Beginner's Guide to AMM Prop Creation Kit

Content by 86Maylin. Edited by bean_chan.

Published August 5, 2021.

1 Before You Begin

This guide assumes you already have all the necessary tools set up (Noesis, CP277Tools, 010 Editor, etc.), and also unbundled and uncooked the necessary files. If you haven't yet, refer to Halvkyrie's comprehensive tutorial to get started.

If you are unable to unbundle/uncook files, refer to the WolvenKit method section so you can extract individual meshes.

2 Getting Started

2.1 What You need:

- Mesh file that you want to spawn as prop
- CP77Tools/WolvenKit to pack the mod
- Notepad++ or another text editor

2.2 Optional Tools

- Noesis/WolvenKit to view meshes

2.3 What's in the creation kit:

Extracting the zip file should give you 2 folders (archive, bin) inside.

- Archive Folder
    - The folder structure for the archive mod that has the entity and meshes.
    - If you've played with nim's black magic entity this works very similarly.
- Bin Folder
    - Clicking all the way to the end is a lua file that will tell AMM how to display your props in-game.

If you want to share your custom prop you need to include both the archive mod and the lua. If you do not, your mod will not work.

3 Mesh Swapping: CP77Tools Unbundle/Uncook

If you can't/don't have the space to extract the files, please refer to **Mesh Swapping: WolvenKit**.

3.1 Getting Started

1. Unbundle/uncook all necessary files.
2. Ensure you have alpha's plugin (from the Cyberpunk 2077 Modding Discord) and the buffers of the mesh to view the meshes in Noesis.

3. *Optional, but recommend*: Install Everything, a program that can search through your extracted assets very quickly. This is recommended over Windows native file search.

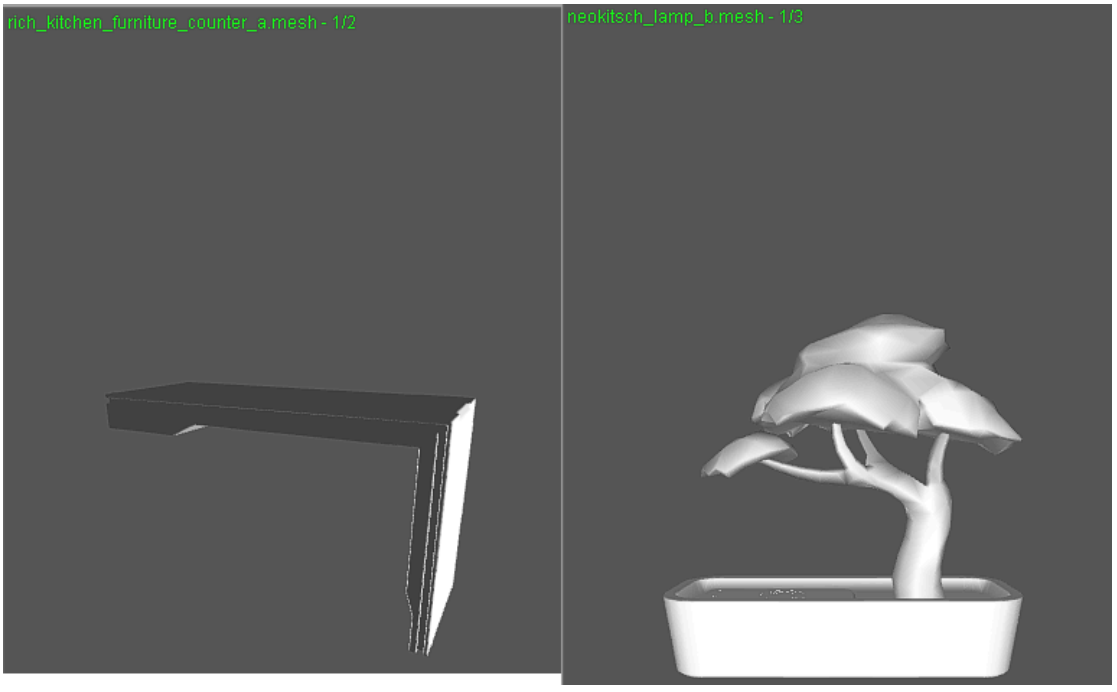
3.2 Making Props

1. Check AMM to see if the item you want to spawn is not already there.
   - AMM will probably continue adding new props to the database, so it's worth checking before deciding to add your custom one.
2. Double-click on a mesh file in Noesis and the right side will show its model.
   - If it says this model can't be viewed, then you probably don't have the buffers to view it.

Note: This section uses 2 meshes as example. Most custom props will probably only use 1 mesh.

Repositioning meshes is not covered in this guide (that will be in the advanced guide). However, the paths are listed down below, in case you want to follow along with the tutorial:

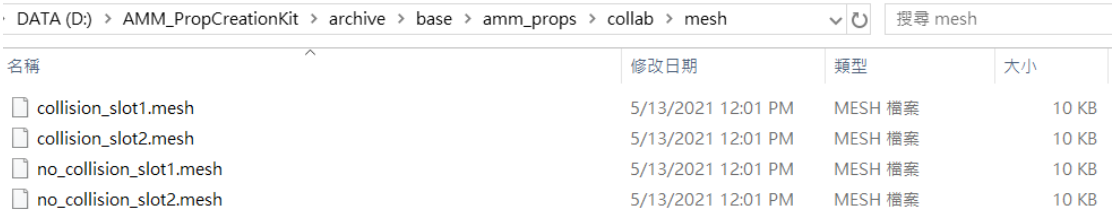
```
basegame_3_nightcity\base\environment\decoration\furniture\kitchen\rich_kitchen_furniture\rich_kitchen_furniture_counter_a.mesh

basegame_3_nightcity\base\environment\decoration\lighting\residential\neokitsch_lamp\neokitsch_lamp_b.mesh
```



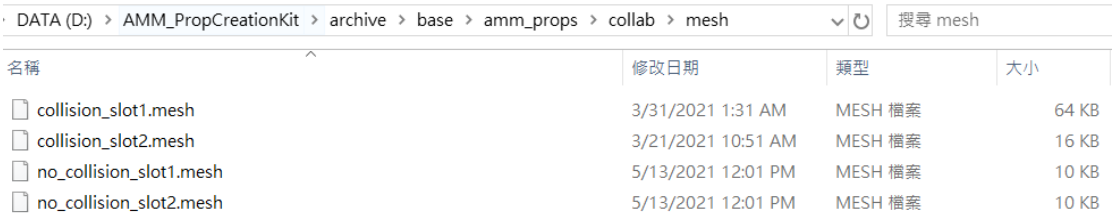
3. Check in Noesis before you copy the mesh and spawn it in-game because the names sometimes do not represent what they are. For example:
   - This "kitchen counter" below spawned in preparation for this guide demonstrates CDPR's naming shenanigans perfectly:



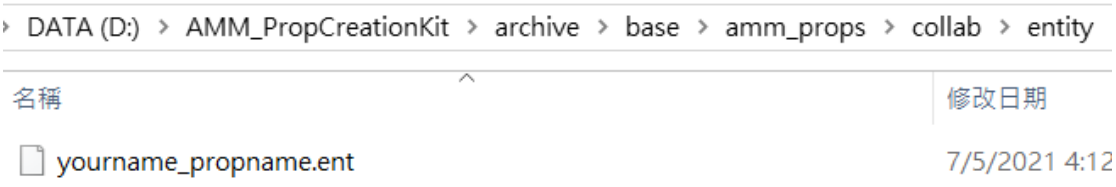
4. Navigate to the mesh folder nested inside the archive folder. There are 4 meshes inside: 2 are with collision, and 2 without.



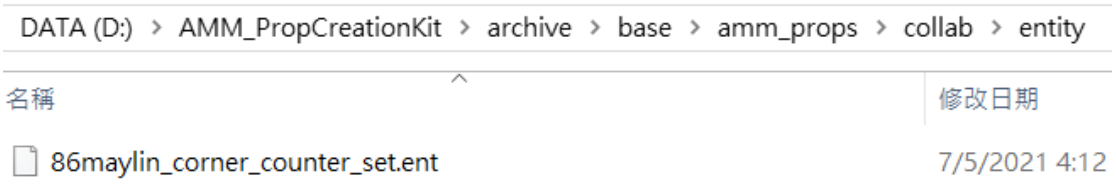
5. Copy the mesh(s) you want to spawn from the game files into the mesh folder shown above.
6. Rename the files to replace the slot(s). For example:
   - Copy `rich_kitchen_furniture_counter_a.mesh` into the mesh folder.
   - Delete the `collision_slot1.mesh`.
   - Rename `counter_a.mesh` to `collision_slot1.mesh`.
7. For this example, because there are two meshes, both collision slots are used.
   - `no_collision` slots act the same, just without collision.
   - **Note**: Some meshes, despite putting into the collision slot, cannot get collision.



8. Navigate to the entity folder (`amm_props\collab\entity`).
9. Rename the prop name to a unique name to avoid conflicts with other prop mods.
   Note: Keep this name in mind, as you need it later.
   - **Note**: Names cannot accept capital letters.
   - Suggested naming convention: `<yourname>_<propname>.ent`



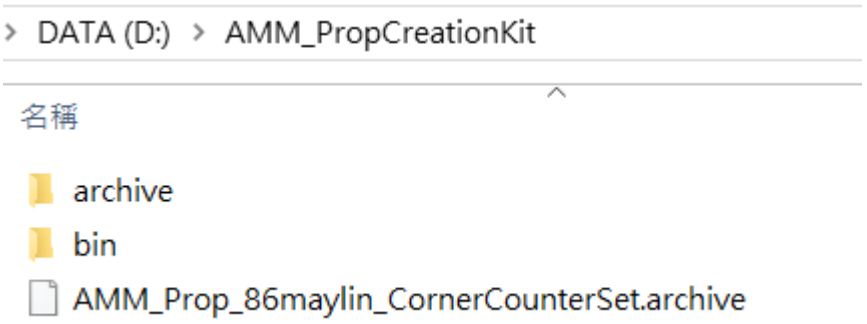
   - For this example, the prop name is set as such:



10. Open up your CP77Tools and pack the archive folder with command:
    `cp77tools pack -p "<PathToYourArchiveFolder>"`
    For example:
    `cp77tools pack -p "D:\AMM_PRopCreationKit\archive"`
    Note: If you're using an older version or the CP2077 Tools Wrapper mod, then use:
    `pack -p "<PathToYourArchiveFolder>"`

```
pack -p "D:\AMM_PropCreationKit\archive"
[ 0: Information ] - Found 5 bundle entries to pack.
100%
[ 0: Success     ] - Finished packing D:\AMM_PropCreationKit\archive.archive.
Type your command or q to quit and press Enter:
```

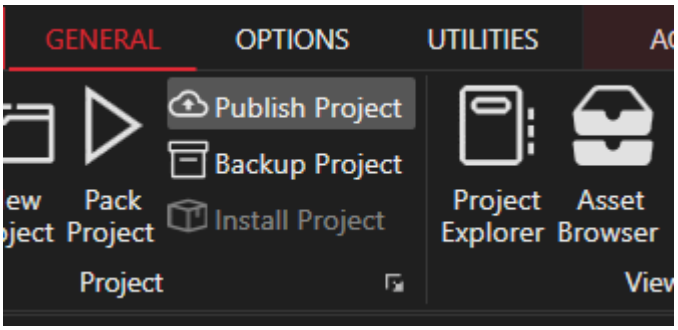
11. Your packed .archive file will appear in the **AMM_PropCreationKit** folder.
12. Rename the .archive file to something more appropriate to show what's exactly in the archive. For example:



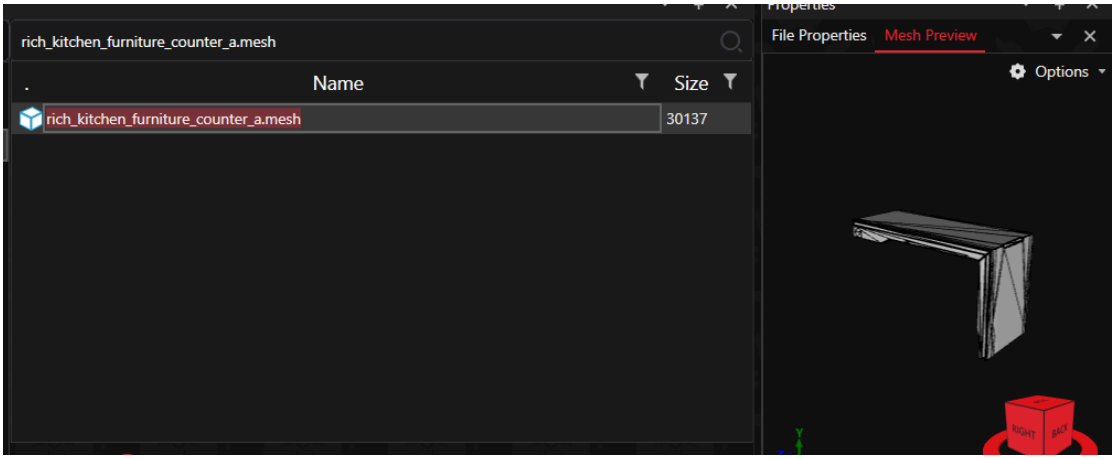
13. The archive mod is finished. Proceed to the **LUA File** section to complete your mod.

4 Mesh Swapping: WolvenKit

1. Ensure your profile is set up and mapped to the path of your Cyberpunk .exe.
2. Create a new project.
3. In the toolbar, you should see the Project Explorer  and Asset Browser  which will be used to swap the mesh.

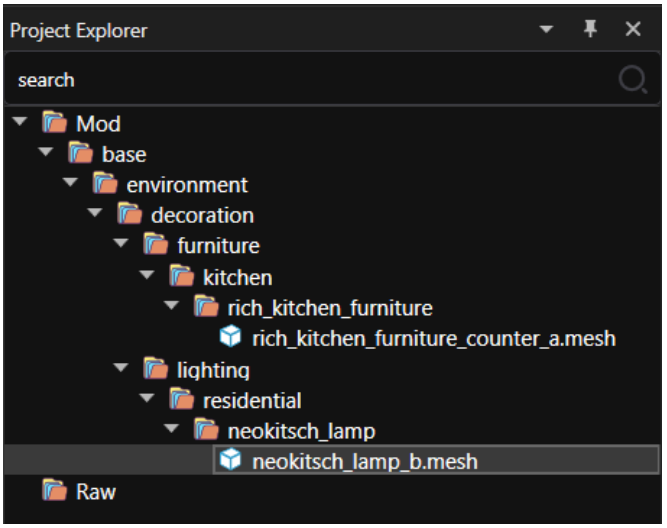


4. Using the Project Explorer, search for mesh(s) that you want to spawn as props. **Note**: There is a mesh preview feature in WolvenKit.

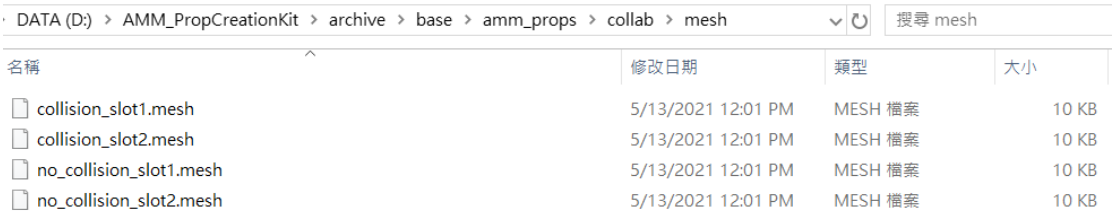


> **Note:** This section uses 2 meshes as an example. Most custom props will probably only use 1 mesh.
>
> Repositioning meshes is not covered in this guide (that will be in the advanced guide). However, the paths are listed down below, in case you want to follow along with the tutorial:
>
> `basegame_3_nightcity\base\environment\decoration\furniture\kitchen\rich_kitchen_furniture\rich_kitchen_furniture_counter_a.mesh`
>
> `basegame_3_nightcity\base\environment\decoration\lighting\residential\neokitsch_lamp\neokitsch_lamp_b.mesh`

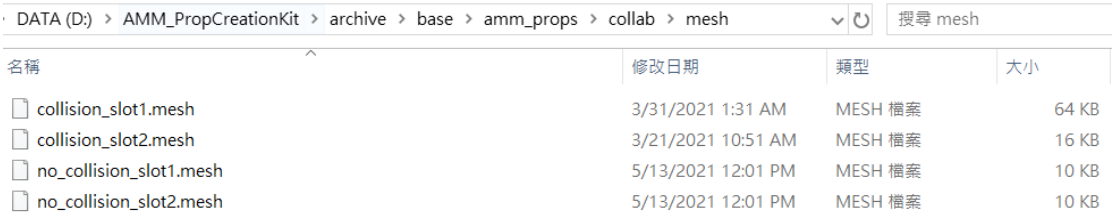
5. Double-click the mesh to add it to your project



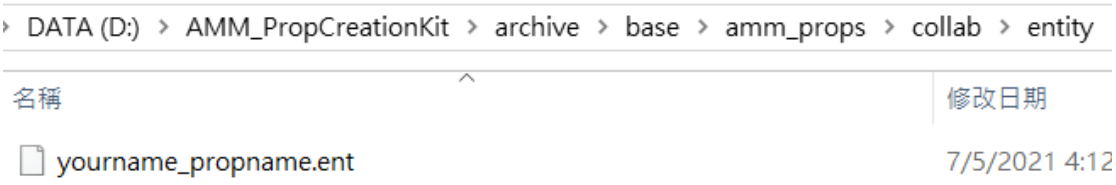
6. Navigate to the **mesh** folder nested inside the **AMM_PropCreationKit\archive** folder. There are 4 meshes inside: 2 are with collision, and 2 without.



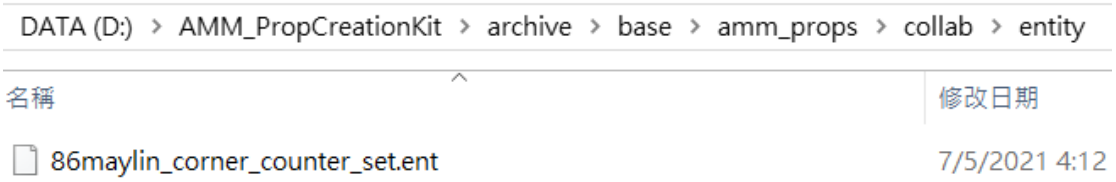
7. Copy the mesh(s) you want to spawn from the game files into the mesh folder shown above.
8. Rename the files to replace the slot(s). For example:
    - Copy `rich_kitchen_furniture_counter_a.mesh` into the mesh folder.
    - Delete the `collision_slot1.mesh`.
    - Rename `counter_a.mesh` to `collision_slot1.mesh`.
9. For this example, because there are two meshes, both collision slots are used.
    - `no_collision` slots act the same, just without collision.
    - **Note**: Some meshes, despite putting into the collision slot, cannot get collision. See the **Notes** section for more information.



10. Navigate to the entity folder (`amm_props\collab\entity`).
11. Rename the prop name to a unique name to avoid conflicts with other prop mods. **Note**: Keep this name in mind, as you need it later.
    - **Note**: Names cannot accept capital letters.
    - Suggested naming convention: `<yourname>_<propname>.ent`

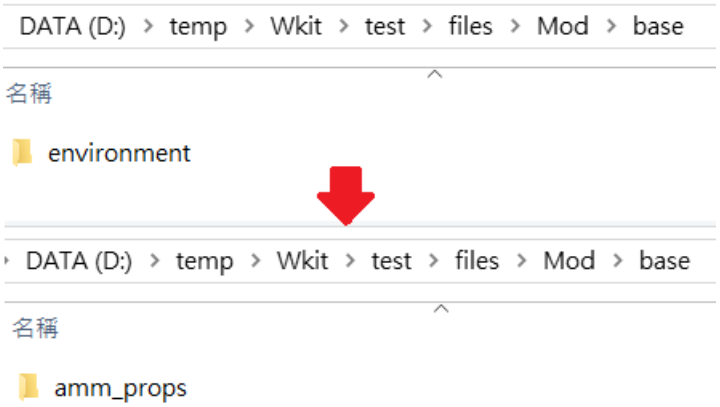


    - For this example, the prop name is set as such:

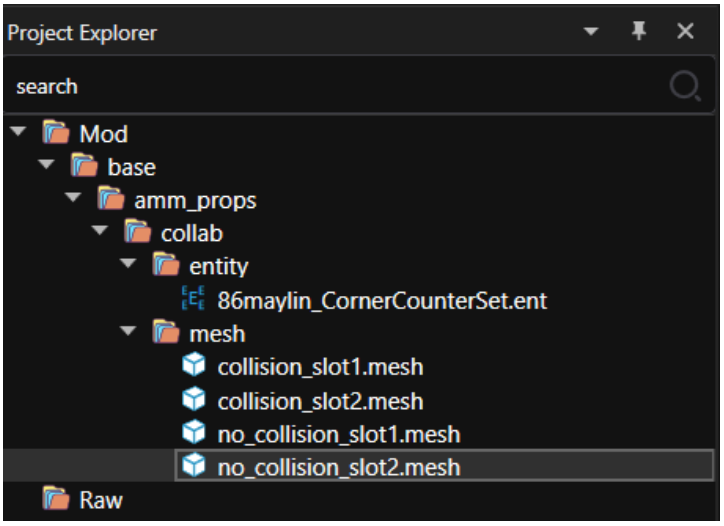


12. Navigate to where you created the project for WolvenKit and delete everything inside the folder `[YourProjectName]\files\Mod\base`.
13. Copy the **amm_props** folder inside `AMM_PropCreationKit\archive\base` into the project **base** folder. For example:
    - The **environment** folder in the base folder is deleted.

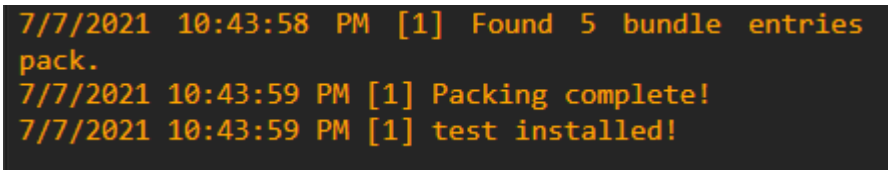
- The **amm_props** folder is copied into the base folder.



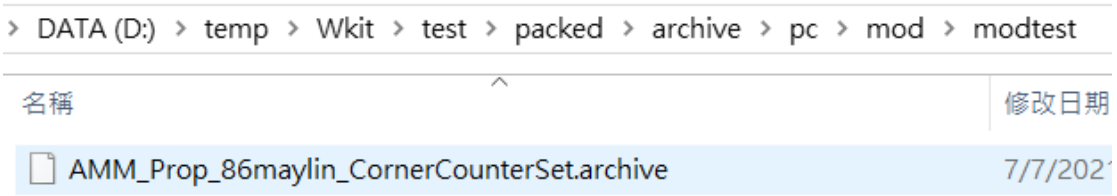
14. Navigate back to WolvenKit and you should see the Project Explorer reflecting your changes. In this case, the **amm_props** folder is now present.



15. Click **Pack Project** in the **General** tab on the top, and the console should show the following message.



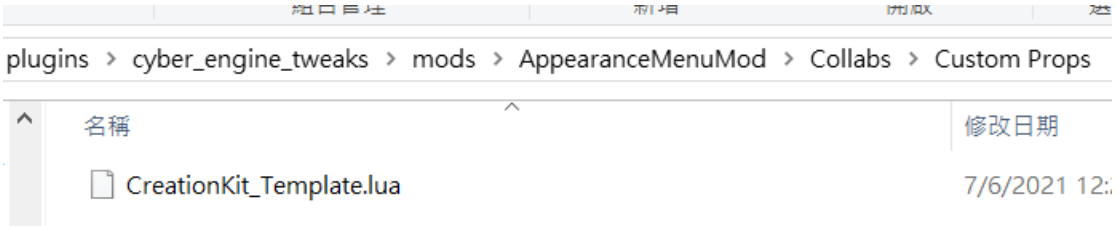
16. The packed archive will be located in:
`[YourProjectName]\packed\archive\pc\mod\modtest`
17. Rename it to something more appropriate to show what's exactly in the archive, for example:



18. The archive mod is finished. Proceed to the **LUA File** section to complete your mod.

5 LUA File

1. Navigate down the **bin** folder in AMM_PropCreationKit until you hit the LUA file.



2. Open the file in any text editor. This example uses Notepad++.

```
return {
  -- Your beautiful name :)
  modder = "Max",

  -- This must be UNIQUE so be creative!
  -- NO SPACES OR SYMBOLS ALLOWED
  unique_identifier = "MM",

  -- All the Props you have under your unique identifier
  -- Parameters:
  -- name -> This will be displayed in AMM's Decor tab spawn list.
  -- path -> This is the path for the ent file in your archive. You mus
  -- category -> AMM's category you want to place your prop in. BE CARE
  way it is in AMM.
  -- distanceFromGround -> Some props may require a higher spawn positi
  spawns in ground by default.
  props = {
    {
      name = "My Cute Prop",
      path = "base\\amm_props\\collab\\entity\\myname_cute_prop.ent",
      category = "Decor",
      distanceFromGround = nil,
    },
```

3. Set the **modder** field to your name.
4. Set the **unique_identifier** to your full username or a value that's more unique. For example: If your identifier is just `Max`, then that'll most likely conflict quite easily with other people, so in this case it is set to `MM`.
5. Underneath is the info of your props that AMM will use to name and display your prop.

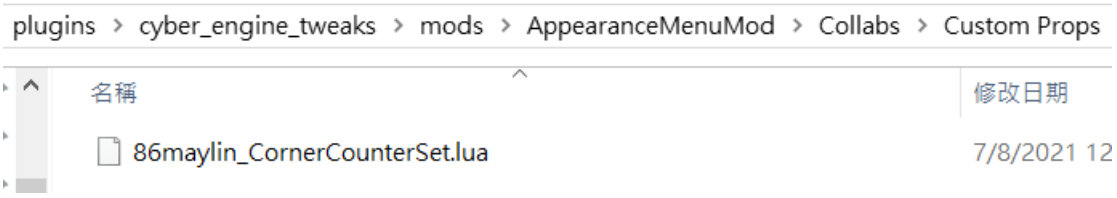
Field	Description
name	The display name in AMM's Decor spawn tab.
path	The path to your .ent file with the exact name.
category	Where your prop will show up in AMM. **Very important note**: This needs to be exactly like how it is typed in AMM. For example, if you want the prop to be under **Misc**, then you have to type exactly `Misc`.

distanceFromGround	The spawned distance from ground. Some mesh's default position will be fully under or half under the ground, so it'll be good to set it as **1** or **2** to raise it up.

Example luafile for the new mesh created above:

```
-- Your beautiful name :)
modder = "86maylin",

-- This must be UNIQUE so be creative!
-- NO SPACES OR SYMBOLS ALLOWED
unique_identifier = "86maylin",

-- All the Props you have under your unique identifier
-- Parameters:
-- name -> This will be displayed in AMM's Decor tab spawn list.
-- path -> This is the path for the ent file in your archive. You must use \\ i
-- category -> AMM's category you want to place your prop in. BE CAREFUL with t
way it is in AMM.
-- distanceFromGround -> Some props may require a higher spawn position. Usuall
spawns in ground by default.
props = {
  {
    name = "Corner Counter Set",
    path = "base\\amm_props\\collab\\entity\\86maylin_corner_counter_set.ent",
    category = "Furniture",
    distanceFromGround = nil,
  },
```

4. Save and close the file.
5. Rename the file to avoid conflicting with other people using the same naming convention suggested above.



6 Adding Props to AMM

Now that both the .archive and .lua files are now ready:

1. Copy your .archive mod into the mod folder.
2. Copy the **bin** folder into the Cyberpunk 2077 folder.

3. Open the game.



4. You will now see your new prop in AMM.

7 Notes

If you're following along with the tutorial step-by-step above, note that the lamp has collision, but the counter doesn't. This is unfortunately a limitation that we're running into, that certain items just would not get collision, so you'll have to trial and error to see which ones will get collision and which ones won't.

Now, if I raise the `distanceFromGround` to 1, the prop will spawn like so:



That's all, you now know how to make custom props! If you're interested in more learning, continue to the advanced guide to learn how to reposition and add more entities to a single archive.