

EXOA

HOME DESIGNER - MANUAL

15/12/2023

[Latest online version is accessible here](#)

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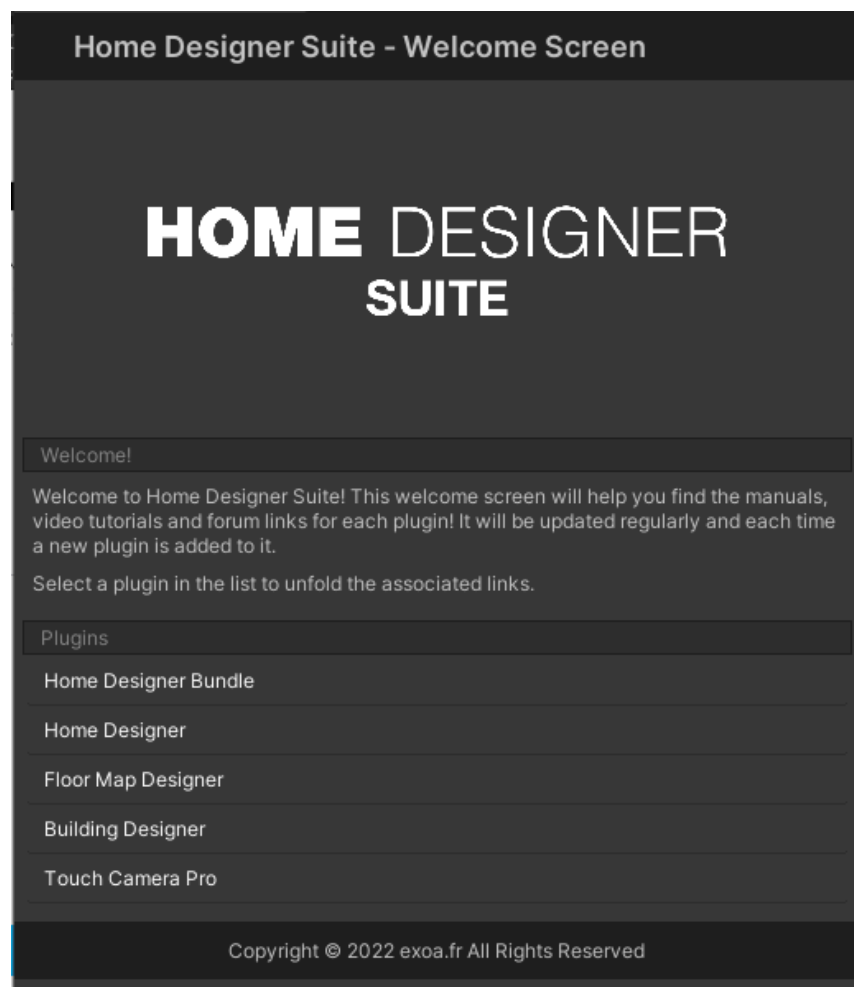
INTRODUCTION

This plugin allows you or your players to design their own room(s). These rooms are then accessible directly to be played in-game, thanks to json serialization!

This plugin comes with an example "Kitchen" folder that you may start with, and remove eventually when you're done understanding all the logic.

This plugin can be used standalone or with the other plugins of the HOME DESIGNER SUITE.

When you first open the plugin, you should see this welcome screen with useful links to manuals, videos and other modules. It's also accessible through Tools > Exoa > Welcome Screen.



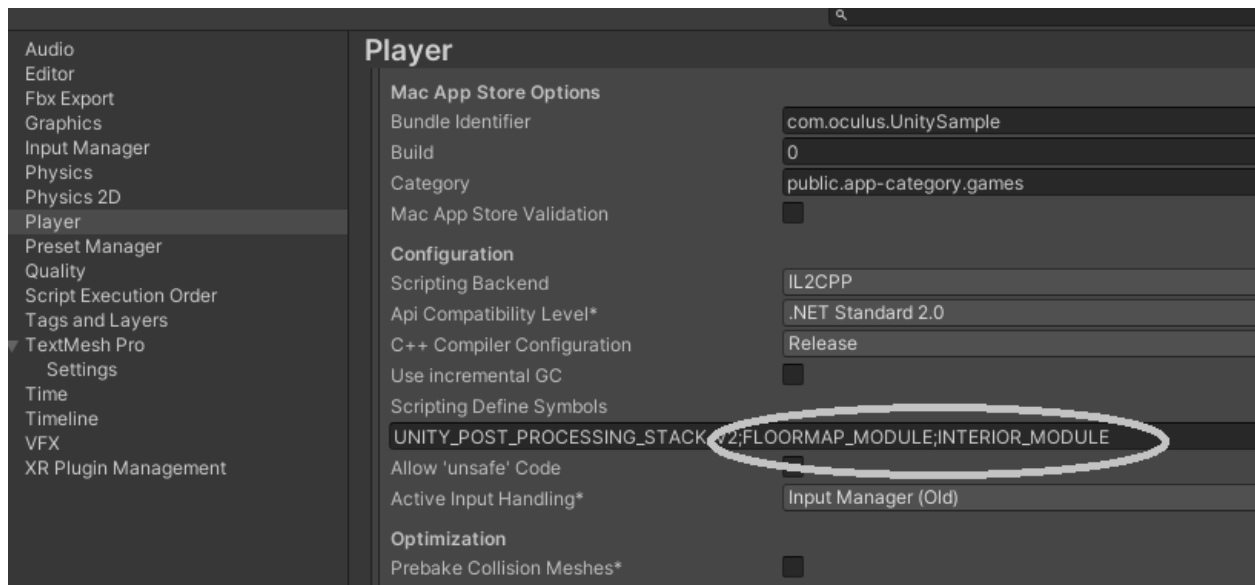
VIDEO TUTORIAL

Please check the asset store page for the video tutorial.

HOW TO INSTALL

If you already have a previous version installed, please backup your modules and materials, then remove the Exoa/ folder prior to installing a new version. Big updates are usually not compatible with each others.

1. Create a new Unity Project and import the plugin
2. You will need to install Unity's FBX Exporter plugin from the Package Manager window, under "Unity Registry"
3. Layers and Tags will be added automatically to your project.
4. If the icons are not rendering please check the troubleshoot section.
5. If you encounter other errors, make sure you have these symbols in your "Player Settings > Other Settings" :



- Add "FLOORMAP_MODULE" if you have in your project "FloorMap Designer" or "HomeDesigner BUNDLE"

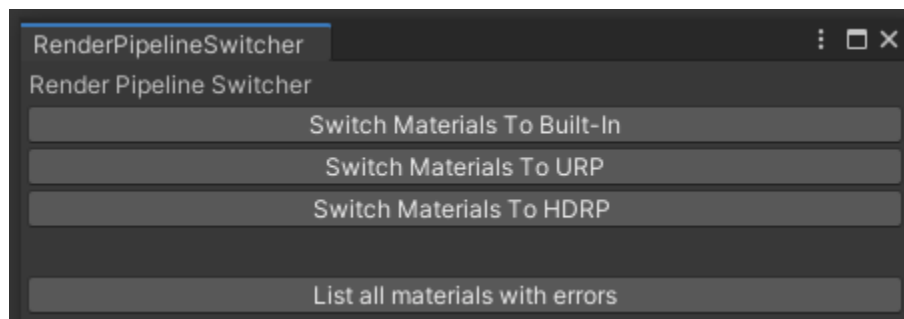
- Add "INTERIOR_MODULE" if you have in your project "Interior Designer" or "HomeDesigner BUNDLE"
-

The demo scenes should also be added automatically in your build settings. If it's not the case, you can add manually "HomeDesigner" (if you own HomeDesigner) and "FloorMapEditor" (if you own Floormap Designer) in your build settings.

HOW TO SWITCH TO URP OR HDRP

By default the package has its materials using built-in shaders, but you can now switch them to URP or HDRP shaders. Once you've installed the rendering pipeline you need, you just have to use the new helper window to switch all the package's custom shaders. You can open the window from the top menu "Tools > Exoa > Render Pipeline Switcher"

Then click on the desired action to switch to built-in/URP/HDRP shaders :



Please note that your modules will still have the shaders you defined, you will have to convert them manually. Or using Unity's HDRP wizard window if you are using HDRP.

After clicking on a convert button, you can check the console to see how many materials have been converted.

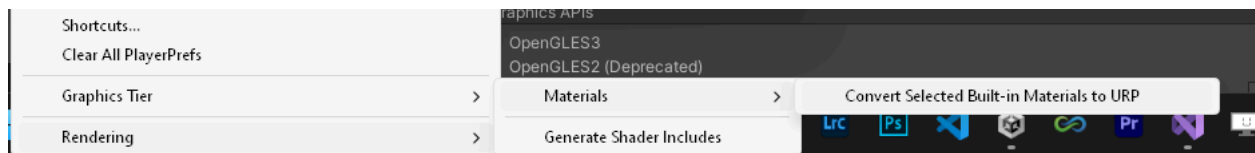
On HDRP, the grid floor might not appear well, because the emissive maps are not rendered the same way. Depending on your directional light's emission value you will have to adjust the "Emissive Intensity" value on the grid floor material.

Example :

Light Emission : 0 => Material Emission Intensity => 10000

Light Emission : 10000 => Material Emission Intensity => 1000000

This feature is only converting materials using Exo/ shaders. But you can use Unity's tools to convert the legacy shaders to URP/HDRP shaders under (Edit/Rendering)



HOW TO INTEGRATE WITH FLOOR MAP DESIGNER

If you want to integrate “Home Designer” with “Floor Map Designer”, you just have to import both packages in the same unity project. They are compatible and share the same code base.

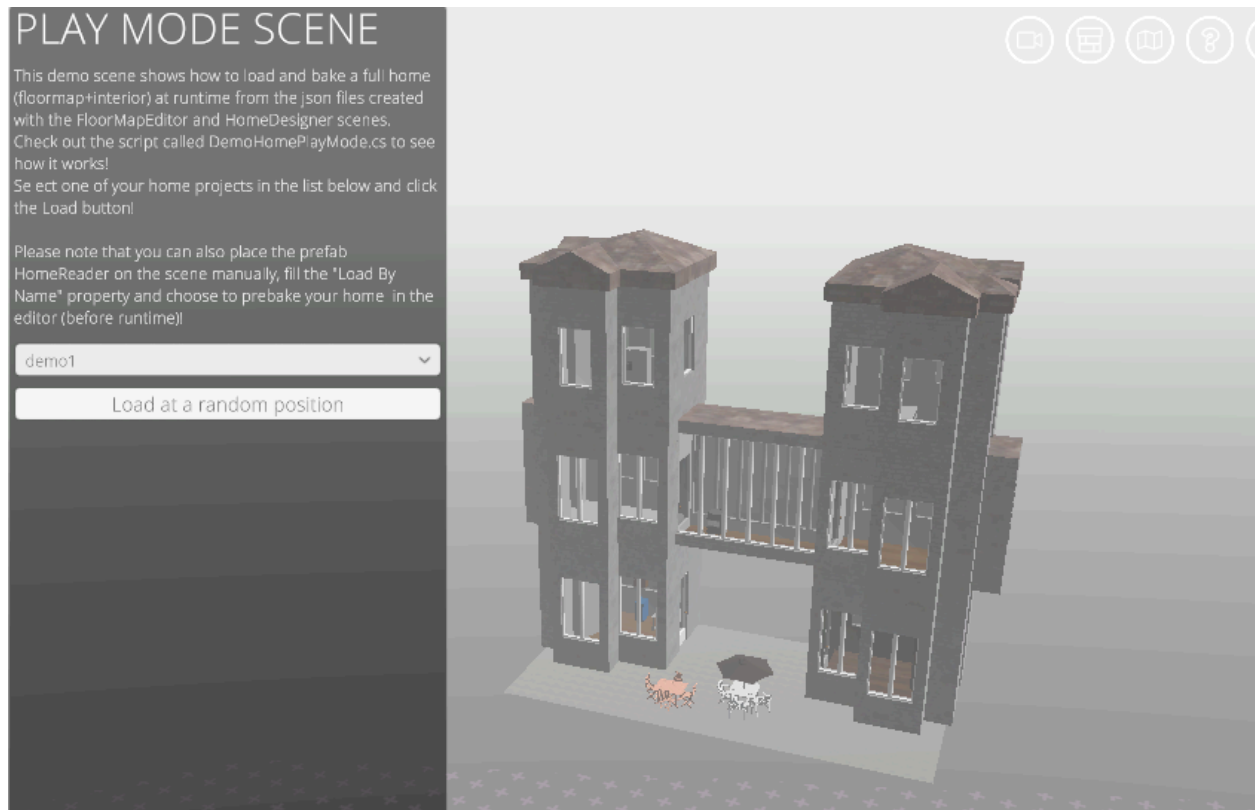
HOW TO CREATE A LEVEL USING THE DESIGNER

- Open the scene HomeDesigner and hit Play!
- Use the Help Button (top right corner) to see and learn the shortcuts
- Create a new project using the Save/Load menu
- Create a first scene by clicking and dragging objects on the floor, and changing wall & floor materials
- Save the project using the left menu
- The saved json file will be located in the PersistentData folder
(<https://docs.unity3d.com/ScriptReference/Application-persistentDataPath.html>)
- You can access that folder by pressing Ctrl+D at runtime

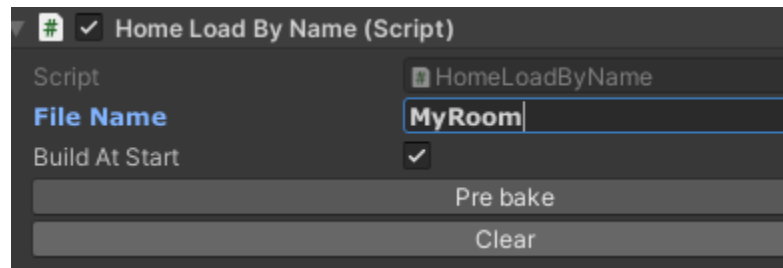
HOW TO LOAD A PROJECT BACK INSIDE ANOTHER SCENE

Once the project has been created using the editor, you can load it back in another scene (your app/game). You have 3 ways to import your creation :

- **By code:** open the scene “HomeDesigner_PlayMode” and select the project you want to spawn at runtime. Check “DemoHomePlayMode.cs” to see the code!



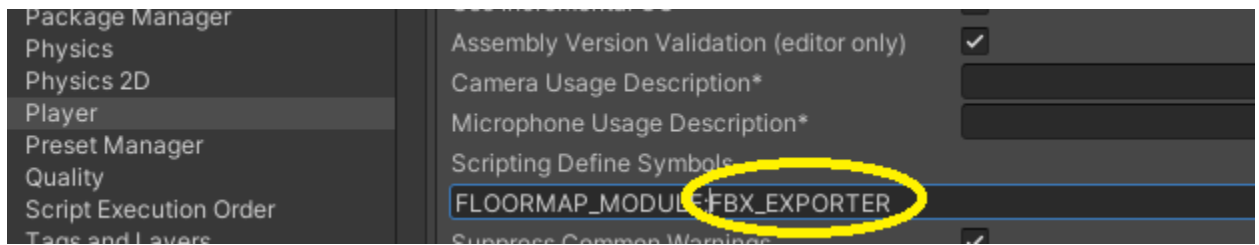
- **By dragging a prefab:** drag the prefab called “HomeReader” and fill the field in “Load By Name” component by your project name. You also have the option to pre-build your creation in editor, or have it built at runtime from the Start() function or from calling HomeLoadByName::LoadFile(fileName); from any other script.



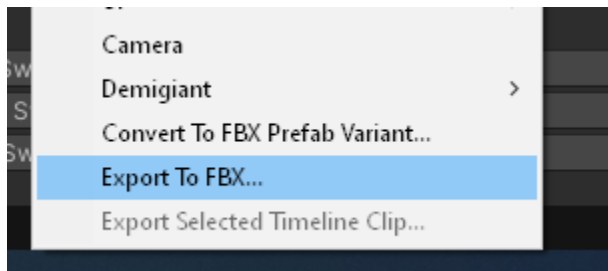
- **By exporting the FBX:** there is a new export to FBX button at the top right of the editor, that will export your project as fbx using the Unity FBX Exporter. Please note that this feature is currently only available in the Unity Editor so you will not have this option if you build a desktop app.



In this plugin everything is serialized as json so the users can re-edit their levels at any time, and save them as a single lightweight string locally or online in a database, but sometimes you will want to export the mesh as a baked fbx file, so this feature can be really handy. Make sure you have installed the package “FBX Exporter” from Unity Technology, then add a “FBX_EXPORTER” flag in your Player Settings > Scripting Defined Symbols



With this FBX Exporter plugin installed you can also right click on any game object in the hierarchy and select “Export fo FBX”:



HOW TO ADD YOUR OWN MATERIALS

You can watch a video tutorial about it on the plugin page!

Floor and Wall Materials are unity materials that are fetched from the Resources/Wall and Resources/Floor folders. Have a look at the sample Resources folder:

“Assets\Exoa\HomeDesigner\Samples\SampleData_Kitchen\Resources” for examples.

Just place your materials in these 2 folders, and they will be added automatically in the editor at runtime! Make sure they use the same Exoa/Standard shader

HOW TO MAKE YOUR OWN MODULES

You can watch a video tutorial about it on the plugin page! Otherwise here are the steps:

You now have a new window to help you create your modules.



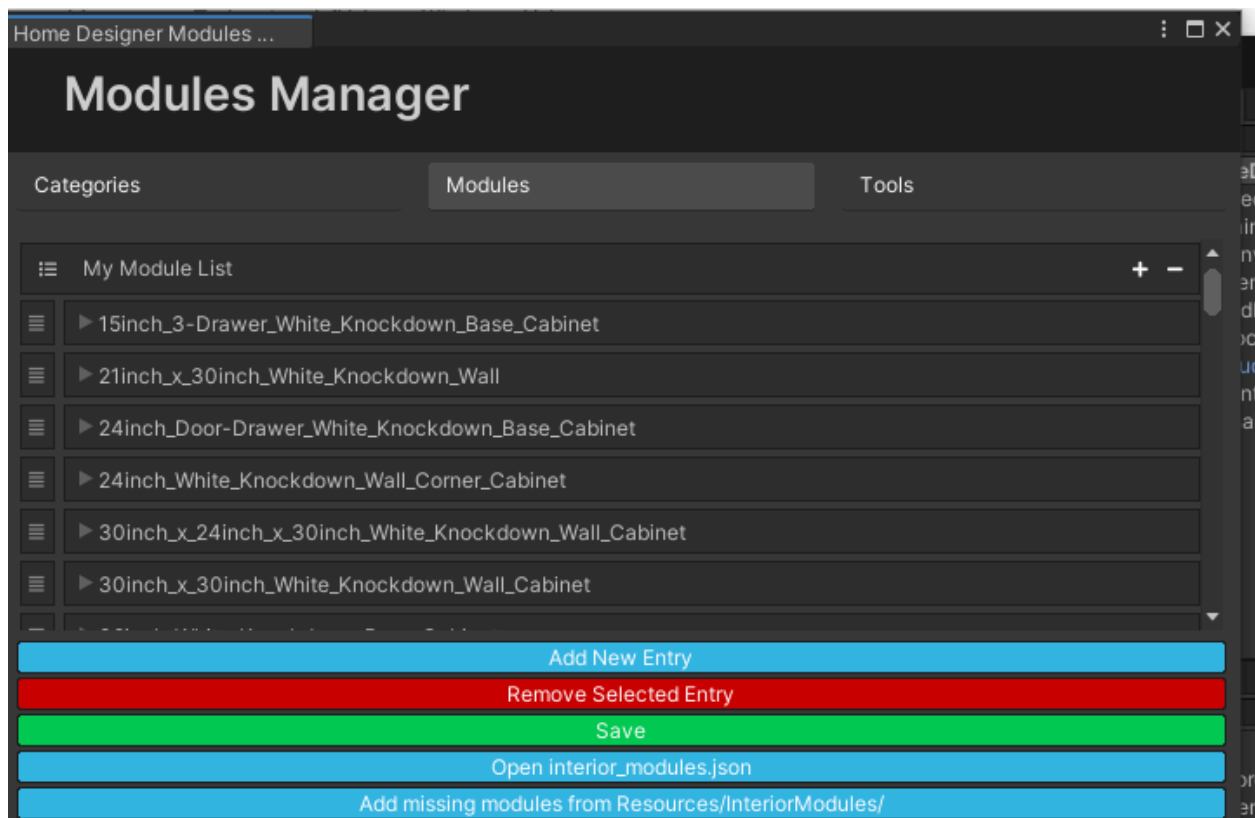
The first tab helps you setup your categories, you can also directly edit "interior_categories.json". this file needs to be placed inside a Resources/ folder.

By adding categories, you need to make sure their corresponding folder is created too inside Resources/InteriorModules/. The module will try to create the folder automatically for you.

The last option helps you sync existing folders you have already created with the json.

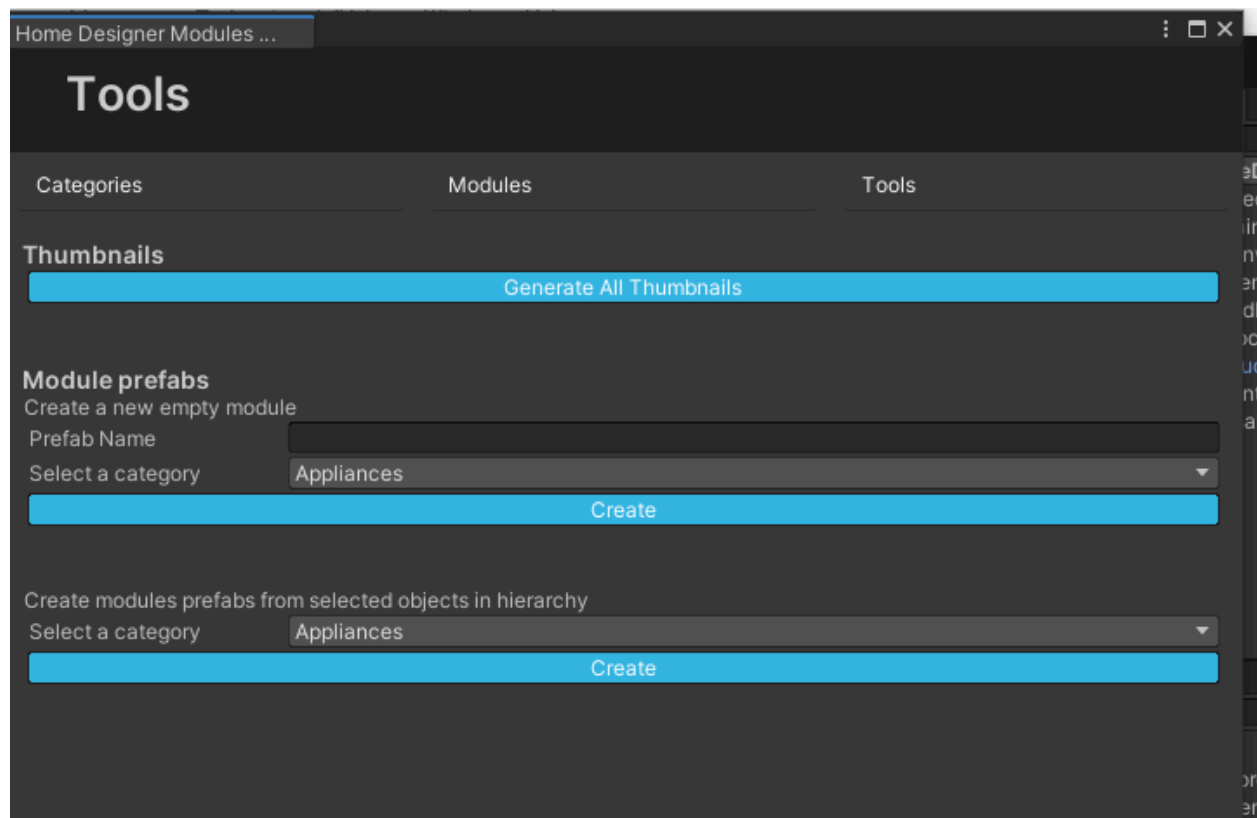
The second tab helps you setup your module details (title, prefab name, description, price etc). you can also directly edit “interior_modules.json”. this file needs to be placed inside a Resources/ folder.

Each entry needs to have a corresponding prefab inside
Resources/InteriorModules/[SOME CATEGORY]/



The last tab helps you generate the thumbnails for all your modules, and also to create new modules.

You can choose to create an empty prefab module, then add your 3d model and colliders. Or you can select one or multiple 3d models inside the Hierarchy window and create your module prefabs from that selection. Please note that your prefabs still need to be edited to place the joints and colliders.



Once you have a prefab created :

- Place your 3d model in it.
- Re-scale the collider box to match your object (you can also choose another collider).
- Place the objects "LJoint" "RJoint" on the back sides where your module will be snapping with other objects.

You also have a few options on the "Module" component of your prefab

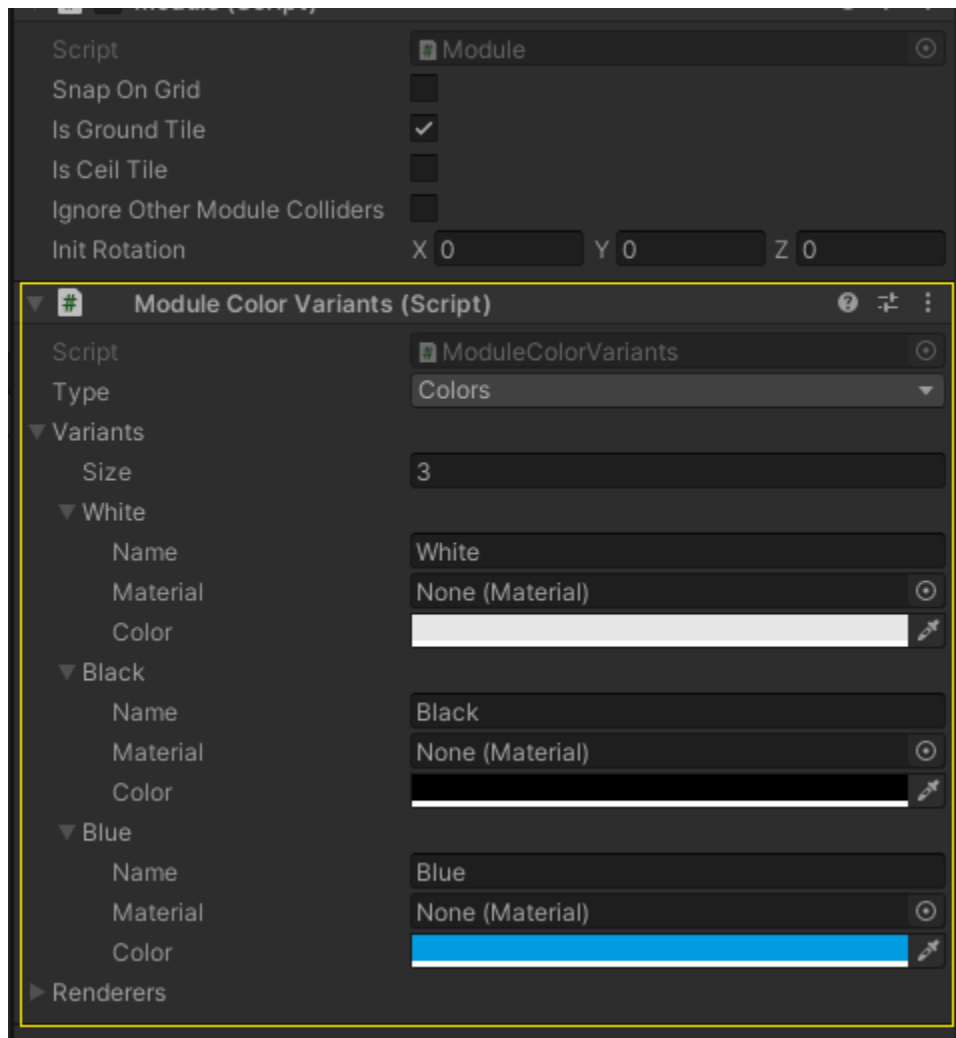
- The option "Is Ground Tile" has to be checked for all objects having to be on the floor.
- The option "Snap On Grid" has to be checked if you are making a grid based level editor, the modules will be snapping to the grid cells.

HOW TO ADD COLOR/MATERIAL OPTIONS ON MODULES

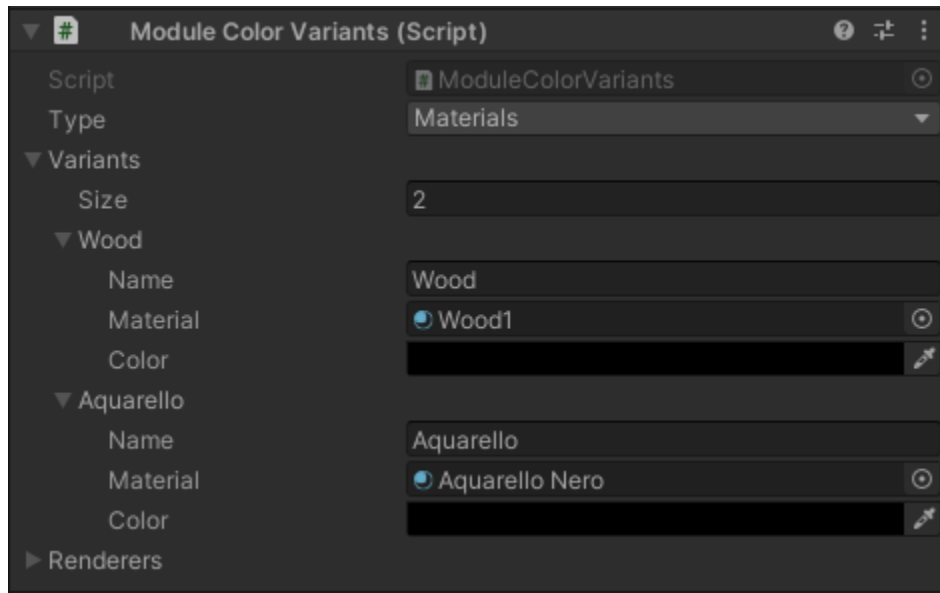
Select one of your module prefabs and add a “Module Color Variants” component below the Module component.

You can choose between color variants or material variants.

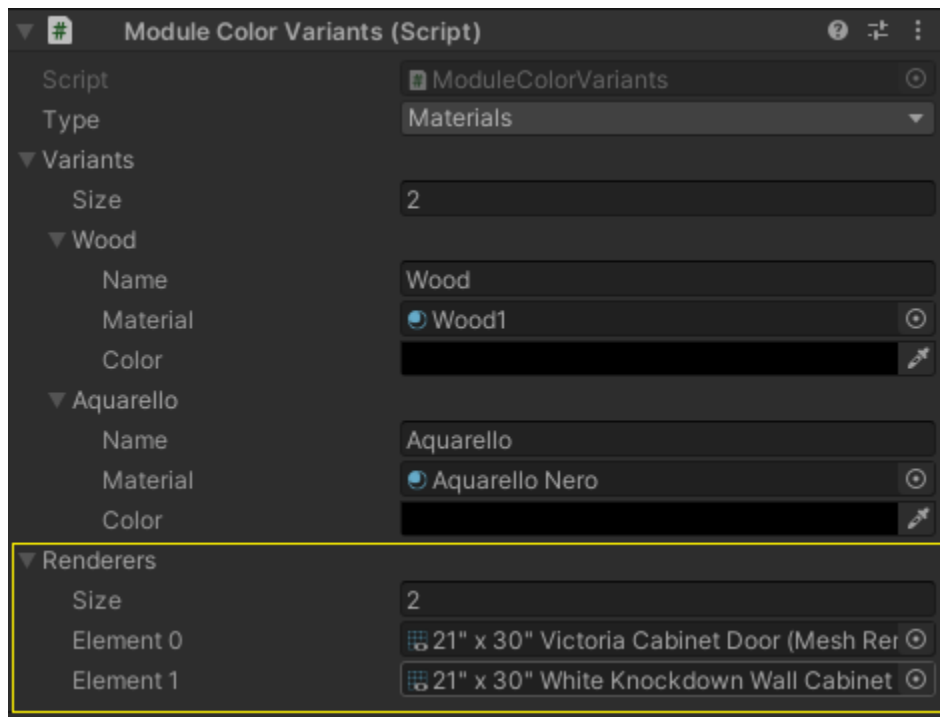
If you select the type “Colors” then in the “variants” section you will have to add all the colors you want like so :



If you select the type “Materials”, you will have to pass materials references like so :



In both cases you will have to specify which renderers inside your module have to receive the variants:



Please check these 2 prefabs in the sample folders if you need examples :

“15inch_3-Drawer_White_Knockdown_Base_Cabinet” and

“21inch_x_30inch_White_Knockdown_Wall”

HOW TO MAKE YOUR OWN ROOM

Two rooms are included as examples, a square room and a L shaped room.

You can now add your own rooms easily by defining a json file inside EmbeddedFloorMaps/. Please check the two sample files to see how it works, it's basically a set of points and parameters. If you want an easy editor to create these floor map files, please check the other plugin called "Floor Map Designer" that is part of the Home Designer Suite.

Finally, you need to create a thumbnail for your rooms inside EmbeddedThumbnails/ having the name : "Floormap_[Your Room Name]_persp.jpg". It will be loaded automatically.

ROADMAP

- Integrate with the New Input System from Unity
- Full Mobile Touch inputs. For now only the camera controls are mobile compatible
- At+Explorer integration
- Online Saving mode
- Prevent assets overlap

TROUBLESHOOTING

I have errors while loading/saving

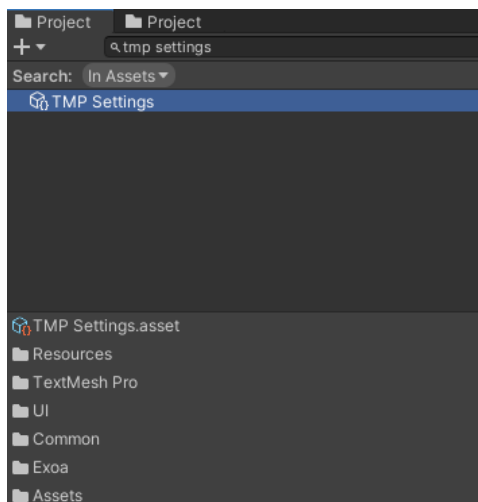
The project includes a special version of the Newtonsoft.Json library modified to be working with IL2CPP on any platform. If your project already includes Newtonsoft.Json, you should consider keeping the one included here to avoid loading/saving errors on il2cpp builds.

The thumbnail generator is not working properly with HDRP

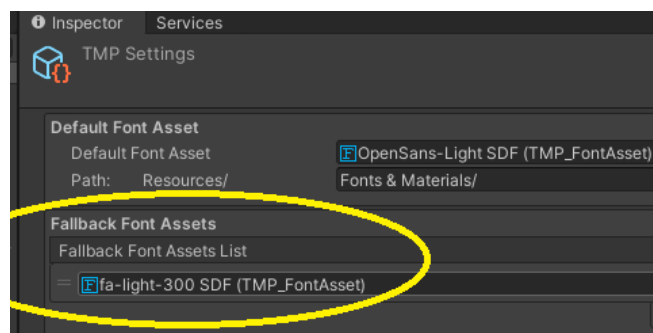
It's a none issue, I don't have any fix for now, so if you need to generate your thumbnails, you will have to switch to built-in RP, or create your thumbnails manually.

Icons are not rendering in the UI

You should have only one "TMP Settings" file (the one included in the plugin) if you have other ones, remove them :



On it, there is a fallback setting which is responsible for rendering all the icon unicode characters. Make sure the font awesome font is set like so :



OTHER PLUGINS

- [Home Designer](#)
- [Floor Map Designer](#)
- [Level Designer](#)
- [Touch Camera Pro](#)
- [Assets Manager Pro](#)
- [Packages Manager Free](#)
- [Tutorial Engine](#)

SUPPORT

Please post your questions and issues on the new forum : <https://support.exoa.fr/>

You can still contact me for anything else at contact@exoa.fr, but keep your technical questions and issues on the forum please! There is a chance that your email falls into my spam box so you have a better chance to get an answer through the forum!