Advanced Prop Creation Kit Tutorial

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Last updated: August 5, 2021 (Updated folder structure screenshots for importing and packing.)

1 Introduction

This guide assumes that you have read and understand the Beginner's Guide to AMM Prop Creation Kit as well as are set up with basic modding tools. If you haven't yet, refer to Halvkyrie's comprehensive tutorial to get started.

The key to add new Props is not replacing the meshes in the mesh folder. You only need to do that if you're importing custom meshes that aren't in the game in the first place.

2 Required Tools

2.1 PR Editor

The PR Editor dev version is required. This version isn't public, but PixelRick gave permission for it to be shared within the modding community. The download is available in the Discord messages in the **#resources** channel.

Note: This is a dev version, so expect some bugs. If you use PR Editor 0.5.4 or 0.5.5, don't replace that with the dev version, because some features don't work in the dev version.

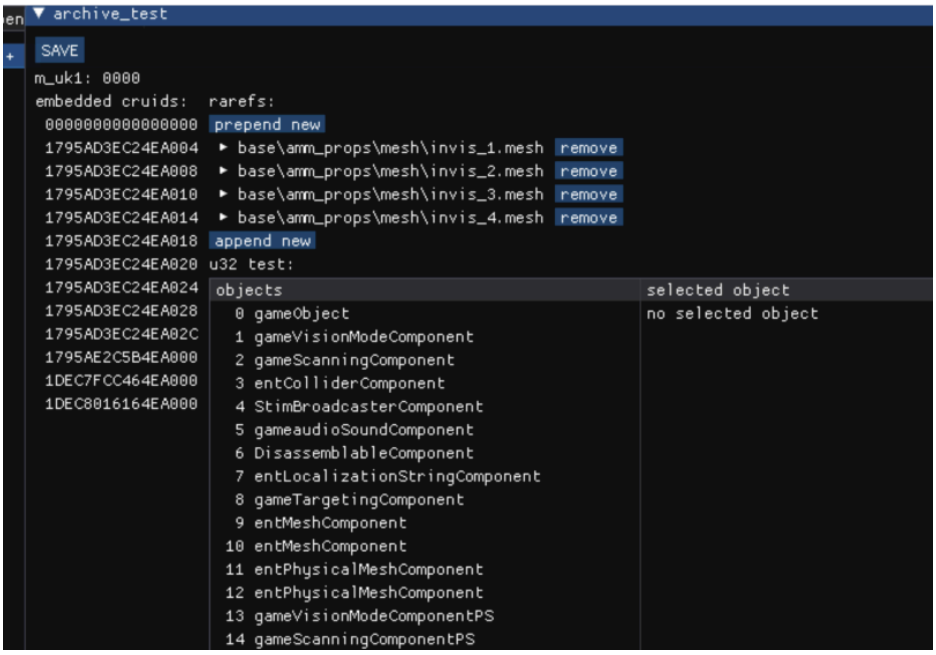
2.2 Advanced Creation Kit Folder

Download the Advanced Creation Kit, available in the Discord messages in the **#resources** channel.

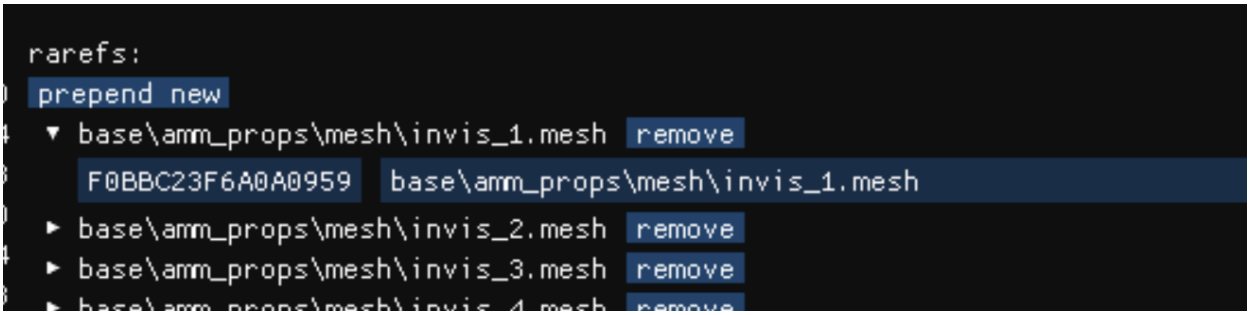
This is similar to the contents of the basic Creation Kit. However, this version includes the buffers so you can change them with PR Editor.

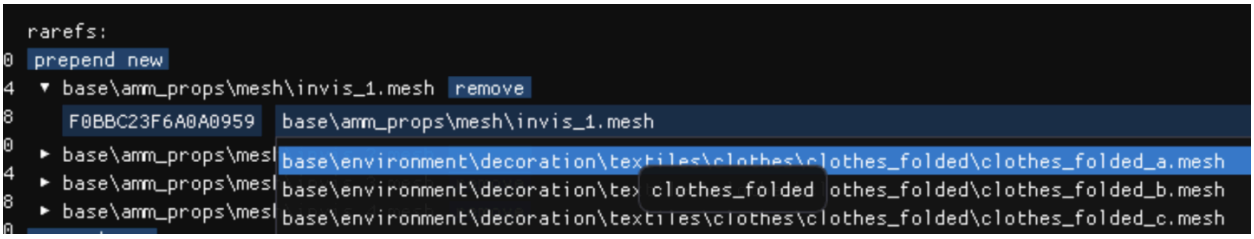
3 Opening the Buffer in PR Editor

1. Open PR Editor and drag the file **yourname_propname.ent.0.buffer** to the window.

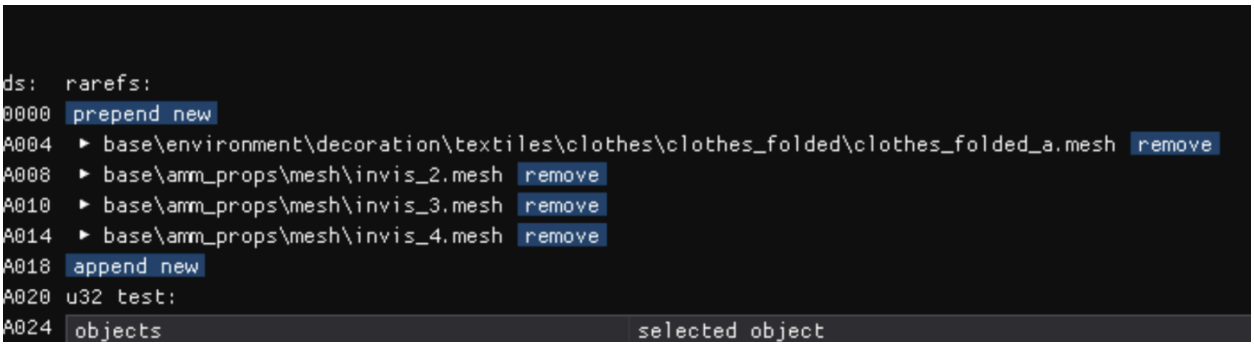


2. As before, there are 4 slots. Keep in mind that some meshes won't have collision even if you use slots 3 and 4. The slots are:
   - 1 - No collision
   - 2 - No collision
   - 3 - Has collision
   - 4 - Has collision
3. Click on the slot you want to change and start typing the name of the .mesh file you want to add. Important notes:
   - PR Editor has most files in its database already, so you don't even need to type the whole path.
   - Be careful to not select an .ent file or .mlsetup or any other format.
   - Make sure it's a .mesh file.

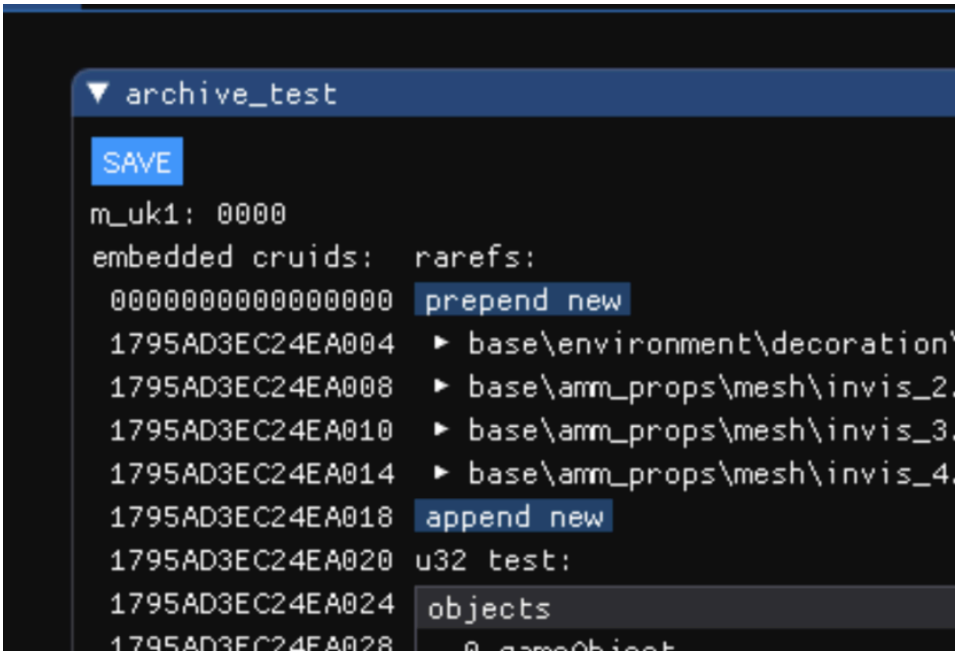




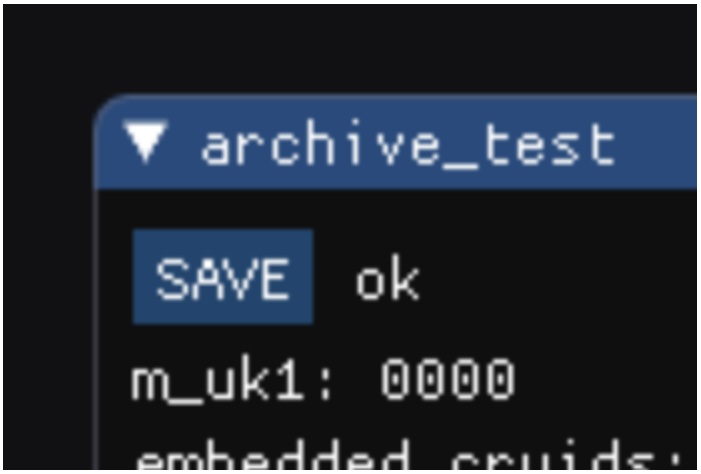
4. After selecting the .mesh you want, this is what you will see:



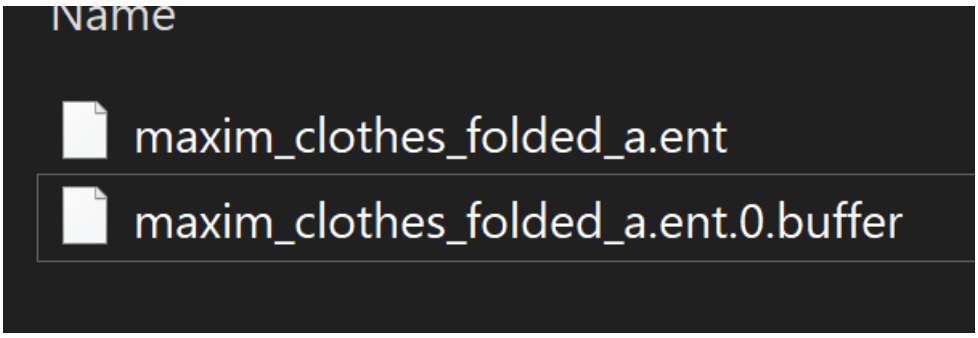
5. Click the **Save** button on the top-left corner of the window.



6. Look for the `ok` text next to the save icon. If it appears, then the save was successful.



7. Rename both the .ent file and the .buffer file to something unique. An example rename is shown in the screenshots below.
   - **Note**: You CANNOT use capital letters in file names.
   - For more information on unique renaming, refer to the Beginner's Prop Creation tutorial.



8. Use CPTools to import your mod.

   Note: If you renamed the **AMM_PropCreationKit_Advanced** folder to something else, remember to use that in CPTools instead.

```
Type your command or q to quit and press Enter:
import -k -p "C:\AMM_PropCreationKit_Advanced\archive"
```

9. Pack the archive.

   Note: Don't forget you need to create the .lua file to actually add the prop to AMM as described in the basic tutorial.

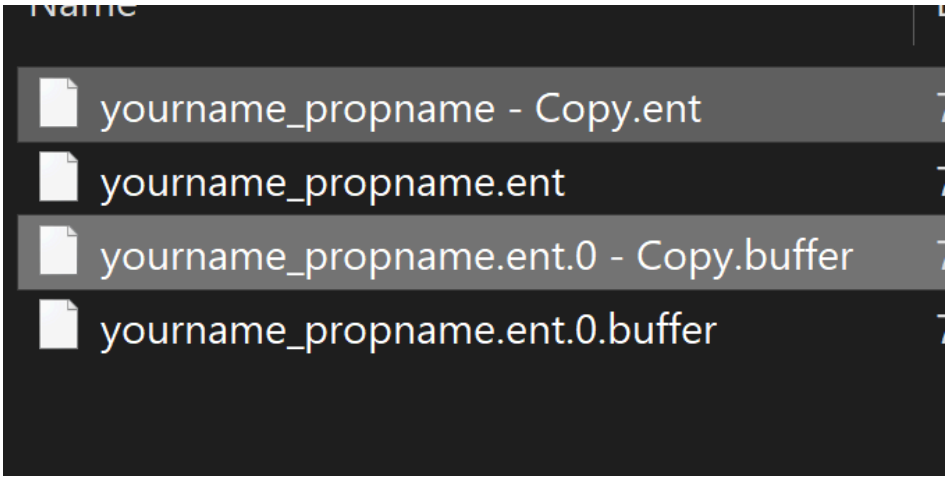
```
Type your command or q to quit and press Enter:
pack -p "C:\AMM_PropCreationKit_Advanced\archive"
```

10. Now you have an .archive file. If you haven't renamed from the generic **AMM_PropCreationKit_Advanced** name, rename the archive to something that fits your mod.

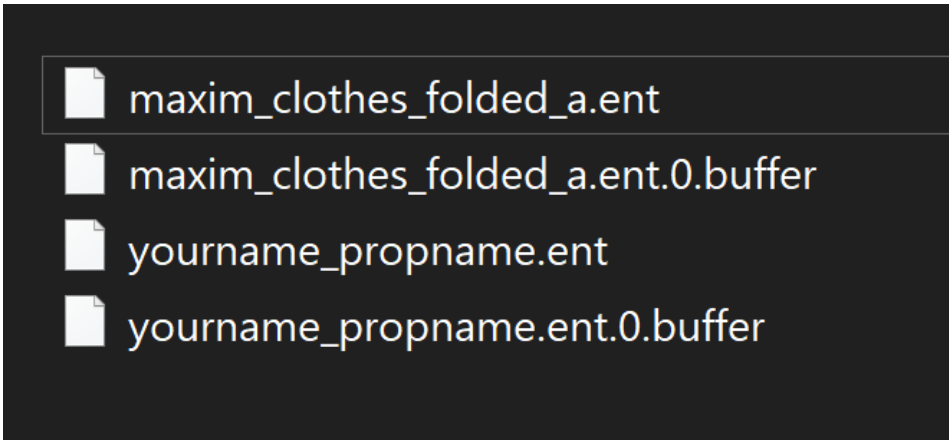
4 Adding Multiple Props to an Archive

4.1 Step-by-Step

1. Ensure you have the original file available (an unmodified version of the **yourname_propname.ent** file provided in the Creation Kit).
2. Duplicate both .**ent** and .**buffer** files named `yourname_propname`.



3. Rename the files.



4. Edit the buffer as explained in Section 3 above.

4.2 Notes

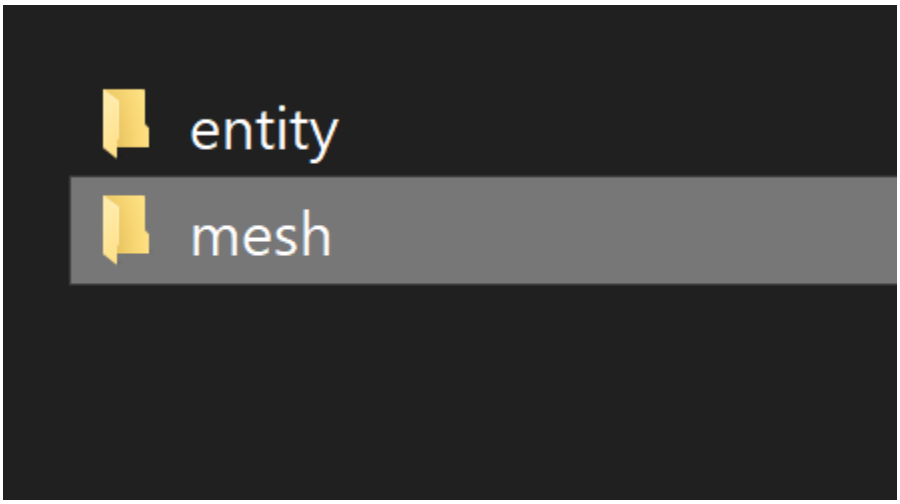
If you want another prop, just duplicate the **yourname_propname** files again.

It is not recommended to have these files in your final package, just to remove clutter.

It is recommended to copy and paste from another folder and have a dedicated folder for your mod.

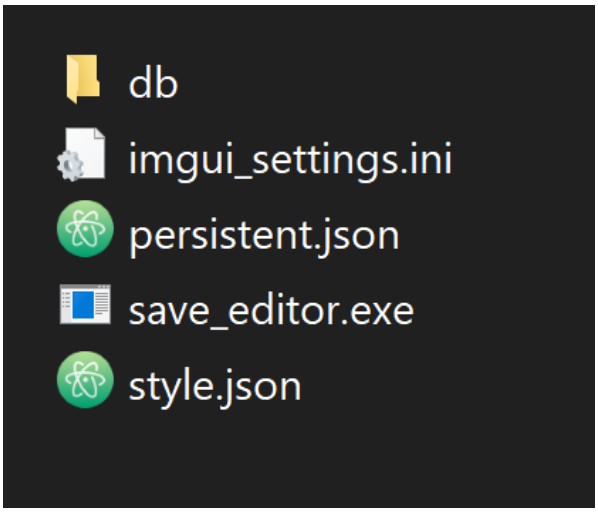
5 Adding New Meshes

1. Create new folders in your mod folder to put your mesh into (in order to keep things organized). It's recommended to create a new mesh folder where the entity folder is located.

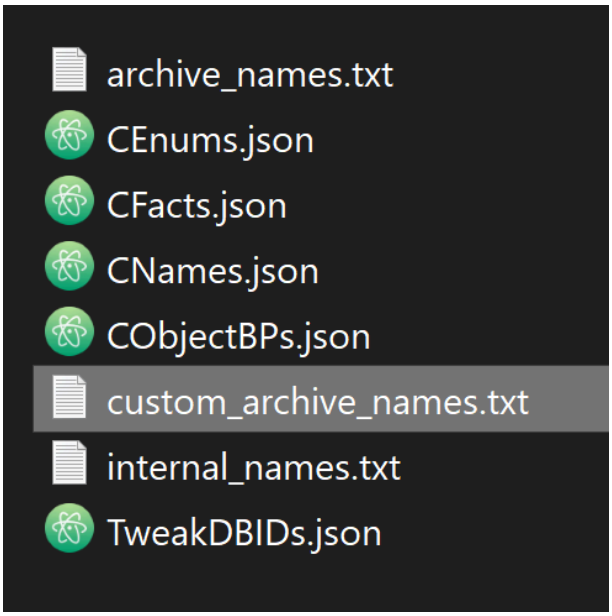


2. Place your custom **.mesh** file into the newly created folder. It's recommended to use a prefix to the **.mesh** file too, to avoid possible conflicts in the future. The more unique, the better.

3. Navigate to PR Editor's folder and edit its internal database to be able to add your custom path to the buffer.
4. Open the **db** folder.



5. Open the **custom_archive_names.txt** file.



6. The content will be as follows:

```
base\amm_props\collab\mesh\no_collision_slot1.mesh
```

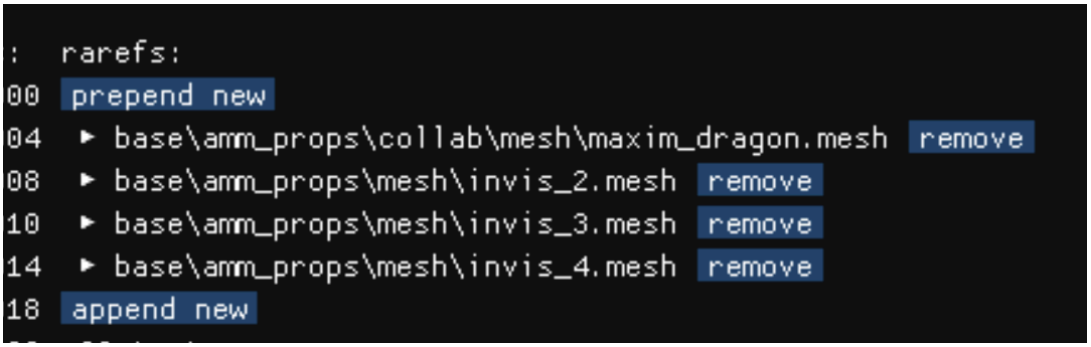
`base\amm_props\collab\mesh\no_collision_slot2.mesh`

`base\amm_props\collab\mesh\collision_slot1.mesh`

`base\amm_props\collab\mesh\collision_slot2.mesh`

7. Add your custom mesh file path to this list. For example:
   `base\amm_props\collab\mesh\maxim_dragon.mesh`
8. Save and close the file.
9. Open PR Editor and open your buffer file for the custom prop you're making.
10. Click on the path and start typing your custom file name.

11. Select the path.



12. Click **Save**.
13. Open CPTools.
14. Import and pack your mod as described in the steps above.

6 Scaling and Positioning

Changing the size and placement of props.

Note: While the step-by-step instructions below are separate, size and position can be changed and saved in PR Editor concurrently.

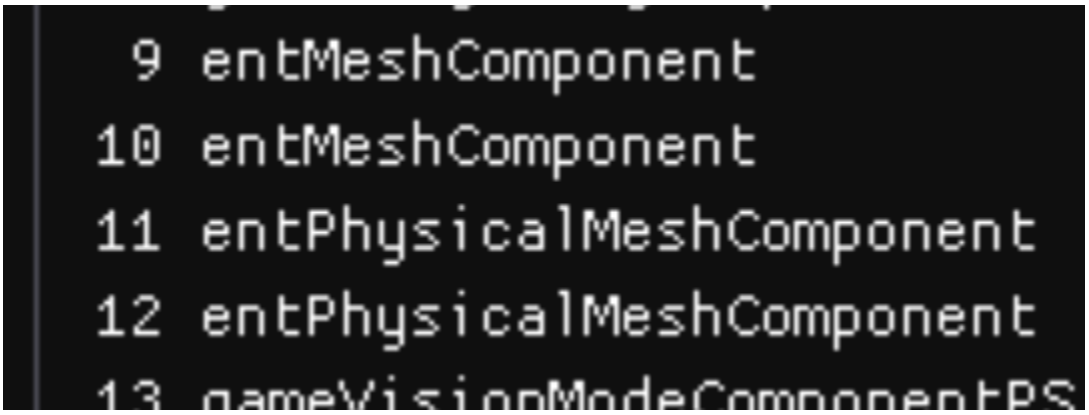
The number of steps required for this depends on what kind of prop you're making and the amount of meshes you're dealing with. The following examples serve as a base guide but anticipate that there may be more steps for more meshes.

6.1 Scaling Props

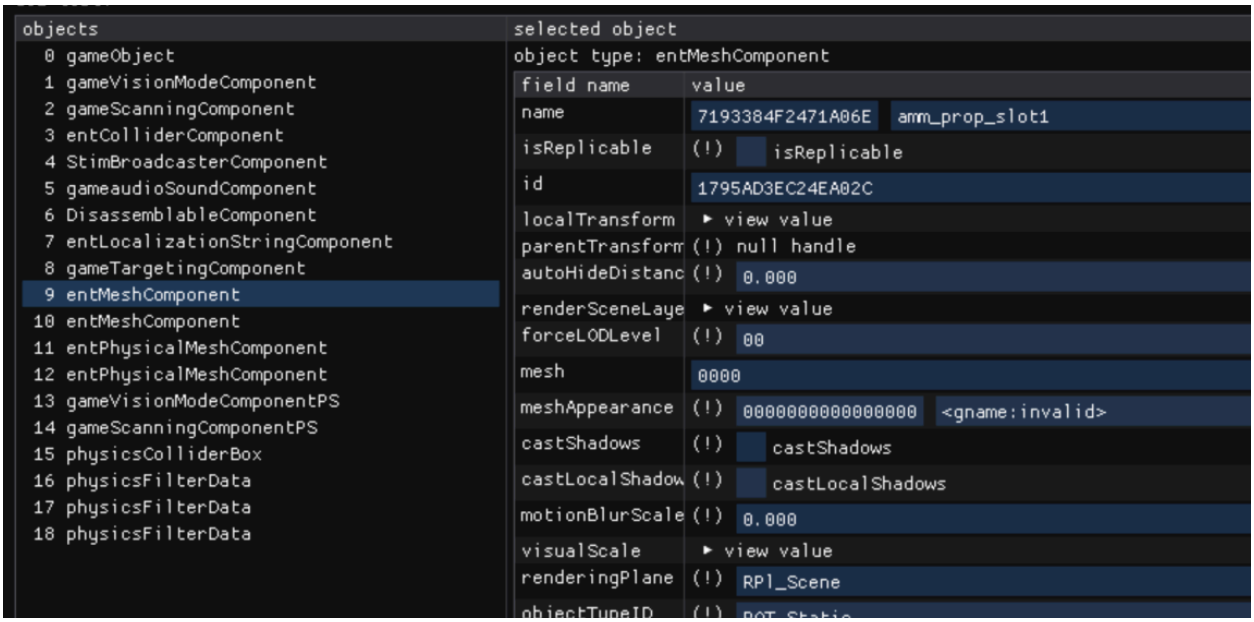
This section shows how to scale a mesh up or down using the **visualScale** field. Keep in mind that if you're dealing with more than one mesh, after scaling something up or down, the props won't be in the right position.

This example uses Maxim's custom dragon. It's a single mesh and doesn't need to be positioned, only scaled down because it's too large.

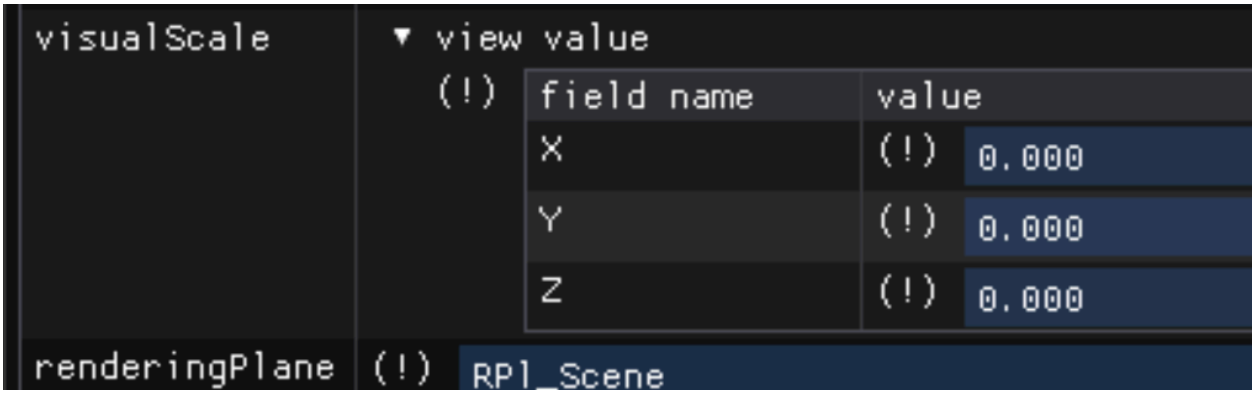
1. Open the buffer in PR Editor and identify the component your mesh is using. **Note**: This is in order from top to bottom (component 9 is the first slot, component 10 is the second slot, and so on).



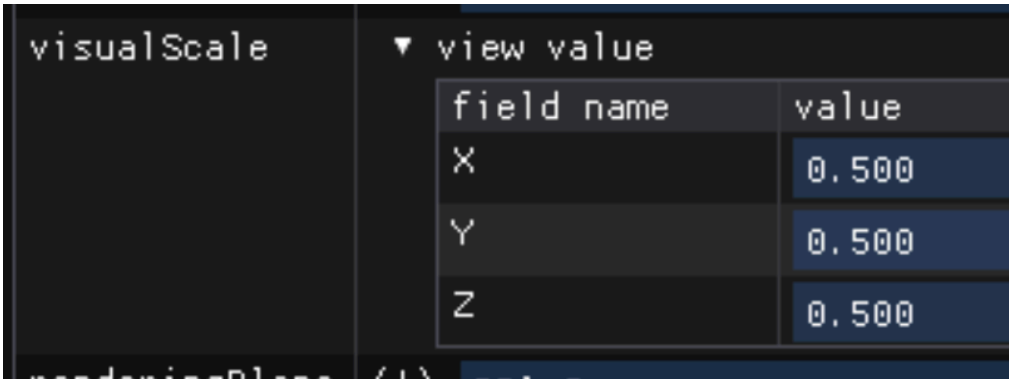
2. Identify where your component is on the list and click it. For this example, the dragon is in component 9.



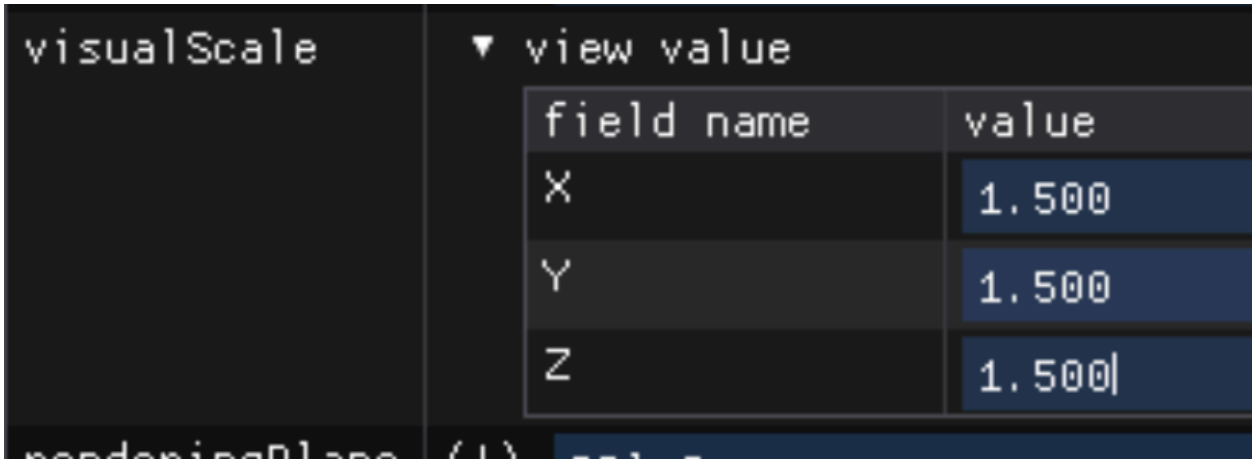
3. Open the **visualScale** field to allow you to scale it down.



4. To scale it down proportionally without any distortions, you have to change the X, Y and Z values equally.
    - For example, to make it 50% smaller, change the values like this:



    - To make it 50% bigger, change the values like this:



5. Click **Save**.

6.2 Positioning Props

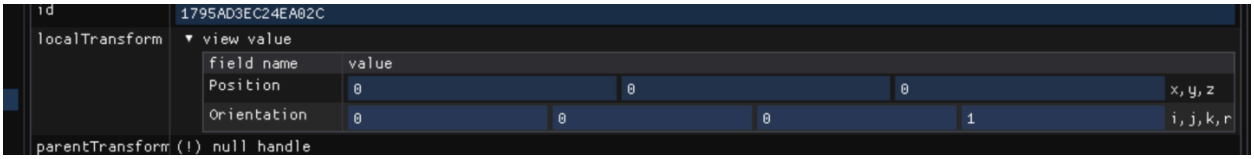
There are two methods to position props:

- Eyeball it and keep changing values until you get it right. For the first approach, you only need to know where to change the values.

- Open the mesh in Blender and position the way you want and then just copy the position values to the buffer in PR Editor.

6.2.1 Positioning by Sight

1. Open the buffer in PR Editor and select the mesh component as described earlier.
2. Locate the field called **localTransform**. The Z axis is the up and down axis, and X and Y are horizontal axes. (Since Props can be moved in AMM, it is not recommended or necessary to change the default Orientation.)

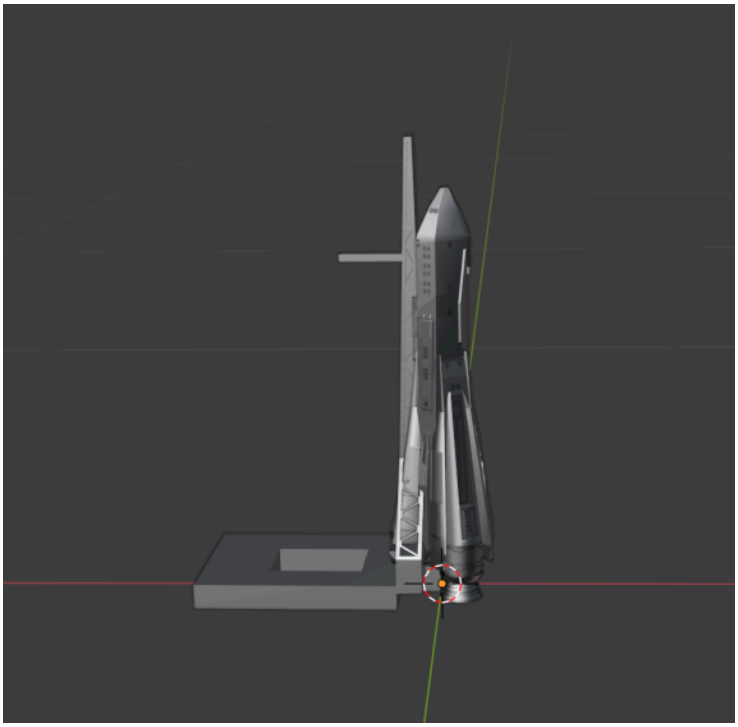


3. Click **Save**.

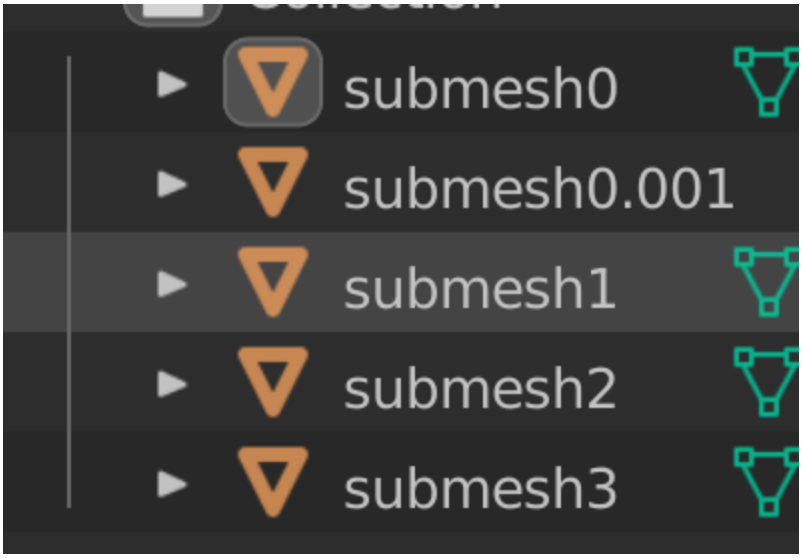
6.2.2 Positioning in Blender

This method requires you to export the mesh file to FBX using Noesis. Refer to the Beginner's Prop Tutorial for more information.

1. Open the buffer in PR Editor and select the mesh component as described earlier.
2. Open Blender and import the FBX files you're trying to change position.
   - The Space Shuttle and Shuttle Platform are used for this example.
   - Note that they are not correctly positioned by default. If I added those two meshes to my prop, this is how they would look like, and that needs to be changed.

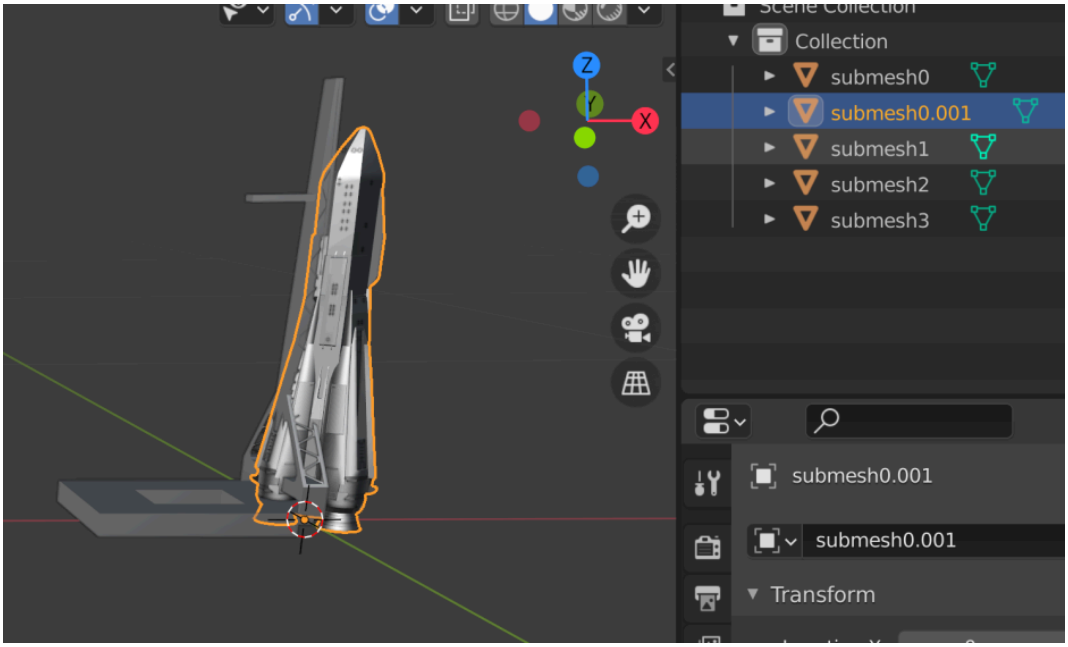


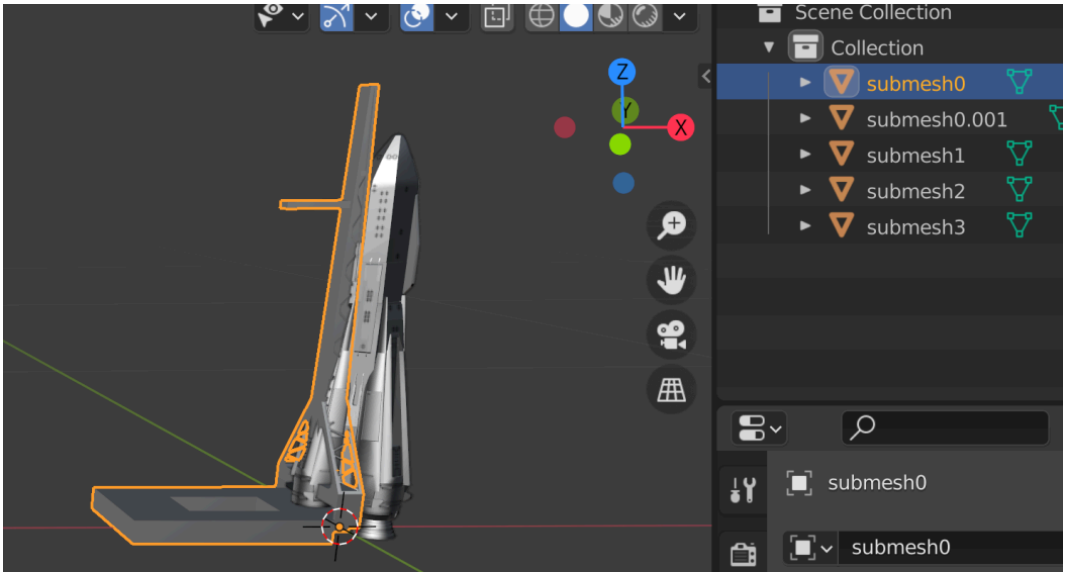
3. For this example, to move the platform, we need to select the submesh that is the platform in Blender.



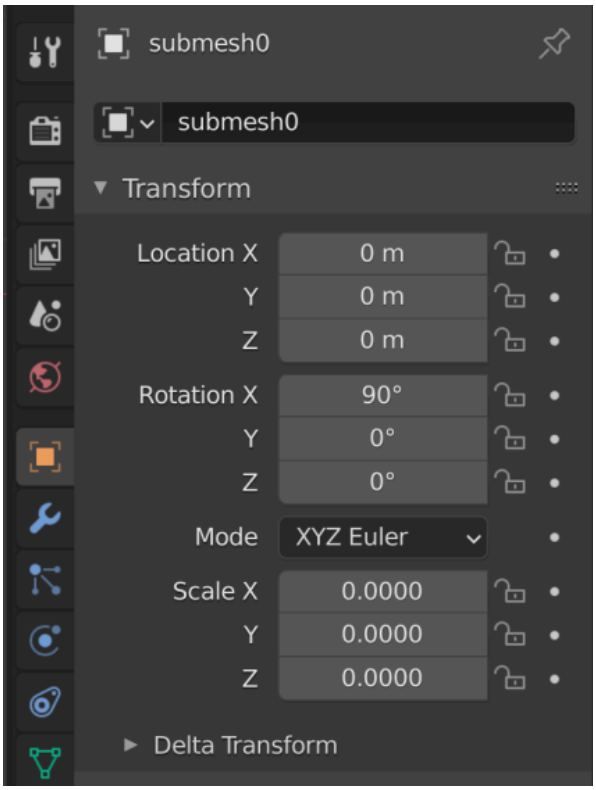
4. Those are the current submeshes. You can tell which one is which by clicking on them and checking the highlighted object.

   As shown in the screenshots below, changing to **submesh0** shows the platform that we are wanting to change.



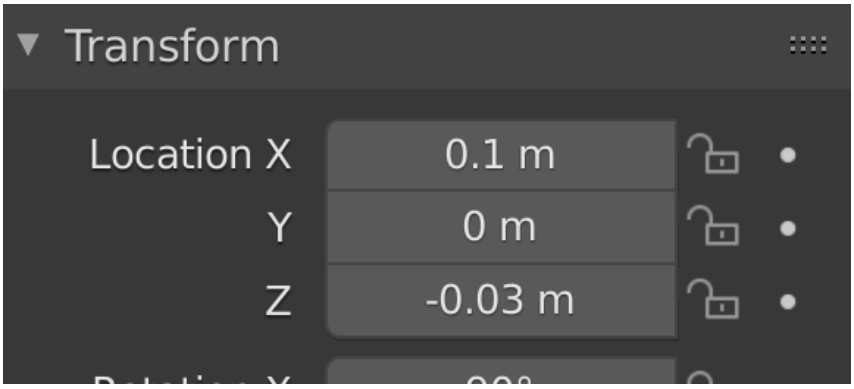


5. Select it and find the **Transform** view on the right side of Blender's window.

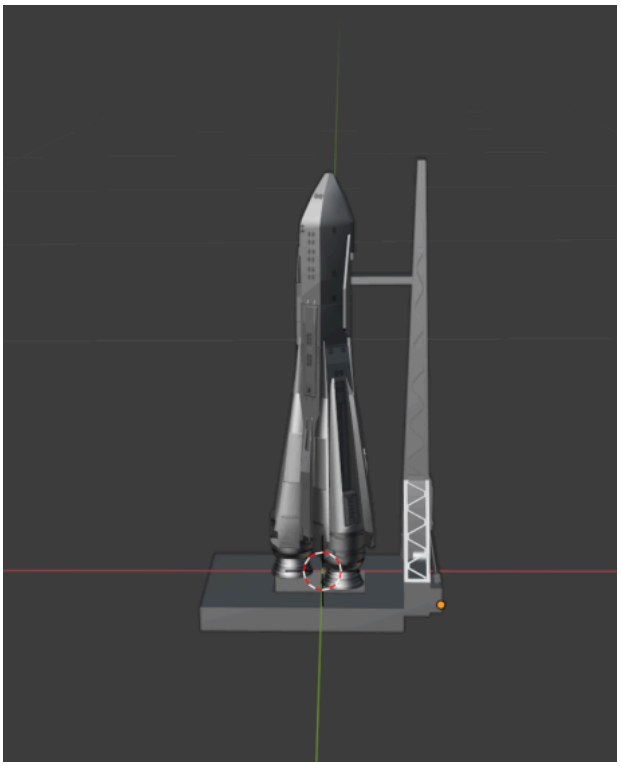


6. Change is those 3 first values that start in 0 m. You can drag or click on the arrows that appear when you hover the fields to change the values.

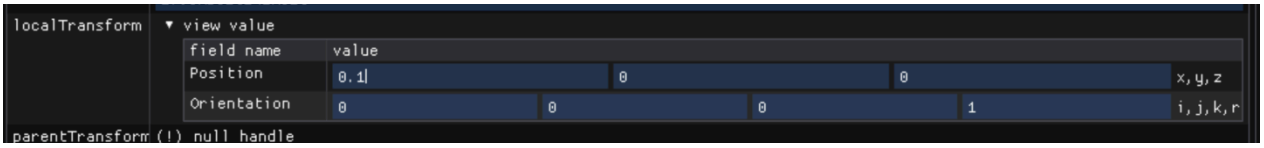
   For example, the values are changed as follows:



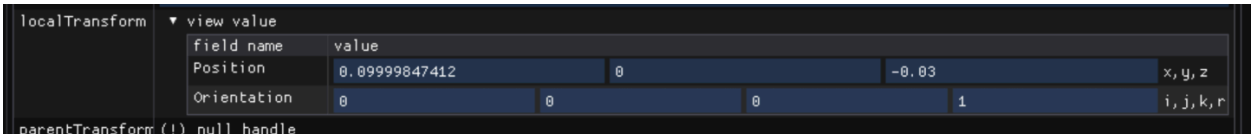
And the mesh reflects the change:



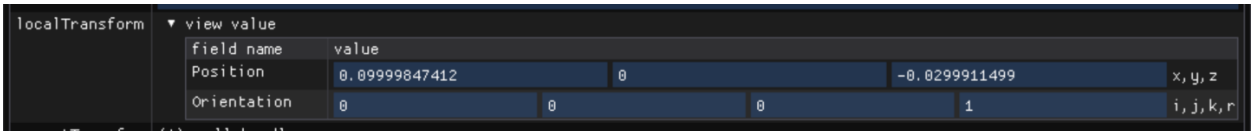
7. Click on the X value and copy it into PR editor.



8. The values might change after you press Enter or click on another field.



9. The final values are as follows:

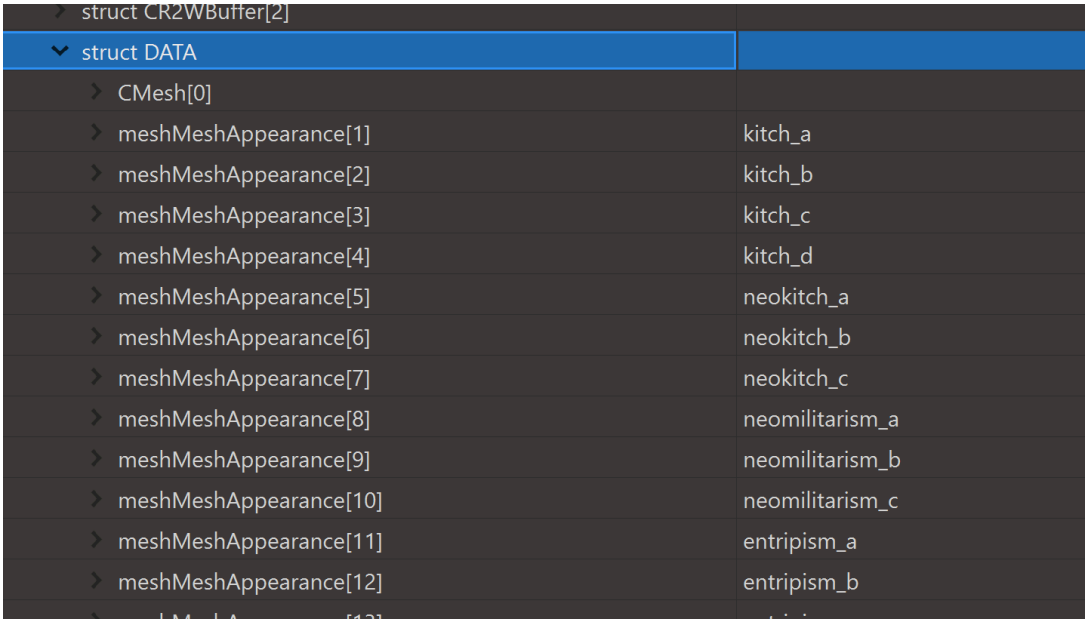


10. Click **Save**.
11. Import and pack your mod as described in the previous sections.

7 Editing Mesh Appearance

This section describes how to change a prop appearance or color.

1. Open the **.mesh** file you want to check for appearances in 010.
2. Navigate to the **struct DATA** section.

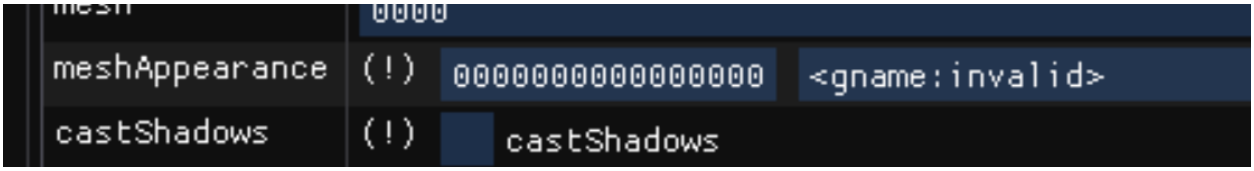


3. Locate the appearance name in the second column and make a note of it. For example, **`kitch_a`**.

   Note: If the mesh does not have any appearances, your only option is to modify the **.mlsetup** or **.xbm** file associated with that mesh. This process is not in the scope of this tutorial.

4. Navigate to the **internal_name.txt** file (**PREditor_Dev/db** directory).
5. Add the appearance name to the list and save.
6. Open PR Editor and open the mesh component you want to edit.

7. Scroll to the **meshAppearance** section.



8. Click on the **gname:invalid** box.
9. Type in the mesh appearance you added to **internal_names.txt**.
10. Click **Save** to finish.