PROJECT NATURE

ENVIRONMENT
DESIGN

Dokumentation

contents:

1.0 material setup

You can find all materials in the folder Materials. If you open the folder, you will find something similar to the screenshot below:
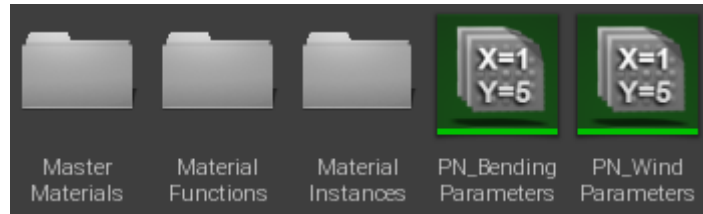
In the subfolders you can find all material related assets.

1.1 visual parameters

If you want to change the visual parameters like brightness or similar you have to go in the material instance of eachs object. You will find something like in the screenshot below:
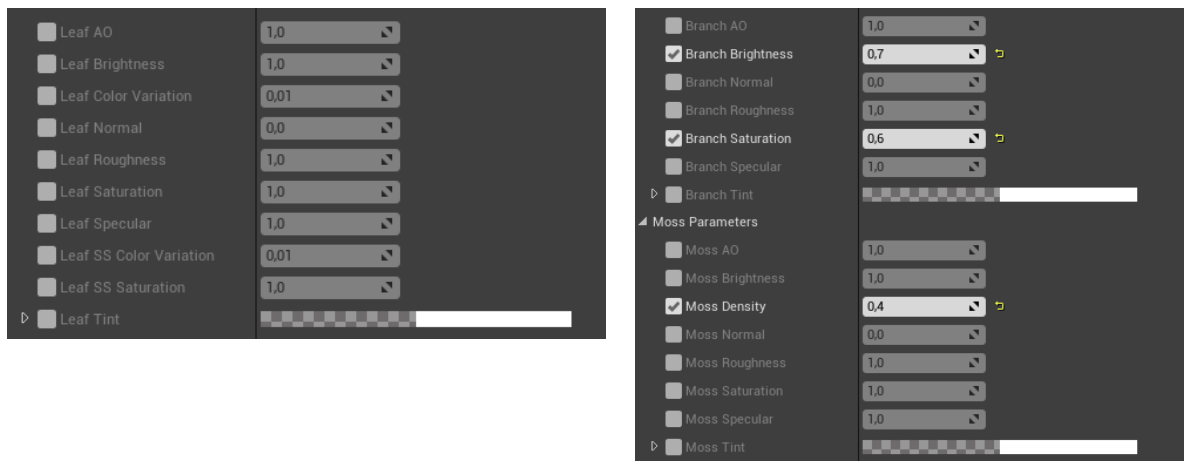
All parameters are self explaining.

1.2   wind parameters

The parameters to change the wind of the asset can be found in the material parameter collection called **PN_WindParameters**. If you open the collection you find this:

To change the wind direction just play around with the wind direction parameters. The values are between 0 and 360.

The wind is clamped between 0 and 4. 0 is no wind and 4 is strong storm.

All vegetation you placed in your level will listen to this parameters.

1.3   interaction parameter

For the setup of the interaction go to the next page.

If you want to change the parameter how strong the interaction of your actors is go to the **PN_BendingComponent** of your actor.

For smaller/bigger characters or actors you have to change the **Actor Width Scale** and **Bending Strength Scale.**

2.0 interaction setup

In this youtube guide see how to setup the interaction for singleplayer:

https://youtu.be/oxKIhEjHEdk

For a multiplayer bending please follow the steps explained on the following pages!

If you have multible and/or different Project Nature assets follow this aswell:

https://youtu.be/y082MDfPrxE

3.0   multiplayer setup

The multiplayer bending is disabled by default on most of the assets. To make sure your applications has the best possible performance you have to follow some steps to adjust the multiplayer bending.

To have the best possible performance we only calculate the interaction of the maximum six closest actors to the actor you are playing. This number can be adjusted and will increase your performance.

To adjust the algorithm you have to go to Materials/Material Functions/PN_AnimationShader.

The material function PN_MultiBend is responsible for that.

If you only want interaction of your own character you can only use the first MultiBend function. This is shown in the screenshot below:
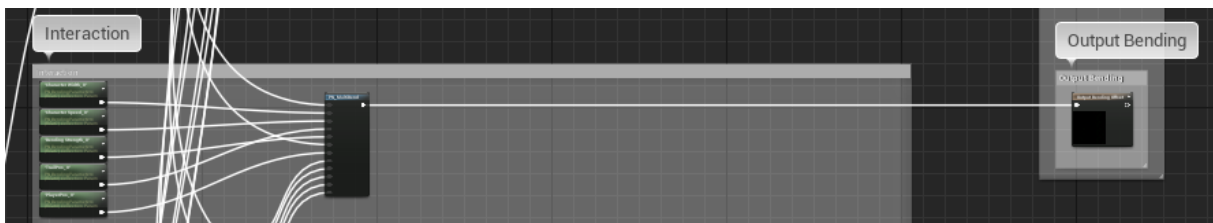
If you want the closest 3 players (including your own actor) you have to add the first 3 functions to each other. This is shown in the screenshot below:
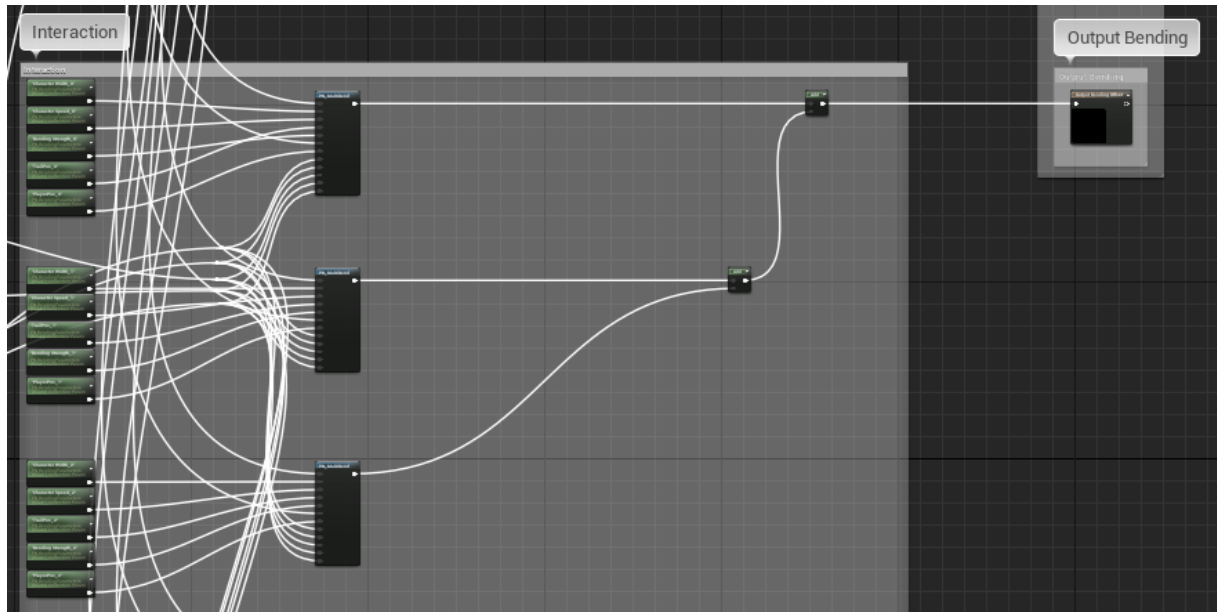
The more actors you include in the interaction the more shader instructions has to be calculated each frame. So the less players you include the better the performance.

4.0   performance profiling

NOTE: These changes will increase performance only in a very very small amount.

Both interaction and wind cause an increase of shader instructions. Even if these values are very low you have the possibility to slightly increase performance with a few tweaks.

For every plant wind and interaction is enabled by default.

Here some examples how you can adjust some plants to have a small increase of performance.

small plants

Some plants are very small and you will hardly see a difference if your characters steps on these. If you disable the interaction you will have less shader instructions. To do this go to the material instance and disable Level 1 Bending.
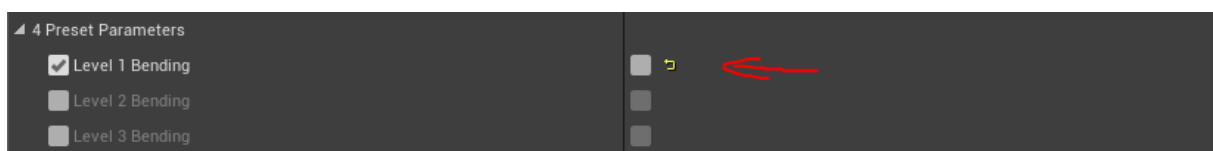
Interaction

For the interaction we implemented a similar function like the pivot painter tool. That means we break down the plant by his hierarchic structure (multiple leaves attached to a stem).

In our interaction function you can interact to this levels with your actor. So the steam with the attached leaves bend away from your character and the leaves **itself** bend away.

To save some shader instructions you can disable the interaction on the leaves, because this is barely noticeable on plants with small leaves (less than around 10cm).