# Dungeon Tools

## References

# Description

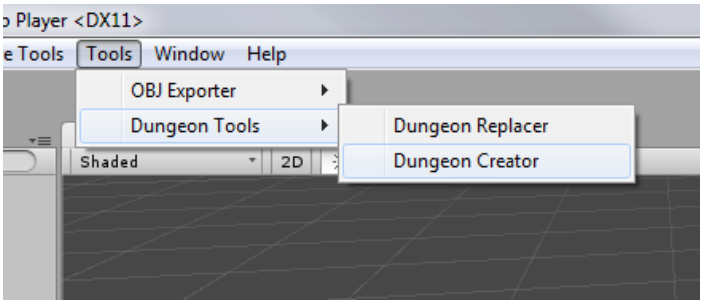
Dungeon Tools developed for automation of labyrinth creation process. If you need some labyrinth in your game, you can use it. The tool creates labyrinth for different types of games: RPG, rouge-like and so on.

The tool consists of two modules: Creator and Replacer. The first one allow you to generate labyrinths. There are some parameters for generator. By tweaking it you can obtain absolutely different results. Creator module creates only the base geometry. So, you need to replace it by your models, which is suited to the style of your game. This is where the Replacer module is go on. It allow you to replace some object with other ones. Of course, you can use this module separately, if you need to replace any array of objects.

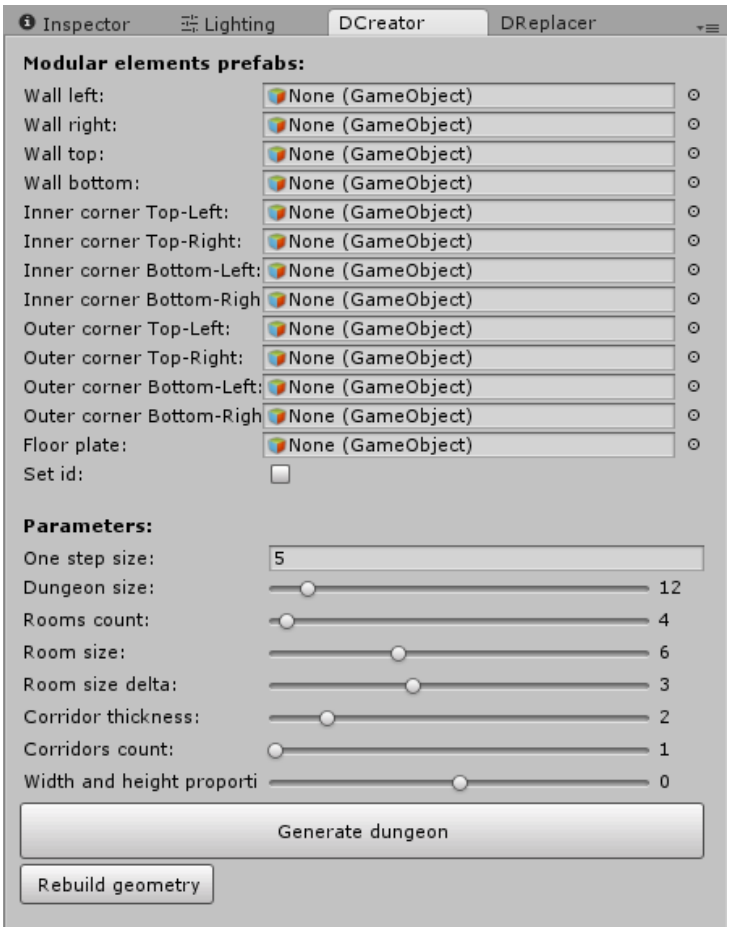
Next we describe workflow for each module.

# Creator

You can find this module here:



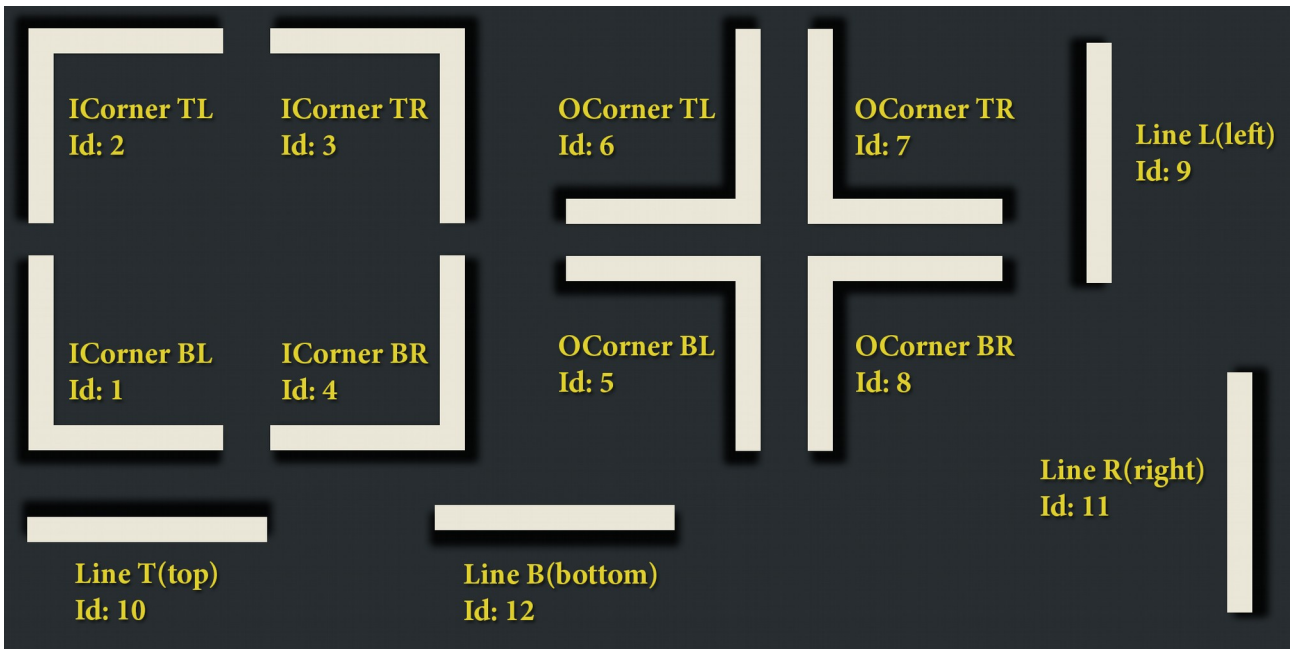

After which the following window appears:




At first you need to fill slots for modules prefabs. This prefabs will be used for creation geometry of the labyrinth. Of course, you can use your own geometry, but the tool contains prebuild modules prefabs. You can find it at the path

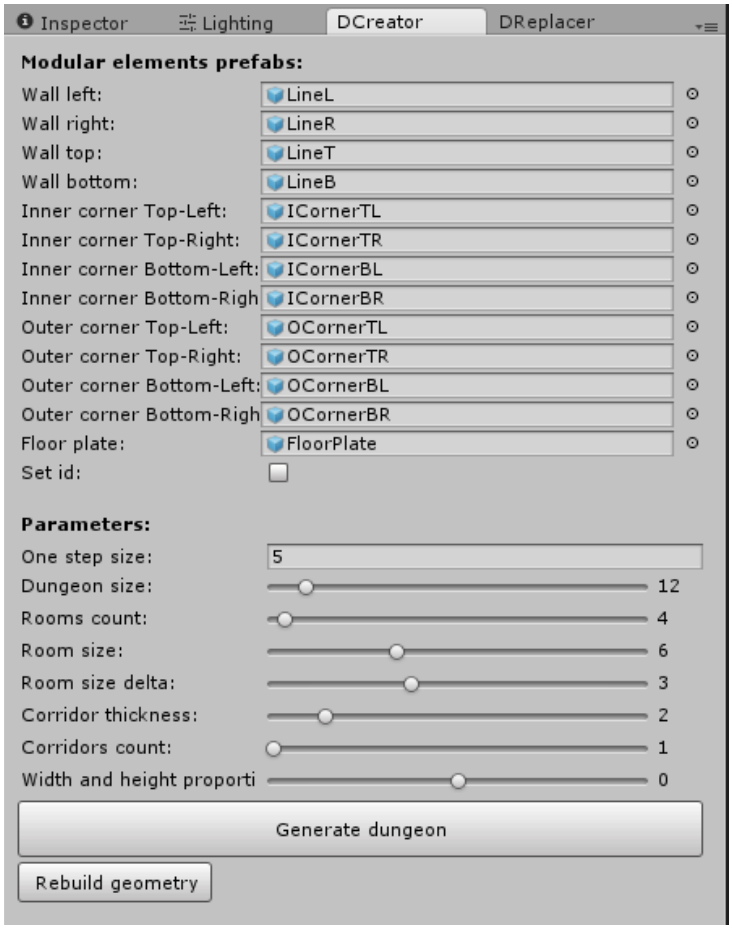
*/Prefabs/Walls/*

The following picture describes the sense of each prefab module.

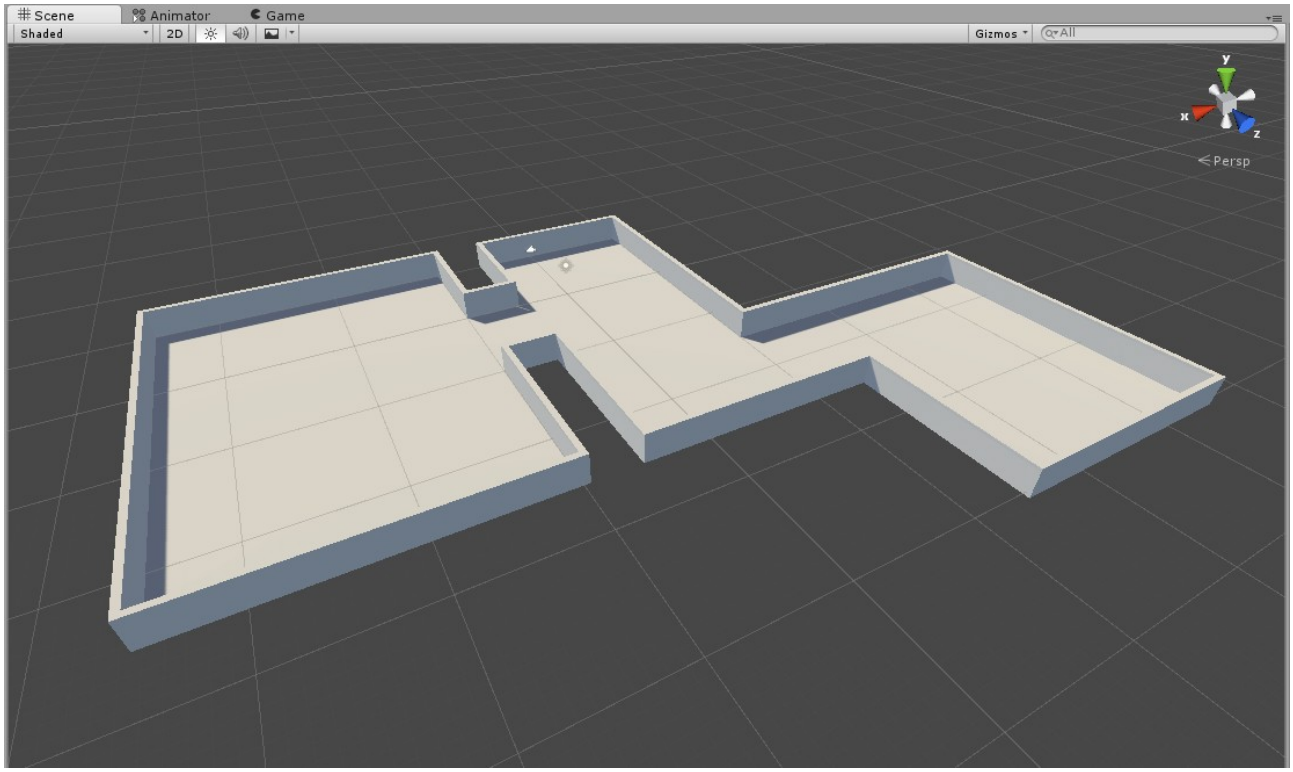



The rough rule is the following: I is means Inner, O is means Outer, B is means Bottom, T is means Top, L is means Left and R is means Right. Id values are necessary for Replacer. We will talk about it later.

So, after we fill all slots we will obtain the following:




Now we are ready to generate our labyrinth. Click the button “Generate dungeon”. In the scene view you will obtain something like this:




If you would like to regenerate the labyrinth and obtain the other form of it, press the button “Generate dungeon” again.

Next, let's describe parameters of the Creator module:

**One step size:** this is the size in Unity units of one elementary square. Actually this parameter should be equal to the size of prefab modules, which you use for generating geometry.

**Dungeon size:** this is the maximal size of the labyrinth along X and Z axis. This value measured in steps.

**Rooms count:** the number of rooms in the labyrinth.

**Room size:** the size of the room along X and Z axis, also measured in steps.

**Room size delta:** admissible deviation of the room size along each axis from the specified size in the previous parameter. If this value is 0, then the room is square.

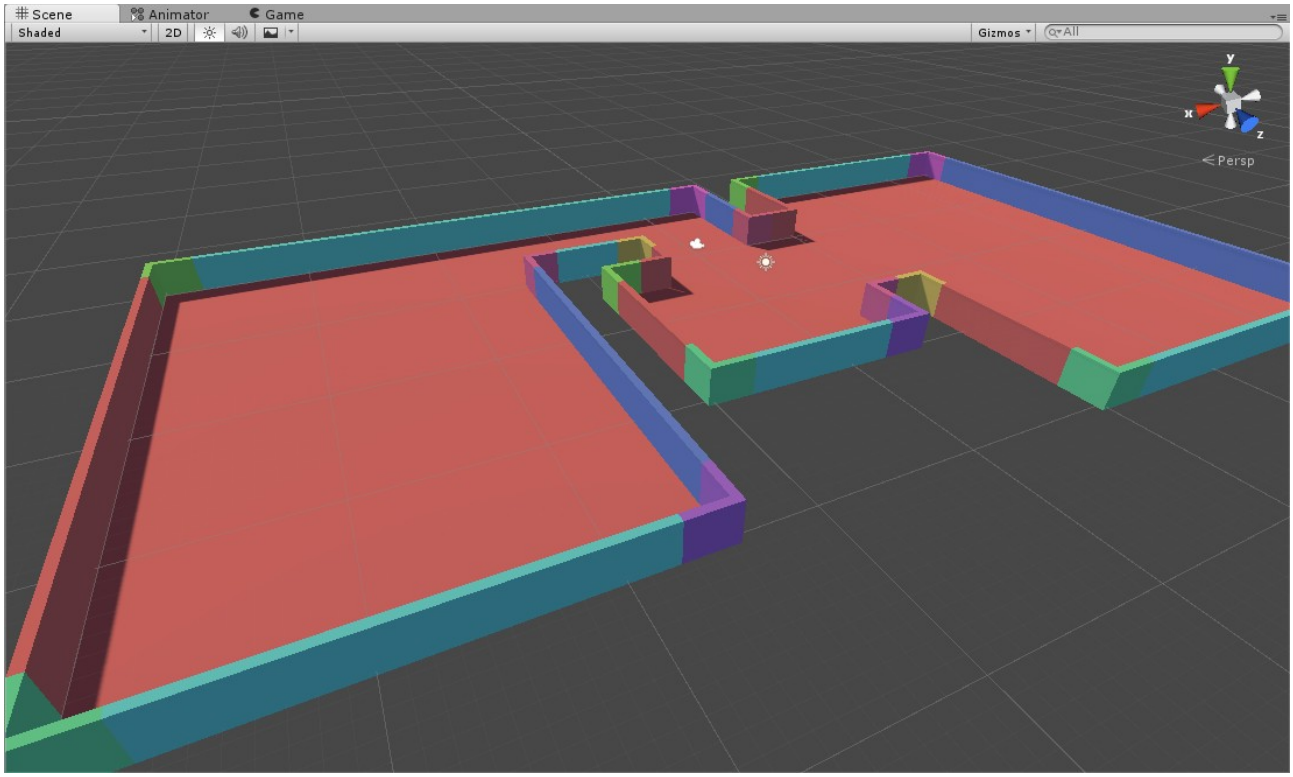
**Corridor thickness:** the thickness of the corridors between rooms.

**Corridors count:** the number of corridors between rooms. If this value is 0, then each room is isolated from the other. If in the labyrinth you obtain some connection components, increase this parameter to connect all components in one labyrinth.

**Width and height proportion:** if this parameter is 0, then rooms of the labyrinth distributed evenly along X and Z axis. If this parameter is equal to 1, then rooms aligned along X axis. If this parameter is equal to -1, then rooms aligned along Z axis. So, by tweaking this parameter, you can obtain the long labyrinth in one direction.

The button “Rebuild geometry” delete all geometry and emit it again, but the form of the labyrinth remains the same.

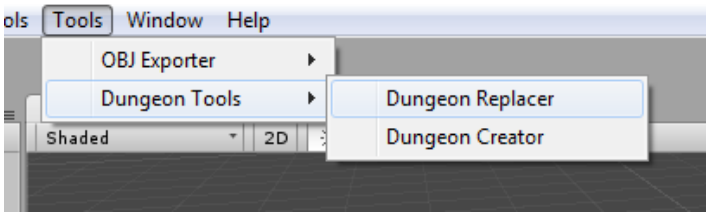
If you check on the parameter “Set id”, then Id of each prefab module will be specified and you will obtain colored scheme like this:



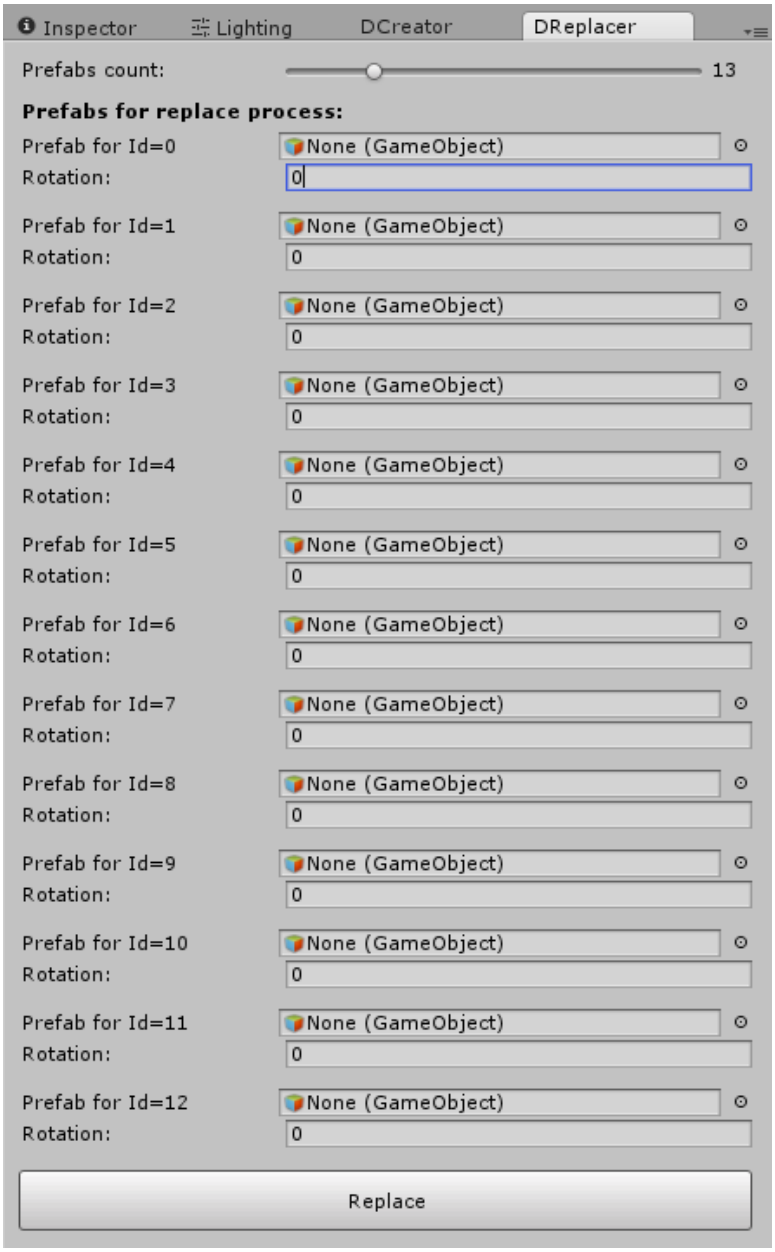

These ids needed for replacement process.

# Replacer

You can find this module here:




After which the following window appears:




To use Replacer tool you need select any object in the scene and press the button “Replace”. The tool looks over all sub-objects of the selected object. It finds ones with the component “DR Id”, and if the id is not equal to -1 and there is some prefab in correspondence slot in the window of the tool, then it replace the object by correspondence prefab.

For example, you generate the labyrinth and want to replace elementary corners of walls by

your own geometry. So, you select any corner and see that it has id = 2 (this is IcornerTL object). Then you should add your prefab to slot with Id = 2, select the root object of the labyrinth and press “Replace” button. The tool replace all inner corners between top and left walls by you geometry. You can increase the number of ids by tweaking **Prefabs count** parameter.

**Rotation** parameter set additional rotation for each prefab. For example, you can use one prefab for walls. Left, top, right and bottom walls have different ids, and you set one prefab for each id, but set different rotations.

Notice that after replacement process the scene contains many instances of prefabs. For optimization it is strongly recommended to bake all geometry by using any external tool you want. Without it the number of draw calls will be too large.