# 2D Terrain Editor Documentation

Asset overview

This package contains simple tool for Unity that allows you to create, edit or randomly generate 2D terrain. Create terrain for your 2D game with one click or generate it in runtime. Great solution for 2D platformers or racing games.

Features:

- Handy tools for editing terrain
- Flexible settings for any needs
- Runtime random generation and deformation
- Five cute hand painted textures

Quick start

After importing package go to **GameObject > 2D Object > Terrain 2D**.
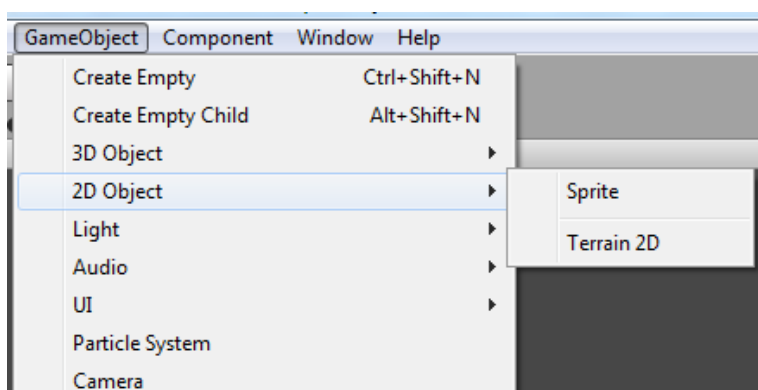
New terrain will be placed on the scene. In Terrain Editor 2D component switch to Edit mode tab. Here you can edit terrain with brush or apply random generation.

After deselecting object in scene hierarchy your terrain will be saved. Created terrain meshes can be found in /2DTerrainSavedMeshes/ folder.
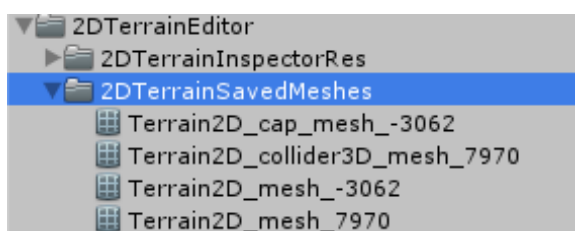
Realtime generation overview

You can endlessly create randomly generated 2D terrains during runtime. Check out **RealtimeGenerationExample** scene in /Example/ folder and read the code comments in Terrain2DGenerator.cs script in /Example/Scripts/ folder to see how it works.

Realtime deformation overview

You can change 2D terrain geometry during runtime. Check out **RealtimeDeformationExample** scene in /Example/ folder and read the code comments in Terrain2DRealtimeDeformer.cs script in /Example/Scripts/ folder to see how it works.

NOTE: Updating 2D collider during runtime is very expensive operation due to 2D physics specificity. It is not recommended to apply deformation in each frame.

Smart cap feature overview

Smart cap is the feature that allows to automatically split cap into different paths depending on hills height. Important thing is preparing texture for this type of cap. The illustration below demonstrates how to do this.
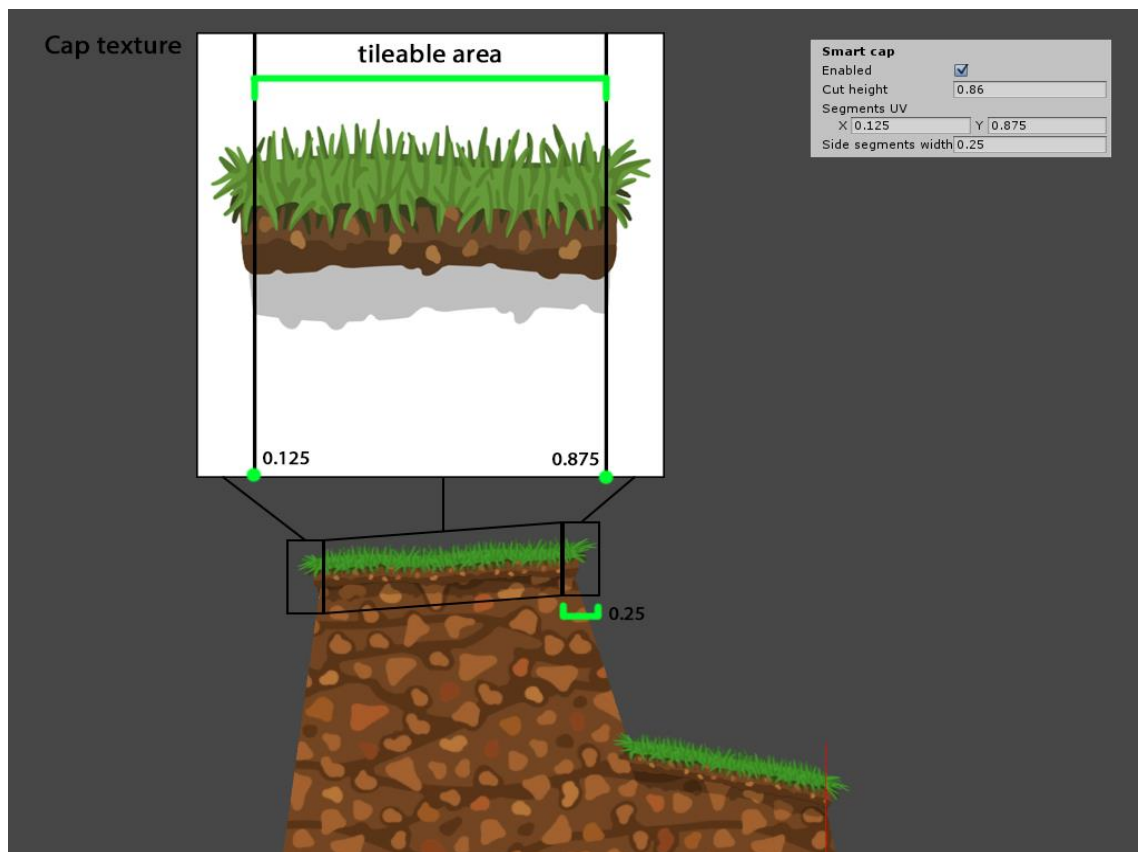
Red line means that you must increase or decrease hill height for correct cap texture tiling.

Changing 2D collider type

If you want to use Polygon Collider 2D instead of Edge collider 2D you need to do following things:

1. Uncomment region at 263 code line and comment region at 247 code line in TerrainEditor2D.cs script.

2. Change EdgeCollider2D to PolygonCollider2D type at 9 code line in TerrainEditor2D.cs script.

Scripting

Terrain Editor 2D component has some useful methods that allows you to achieve maximum flexibility in your project.

Creating 2D terrain starts with calling this static method

`TerrainEditor2D.InstantiateTerrain2D(Vector3 position);`

It returns created flat 2D terrain object based on `Width`, `Height` and `Resolution` values.

After that, you may call this public method

`RandomizeTerrain(bool updateShared);`

It will randomly generate 2D terrain based on `RndHeight`, `RndHillsCount` and `RndAmplitude` values. It also automatically updates colliders and cap.

If you want to apply deformation use

`ApplyDeform(Vector3[] newPath);`

Where `newPath` is array of new path points in local space. Current path of terrain may be obtained from this method with specifying Space.Self

`GetPath(Space relativeSpace);`
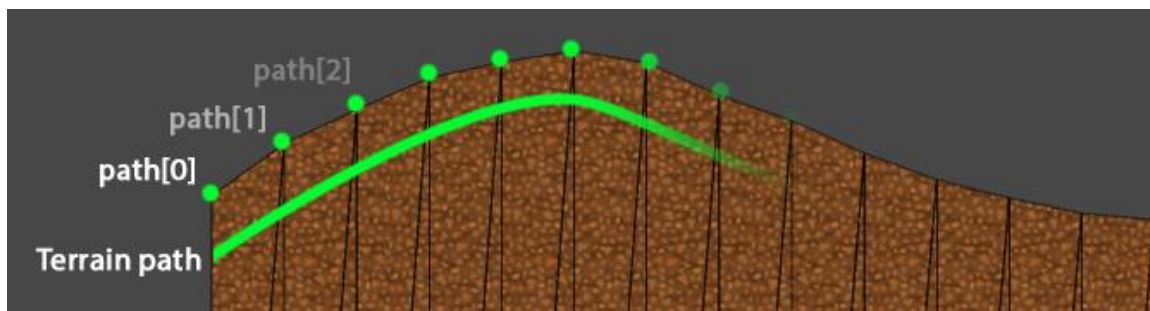
Description of other TerrainEditor2D public methods and variables you may read in TerrainEditor2D.cs script.