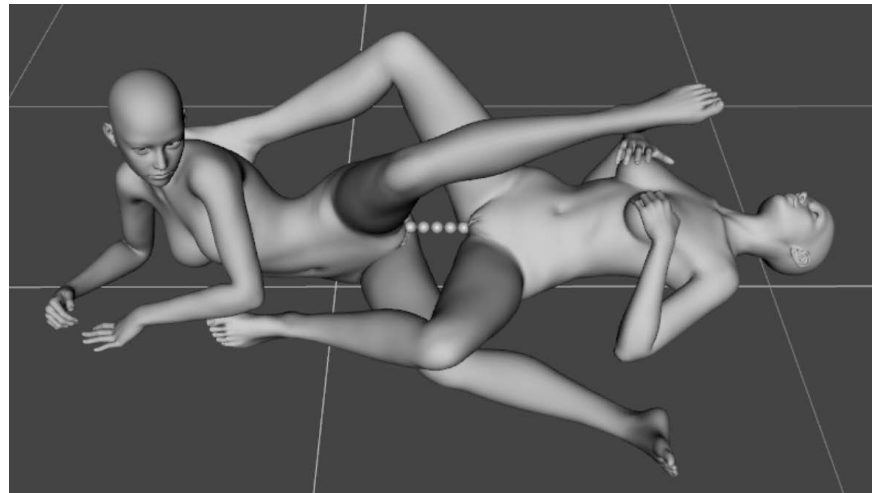
4.15 In the Import Obj Sequence window, select the folder where the obj sequence is located, enter the file name we set for the .obj file, and then click the 'Start' button. The script starts importing the obj sequence, automatically creates morphs, and uses these morphs to make keyframe animations for NGG9.



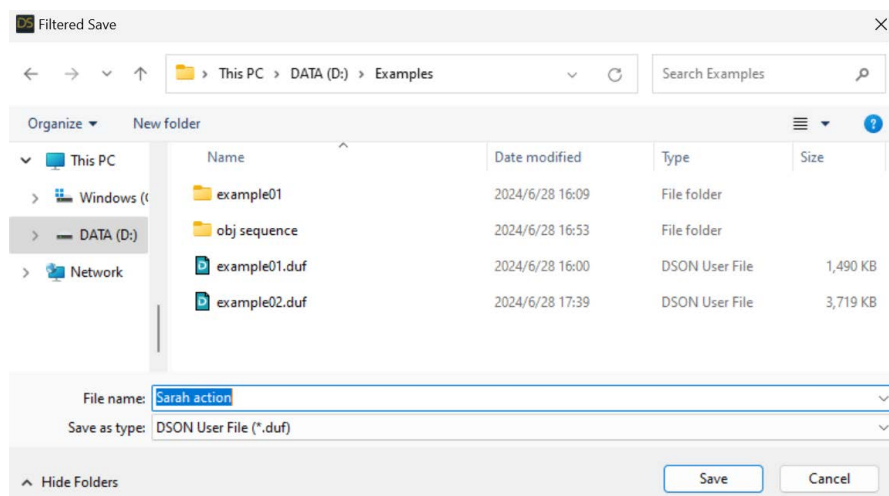
4.16 When the script is finished, open the Timeline pane, play the animation or drag the time slider to view the shape changes of NGG9. At this point, the interaction animation of NGG9 and the sphere is complete.

5. Example 2

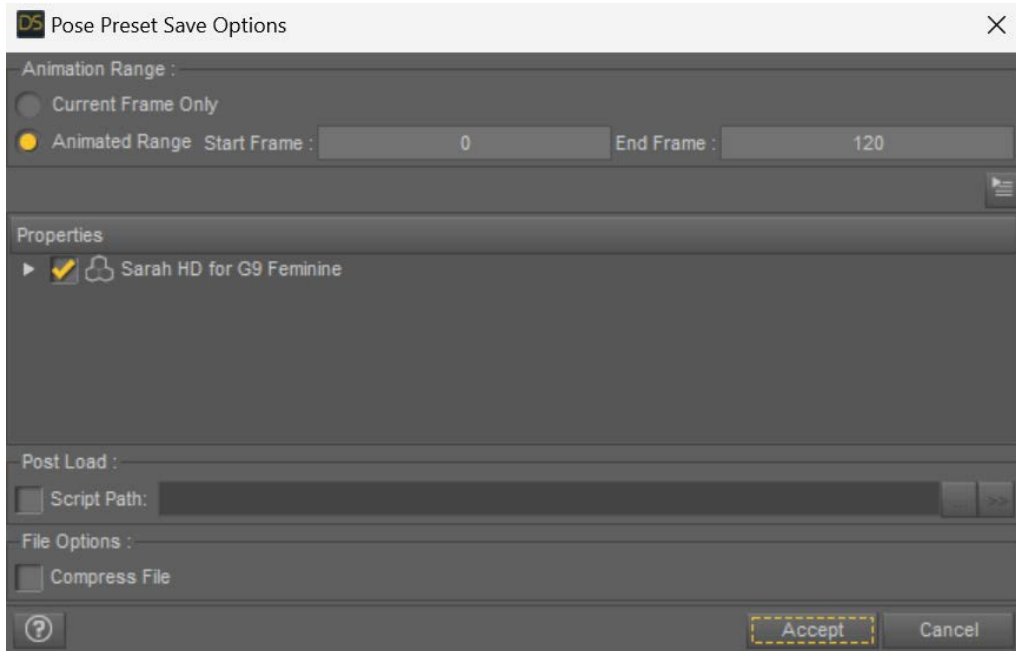
Next we will make a lesbian sex animation. In this scene, the toy is basically not moving, just the characters are moving. So, after setting up the animation of the characters, we should import them into Blender using the DAZ Importer add-on.



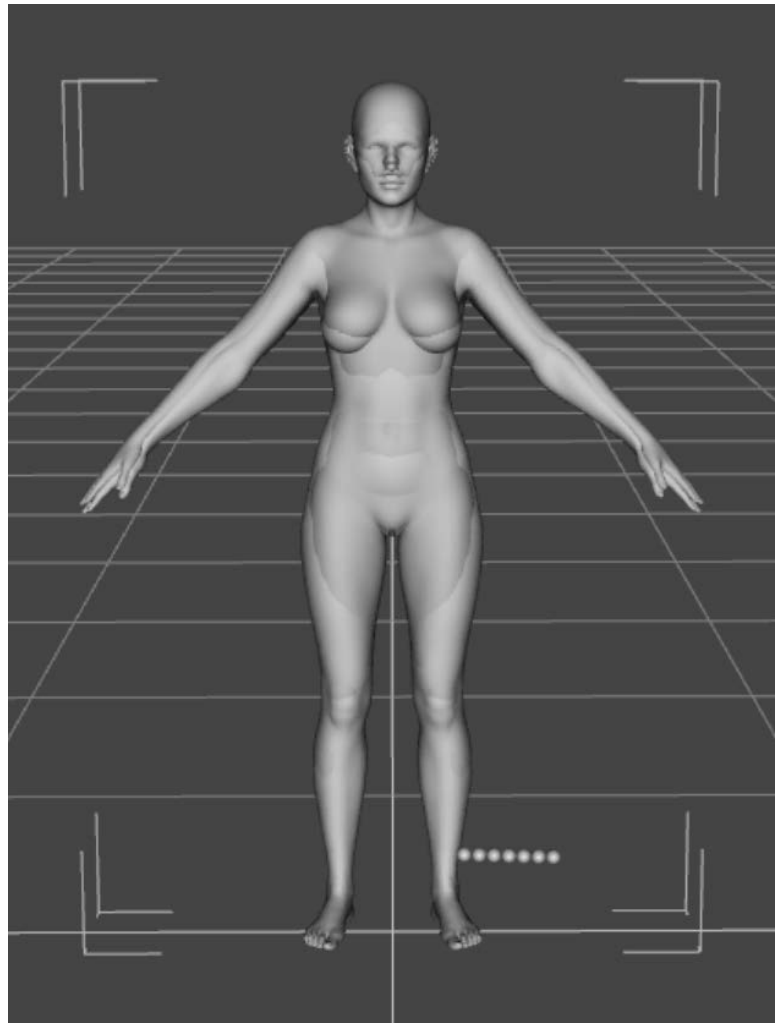
5.1 Let's first save each character's animation as a pose preset. In the step 5.8, the DAZ Importer will use these pose presets to load the animations to the characters in the Blender scene. Select Sarah HD in the scene, then select 'Save As > Pose Preset...' in the File menu of DAZ Studio. Select a folder in the Filtered Save window and give the pose preset a name, such as 'Sarah action'. Then click the 'Save' button.



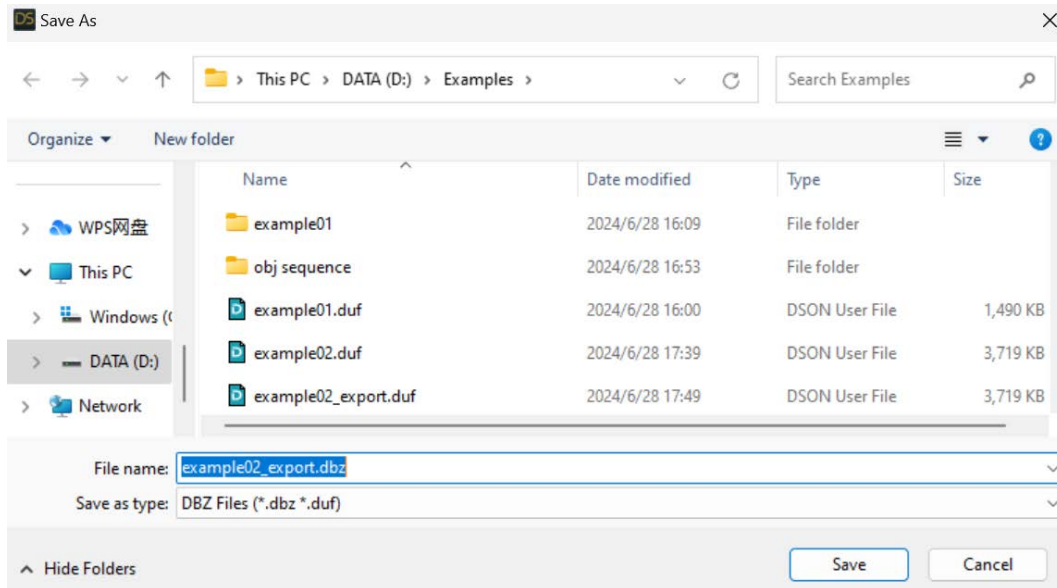
5.2 In the pop-up Pose Preset Save Options window, select 'Animated Range' for the animation range, and keep the other options as default. Then click the 'Accept' button. In the same way, save Victoria 9's animation as a pose preset called 'Victoria action'.



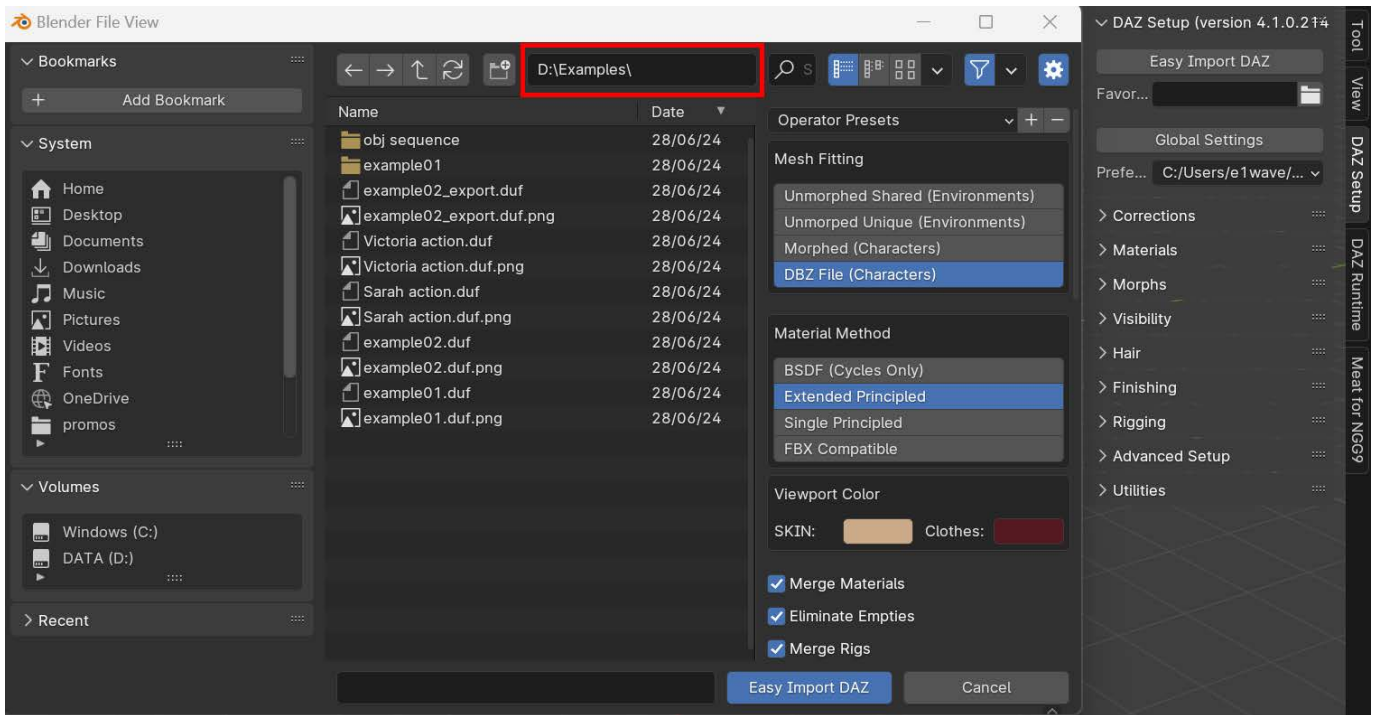
5.3 Save the scene as a replica scene (assuming the original scene is 'example02', we can name its replica scene 'example02_export'). This replica scene will be imported into Blender using DAZ Importer. Before that, we should return the two characters to base pose. Select Sarah HD and select 'Figure > Zero > Zero Figure Pose' in the Edit menu of DAZ Studio. Then select Victoria 9 and do the same thing.



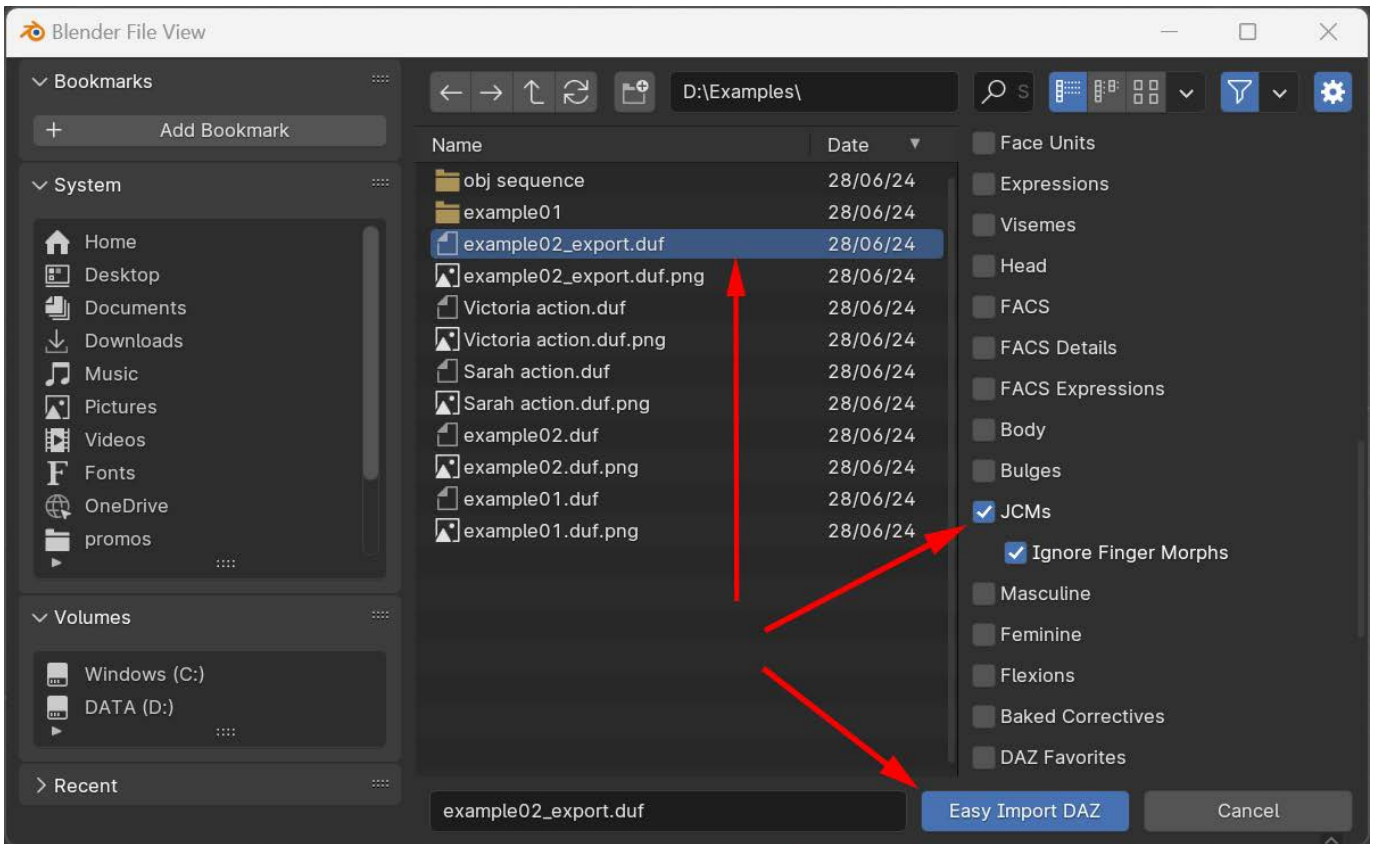
5.4 Once both characters have returned to their base pose, save the replica scene. Then, in DAZ Studio's File menu, select 'Export to Blender', then select a folder in the pop-up dialog and press the 'Save' button.



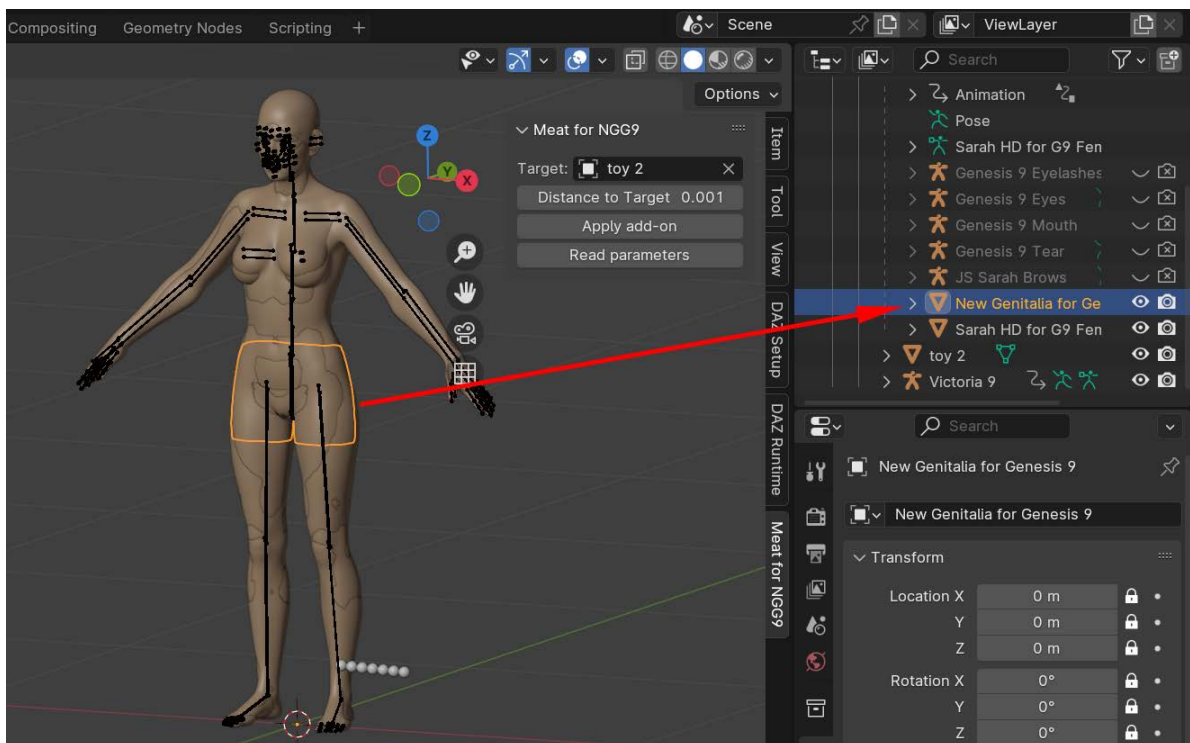
5.5 Start Blender and click 'DAZ Setup' in the UI panel to the right of the viewport. Press 'Easy Import DAZ' button to open the file selector. Navigate to the folder where the example02_export.duf is located.



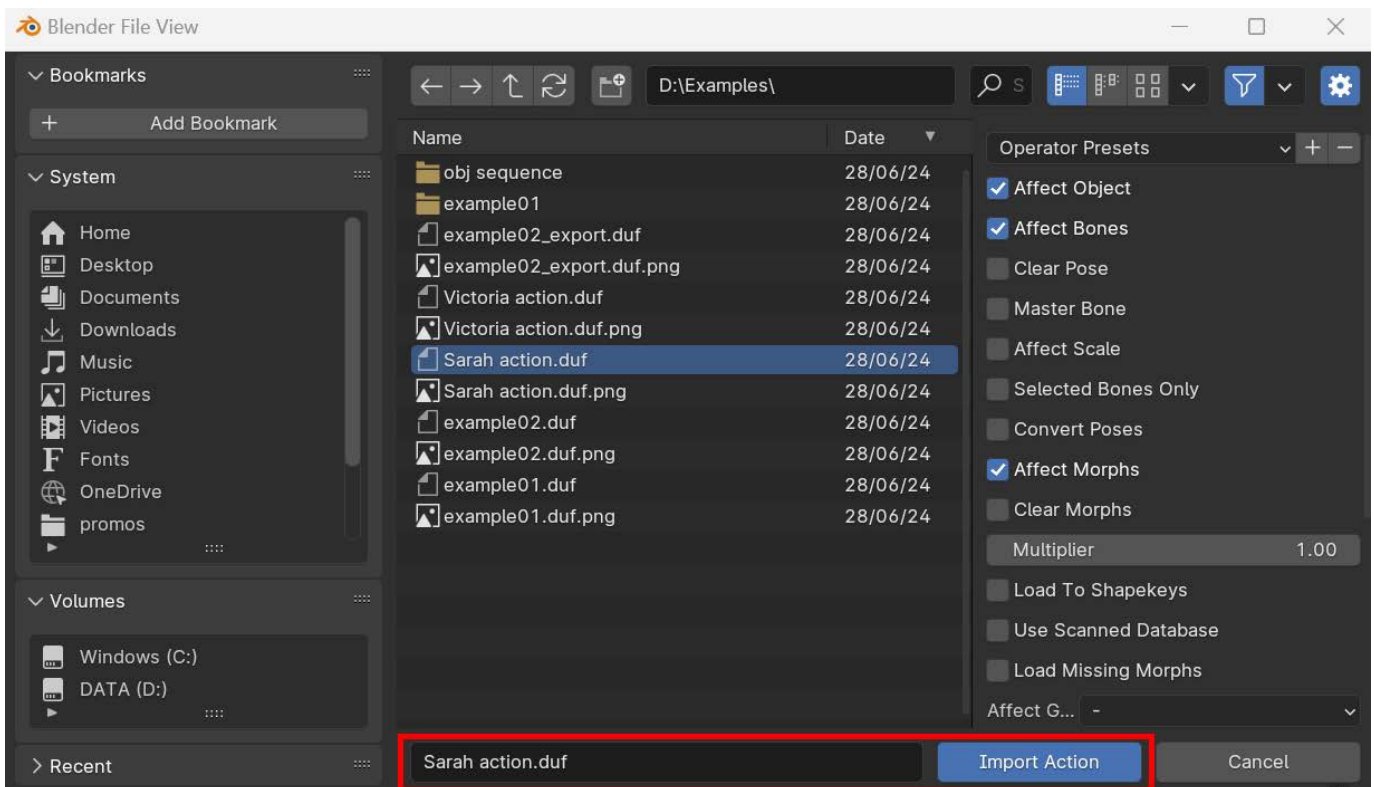
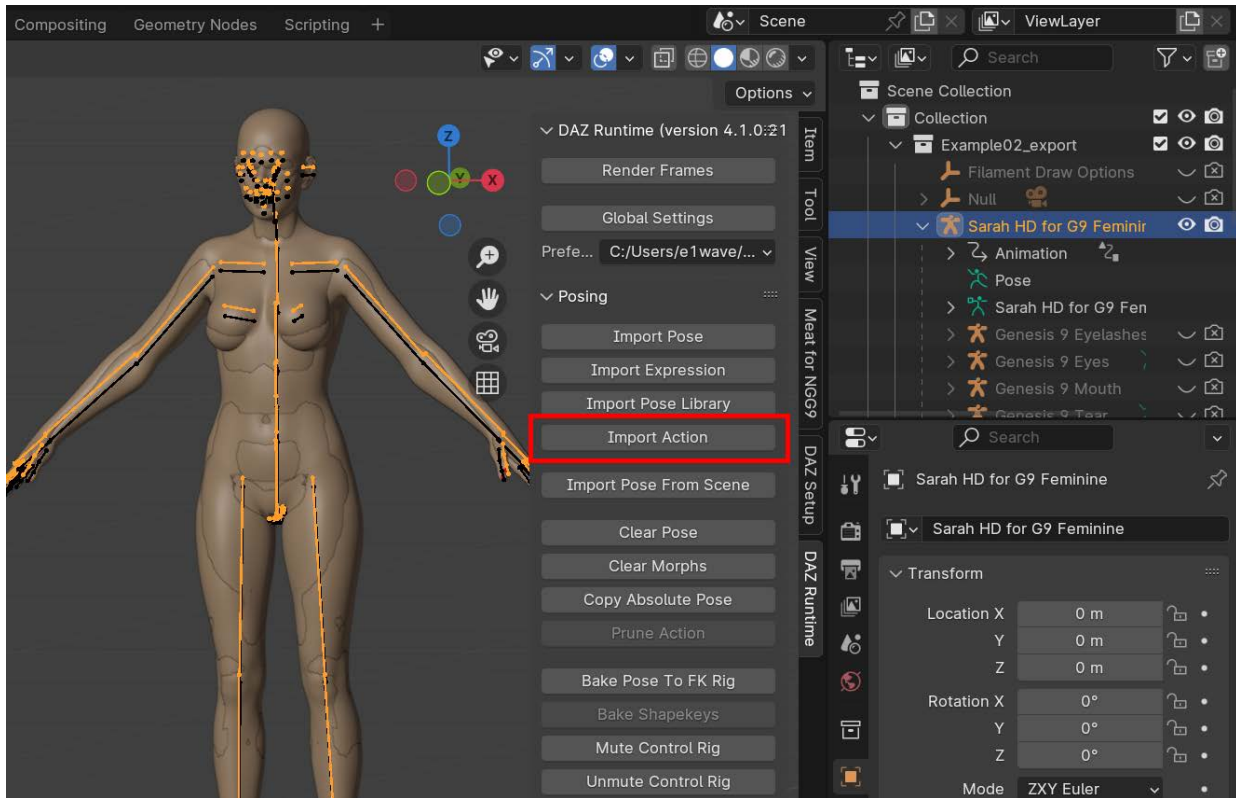
5.6 Select example02_export.duf, then find and check 'JCMs' in the parameter list on the right, and then press the 'Easy Import DAZ' button to import the replica scene into Blender.

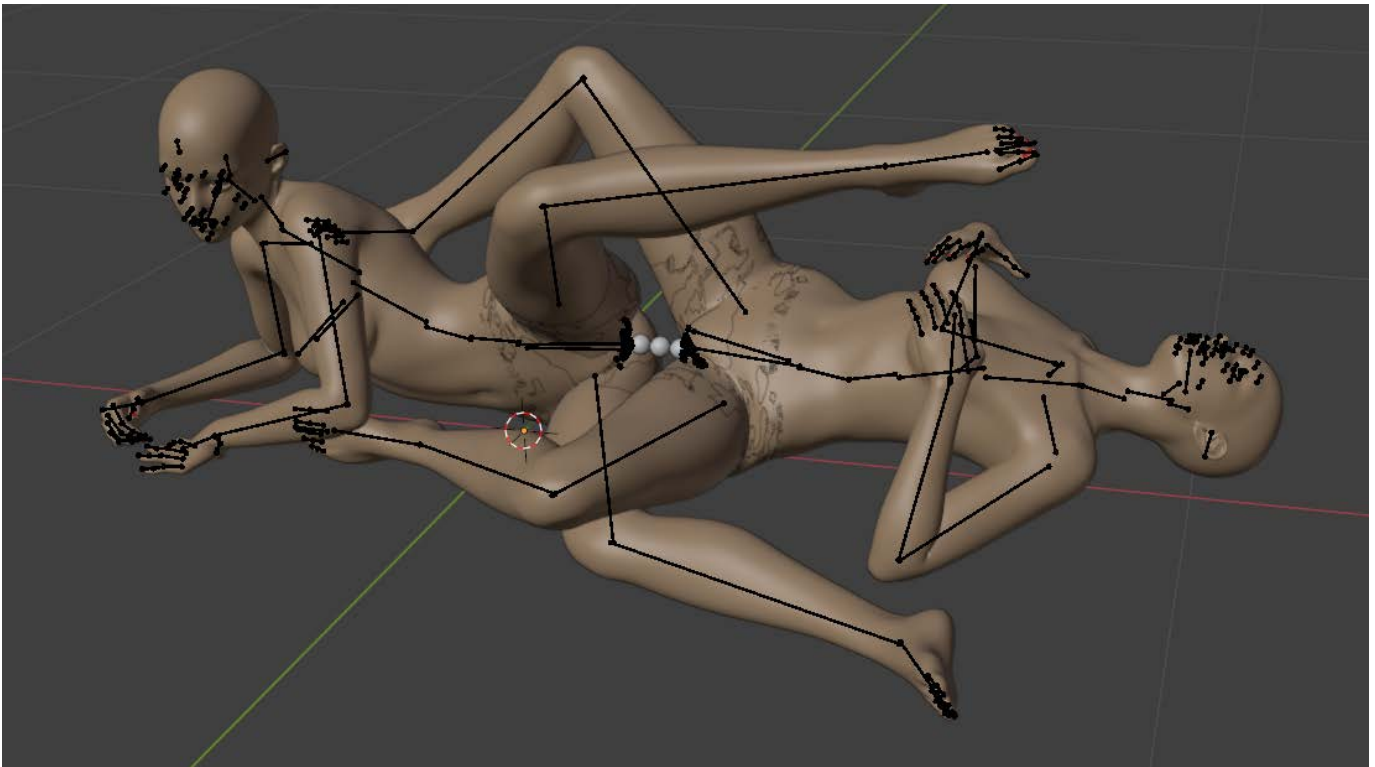


5.7 Select one of the NGG9s and click the 'Meat for NGG9' tab in the UI panel on the right side of the viewport. The Meat add-on's user interface has been introduced in Example 1. We just need to set the toy as the Target and click 'Apply add-on'. Then select the other NGG9 and click 'Apply add-on' as well.

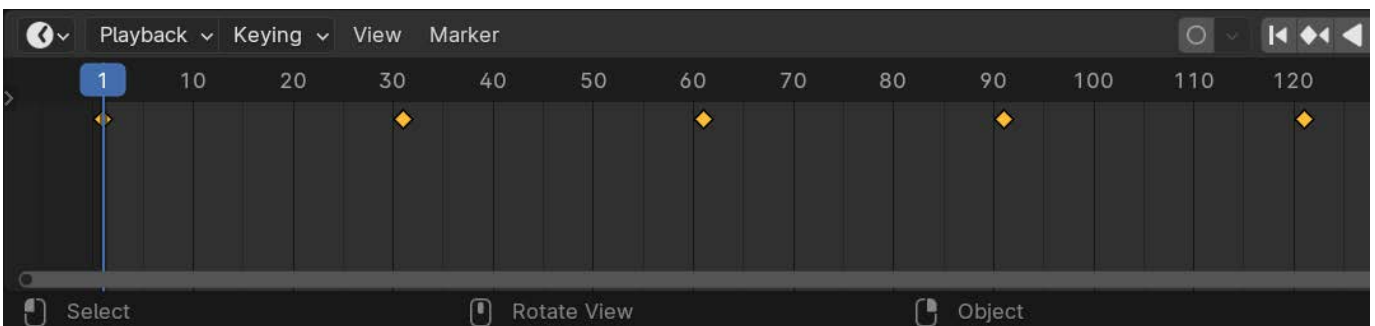


5.8 Next, load animations for both characters. Select Sarah HD's armature in the viewport and click 'DAZ Runtime' in the UI panel to the right of the viewport. Expand the 'Posing' column and click 'Import Action'. In the Blender File View window, find and select the Sarah action.duf we saved in the first step and click the 'Import Action' button. Similarly, select Victoria 9's armature in the viewport and import animations for it in the same way.



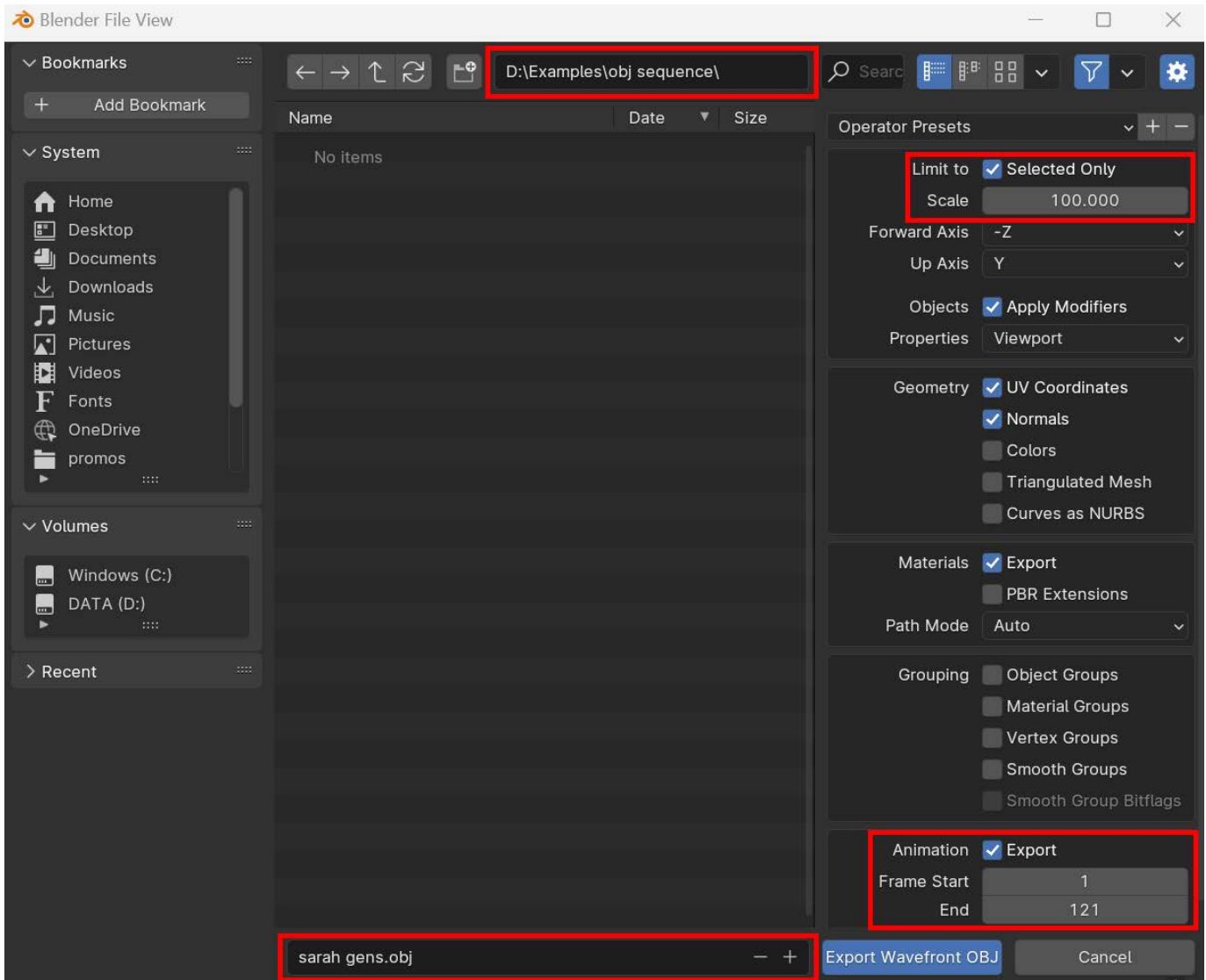


Please note: Usually the animation loaded through DAZ Importer starts from frame 1. Take this animation we made as an example, it starts from frame 0 and ends at frame 120, with a total length of 121 frames. When this animation is loaded to the character by DAZ Importer, its length remains unchanged, but the start frame becomes frame 1, and the end frame becomes frame 121. This inconsistency has no effect on our use of the Meat add-on. But when exporting the obj sequence, we need to remember to manually set the correct start frame and end frame (from frame 1 to frame 121). Otherwise, an error of insufficient obj sequence length may occur when importing the obj sequence in DAZ Studio.



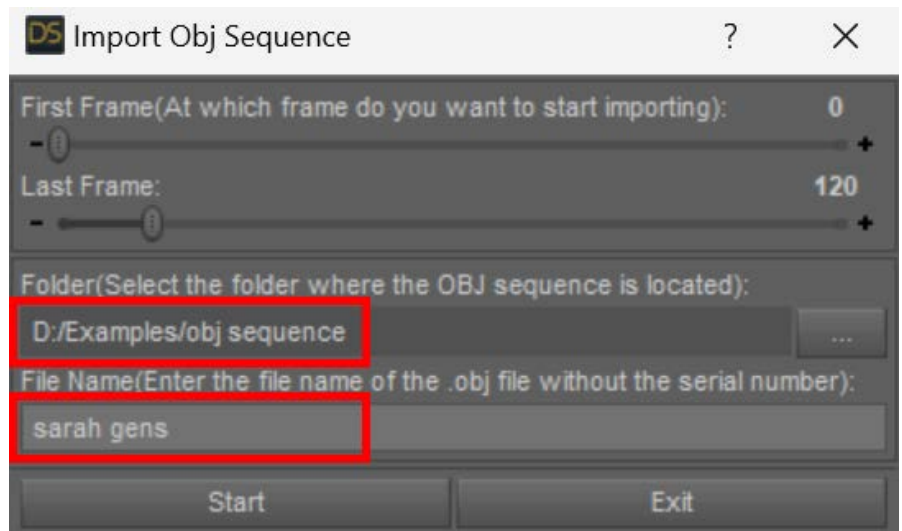
5.9 Now hide all objects except the two NGG9s and the toy in the outline, press the spacebar to play the animation, or manually drag the time slider to observe the shape changes of the two NGG9s in each frame. If poke-through is found, we can select the problematic NGG9, click the 'Read parameters' button, and then slightly increase the value of Distance to Target to eliminate this phenomenon.

5.10 Next we are going to export the obj sequence. Select the NGG9 corresponding to Sarah HD and choose 'Export > Wavefront (.obj)'. In the Blender File View window, choose a folder to store the obj sequence and set the file name of the .obj file (for example, 'sarah gens'). On the right side of the window, check 'Selected Only' and change 'Scale' to 100. Find 'Animation' and check 'Export' to the right of it. Set 'Frame Start' to 1 and 'End' to 121. At last, click the 'Export Wavefront OBJ' button. After the export is finished, select the NGG9 corresponding to Victoria 9 and export the obj sequence in the same way (set the file name of the .obj file to 'victoria gens').



5.11 Back in DAZ Studio, load example02.duf. Select the NGG9 that was applied to Sarah HD. In the Content Library pane, go to 'People > Genesis 9 > Anatomy > New Genitalia for Genesis 9 > Meat for NGG9' and run the Meat for NGG9 script.

5.12 In the Import Obj Sequence window, select the folder where the obj sequence is located, enter the file name we set for the .obj file ('sarah gens'), and then click the 'Start' button. The script starts importing the obj sequence, automatically creates morphs, and uses these morphs to make keyframe animations for NGG9 applied to Sarah HD.



5.13 Use the same steps to create keyframe animation for the NGG9 applied to Victoria 9.

5.14 Open the Timeline pane, play the animation or drag the time slider to view the shape changes of the two NGG9s. At this point, the lesbian sex animation is complete.