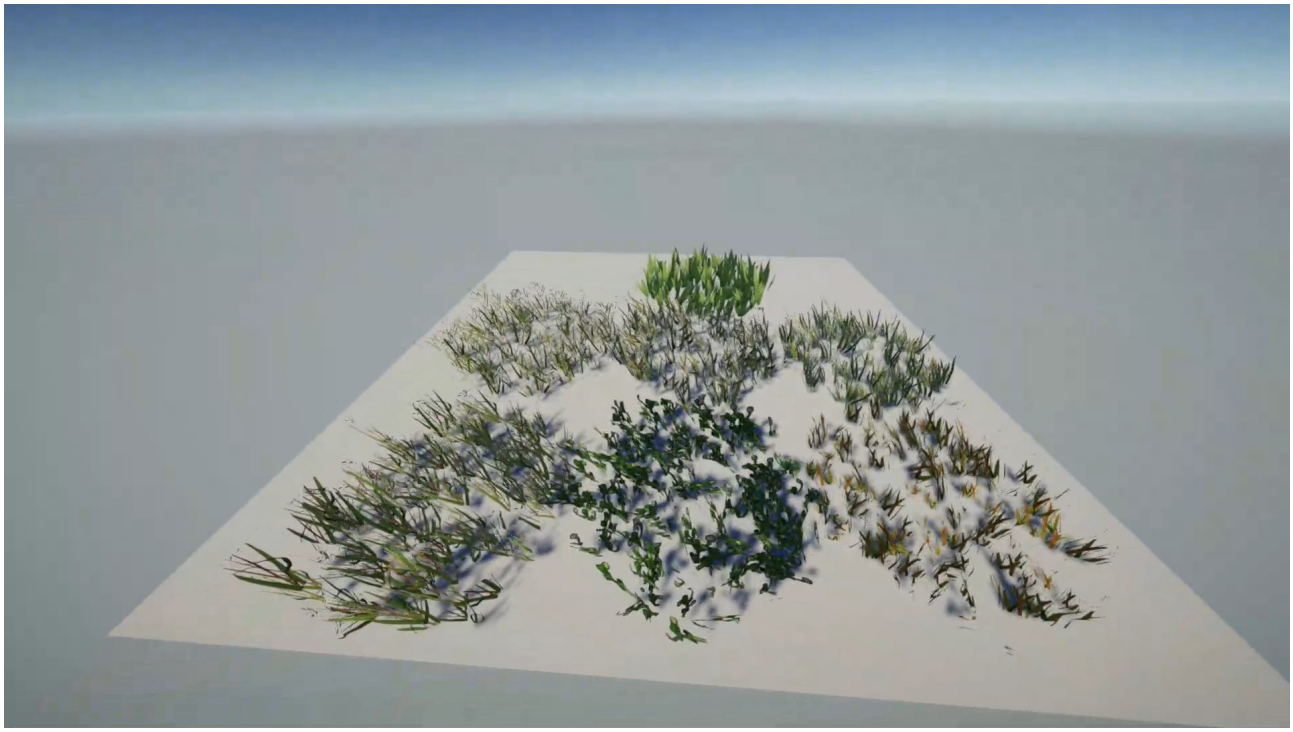
URP Dynamic Grass

Grass prefabs focused on delivering dynamic interact and optimize grass for the URP. Suitable for the creation of large fields, lawns, forest glades.



Key features:
Pros:

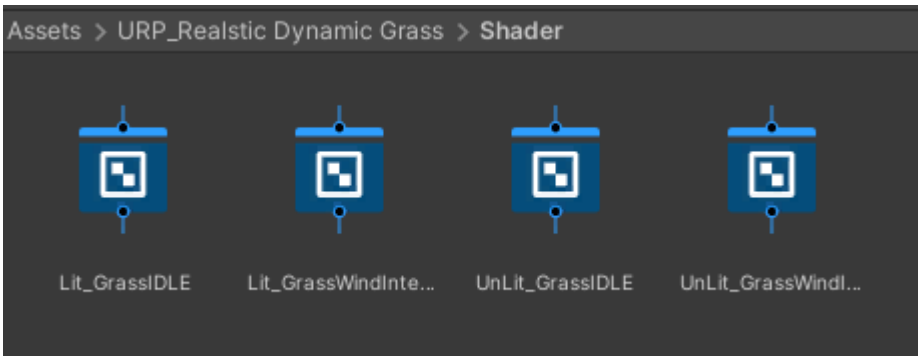
- Lush wind animations
- Can control wind direction.
- Easy to use interaction system.
- Includes 6 grass prefabs.
- Easy to make your own new grass.
- All meshes have a LOD
- Included placement system
- Interact with player.
- Only active interact when grass in LOD0 -> improve performance.

Cons:

- Only interact with 1 game object and when main camera near by.

- You need Create Layer "Terrain" and set it to your ground.
- You also need create Tag "Grass" and set it to all prefabs grass to detect Grass collision.

Grass Shader



There are 4 Shader grass:

- Lit Shader graph for high setting and Unlit Shder for low setting.
- Shader Grass WindInteract for LOD0 and LOD1 which has wind effect and interact with player.
- Shader Grass Idle for LOD2 and LOD3 which not has wind effect to optimizing performance.

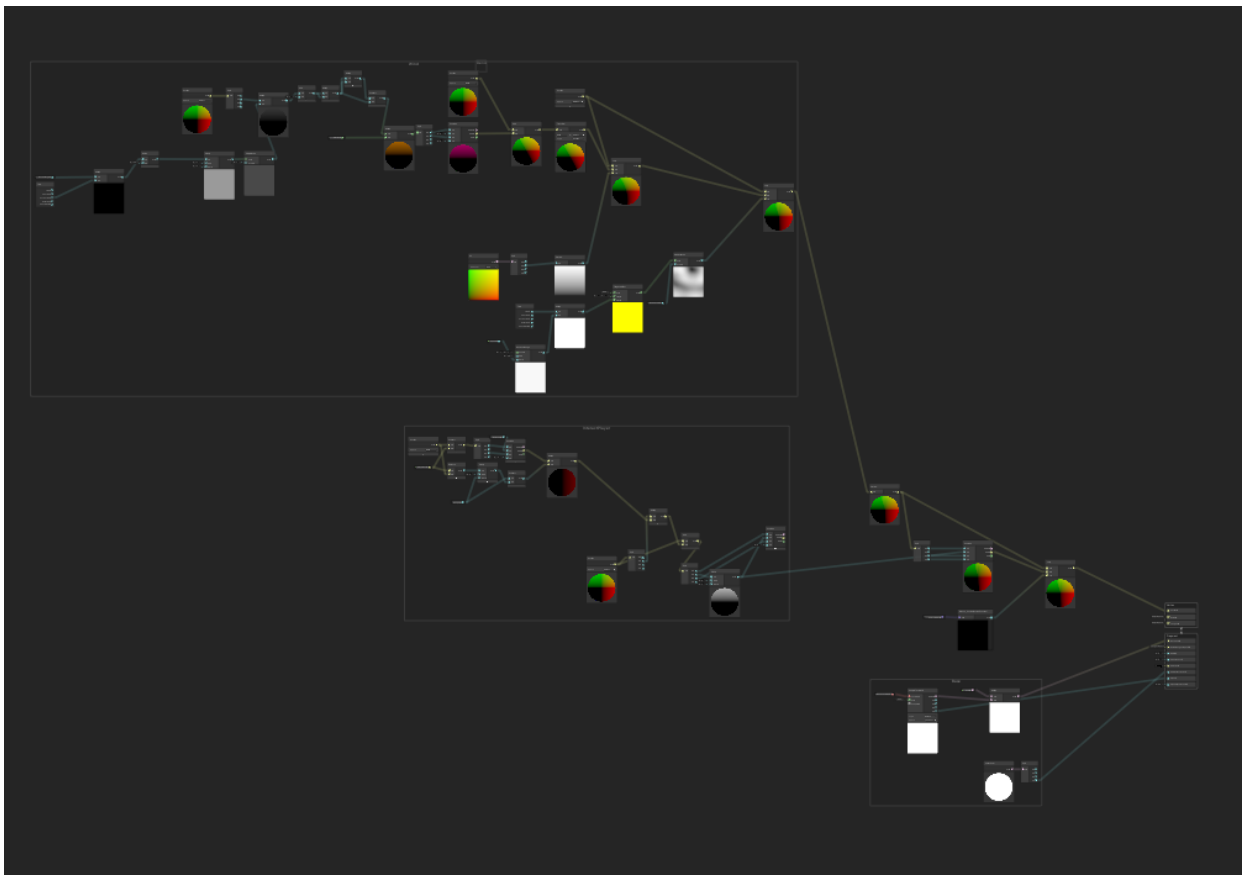


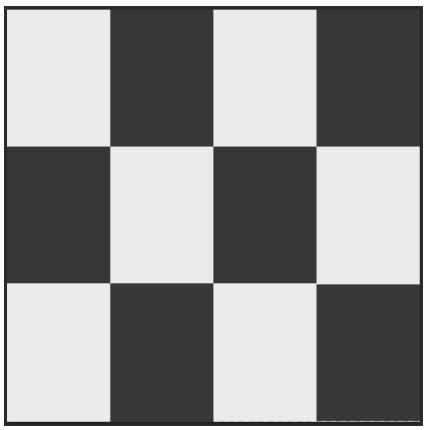
Illustration 1: Shader Graph Wind Interaction Grass

Grass Texture Create

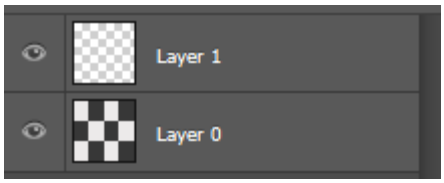
This asset include 6 difference grass texture.

But you can create your own Grass texture by using grass texture template:

- Open Grass_TextureTemplate use Photosshop or other Image Editor. You will open a image like this:



- Create a new tranparent layer



- Take photo of real grass and cut grass off background or draw a grass:

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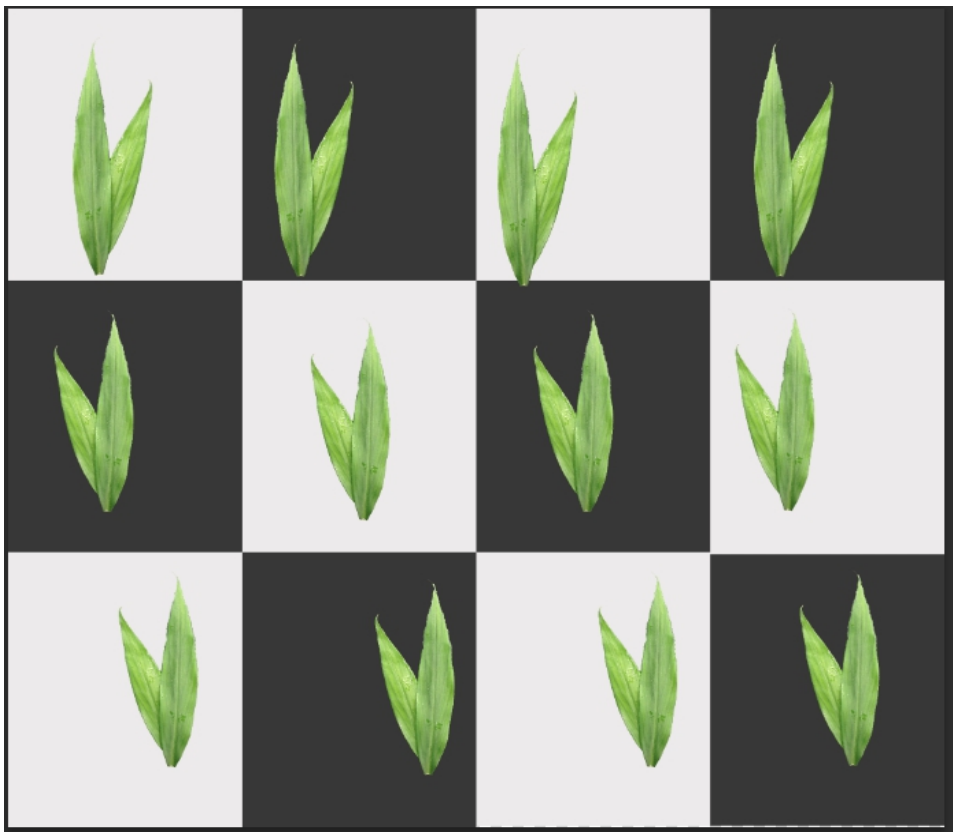
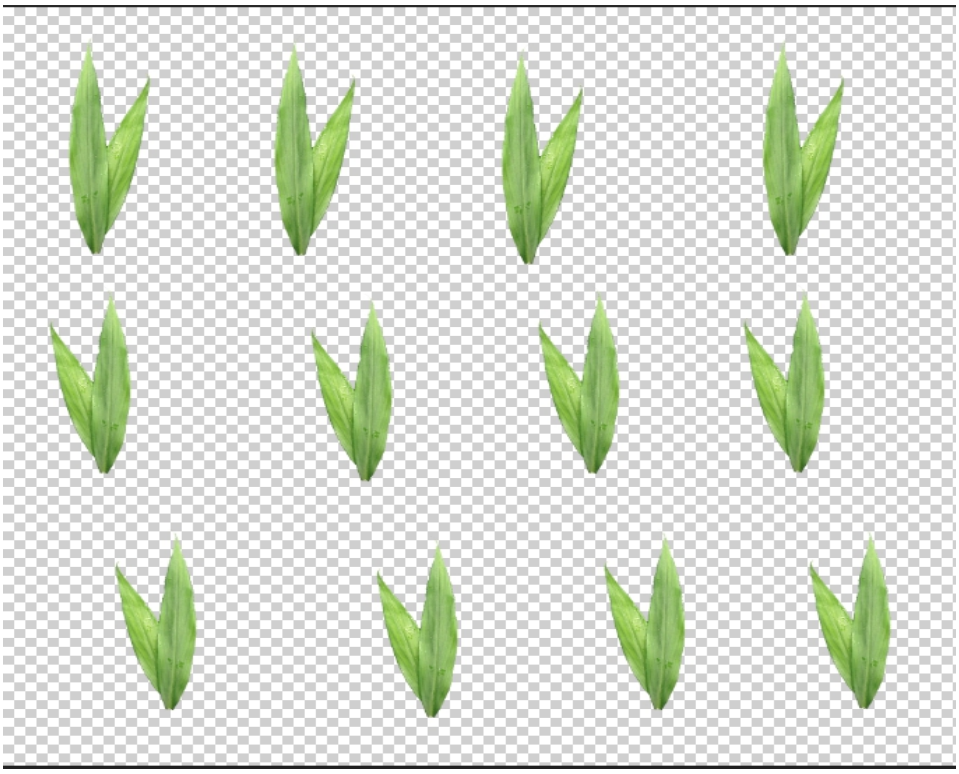
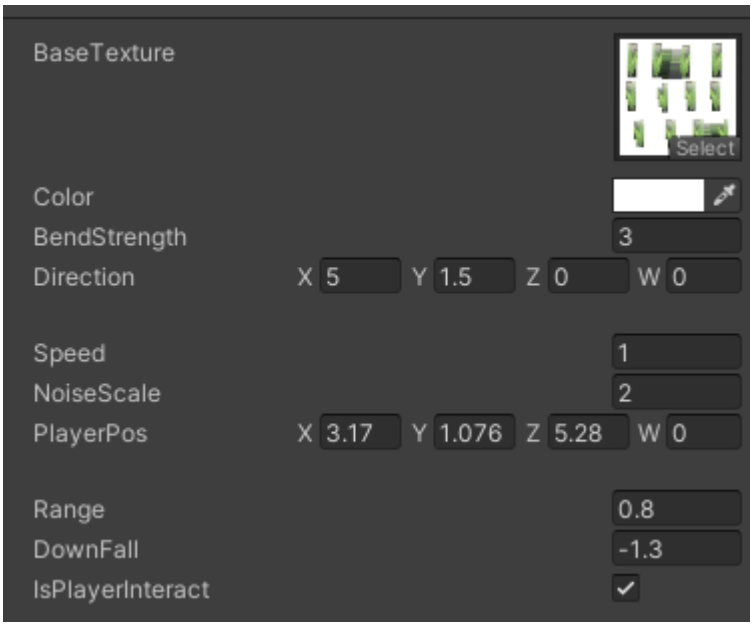
- Then put that grass you create on "new tranparent layer"



- Then hidden Grass_TextureTemplate layer and save the image => Done



Grass Material

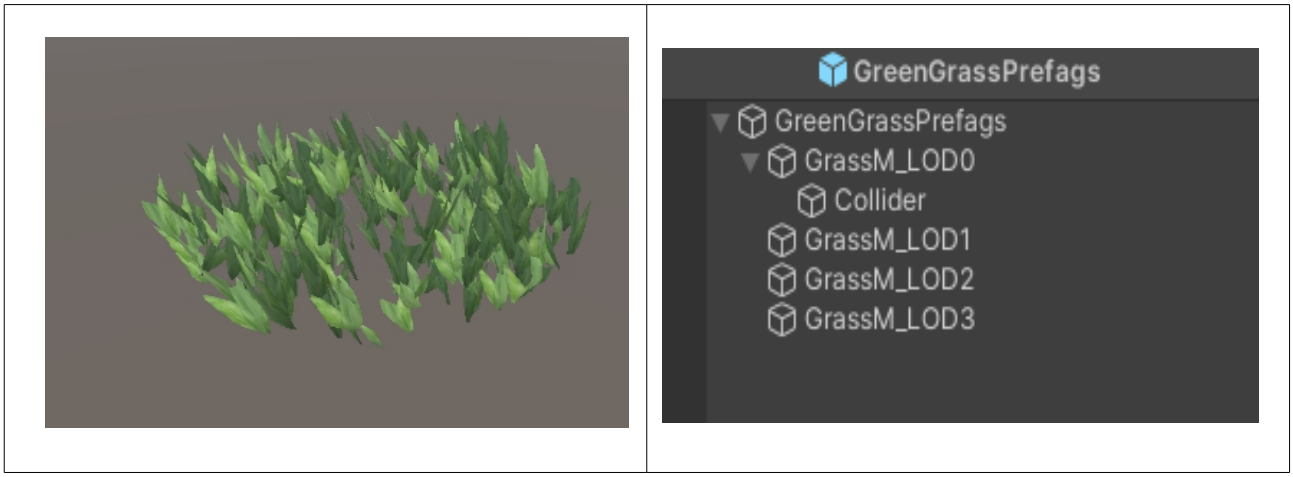


You can change material properties to control:

- Grass Texture
- Grass Color
- Grass Wind Direction

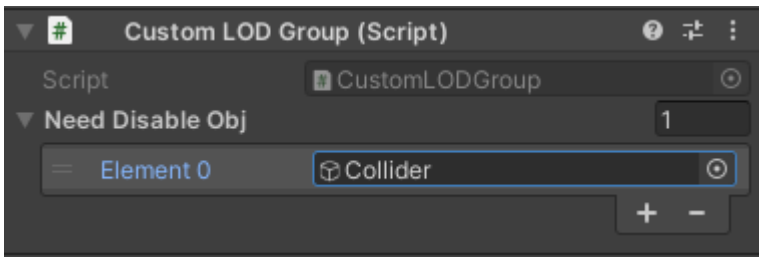
- Grass Wind Speed
- Range grass lay down when interact with player
- DownFall strength when interact with player

Grass Prefags



Grass Prefags include 4 level of LOD:

- Grass LOD0 use Shader Grass Wind Interact to create wind effect and has child Collider GameObject to detect player posion. Grass LOD0 include custom LOD script to disable Collider GameObject when LOD0 is hidden avoid too many Collider active to optimizing performance.



- Grass LOD1 use Shader Grass Wind Interact to create wind effect but only use wind effect, not execute interact with player to optimizing performance.
- Grass LOD2 and LOD3 use Shade Grass Idle to create grass not has wind effect to optimizing performance.

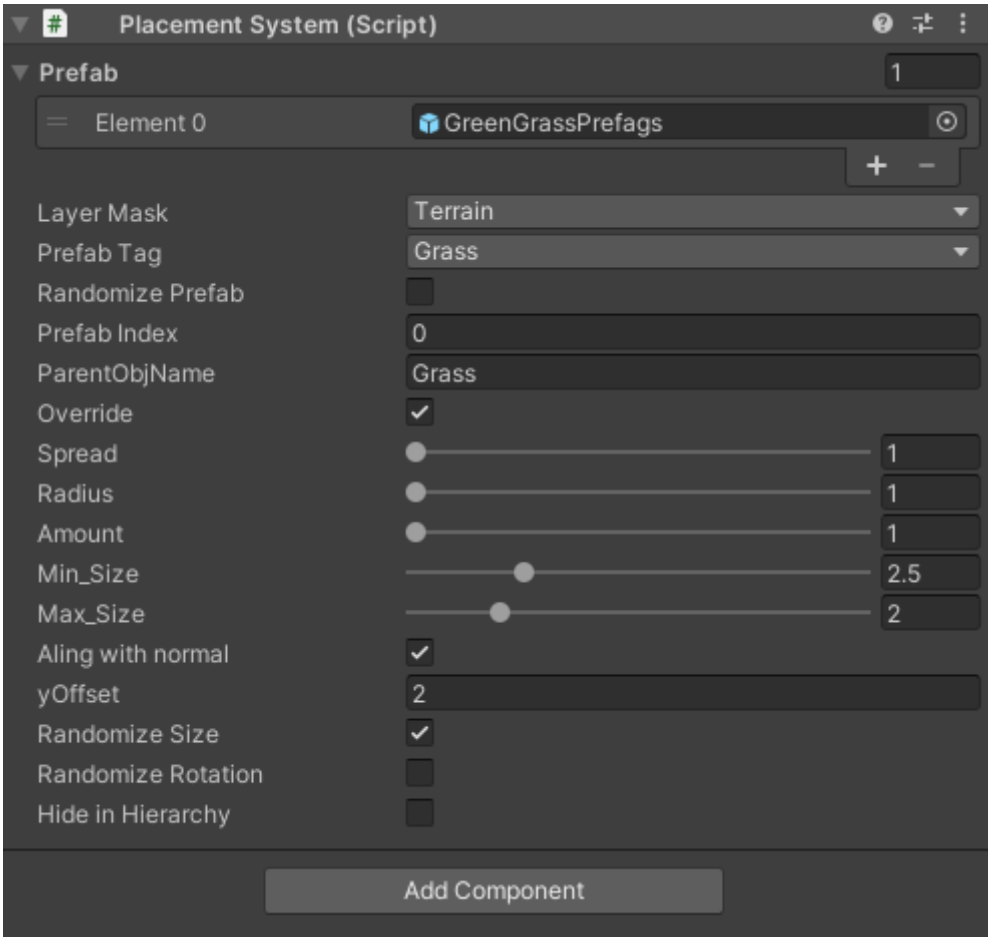
Placing grass

This Grass use **Unity Prefab Placement Editor – has been modified**

(The Origin can be download on https://github.com/marmitoTH/Unity-Prefab-Placement-Editor)

Unity Prefab Placement Editor is an extension for Unity 3d that allow you to paint any prefabs(most useful for vegetation) in any mesh that has a collider component. It

has similar options than the built-in terrain tree and grass painter.



- Prefab is a array of game objects that you want to paint, you can paint multiples at once.
- Layer Mask is the layer of the surface that you want to fill
- Prefab tag is the tag of the objects that you want to erase(hold left shift).
- Randomize prefab let you paint multiples objects in certain array range. If it's off, you can choose by array index.
- ParenObjName is game object contain all prefags you place (you should create a empty game object to contain your area grass prefags)
- Override let you put one prefab over another, doesn't works very well. Turn it off.
- Spread, radius and amount are the fill options.
- Min_size and Max_size of prefags when use Randomize size, if not prefags will set to min_size
- Aling with normal let your prefab follow the ground rotation. It's useful if you gonna paint in planet surface.
- yOffset is useful to avoid misplacing, very rare glitch. 2 is a fine value.
- Randomize size and rotation, options to avoid bad tiling. Useful when you gonna paint some trees.
- Hide in Hierarchy hide after instantiate. It's not necessary at all, prefabs are automatically child of the surface.

You need to turn on Gizmons to use Placement Prefags Editor.
TL;DR: Left mouse button to paint, shift + left mouse button to erase.