About

Critias Grass System is an alternative rendering method for Unity's grass system. It is designed strictly around SpeedTree and it should provide your game AAA looking grass at good performance.

Install

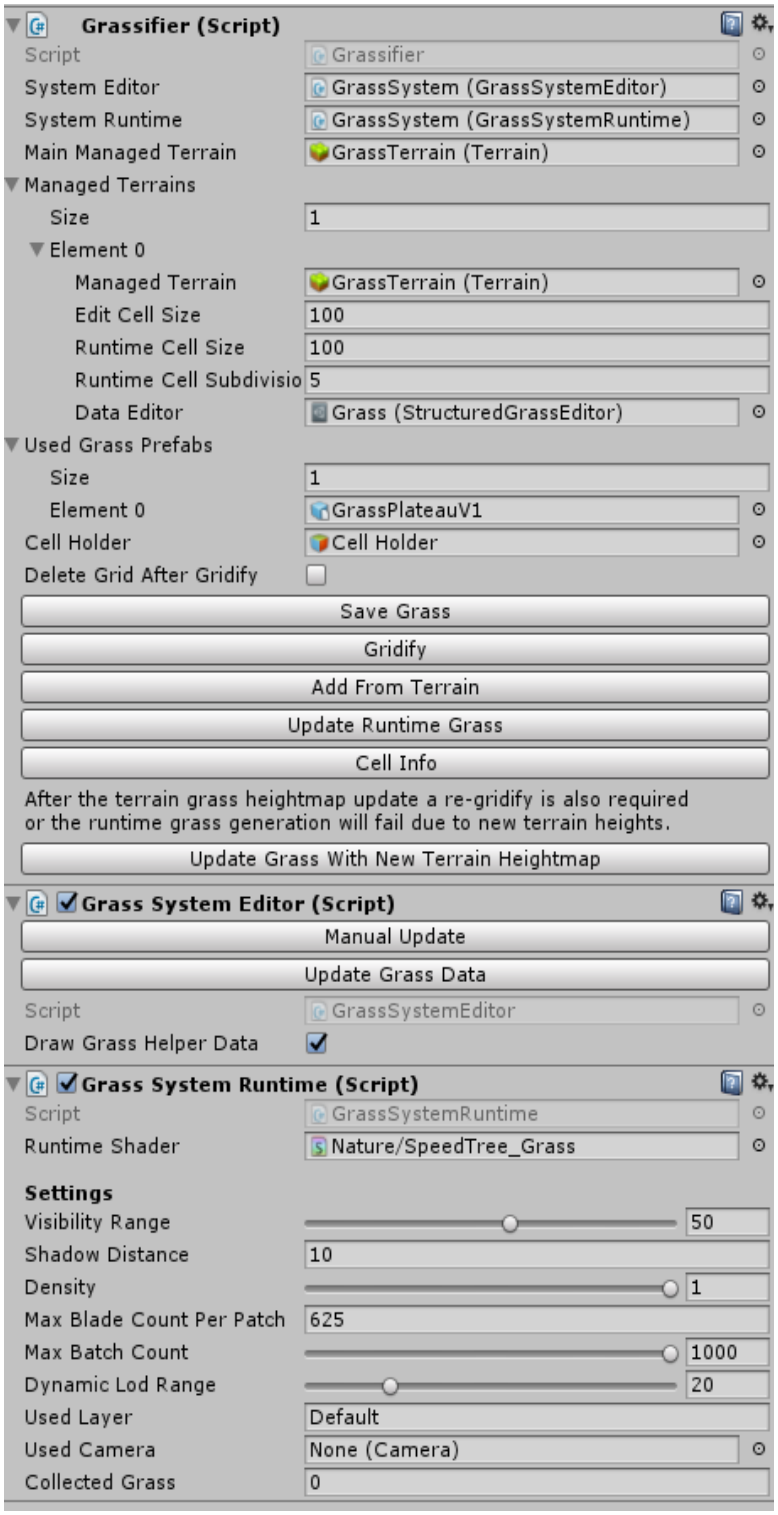
Copy the “CritiasGrassSystem” folder at the root of your project.

Setup

After the installation the following steps should be taken:

1. Create a new scene. Add to the root of your project the 'StreamingAssets' folder
1. Add a new square terrain and call it 'GrassTerrain'
2. Add to the terrain the required SpeedTree grass prefabs
3. Create a new object and call it 'GrassSystem'. Add the 'Grassifier' script to it. Also add the 'Grass System Editor' and 'Grass System Runtime' scripts to it
4. Under the same 'GrassSystem' object set the fields from the 'Grassifier' script called 'System Editor' and 'System Runtime' to the newly created 'Grass System Editor' and 'Grass System Runtime' created components at the previous step
5. Set the 'Main Managed Terrain' field from the 'Grassifier' script to the 'GrassTerrain' created at step 2
6. Under 'Managed Terrains' at the 'Grassifier' script modify the size of the array to 1
7. Open 'Element 0' and set it's 'Managed Terrain' to 'GrassTerrain' created at step 2
8. For the 'Edit Cell Size' and 'Runtime Cell Size' set it to a value that is as close to 100 meters as possible. Since the system requires a perfect division of terrain space use the 'Cell Info' button from the 'Grassifier' script to see what cell sizes the system recommends. It will output them in a format of {S:[vvv] C:[vvv]}. Use the value at 'C' and pick the one closest to 100. If you used a terrain of 500x500 you can use 100 for the edit/runtime cell sizes (since 500%100=0).
9. For 'Runtime Cell subdivisions' a value of 5 usually will suffice
10. Under the 'CritiasGrassSystem\Data' folder, create a 'StructuredGrassEditor' editor object. It can be created with right click, Create->Quest->Generation->StructuredGrassEditor. Name it 'Grass'
11. Assign the created Scriptable Object to the 'Data Editor' field of the 'Element 0' in the 'Managed Terrains' field from the 'Grassifier' script
12. Assign your used grass prefabs in the field “Used Grass Prefabs' of the 'Grassifier' script. They have to be the SpeedTree grass, and have only 1 LOD level
13. For the 'Cell Holder' field just create a root object in the scene, make sure that it's position/rotation are 0, 0, 0, the scale 1, 1, 1 and assign it to the 'Cell Holder' field of the 'Grassifier' script
14. At the 'Grass System Runtime' script (added at step 4) set the 'Runtime Shader' to the 'SpeedTree_Grass' shader that comes with the system

15. Set the 'Used Layer' to 'Default' and 'Used Camera' to null and the other settings to the defaults
16. Select the 'GrassTerrain' and add it the 'Grass Saver' script and tick the 'Save On Tree Instance Update check-box. That will automatically save your grass as you paint it on the terrain.



The setup is finished now! All we need to do is to hit the 'Gridify' button from the 'Grassifier' script. If the setup was good then we should have the 'Cell Holder' that holds a lot of cells!

Usage

After the setup is finished, using the system is quite straight forward:

1. Make sure that you only paint in the white cells displayed around your camera
2. If the white cells don't show up use the 'Update Grass Data' and 'Manual Update' buttons from the 'Grass System Editor' script. Make sure that the 'Draw Grass Data' check-box is checked
3. When you see the white cells select the terrain, grab the tree brush and start painting!
4. Don't forget to use the 'Save Grass' button from the 'Grass Saver' script from the terrain added at step 16 from the 'Setup' steps
5. After the grass was saved hit 'Update Runtime Grass' from the 'Grassifier' script. That will create an asset in your 'StreamingAssets' folder (created at step 1 in the setup steps) that will contain all the grass optimized for runtime use
6. Disable the tree drawing from your 'GrassTerrain'
7. Hit 'Play'. If the setup was correct you should see your awesome grass at awesome performance at runtime!

Notes

If you feel stuck don't hesitate to contact me via the forums! And as a note, this system has a lot of stuff that are lacking and I wouldn't recommend it to beginners in Unity.