



Doctor Computer Graphic

DrCG Low Poly City 2.0

How to use Building Blueprints

Introduction

We separate a tall building into three parts. First is the Ground Floor (always with a door to enter the building). Second, is the Middle Floor (this floor is duplicated when we want to create a big building). And the last one is the top floor (we put roof and roof assets on this floor).

the below image shows the building's static meshes parts:

Building Static Meshes



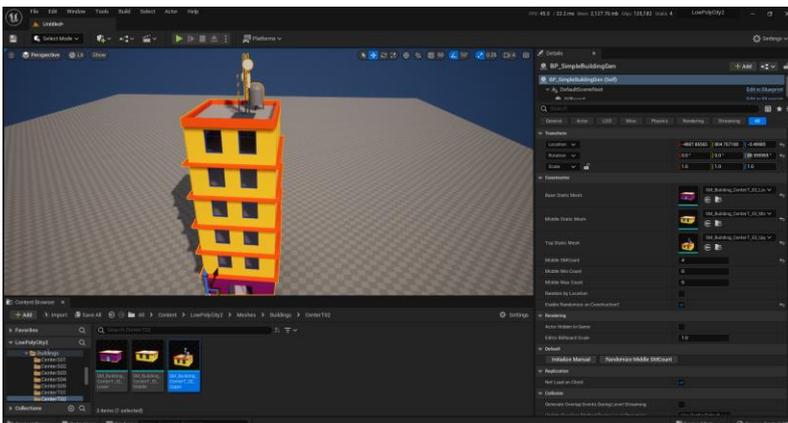
To Create Tall Building, Only Middle Floor is duplicated



To simplify the process of creating a new building, we create a building generator (BP_SimpleBuildingGen)

You can easily add a BP_SimpleBuildingGen to your level and assign static meshes to it and set the middle count and hit Initialize Building in the Detail Panel.

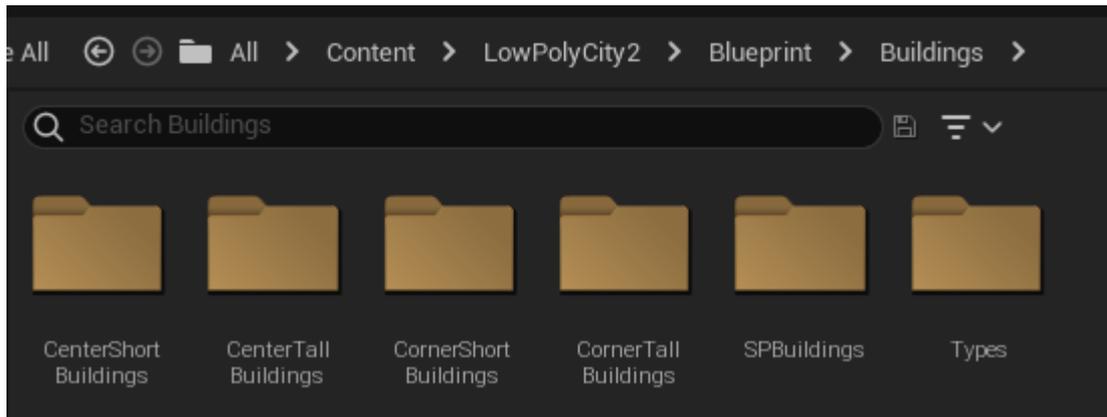
In the next picture you can see we add a SimpleBuildingGen Blueprint to the level and assign static meshes to it.



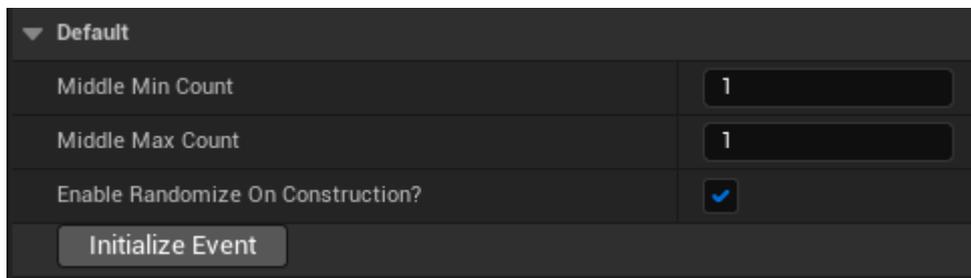
How to use Building Blueprints

We create a prefab BP for each type of buildings. You can access it from this address:

/Game/LowPolyCity2/Blueprints/Buildings



When you add these blueprints to the world you can see that Some tall building blueprints have an **Initialize Event** Button in the Detail Panel.



You can change the Middle Floor Count Range (Min and Max Middle Floor Count) and hit Initialize Event to Set a new floor count. For example, if you set min and max to 1, the final building has 3 floors. A Ground Floor, One Middle Floor, and One Top Floor.

in the below picture (in order from left to right) the min and max middle count is set from 1 to 4.



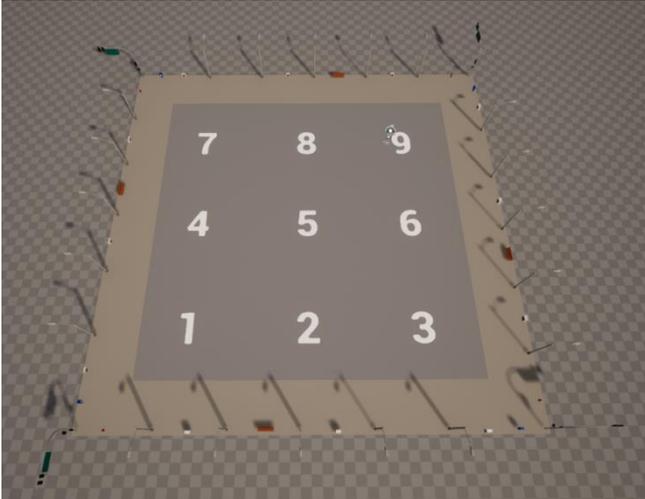
You can do this with any type of tall building prefabs. This is Another Example:

Middle SM Count is set from 0 to 5 (in order from left to right)



Block Generator

Another Important Blueprint is **Building Block Generator**:



Inner Cells:

Block Generator has 9 different Cells on the inner side, you can choose each type of building for any cell.

Street Sides:

Also, the outer side (street side), has 4 different cells.

You can choose between 4 preset of street sides.

Constructor	
Street Side Left	StreetSide1
Street Side Right	StreetSide1
Street Side UP	StreetSide1
Street Side Down	StreetSide1
Cell 1 Down Left	None
Cell 1 Mid Floor Count	2
Cell 2 Down Center	None
Cell 2 Mid Floor Count	2
Cell 3 Down Right	None
Cell 3 Mid Floor Count	2
Cell 4 Center Left	None
Cell 4 Mid Floor Count	2
Cell 5 Mid Floor Count	2
Cell 5 Center Center	None
Cell 6 Center Right	None
Cell 6 Mid Floor Count	2
Cell 7 Up Left	None
Cell 7 Mid Floor Count	2
Cell 8 Up Center	None
Cell 8 Mid Floor Count	2
Cell 9 Up Right	None
Cell 9 Mid Floor Count	2

When you add this blueprint to the world you can change the fields in the Detail Panels

Also, you can change the middle floor count for each cell
Note that if the selected cell is a tall building, it affects on floor count, otherwise ignores it

To Simplify the above process, we add some presets.

To apply presets, you can simply click on each button in the Detail Panel.

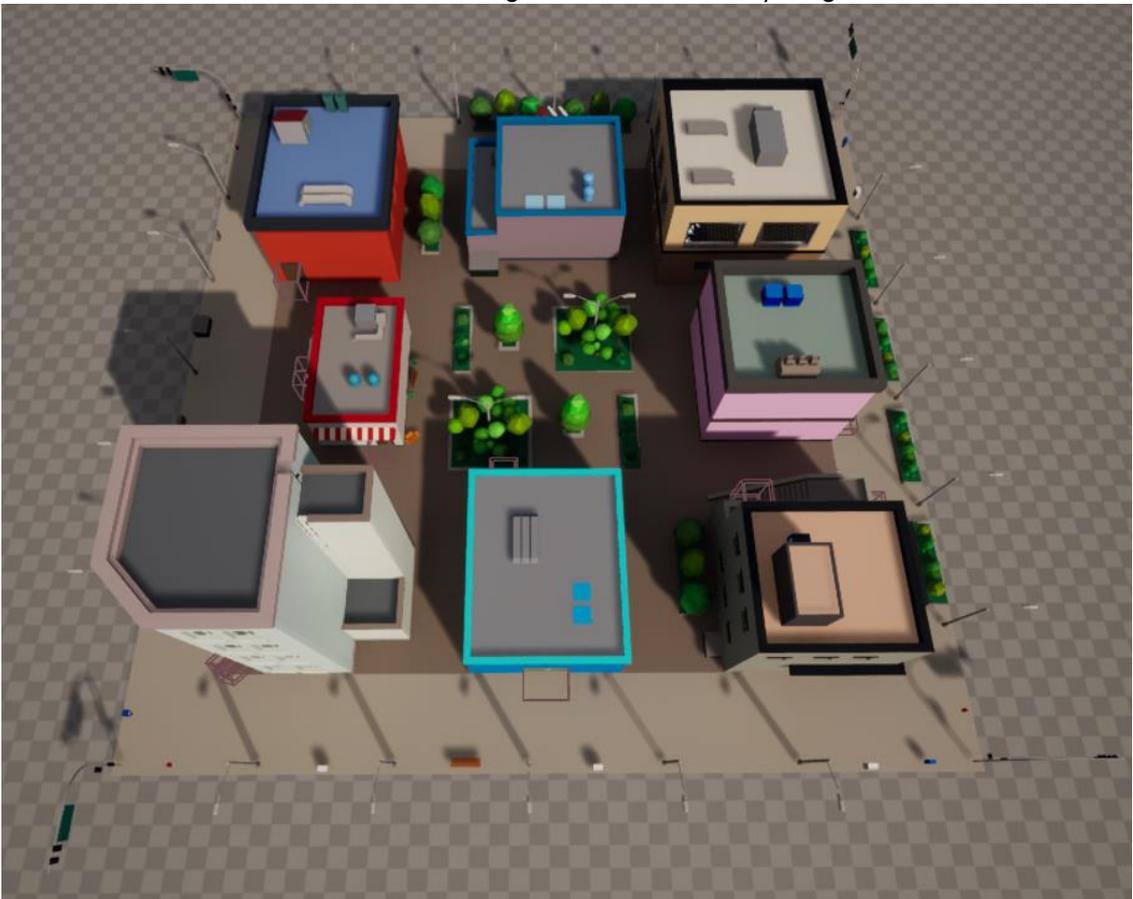


- Park
multiple preset of Park and Green Areas. It assigns a park to cell 4,5,7,8 and for the other cells (1,2,3,6,9) it spawns random building



Random Park preset Block

- Residential Buildings Short
randomize the cells from short and tall buildings and cell 5 is always a green area



Random Short Residential Building Block

- Residential Buildings Tall
randomize the cells from Tall buildings and cell 5 is always a green area
to show the center green area I intentionally set cell 2 middle floor count to 0



Random Tall Residential Building Block

- Special Building:
multiple preset of Special Buildings. It assigns a special building to cell 4,5,7,8 and for the other cells (1,2,3,6,9) it spawns random buildings. In this example, the special building is Fire Station



Random Special Building Block

- Randomize floor count
as you understand from the name apply random floor count min and max to all cells (from cells 1 to 9)
- Initialize Block

Note: If you change any item you must click on Initialize Block to apply changes

- Break the Block
After you create your Building Block, you can simply Break the Blueprints into the static meshes
To do this just simply hit the Break the Block button



In the above picture, the left item is BP_BlockGenerator and the right item is the same BP that breaks into its constituent static meshes.

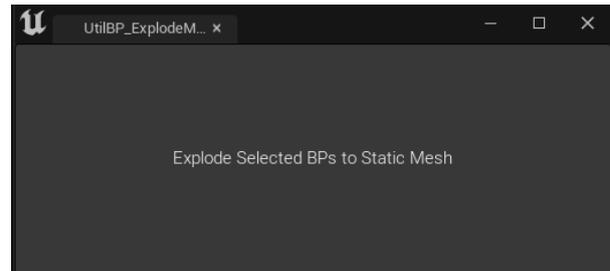
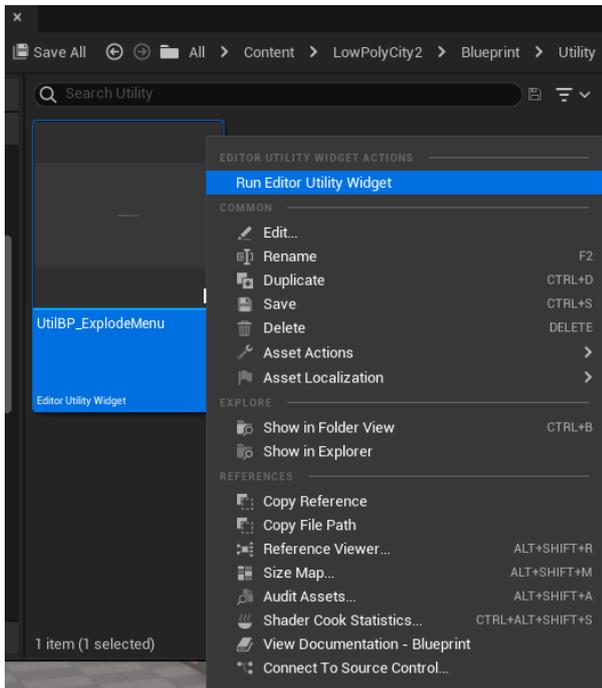
Note:

If you break a block, this process is done recursively until all item break into the static meshes. But the interactive doors and Street Lights are ignored.

Editor Utility Widget to Simplify the Break to Static Meshes

To simplify the Break Process after you created the whole city, you just need to select all Block Blueprints, then run the UtilBP_ExplodeMenu (Editor Utility Widget), and Hit Break to static mesh.

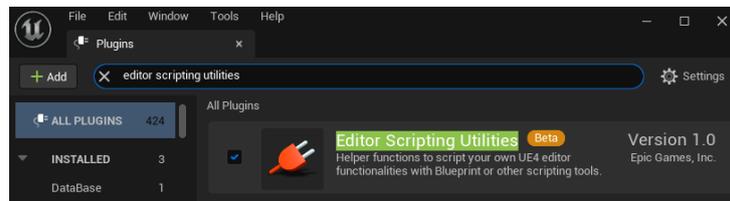
`/Game/LowPolyCity2/Blueprints/Utility/UtilBP_ExplodeMenu`



The Editor Utility Widget to break the selected Blueprints into Static Meshes

If you have any problem opening this editor utility, remember that you first have to enable the Editor Scripting Utilities Plugin.

To do this from the Edit Menu > Select Plugins, enable the plugin and restart the editor



Note:

Be Careful, to maintain safety, after you hit the Explode Selected Bps to Static Mesh, the Master Blueprint Actor remains in the world and you have to delete it manually.

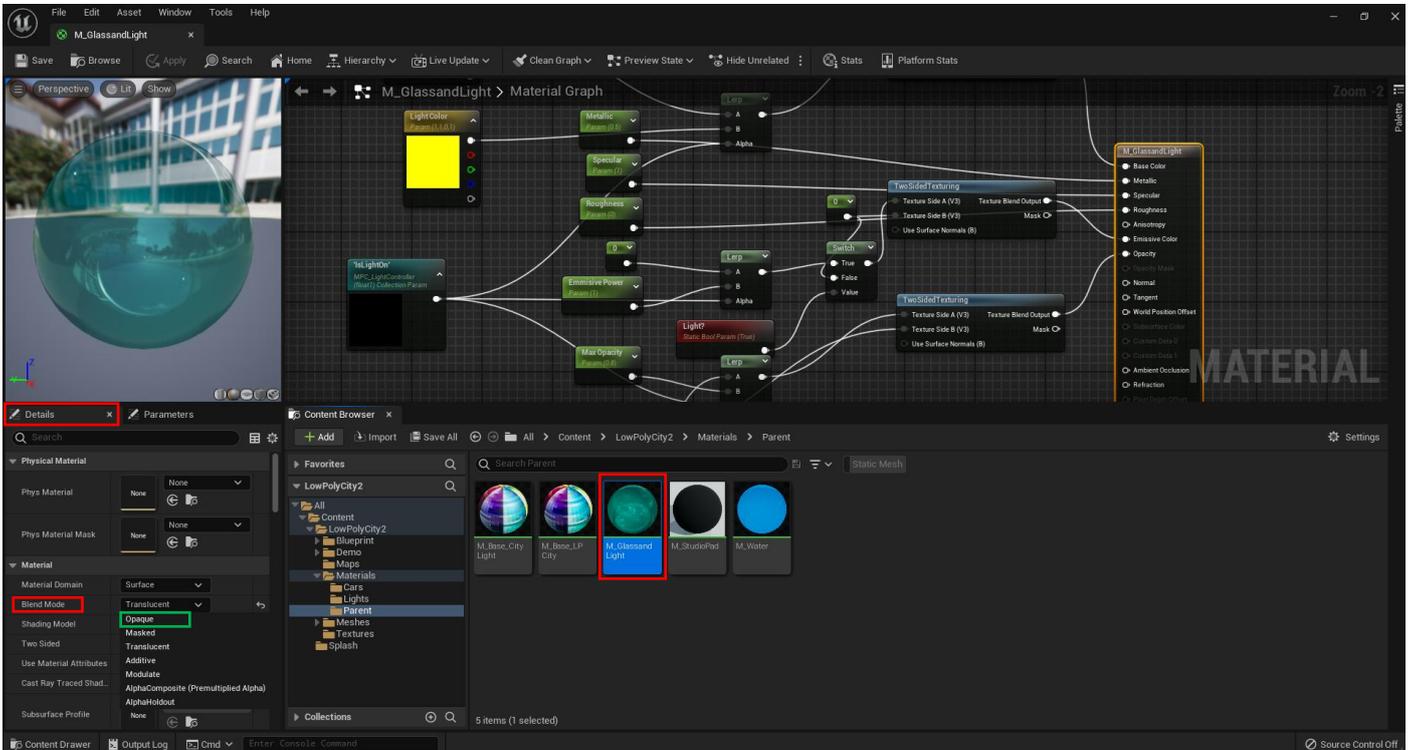
We do not destroy the master blueprints after Breaking.

Mobile Platform

To use this project for a mobile game, you have to do some changes.

Because we do not have Translucency in mobile (mean object with opacity lower than 100%), you must change the glass material.

to do this you need to open the M_GlassandLight Material, and from the Details Panel change Blend Mode to Opaque (the default blend mode is Translucent)



Thank you for taking the time to read this documentation.

If you have any questions or found an issue or need an update please feel free to contact us.

Website: <http://drcg.net>

support email: persiaprogram@gmail.com

**If you like this product, PLEASE
give us a review with a 5-Star
rate 😊**

Good luck