

Giants Editor Script

SplineToCoord

Script Documentation

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Introduction

SplineToCoord allows you to export a spline as xml data to use with the Road-Creator program included in Mapping Utils. It includes optional reflector placement along the spline with variable distance and terrain height adjustment to align terrain perfectly with the Spline and the created Road. Since script version 1.4.0 there are parameters for additional terrain layer painting along the spline. Script version 1.5.0 introduced foliage painting allowing you to create foliage on the sides of your road.

Warning:

Terrain, Layer & Foliage modifications resulting from this Script can **NOT** be undone with the undo button. Ensure to save or backup your work bevor executing this Script.

Dependencies

Following Giants-Editor Scripts are required:

- GES_R5Utils.lua
- GES_R5TerrainUtils.lua
- GES_R5FoliageUtils.lua

Make sure all scripts from above are available as user-scripts in your Giants Editor.

Parameters

Road Parameters

segmentSpacing	Defines the minimum segment spacing for the road-mesh in meters. Shorter spacing results in smoother roads but increases the polycount. Recommended Spacing is 1.5 meters
xmlOutputPath	The base directory where xml data is saved by the script. the output file is named as your spline e.g., myspline.xml Existing files with the same name will be overwritten.
snapToNearbyAnchor	If enabled start and endpoints of the spline will be aligned with the nearest anchor on a crossing.
snapIndex	Deprecated, Use default value 1! was used for debugging purposes. May be removed in future releases.
snapSearchRadius	Distance to search nearby anchor nodes, value is in meters

Terrain Adjustment

terrainRes	Specifies the terrain-grid resolution (meters per pixel) default: 2
setTerrainHeight	Enables terrain height adjustment. Terrain height will be aligned with spline.
heightAdjustWidth	Width for height adjustment in meters. I recommend adding up to 4 meters to your road width.
paintTerrainTexture	Enables terrain-layer painting
terrainLayerId	Defines the terrain layer used for painting. (See User's Manual Step 5c)
paintWidth	Defines the width of the painted layer in meter.

Object Placement

placeReflectors	Enables reflector placement along the spline
reflGrpName	Name of the reflector source node
reflectorDistance	Distance between reflectors in meter

Foliage Adjustment

Density Maps

```
local pathFruitDensityGdm = "MY_MAP_PATH/maps/data/densityMap_fruits.gdm"
local pathGroundDensityGdm = "MY_MAP_PATH/maps/data/densityMap_ground.gdm"
```

pathFruitDensityGdm	replace with file path of your fruit density map
pathGroundDensityGdm	replace with file path of your ground density map
forceReload	Boolean, forces script to reopen density maps default: false

roadWidth	Width of your road mesh in meter
clearFoliage	Removes foliage along the spline with given road-width
drawSideFoliage	Paints foliage on the side of the road (grass)
sideFoliageWidth	Width of side foliage in meter
sideFoliageName	Name of the foliage layer to paint (See User's Manual Step 5d)
sideFoliageState	Grow-state of the foliage layer (See User's Manual Step 5d)

Functions

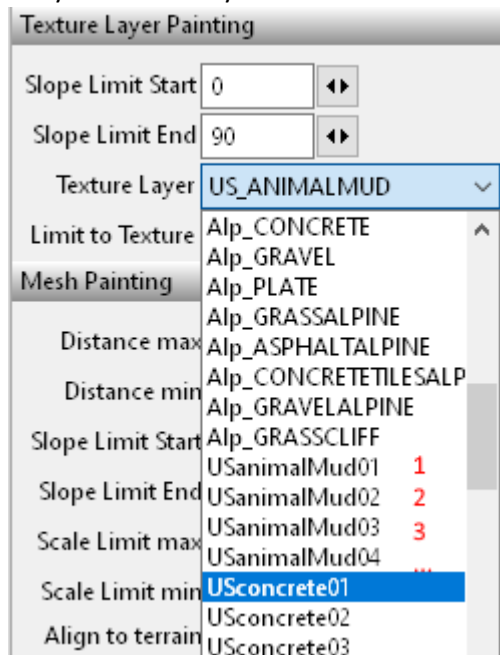
This script doesn't contain external script functions.

User's Manual

1. Place crossings and road connectors on your map.
2. Connect crossings with splines.
3. If the spline was rotated during placement use freeze transformations and freeze the rotation. Rotation values should then be 0 on each axis.

Without freezing rotation, there may be artefacts or weird painting results if terrain- or foliage-layer painting is enabled.

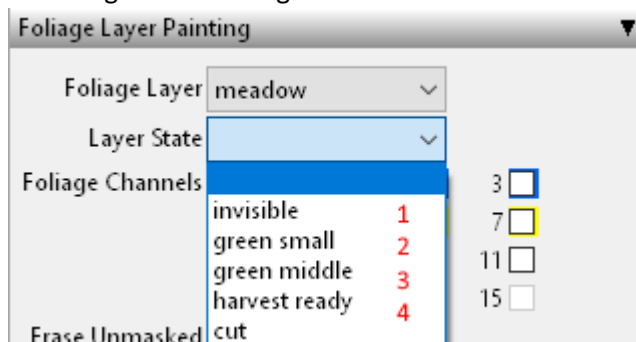
4. Open the script editor: Window→Script Editor
5. Adjust the parameters, described above
 - a. Ensure xmlOutputPath is set
 - b. Ensure density map paths are set
 - c. Set your terrain layer IDs:



Open the Texture Layer dropdown and search for the layer you want.

The Layer-ID is the **position** of the layer in this list. Start counting after the last combined layer. Combined Layers are written in CAPSLOCK.

- d. Set foliage names and grow states:



Select your Foliage Layer. Set layer names according to your dropdown selection.
In this example > sideFoliageName = "meadow"
Grow states are the **position** of the layer state in this list. Start counting at the first written entry.

6. Save your parameter changes in the Script Editor

Warning:

Terrain, Layer & Foliage modifications resulting from this Script can **NOT** be undone with the undo button. Ensure to save or backup your work bevor executing this Script.

7. Select your Spline and click on the Execute button in the Script editor.
Execution may take a while, depending on the spline length and setting combination.

The Script creates an xml file in the output directory defined by "xmlOutputPath". Use this xml-file with the RoadCreator application to generate the road geometry.