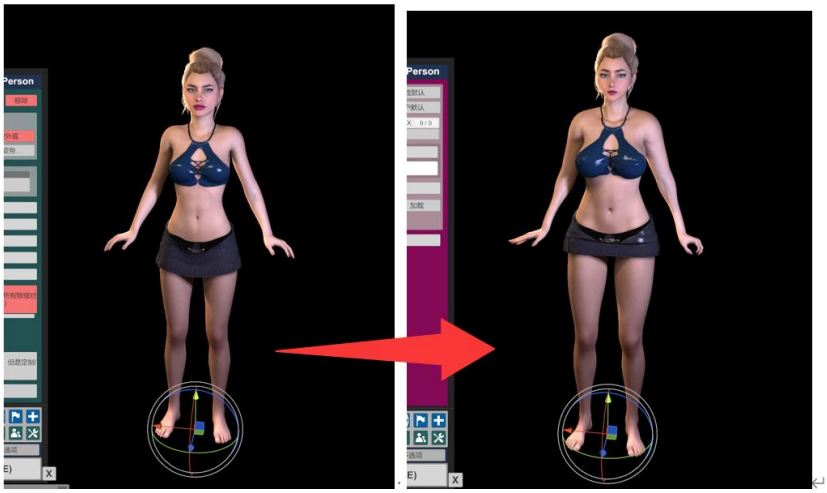
Tutorial - Creating Clothing Based on Custom Body Shape - lin64843425

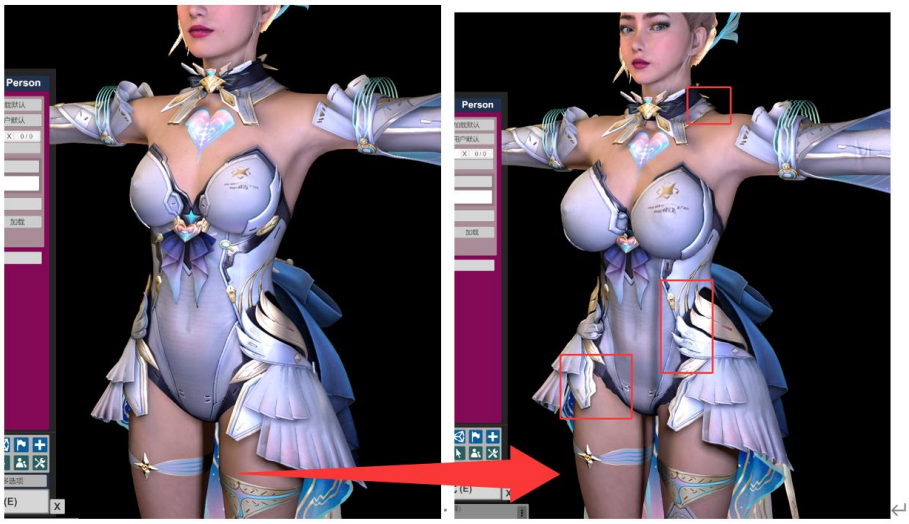
This tutorial is a supplement to the previous one (on creating characters based on default body types), so it's recommended to watch the earlier guide first. (My English isn't great, and I used AI translation to write this guide.)
This time, we'll use the character Linne from the game Honkai: Star Rail as an example. Here's a screenshot first.



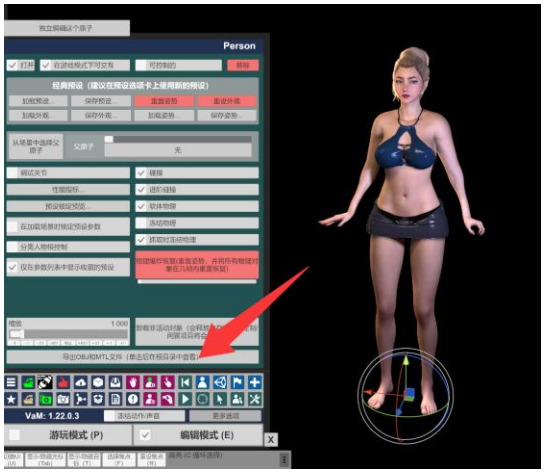
Since I wasn't satisfied with the default character body types in VAM, I prefer wider shoulders, thicker thighs, and more muscle. So, I adjusted the character's deformation settings in VAM (as shown in the image below) to make the physique fuller and more appealing.



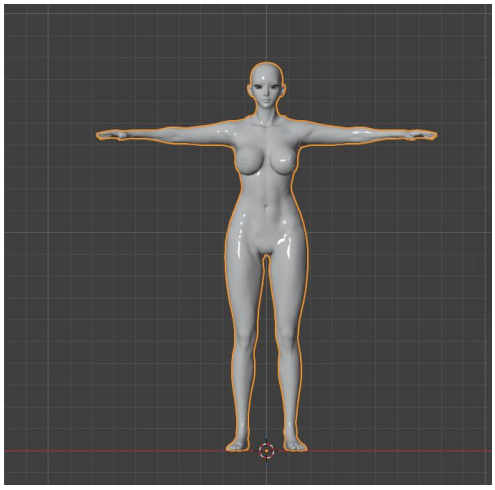
However, this can cause problems: when we make clothes based on the body shape of a general model and then apply them to people of different body types, the clothes may stretch, deform or even tear. This is because the positions of the bones and the grid have changed.



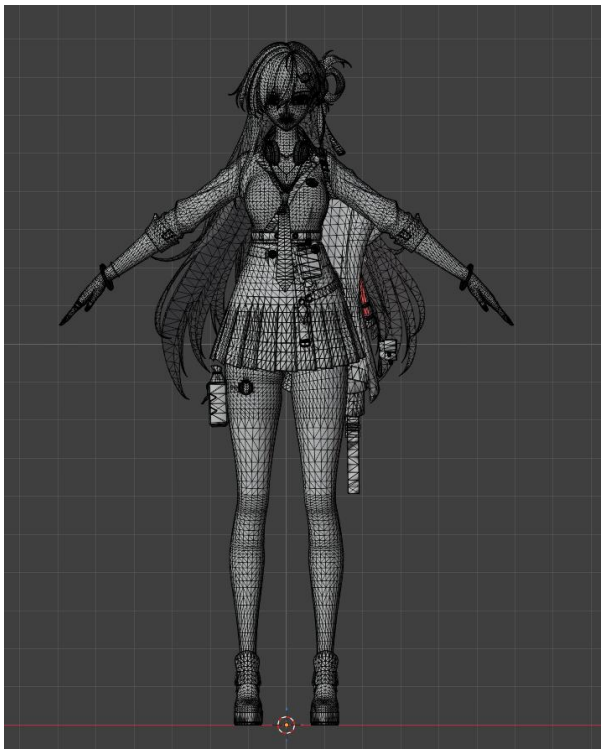
Therefore, we might as well directly create the clothes based on the modified character body shape, and then create the transformed character.



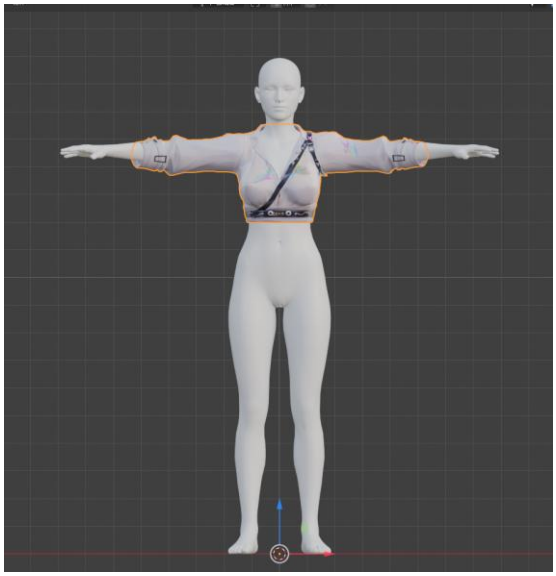
Export the model to Blender, and you can see that it is already in the default Tpose position.



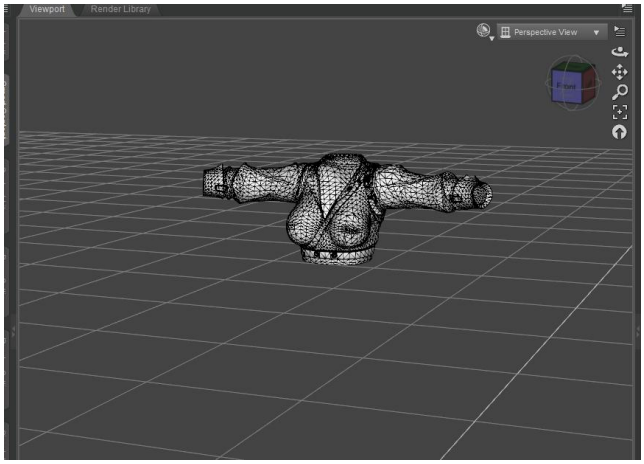
By default, just give a plain solid-colored rough material to the character to make it look better. Then find a nice piece of clothing. The source file of the clothing was downloaded from ModHouse. After deleting the character, I kept the clothing.



Then, clothes are put on the characters, and the clothing mesh is adjusted to fit and cover the characters.

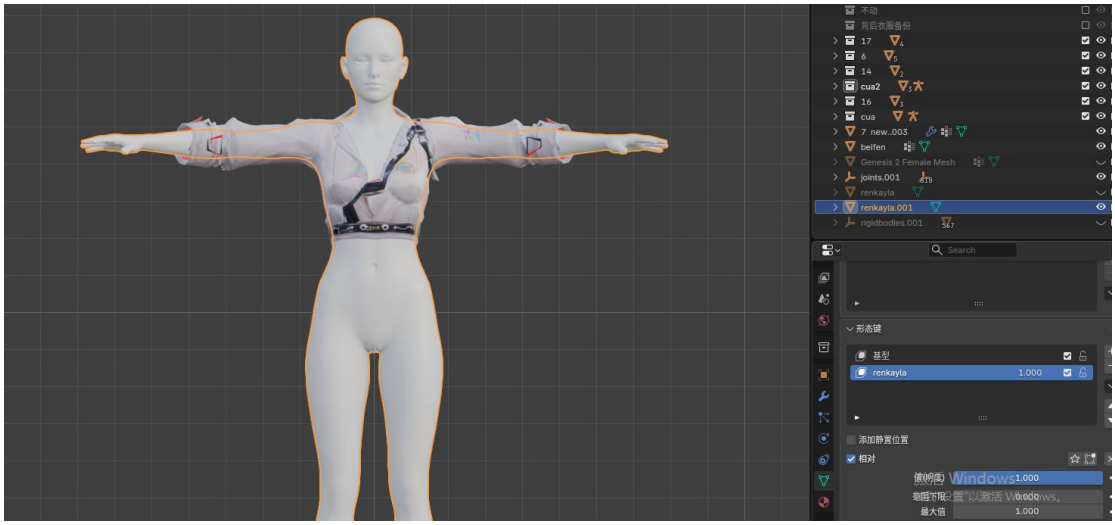


Then export the clothing model to DAZ, save it as a scene file, and read it using VAM. Pay attention to the material and model names, as well as the file names. They must not contain any Chinese characters.



As is well known, when clothes are imported into VAM, a binding process based on the default G2 character (a type of DAZ character model specification) will be carried out. If your clothes are not made according to the default G2 character, double deformation will occur, such as a double-sized bra.

Result: Due to the inconsistent vertex density of the clothes and the character, overlapping occurred during the deformation, and the restoration in VAM was not successful.

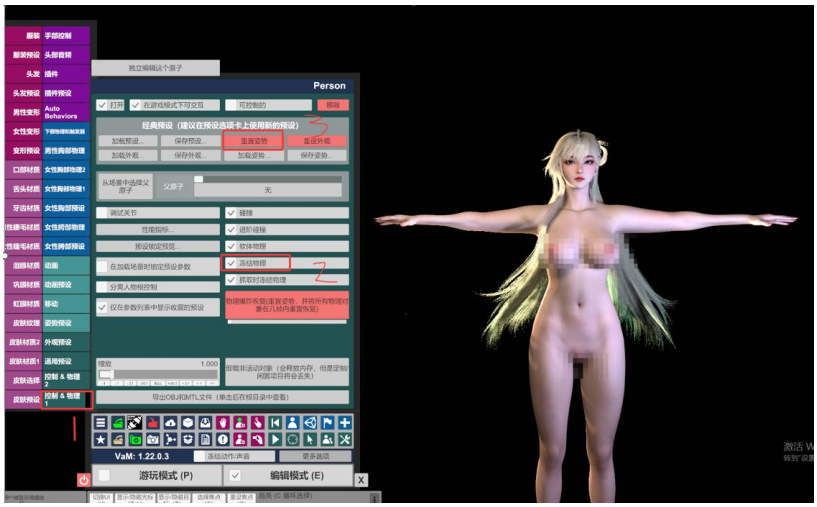


Attempt 2: There is a vertex with wrapped deformation in the import interface. To some extent, it can be bound according to the shape of the clothes you imported.
Result: The actual test effect was very poor. The details could not be retained basically. The effect was acceptable when the mesh density was low. But if the model had small chamfers added, then congratulations! You'll directly get a big blob.

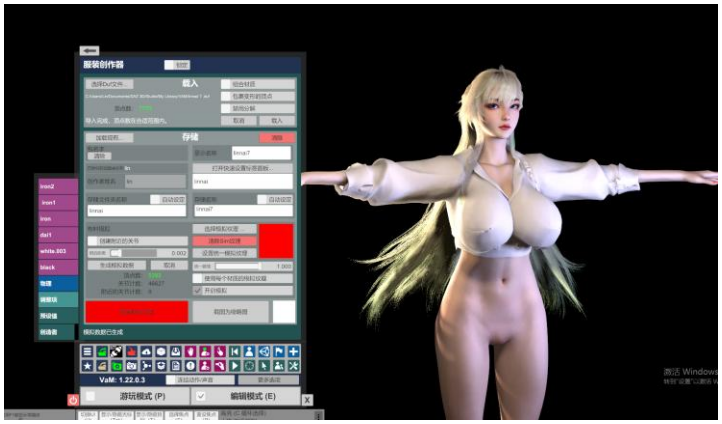


Next, I will introduce the third method, which is the only process that I have successfully completed.
This time, taking the upper garment as an example, when customizing the clothing for the specific body shape, remove all other unrelated clothes in VAM. Because later when inserting the plugin, if there are multiple pieces of clothes, it may cause errors.

First, come to the control interface of VAM, freeze the physics and reset the character's posture.



Import the clothing into VAM, change the name and generate the simulation data. Set a random simulation image (you can change it later). Start the simulation and save it. After the import is completed, you can see that the current clothing is about one size larger than normal. This is because VAM binds the clothing to the default G2 character body shape first, and then transforms the character mesh into the current form, resulting in double deformation.



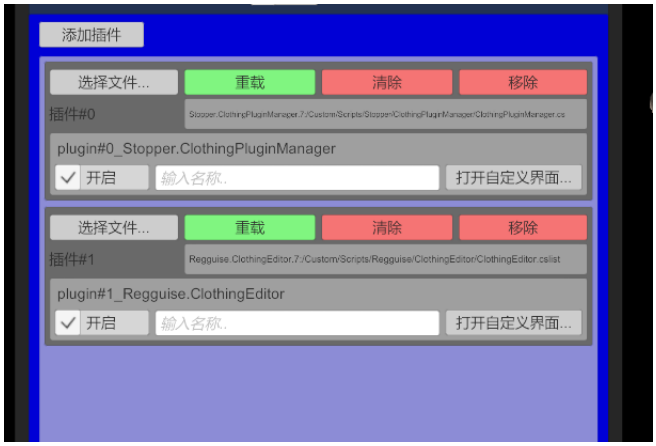
Enable clothing. Click "Confirm" to add the plugin slot (it may take a few seconds).



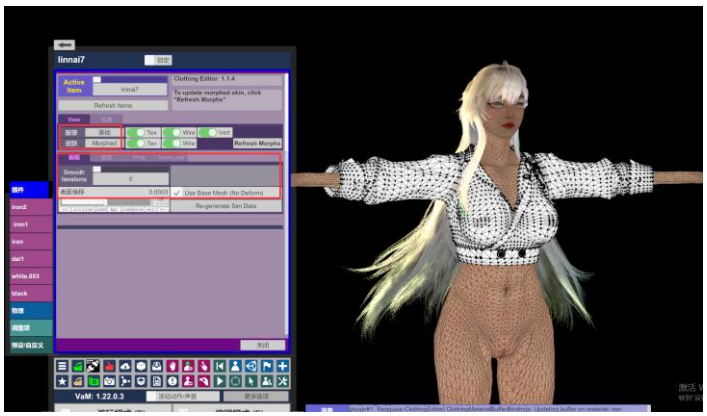
Then you can see the blue plugin slots. Here we add the plugins.



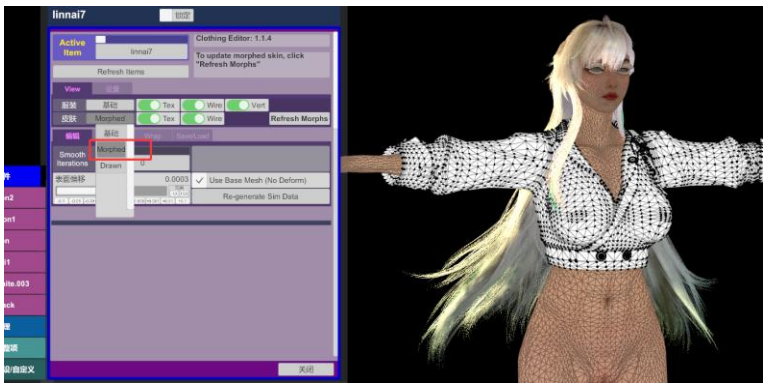
Add the "Clothing Editor" plugin, and you will see that the clothes have been transformed into a grid (Note!!! This plugin can only be used to edit one piece of clothing at a time. Make sure to clear out all other clothes beforehand).



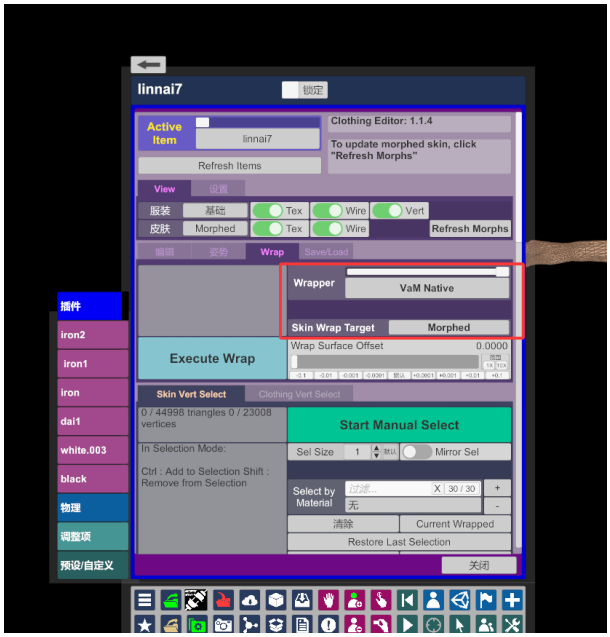
Make adjustments to Interface 1. I made data changes to the boxed part.



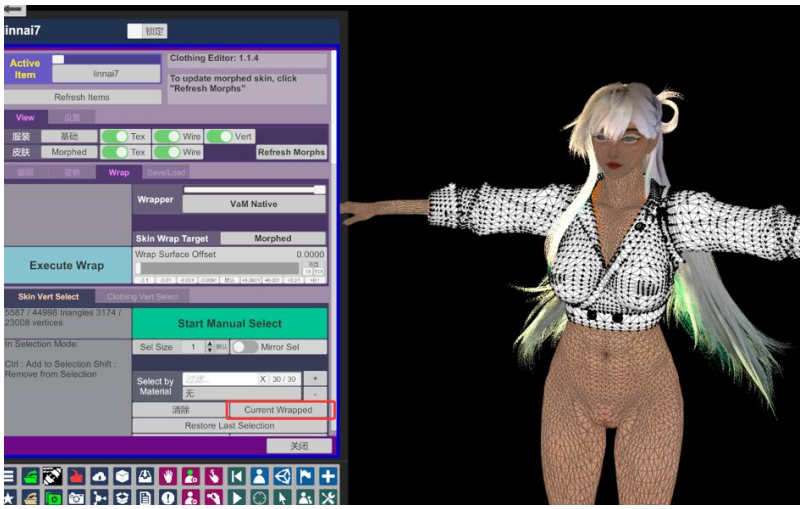
You can see that when I selected "morphed", the clothes became closely attached to the character's body. This is exactly the effect I wanted. Next, I need to fix this mesh.



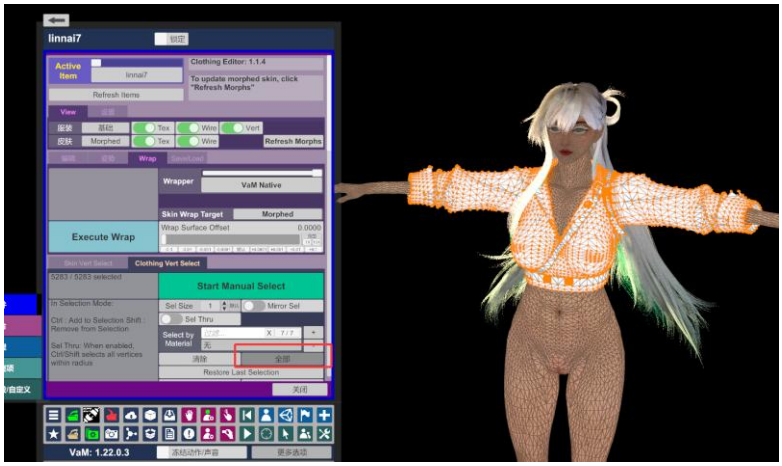
Then I moved on to the "wrap" interface to continue making the modifications. I changed the following parameters (The plugin can detect the interweaving between the character and the clothing mesh and make the clothing bulge to cover the clothes. If you notice any unnecessary bulging or deformation of the clothes, increasing the value of offset can solve the problem.)



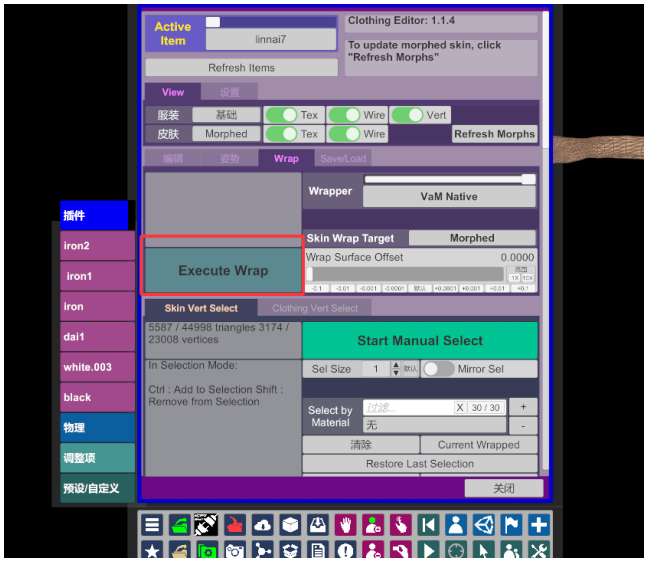
Next, I chose the coverage range for the skin. I selected the default coverage option.



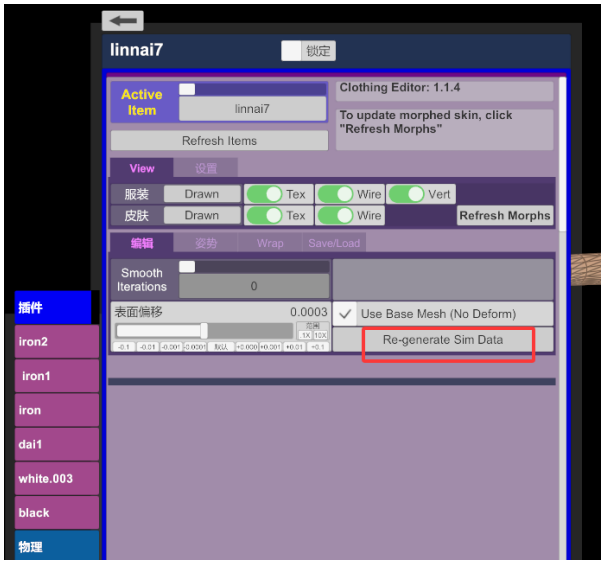
Then select the items of clothing you want. Just make sure to select all of them.



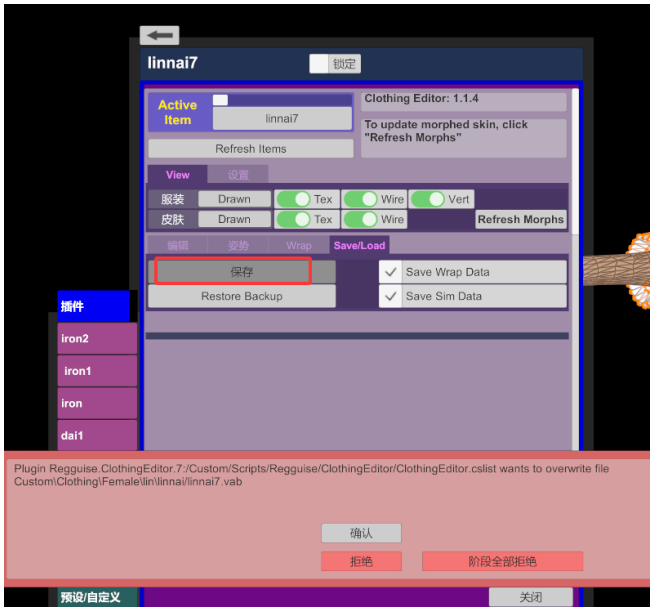
Then click on "Start Packaging", and once the progress bar finishes moving, proceed to the next step.



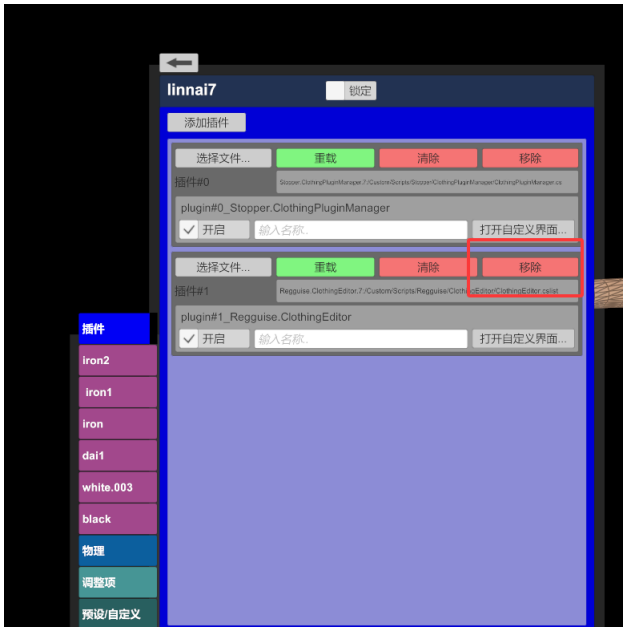
Go to the editing interface, click on the box at the bottom right corner to generate the package data.



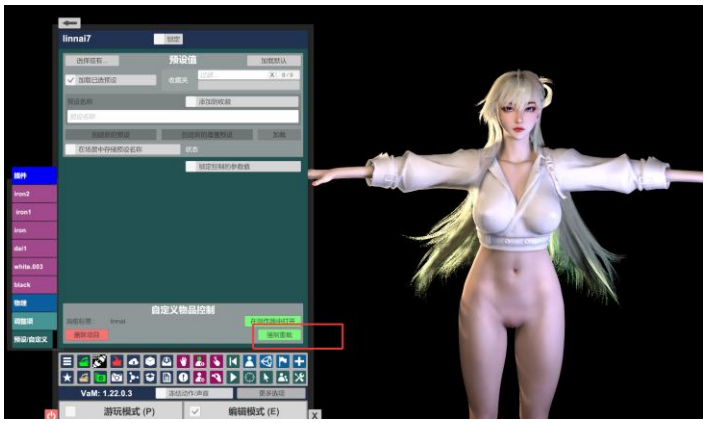
Then, go to the save interface, click the save button and confirm (allowing the plugin to modify the data)



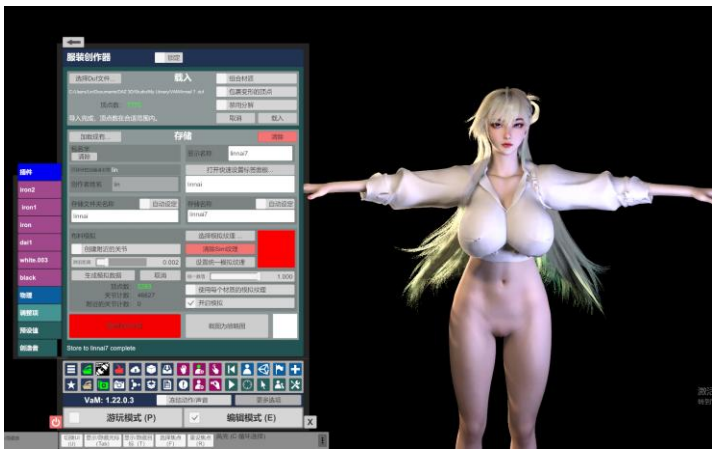
Then click the "Back" button at the bottom right corner, return to the plugin list and remove the plugin you just installed.



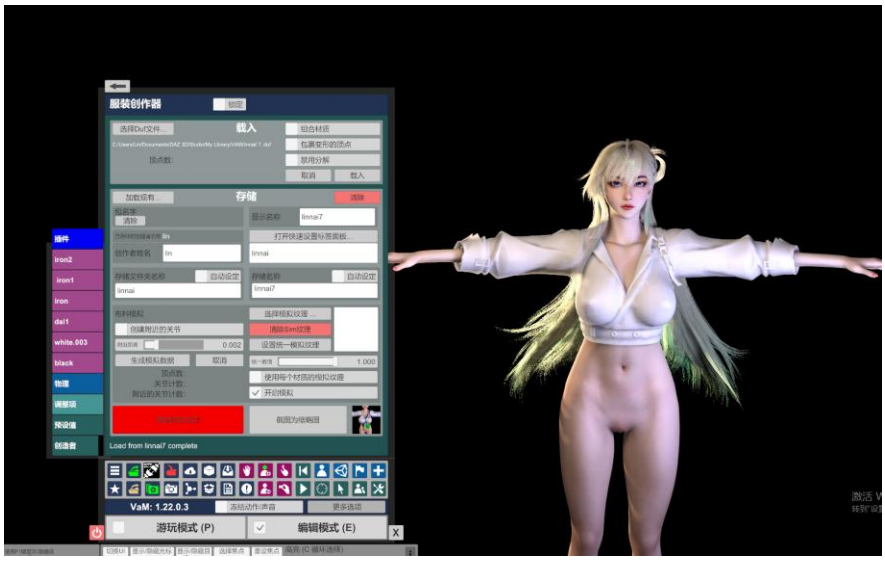
Then we refresh the clothing, and we can see that it has been properly bound as shown earlier.



Then we need to add the material to the clothing. Since the clothing editor still has the clothing we just imported cached (with the same name as the one we have already bound, so if we click to open it in the creator, we will only see the clothing before the binding process),



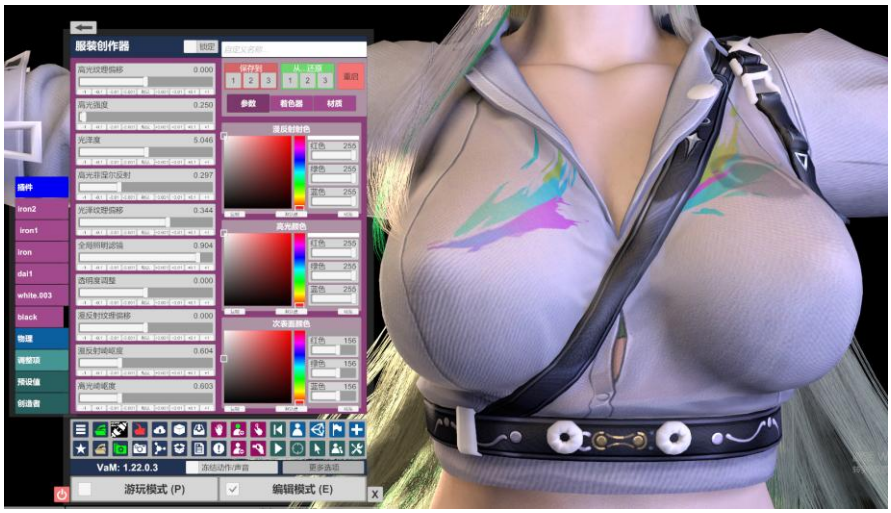
So we need to randomly pick another piece of clothing, as long as the name is different, and add it to the creator. Then clear the cache of the creator and open the clothing we just bound using the creator. You can see that it's working now. First, click on "Save Project".



Then we proceed with the material editing. The fabric part is made to be rough.



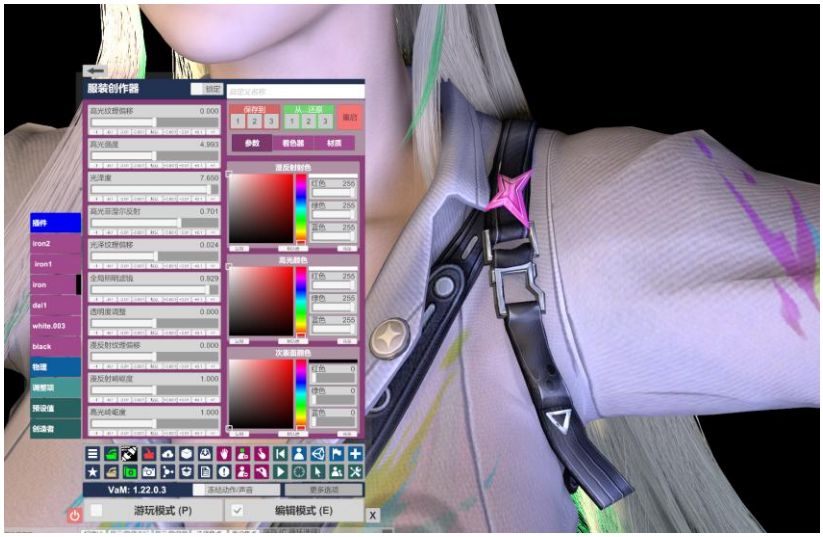
The leather part is made with half of it being smooth.



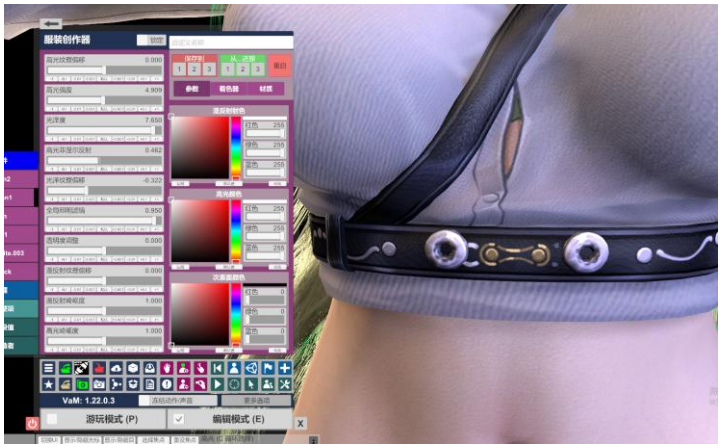
This piece is also made of leather.



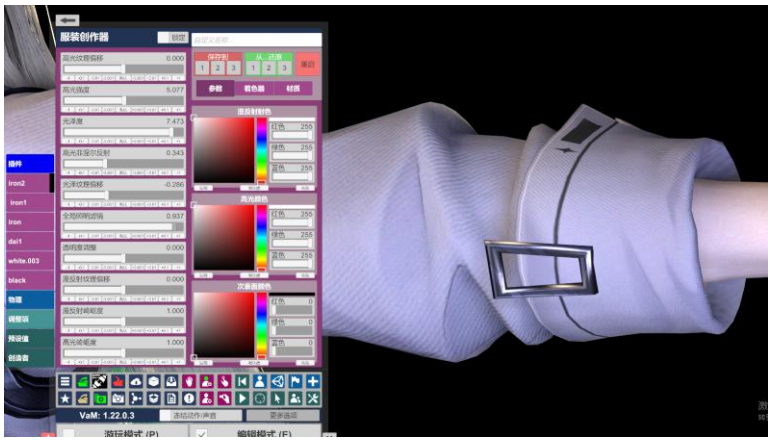
For the metal parts, I need to give them a rough high gloss and a matte metal effect.



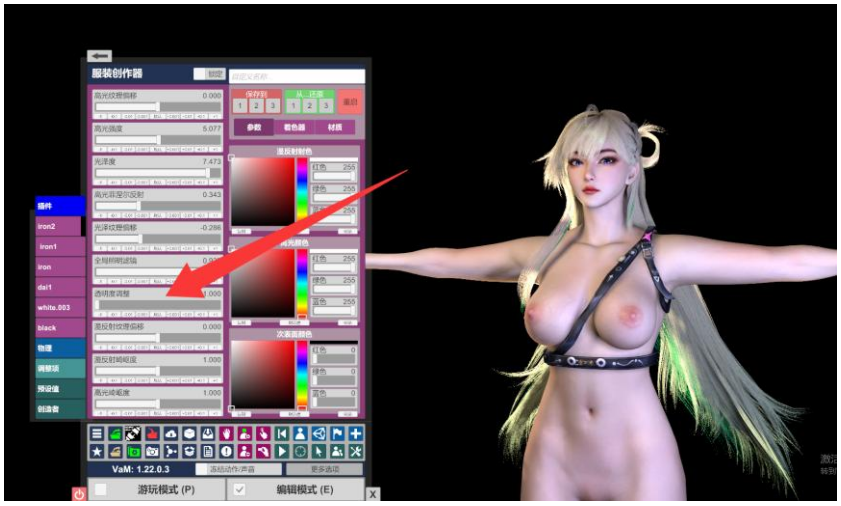
These two rings are also made of metal.



And the iron rings on the arms



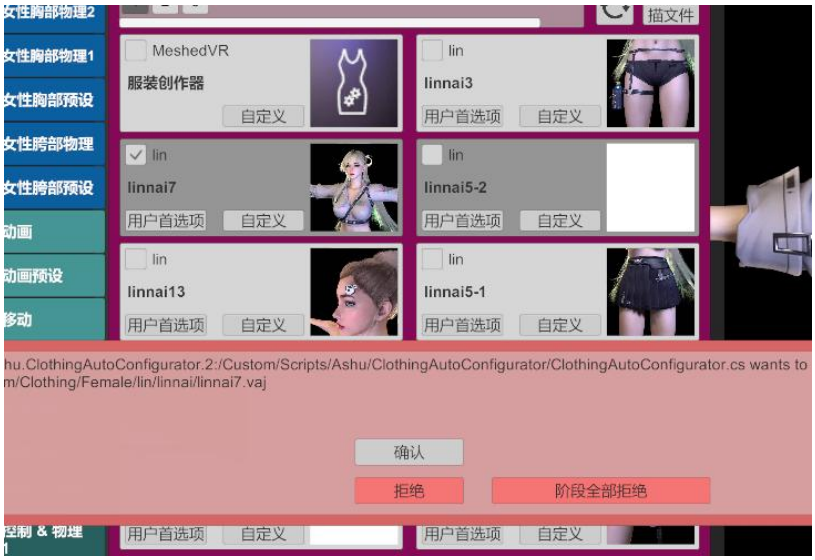
You can even hide some of the textures to create a semi-nude effect, enhancing the sexual appeal.



Continue the demonstration. First, restore the transparency, then save the image. And click the lower right corner to save a nice thumbnail.



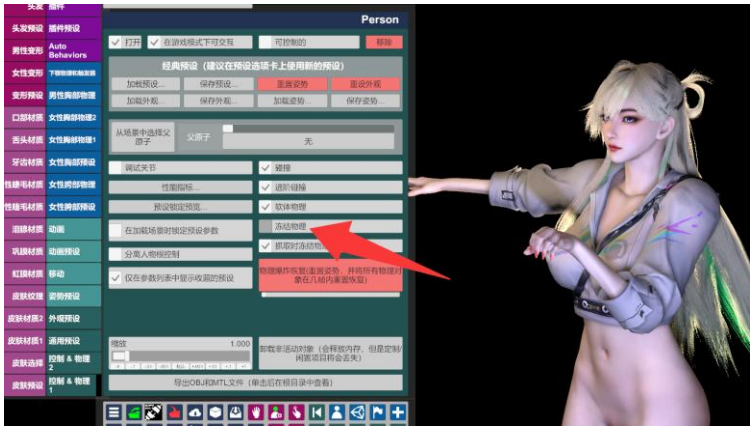
When arriving at the clothing selection interface, hide the content of the creator, and click on the picture we just saved. Then click "Confirm" (after the clothing is refreshed, the plugin slots need to be re-added)



After entering the clothing section, click "Reload" again to refresh the display effect.

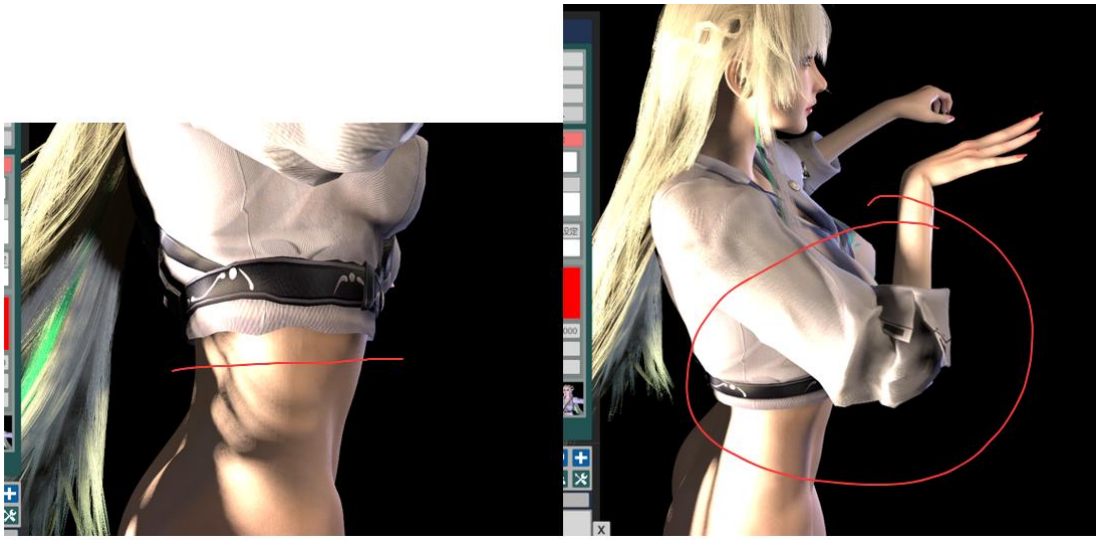


Then exit the freeze physics mode, and move the character's body to check the binding situation.



At this point, if you notice that the clothes do not move along with the moving character and there is a misalignment, you can save the scene file and restart the scene. (Because the clothing editor plugin rebinds the character mesh, causing the clothes to be out of sync with the character's coordinates. Re-entering the scene can solve the problem.) This is a possible occurrence and not necessarily every time you need to reload.

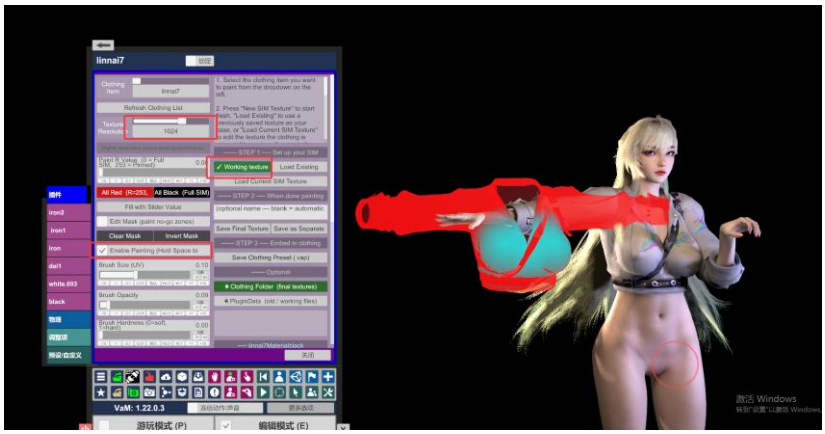
Next, we will proceed with the detailed processing.
By default, VAM is bound to the bones and the mesh, which has the advantage of handling the stretching process well. However, when we use the Clothing Editor plugin for custom position binding, we can only attach the clothes to the model mesh, and they are greatly affected by the mesh deformation.
Once the character mesh is deformed, the clothes will also stretch along with it. If the mesh density of the clothing model is insufficient during the stretching process, ugly mesh tears will occur, especially at the joints (as shown in the figure below). Fortunately, we can add some simulations to remedy this situation. Properly enabling the simulation can reduce the impact of the binding on the clothing.



This time, we have added a drawing plugin. It enables you to directly edit the simulation diagram on the model and allows you to specify areas for relaxation.



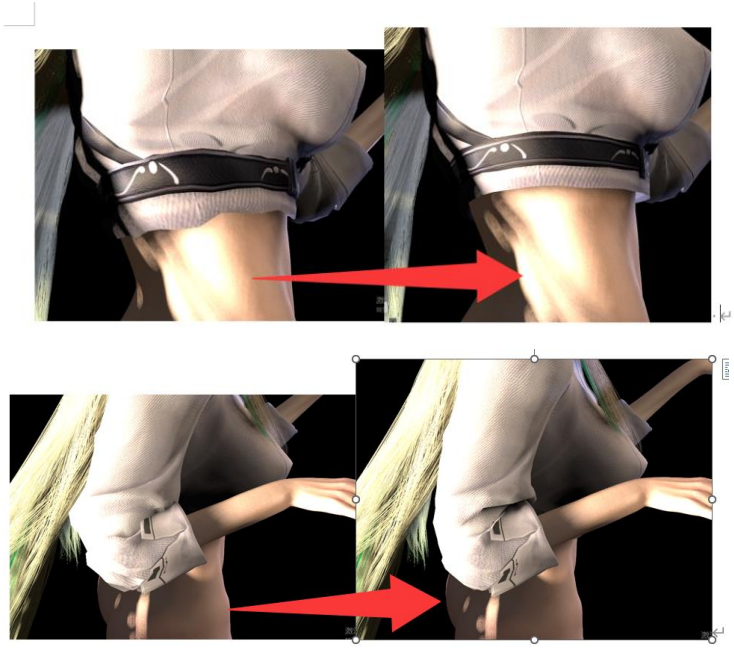
Create a new canvas and resize it to 1024. Enable the drawing function. Pressing the space bar will color it blue, pressing shift + space bar will color it red, and pressing Ctrl + Z can undo the changes. You can see the real-time simulation of the modifications on the characters beside you, which is very convenient.



The main idea is to paint the joint parts blue. You can see that the painted areas cause the clothes to loosely wrap around the joints, effectively reducing the stretching and tearing of the mesh.



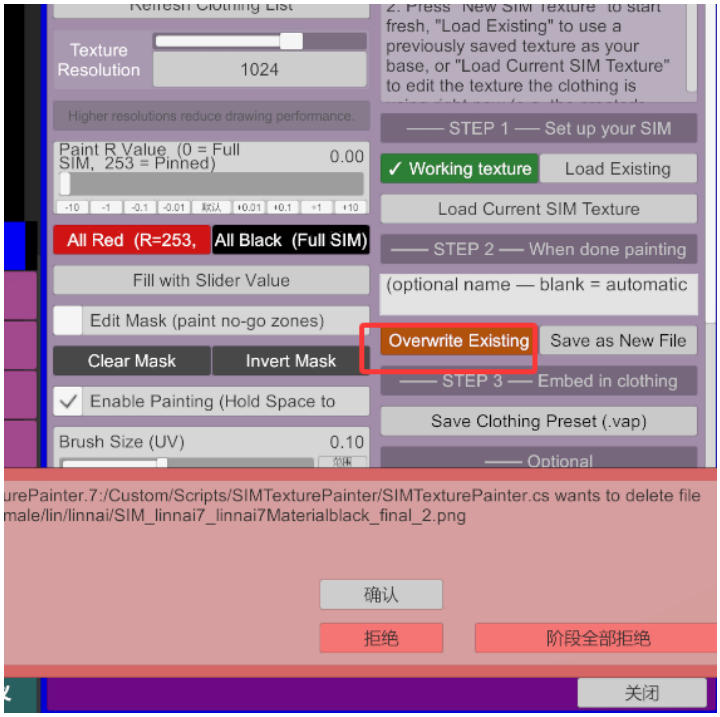
You can refer to the following changes



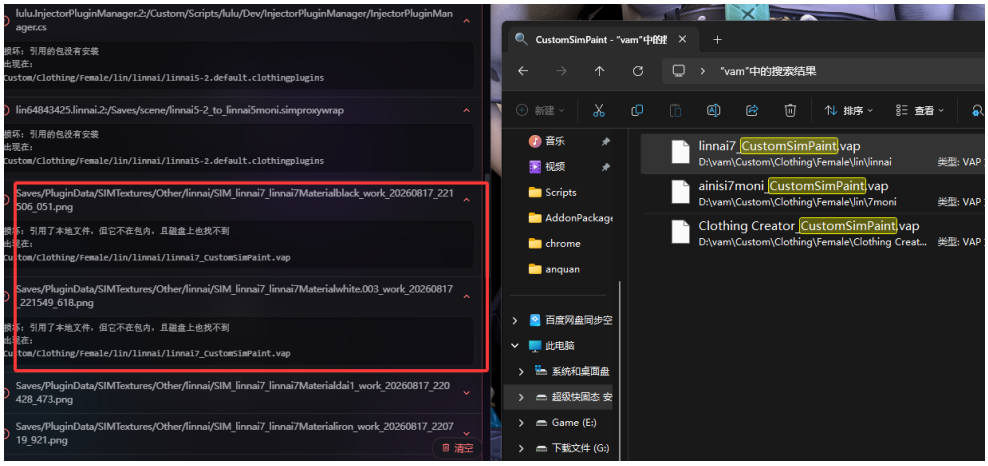
If the grid density of the clothing is insufficient to support the simulation of collisions (such as at the armpits in the picture), enabling the simulation might even cause the model to penetrate through the clothing. This is a matter for you to decide.



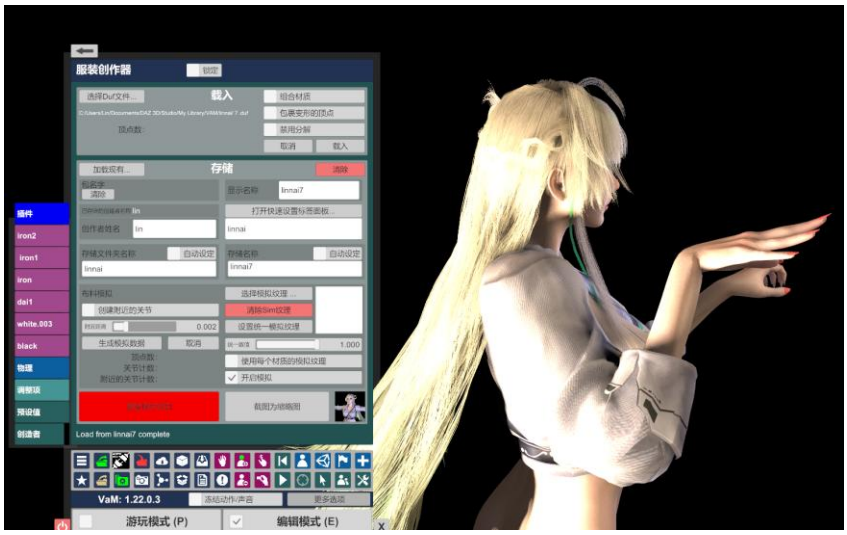
Then save the image and allow the plugin to modify the file



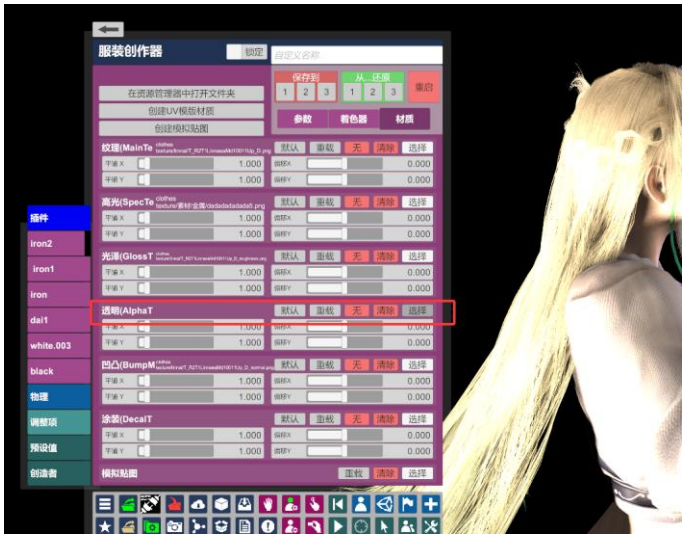
We only use him for creating textures and there's no need to save them. This might be due to a bug in the plugin. After saving, the simulated textures cannot be loaded properly and errors occur during the packaging process.



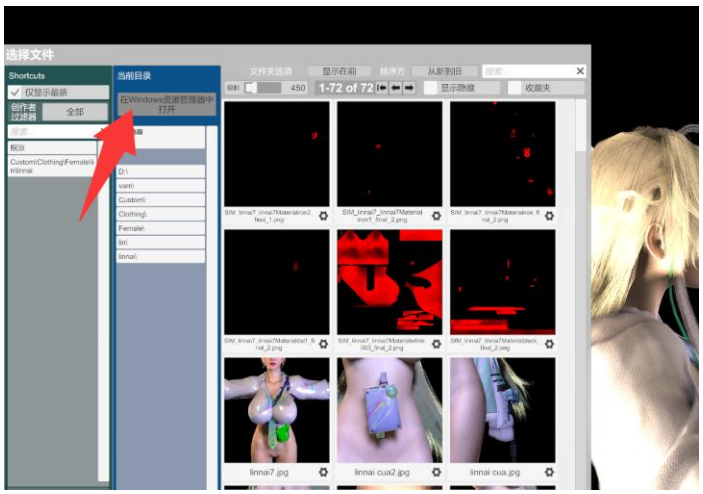
Then remove the plugin, go to the clothing manager, and we need to import the picture we just drew into this area.



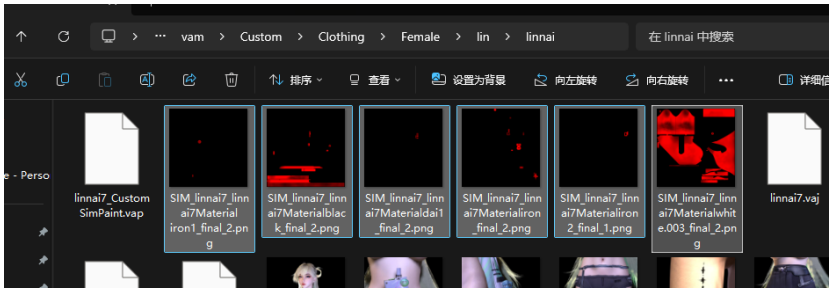
We need to determine the storage location of the image. Just select any material and find an unmodified texture position to enter the path.



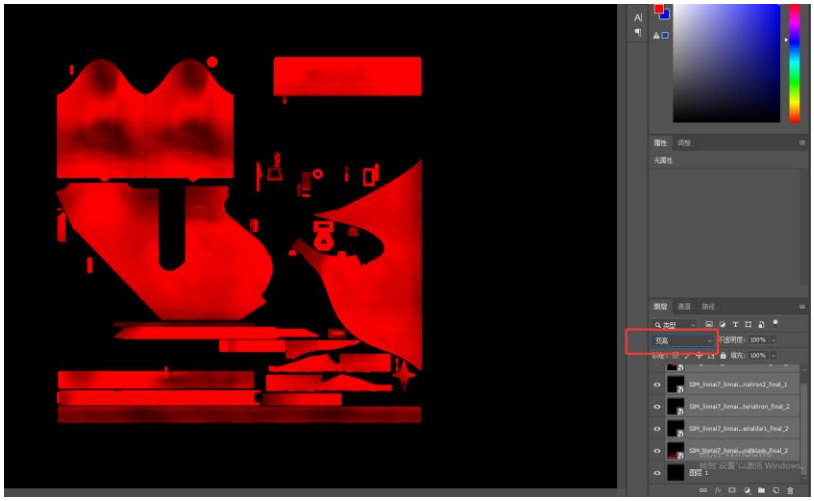
You can see that each material has been divided into separate images. We click to open the current folder.



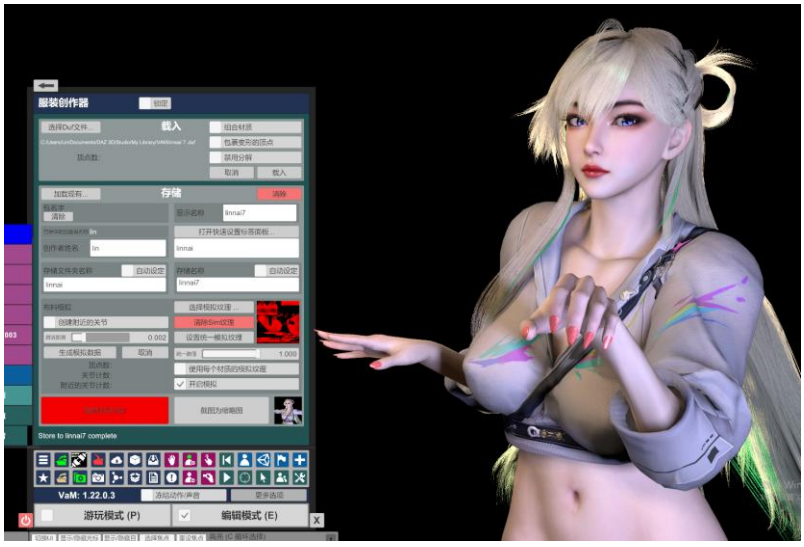
Enter the folder and import the pictures into Photoshop.



Select all to view the image, then change the mode to "Brighten", and this will allow the effects to be displayed simultaneously on the same image.



Export the image and load it into VAM as the simulation image of the clothing.



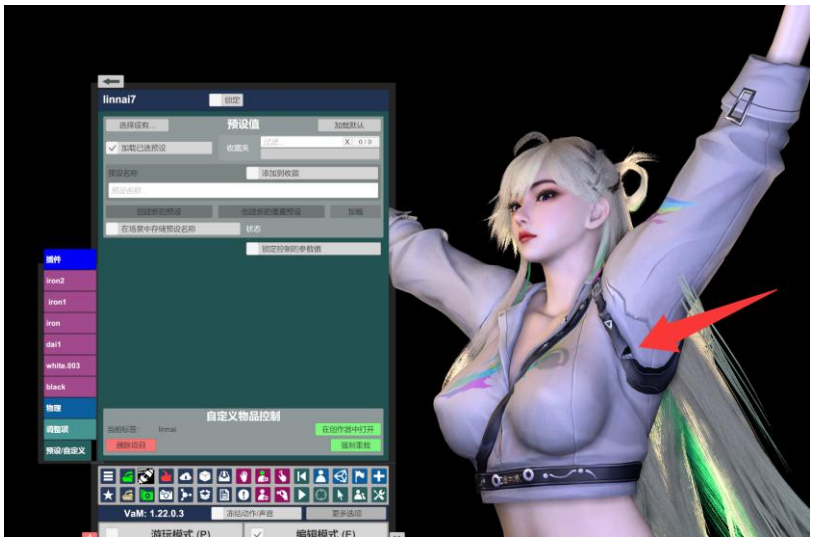
Save, then activate the costume, and reload the costume



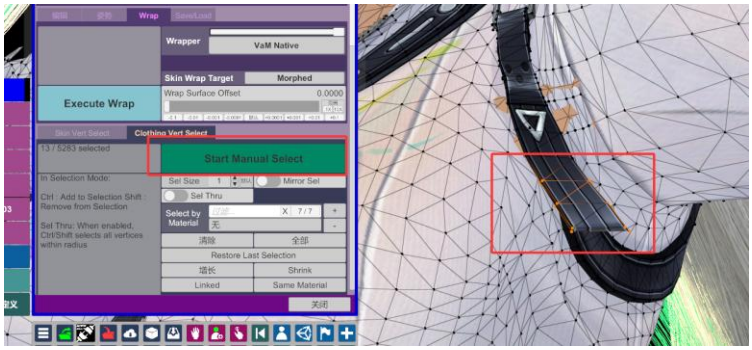
Basic success



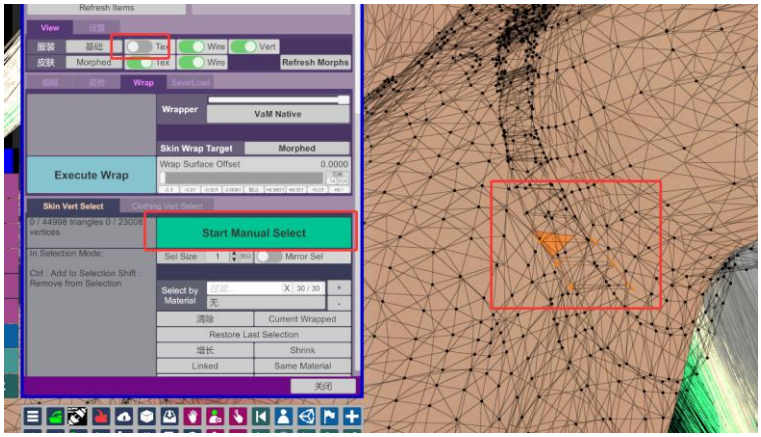
Additional information: Later, I noticed that this belt attached to the armpit area was adhering to the grid on the arm during the binding process. Therefore, when raising the hand, it would cause a tear.



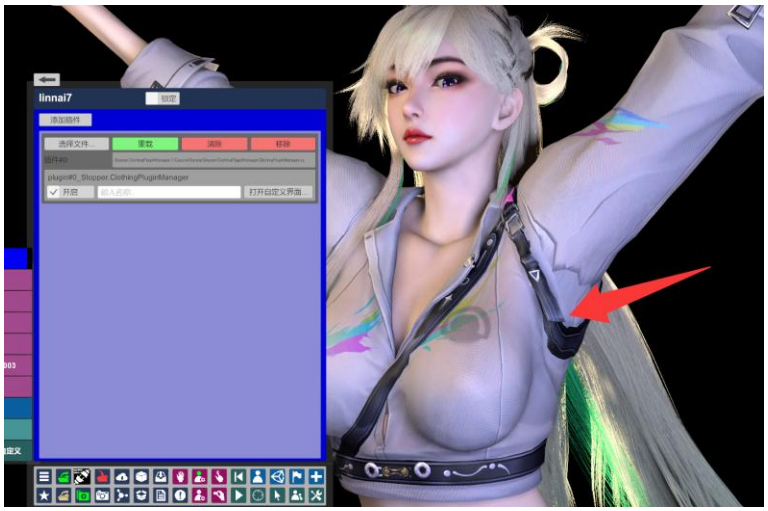
Once again, go back to the "Clothing Editor" plugin and select the area that needs to be fixed.



Hide clothes　Select the skin mesh to which the clothing needs to be bound



Then the package and storage were carried out, the plug was removed and the clothing was refreshed. At that time, it could be seen that the belt had been repaired.



Note: When using the simulation drawing plugin, be sure to pay attention to the following: If there is flickering when the model moves, check the simulation texture. It might be because the precision of the simulation texture is not high, and the seams at the uv edges might be missed (as shown in the following picture). You need to manually add them in Photoshop.

