

# House Builder

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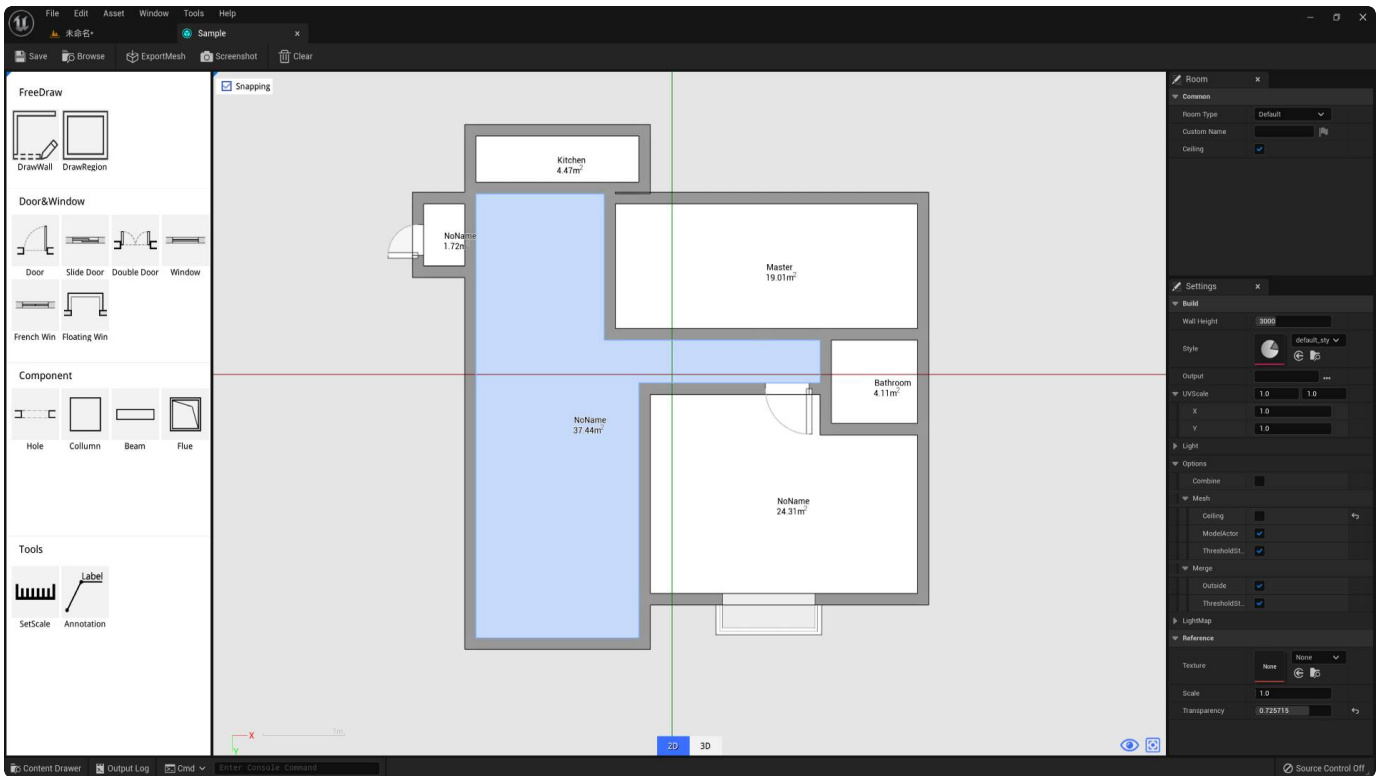
# House Builder

Unreal Engine Code Plugin

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## Description

House Builder is a home improvement design tool. It contains many basic primitives, through simple operations, you can quickly and easily draw a floor plan and generate building meshes by configuration.



## Introduction

### Features:

- Draw the walls from a line or a rectangle and automatically generate rooms.
- Draw a floor plan from a reference drawing.
- Contains various parametric primitives such as doors, windows, beams, columns, text etc.
- Configurable decoration styles.
- Generate or export static meshes on demand.
- Interactive single door, sliding door.

### Code Modules:

- KSHouseBuilder
- KSHouseBuilderEditor

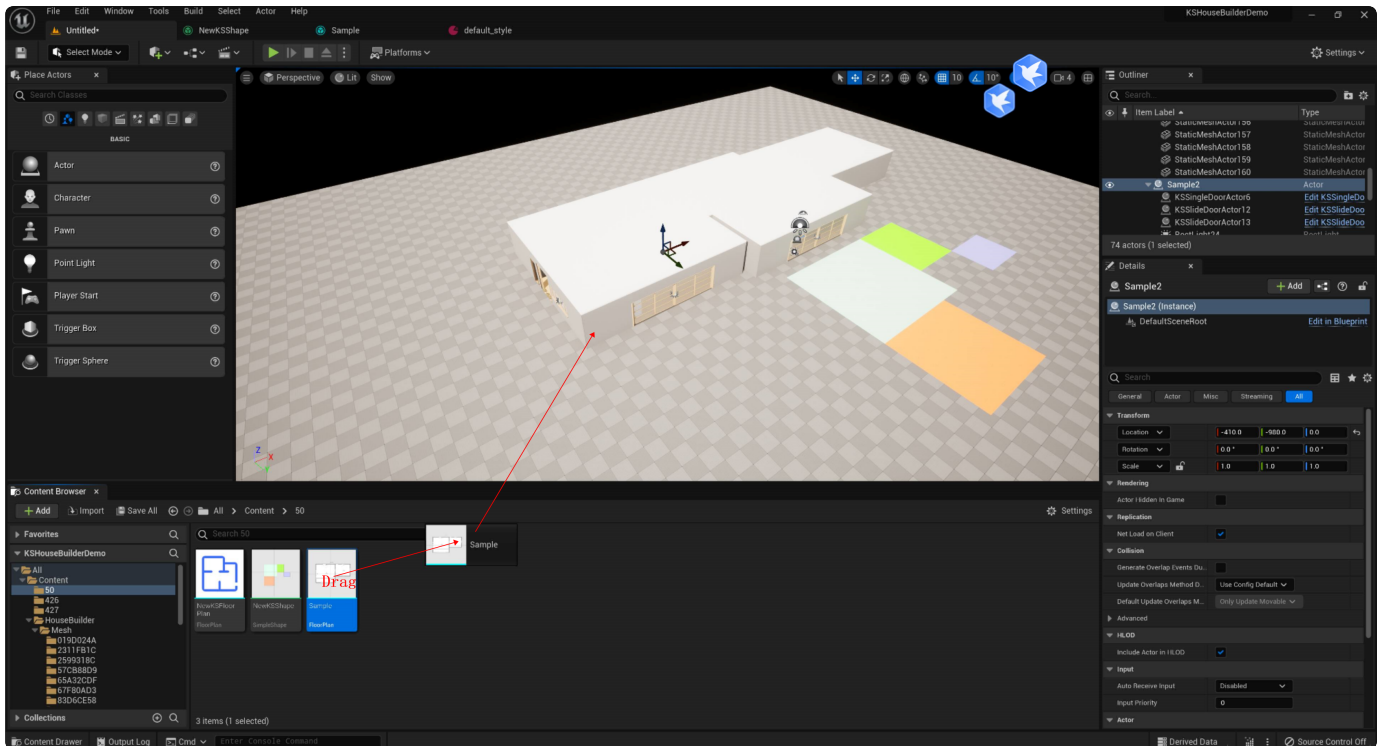
Documentation: [Document](#)

Example Project: [Example](#)

Important/Additional Notes:

Unit: millimeter

You can drag the floorplan asset to viewport directly,It can build the mesh automatically.

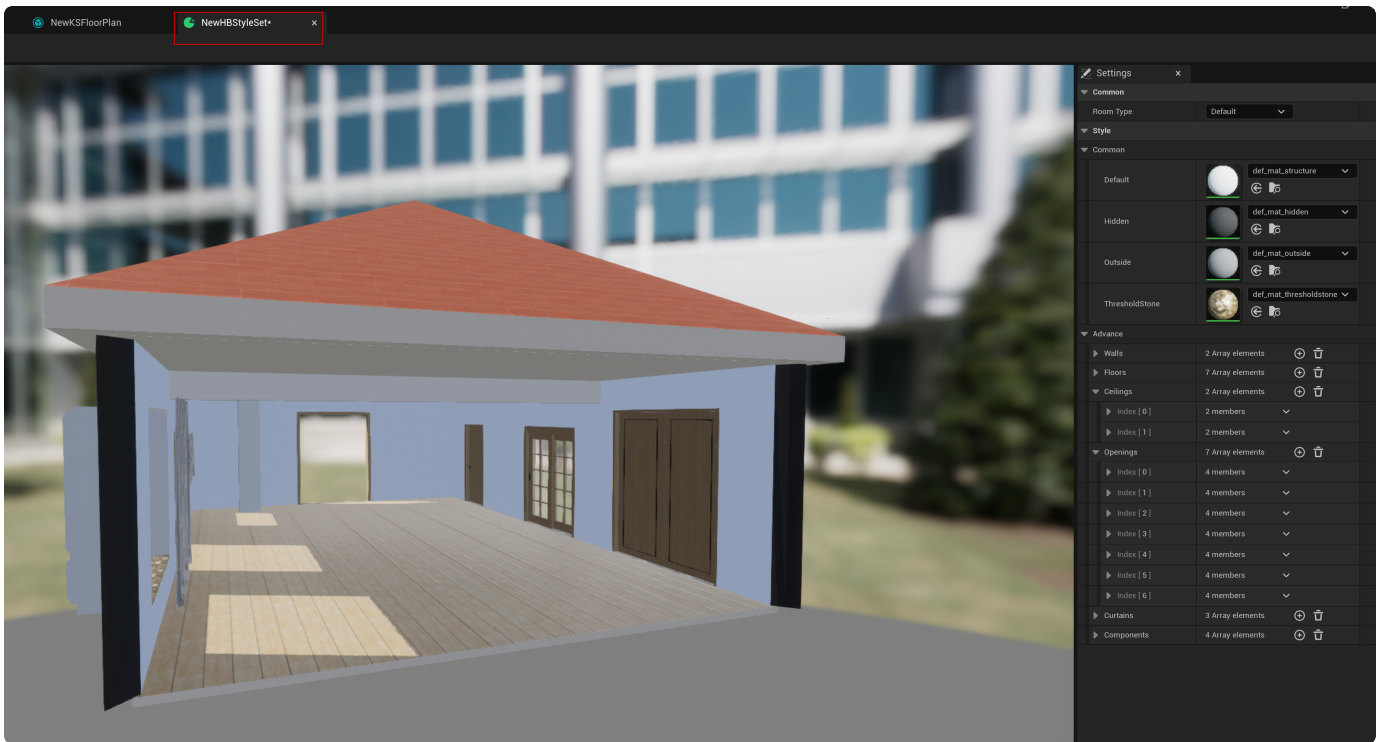


## Update

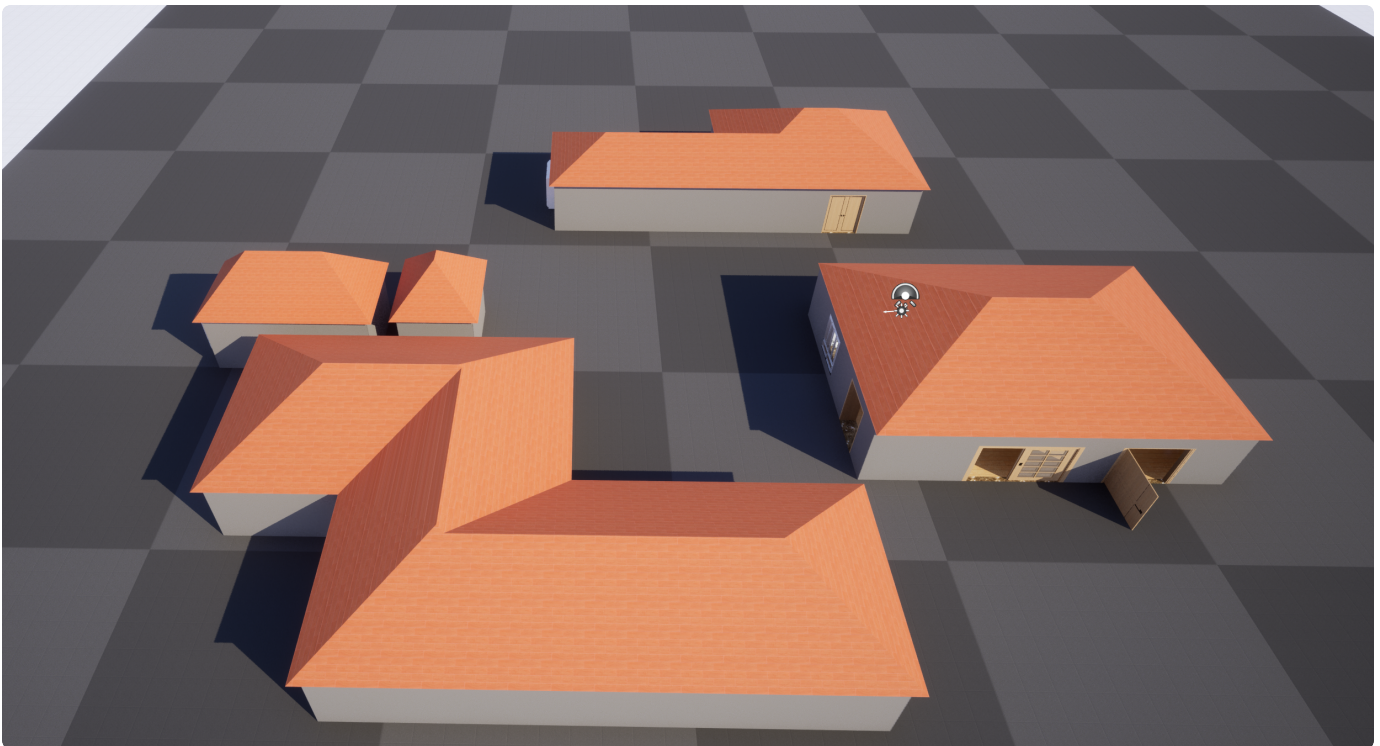
### Version 1.1

New important features:

1. The wall can be dragged and moved.
2. Visualized house decoration style setting.



3. Intelligently generate the roof.



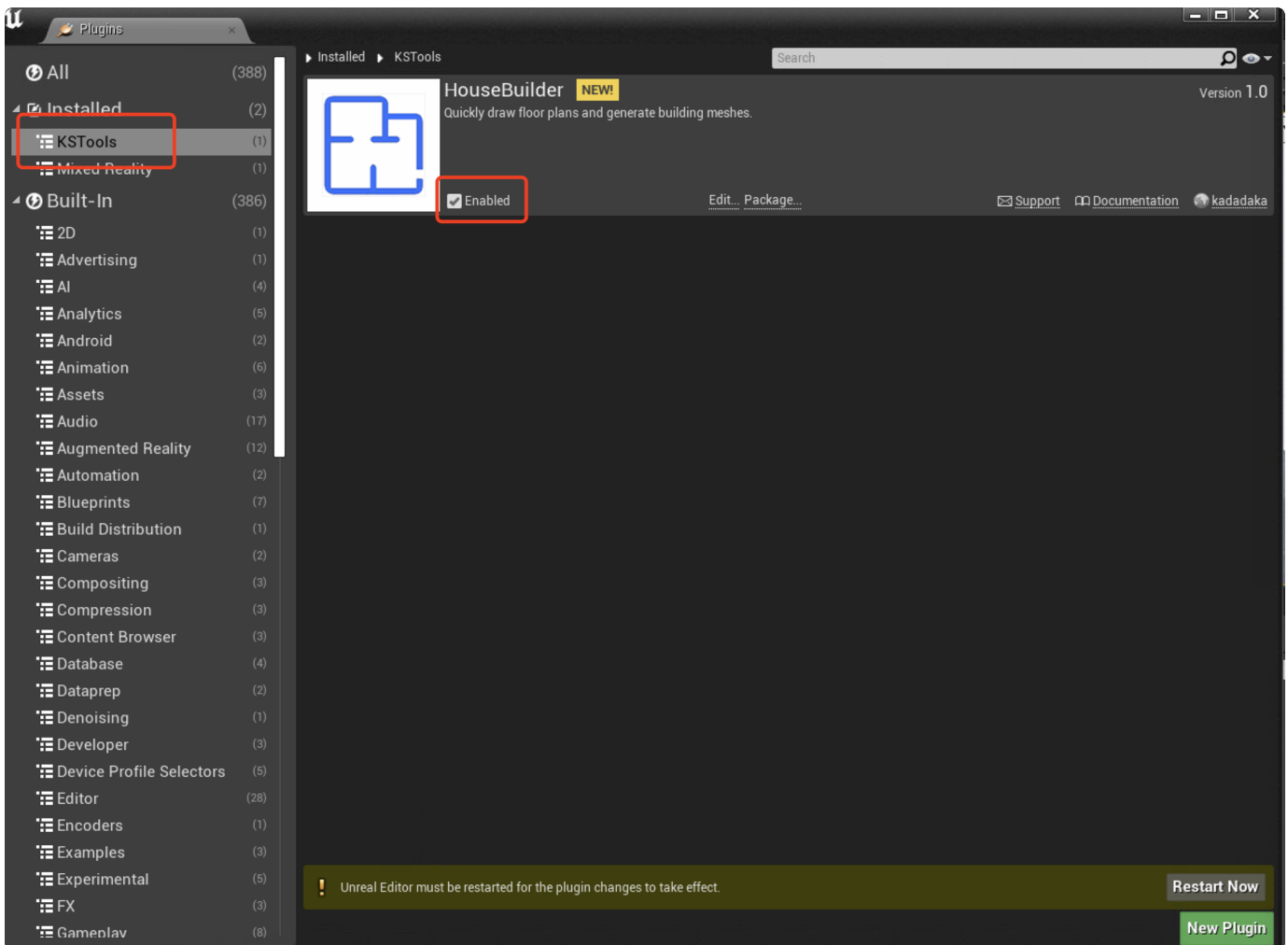
Bug fixes and optimizations

1. Re-open the UE editor, the error that the mesh cannot be generated by dragging.
2. Some bugs that caused the editor to crash.

3. The automatic fill light setting is invalid error.
4. The error that the beam cannot be saved.
5. When the global wall height is changed, the beam position and column height are not updated.
6. Automatically close UE's default drag object grid alignment function.
7. Model light leakage, position, size adjustment.
8. In some cases, the corner cannot be moved.
9. Some interface display optimizations.
10. Other bug fixes.

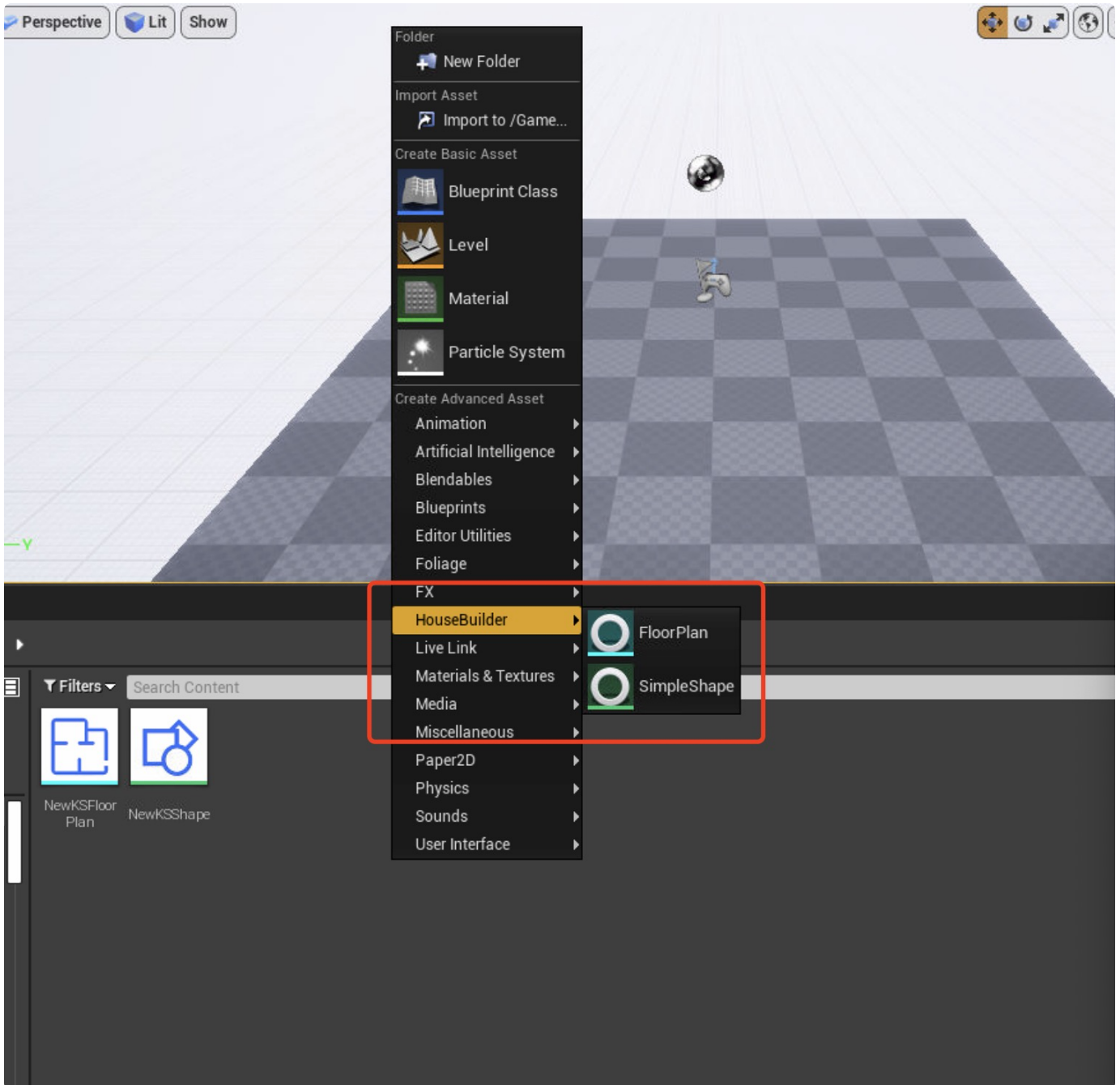
## Start

### Enable plugin



### Create assets

You can create floor plan or simple shape assets through the right-click menu.



## Operate

### Mouse

Left Button

- Primitive selection.
- Click to draw wall,window,door...etc.

## Right Button

- Cancel command.
- Hold down and drag to pan the canvas.

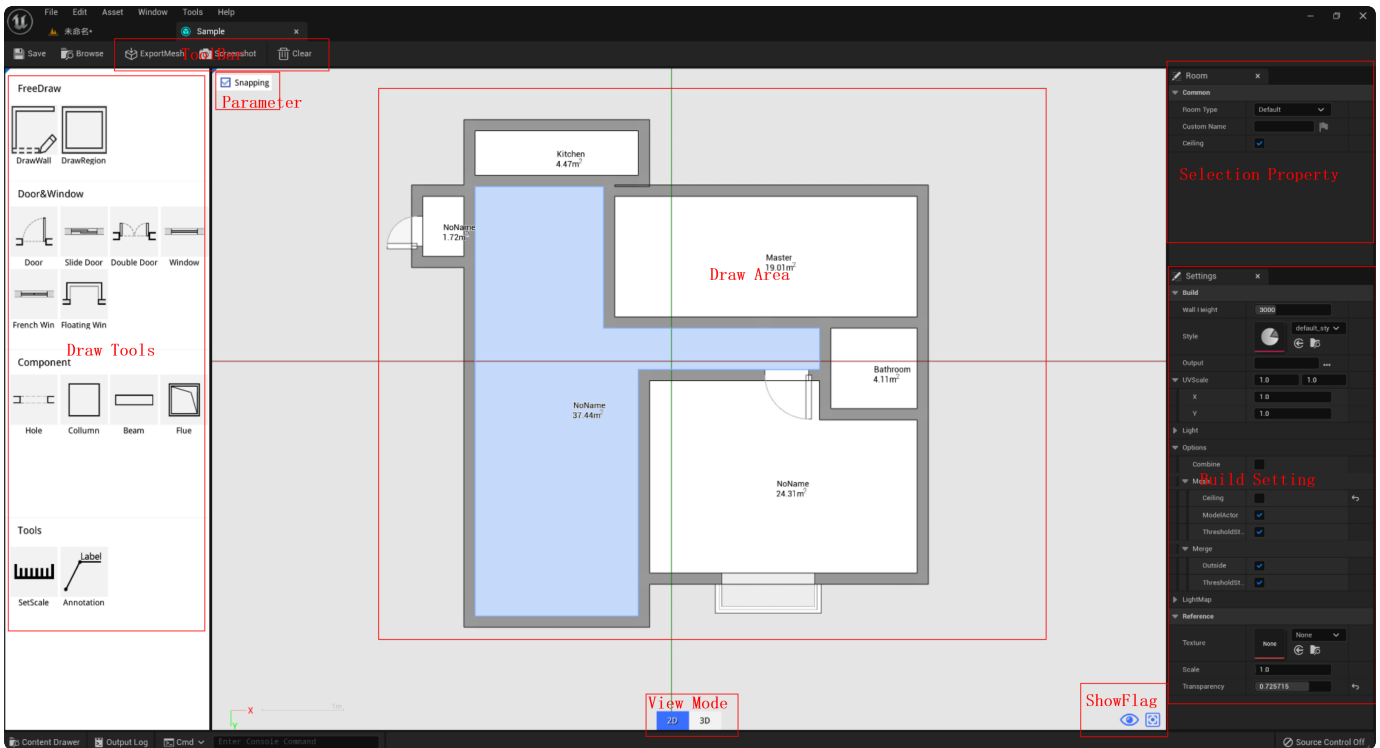
## Keyboard

- When drawing walls, you can hold down Ctrl to toggle orthographic drawing mode.
- 

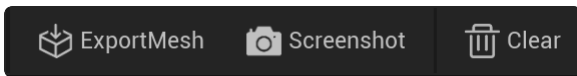
## Floor Plan










## 1.Toolbar



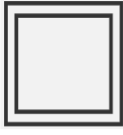
Icon	Name	Description
	ExportMesh	Export static mesh of the floor plan.
	ScreenShot	Take a screenshot of the viewport.
	Clear	Clear floor plan. <b>Note:Can't recover once clear.</b>

## 2.Draw Tools

## FreeDraw



DrawWall



DrawRegion

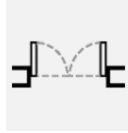
## Door&Window



Door



Slide Door



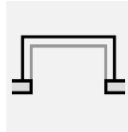
Double Door



Window

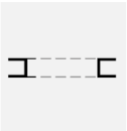


French Win

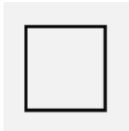


Floating Win

## Component



Hole



Collumn



Beam



Flue

## Tools





SetScale



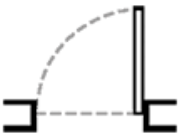




Annotation

## FreeDraw

Draw walls by segment or rectangle.

Icon	Parameter	Property								
 DrawWall	WallThickness <input type="text" value="240"/> mm <input checked="" type="checkbox"/> Snapping <input checked="" type="checkbox"/> Orthogonal  <b>Snapping:</b> Snap to the nearest corner or wall.  <b>Orthogonal:</b> Draw wall horizontally or vertically.	<div data-bbox="967 180 1474 428"> <p>▼ Common</p> <table border="1"> <tr> <td>Type</td> <td>Normal ▾</td> </tr> <tr> <td>Length</td> <td>13346</td> </tr> <tr> <td>Thickness</td> <td>240</td> </tr> <tr> <td>Height</td> <td>3000</td> </tr> </table> </div> <b>Type:</b> <b>Normal:</b> Normal wall. <b>Main:</b> Load bearing wall. <b>Low:</b> Low wall,custom set height,but lower than global wall height. <b>Proxy:</b> Hide the wall mesh.	Type	Normal ▾	Length	13346	Thickness	240	Height	3000
Type	Normal ▾									
Length	13346									
Thickness	240									
Height	3000									
 DrawRegion	WallThickness <input type="text" value="240"/> mm									

## Door&Window

Icon	Default Mesh	Property														
 Door		<div data-bbox="816 1094 1466 1629"> <p>▼ Options</p> <table border="1"> <tr> <td>Curtain</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Light</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>MeshActor</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Threshold Stone</td> <td><input type="checkbox"/></td> </tr> </table> <p>▼ Common</p> <table border="1"> <tr> <td>Width</td> <td><input type="text" value="1990"/></td> </tr> <tr> <td>Height</td> <td><input type="text" value="2000"/></td> </tr> <tr> <td>To Floor</td> <td><input type="text" value="450"/></td> </tr> </table> </div> <b>Curtain:</b> Generate curtain. <b>Light:</b> Generate rect light to help light the room. <b>MeshActor:</b> Generate the mesh actor. <b>To Floor:</b> Distance to floor.	Curtain	<input type="checkbox"/>	Light	<input checked="" type="checkbox"/>	MeshActor	<input checked="" type="checkbox"/>	Threshold Stone	<input type="checkbox"/>	Width	<input type="text" value="1990"/>	Height	<input type="text" value="2000"/>	To Floor	<input type="text" value="450"/>
Curtain	<input type="checkbox"/>															
Light	<input checked="" type="checkbox"/>															
MeshActor	<input checked="" type="checkbox"/>															
Threshold Stone	<input type="checkbox"/>															
Width	<input type="text" value="1990"/>															
Height	<input type="text" value="2000"/>															
To Floor	<input type="text" value="450"/>															
 Slide Door																
																



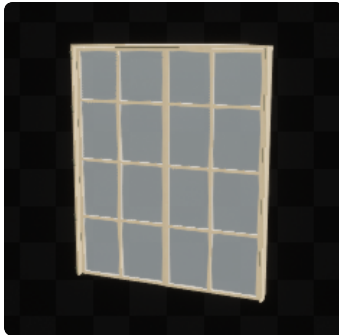
Double Door



Window







French Window




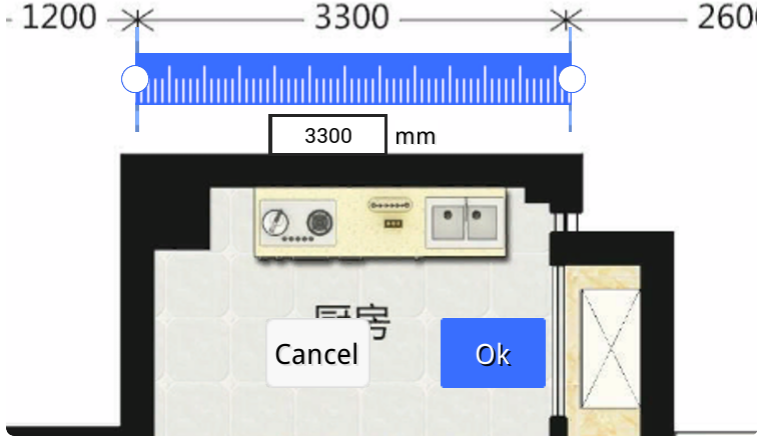

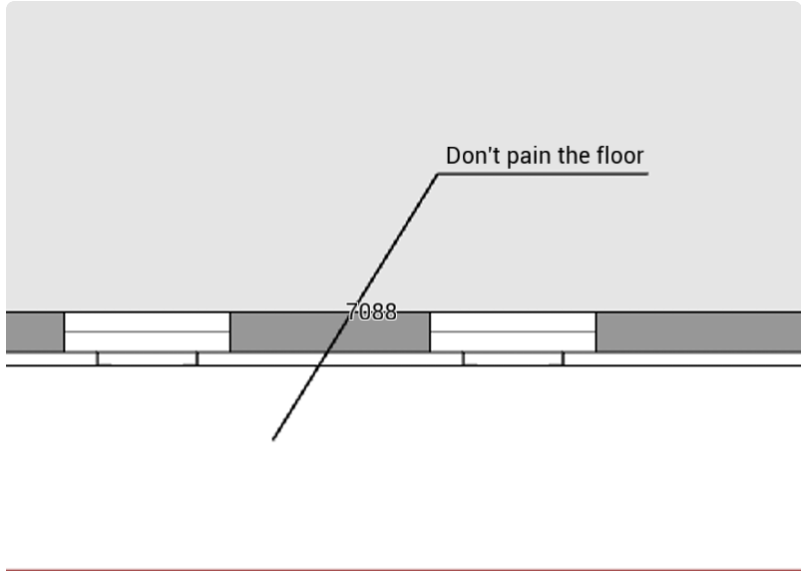
Floating  
Window



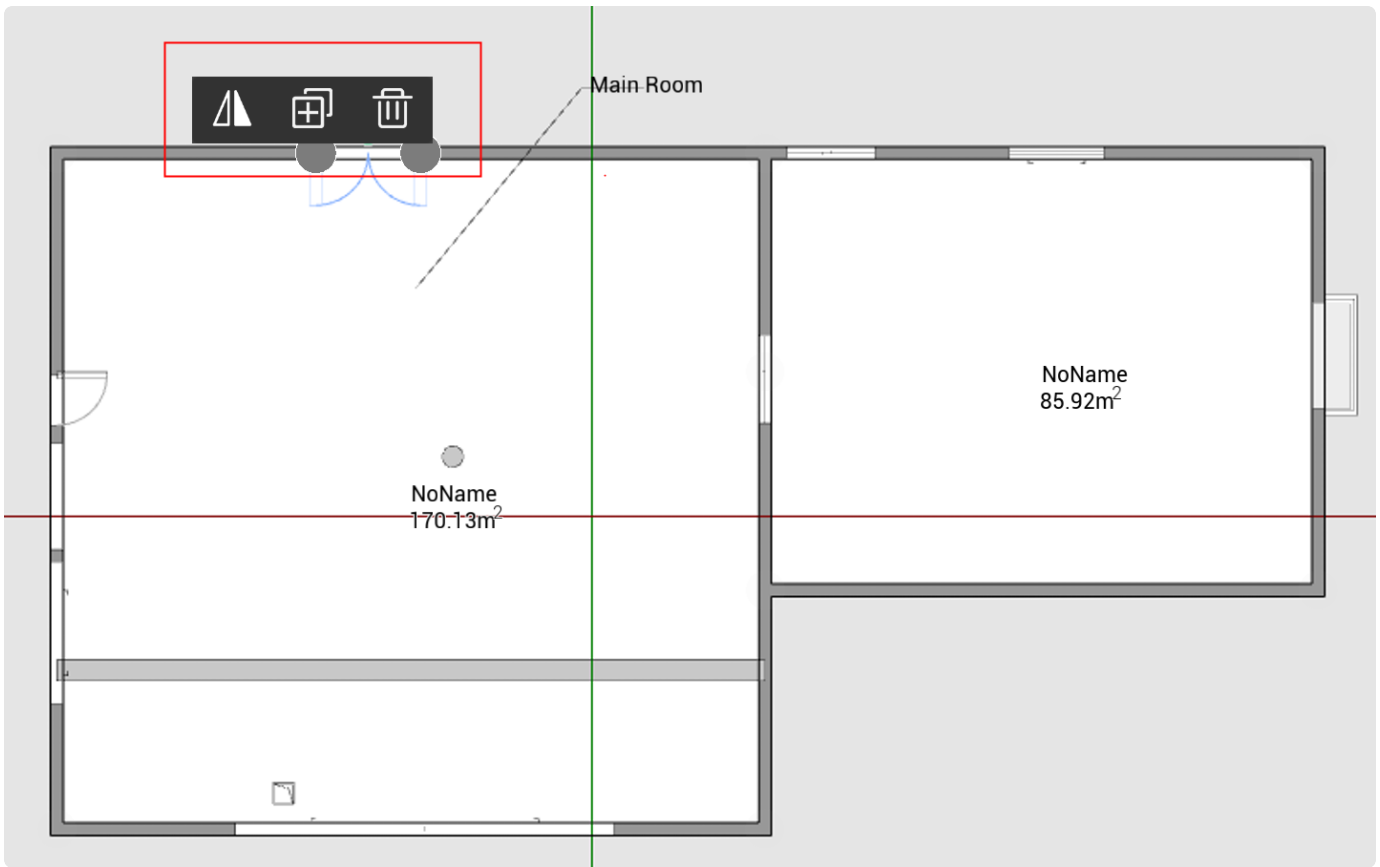
## Component





Icon	Property
 <p data-bbox="224 422 285 453">Hole</p>	<div data-bbox="402 180 920 516"> <p>▼ Common</p> <p>Width: 2000</p> <p>Height: 2480</p> <p>To Floor: 0</p> <p>▼ Options</p> <p>MeshActor: <input checked="" type="checkbox"/></p> <p>Threshold Stone: <input checked="" type="checkbox"/></p> </div>
 <p data-bbox="201 947 308 978">Column</p>	<div data-bbox="402 548 920 900"> <p>▼ Common</p> <p>Type: Polygon</p> <p>Segment: 4</p> <p>Radius: 200</p> <p>Length: 400</p> <p>Width: 400</p> <p>Rotate: 0</p> </div> <p data-bbox="402 947 797 1115">Type:</p> <p data-bbox="459 1014 797 1052">Polygon: Polygonal pillar.</p> <p data-bbox="459 1079 797 1117">Circular: Circle or ellipse.</p>
 <p data-bbox="215 1392 293 1423">Beam</p>	<div data-bbox="402 1146 920 1383"> <p>▼ Common</p> <p>Length: 13346</p> <p>Width: 400</p> <p>Height: 400</p> <p>Rotate: 0</p> </div>
 <p data-bbox="224 1703 285 1734">Flue</p>	<div data-bbox="402 1472 920 1673"> <p>▼ Common</p> <p>Length: 400</p> <p>Width: 400</p> <p>Rotate: 0</p> </div>

Tools

Icon	Description
 <p data-bbox="181 426 310 457">SetScale</p>	 <p data-bbox="381 724 820 756">Set scale of the reference image.</p>
 <p data-bbox="170 1035 321 1066">Annotation</p>	 <p data-bbox="722 1417 803 1444">Master</p>

### 3.Selection Menu

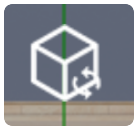
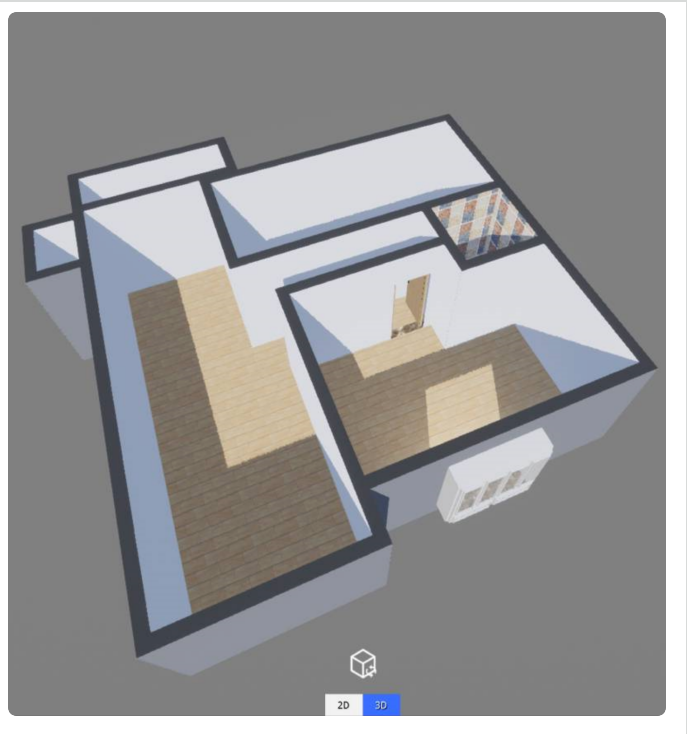
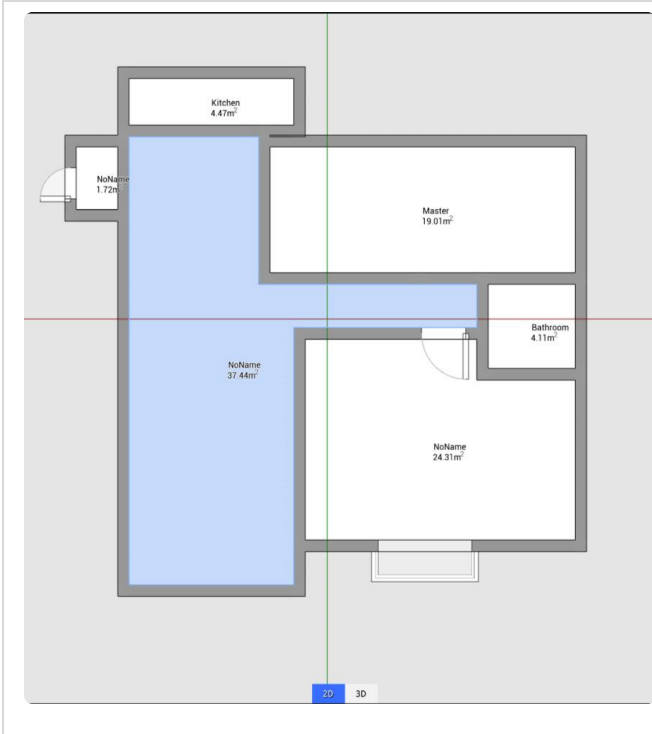


Icon	Description
	Flip the direction.
Flip	
	Copy the select shape, and start draw the shape.
Copy	
	Delete the select shape.
Delete	
	Split the select wall to two walls.
Split	

## 4.View Mode

2D:Draw floor plan.

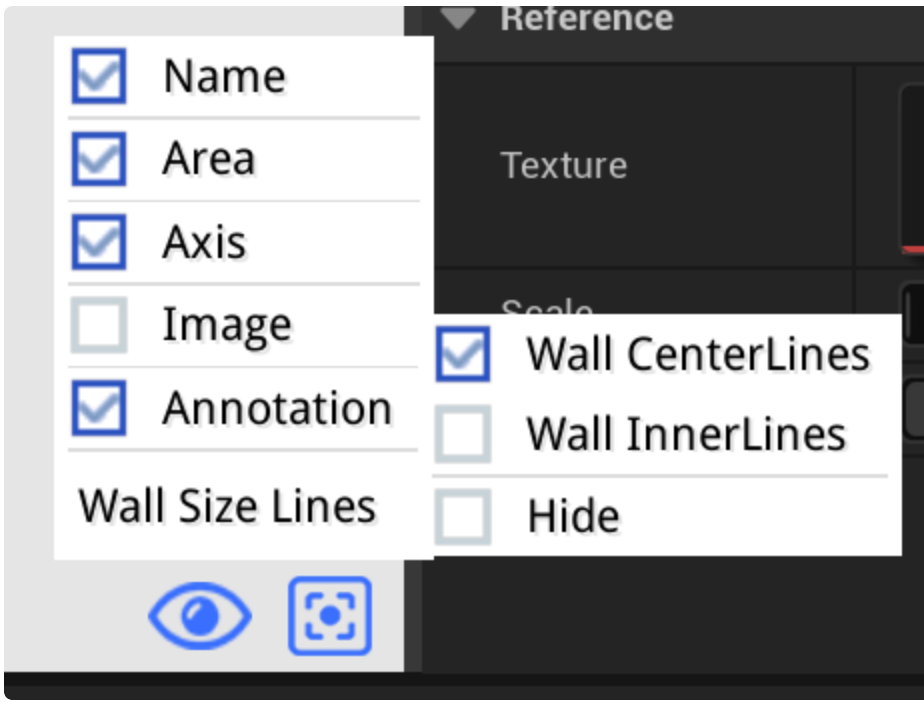
3D:Build and view the mesh.



Rebuild the mesh.

## 5.Show Flag





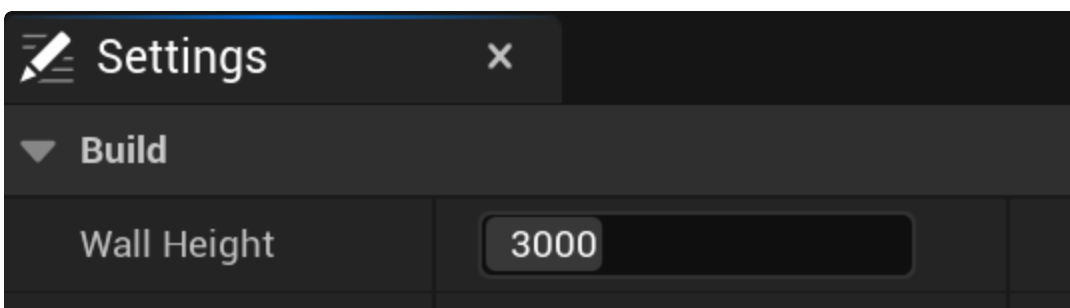
Focus the view to the center.




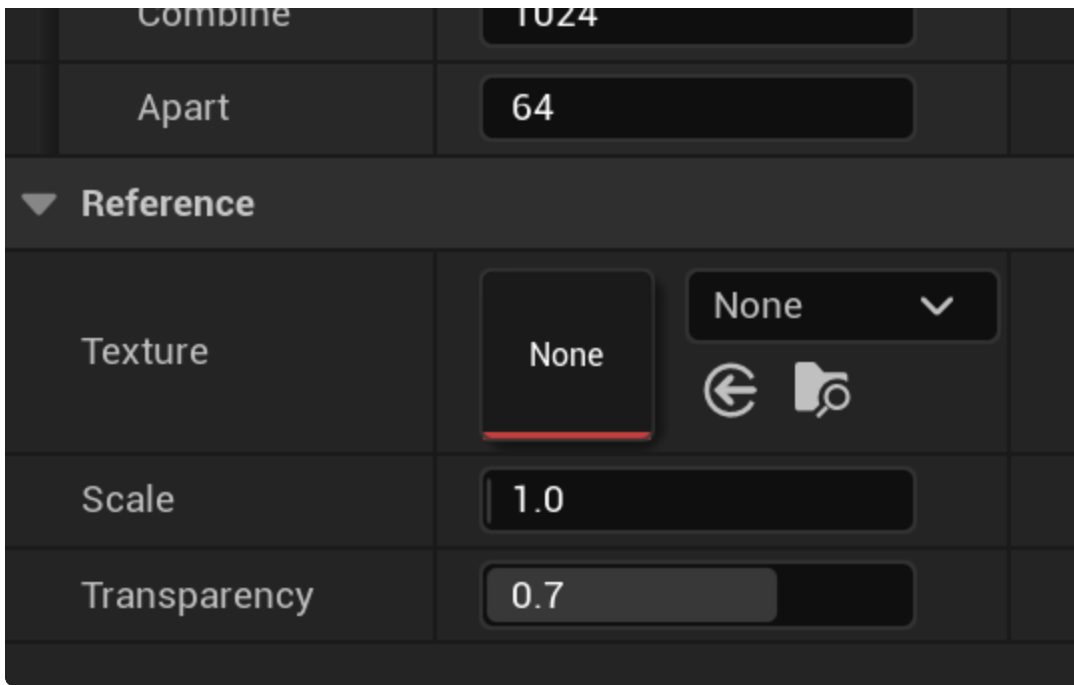
Show or hide.

Name	Room name.
Roof	Roof.
Area	Room area.
Axis	Axis lines.
Image	Reference image.
Annotation	Annotation lable.
Wall Size Lines	Wall size infos.

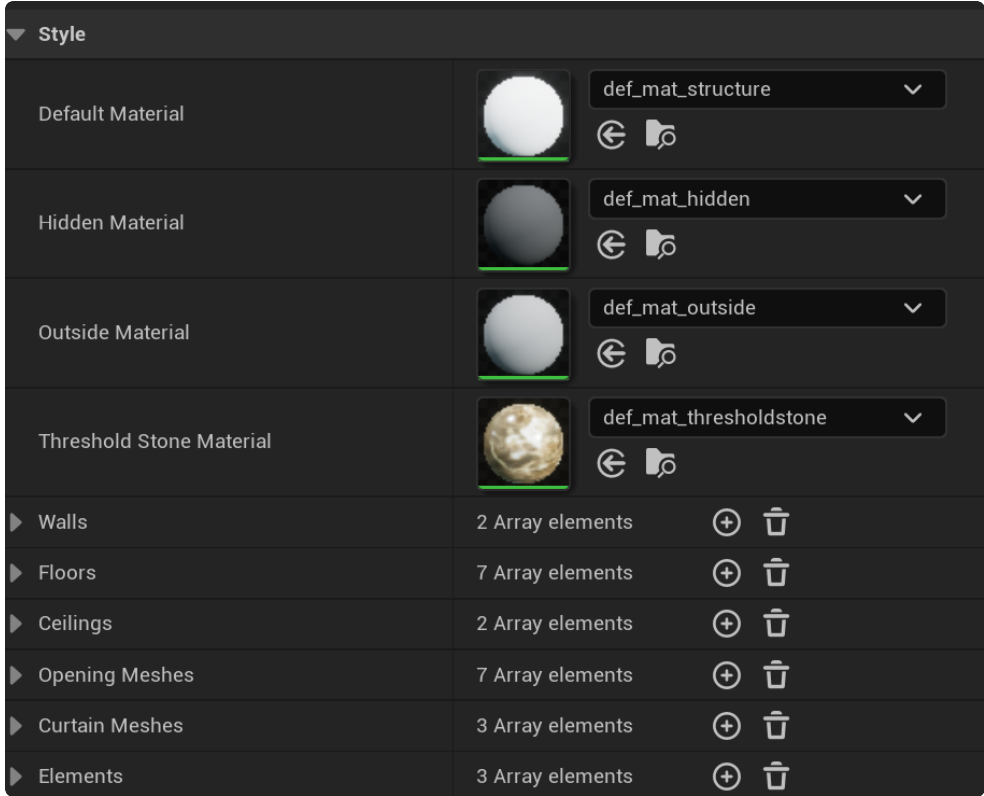
## 6.Build Setting



Style		default_sty ▾
Output	<input type="text"/>	...
▼ UVScale	<input type="text" value="1.0"/>	<input type="text" value="1.0"/>
X	<input type="text" value="1.0"/>	
Y	<input type="text" value="1.0"/>	
▼ Light		
Auto Fill Light	<input checked="" type="checkbox"/>	
Light Intensity	<input type="text" value="4.0"/>	
Light Offset	<input type="text" value="0.0"/>	
▼ Options		
Combine	<input type="checkbox"/>	
▼ Mesh		
Ceiling	<input checked="" type="checkbox"/>	
ModelActor	<input checked="" type="checkbox"/>	
ThresholdSt...	<input checked="" type="checkbox"/>	
▼ Merge		
Outside	<input checked="" type="checkbox"/>	
ThresholdSt...	<input checked="" type="checkbox"/>	
▼ LightMap		
Combine	<input type="text" value="1004"/>	



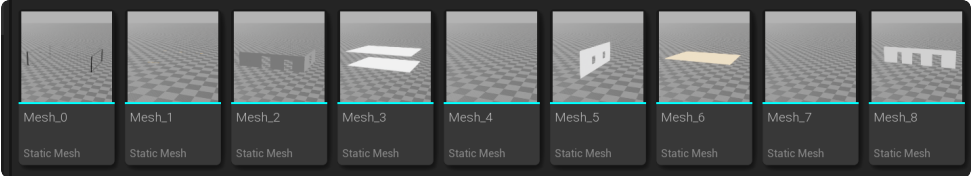

Build

Name	Description
Wall Height	Global Wall Height
Style	 <p>Decoration style,you can edit it or create new style by demand.</p>
Output	Generated static mesh dictionary.

## Light

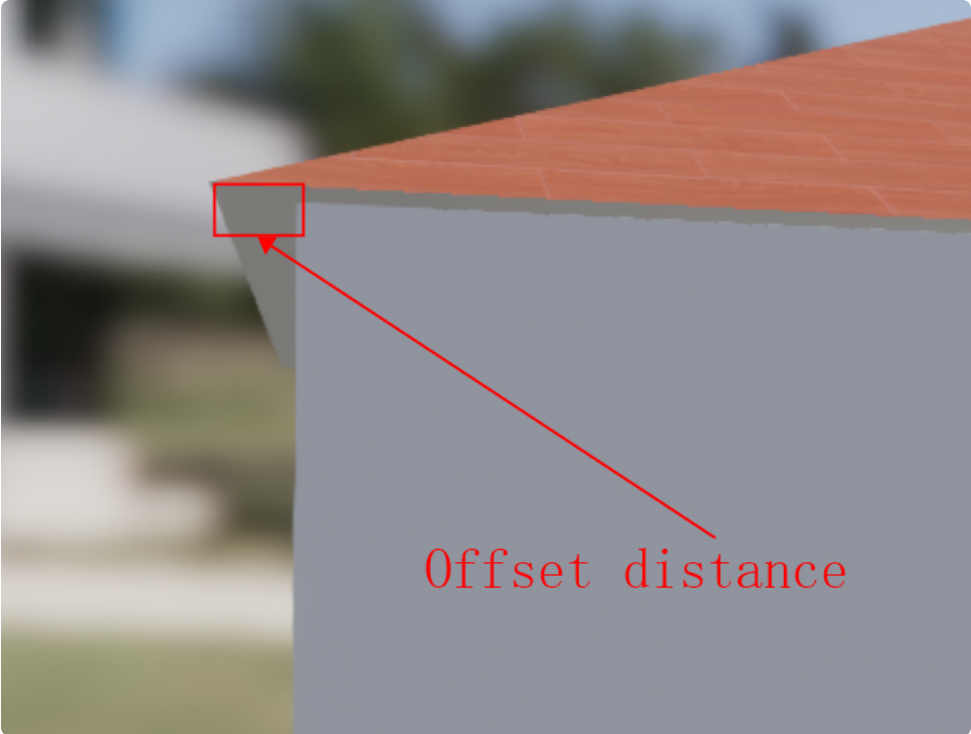
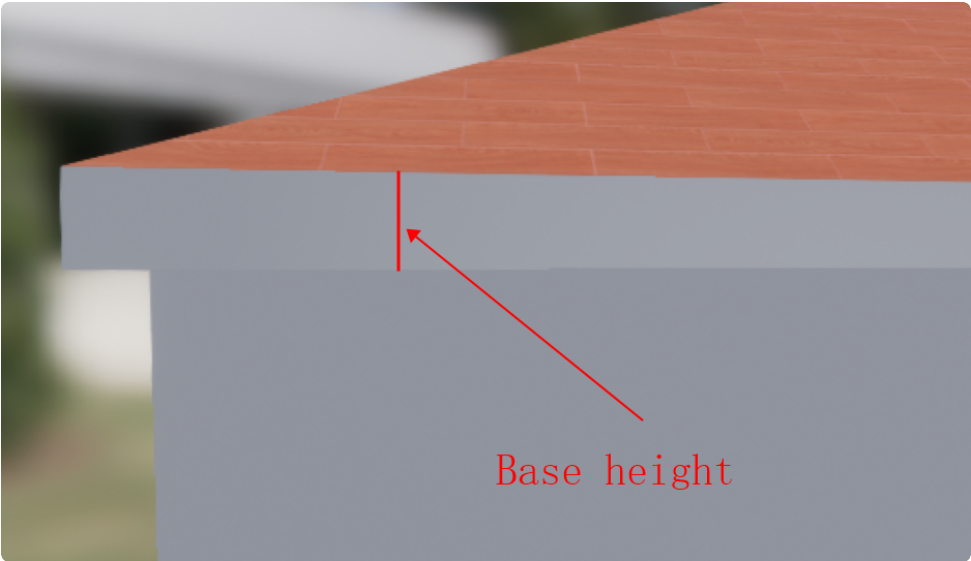
Name	Description
Auto Fill Light	Generate the rect light in window to help light the room.
Light Intensity	Rect Light Intensity
Light Offset	Offset distance to center of the window.

## Options

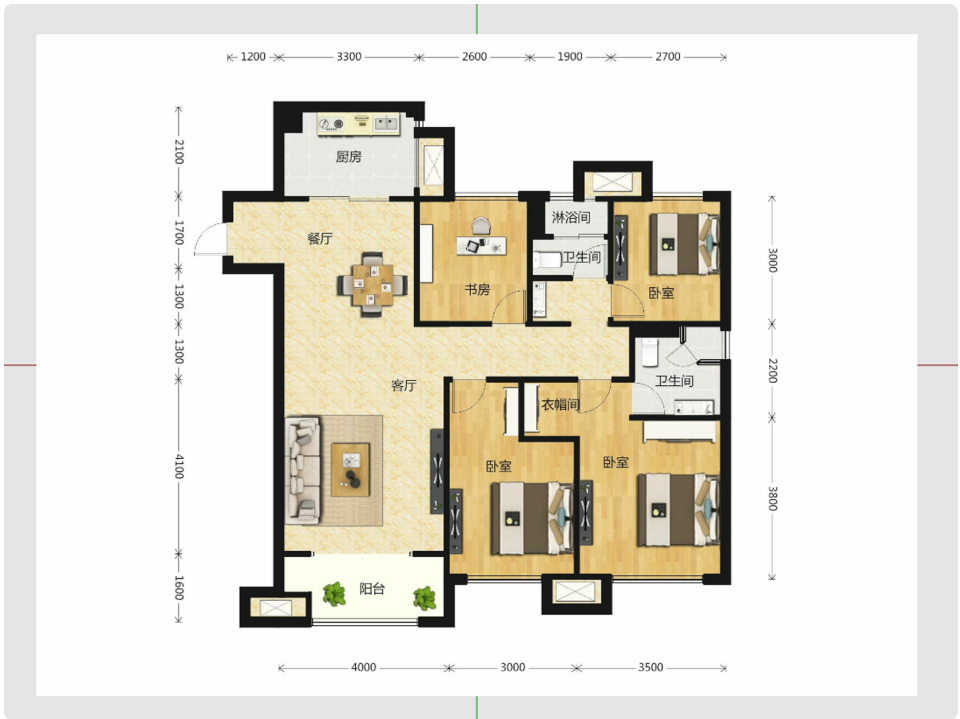

Name	Description
Combine	<p>Build a single mesh or apart.</p> <p>Apart:</p>  <p>Single:</p> 
Mesh Ceiling	Whether to build the ceiling.
Mesh ModelActor	Whether to build the model actor.Door,window etc.
Mesh ThresholdStone	Whether to build the thresholdstone.
Merge Outside	Whether to merge the outside wall.
Merge ThresholdStone	Whether to merge the thresholdstone.

## Roof

Roof	
Roof	<input checked="" type="checkbox"/>
SameHight	<input type="checkbox"/>
MaxHeight	2400
Offset	400
BaseHeight	0

Name	Description
Roof	Whether to build the roof.
SameHeight	Same height roof or determined by the system.
MaxHeight	The roof max height.
Offset	<p>The roof offset distance.</p> 
BaseHeight	<p>The roof base height.</p> 

## Reference

Name	Description
Texture	 A detailed floor plan diagram of a house. The plan includes a kitchen (厨房), dining room (餐厅), living room (客厅), study (书房), two bedrooms (卧室), two bathrooms (卫生间), a shower room (淋浴间), a wardrobe (衣帽间), and a balcony (阳台). The diagram is surrounded by dimension lines indicating measurements in millimeters. Horizontal dimensions at the top are 1200, 3300, 2600, 1900, and 2700. Horizontal dimensions at the bottom are 4000, 3000, and 3500. Vertical dimensions on the left are 2100, 1700, 1300, 1300, 4100, and 1600. Vertical dimensions on the right are 3000, 2200, and 3800.
Scale	Reference texture scale size,you can use  to measure the scale.
Transparency	Reference texture transparency.

## Simple Shape



Draw simple shapes,most like the floor plan.



