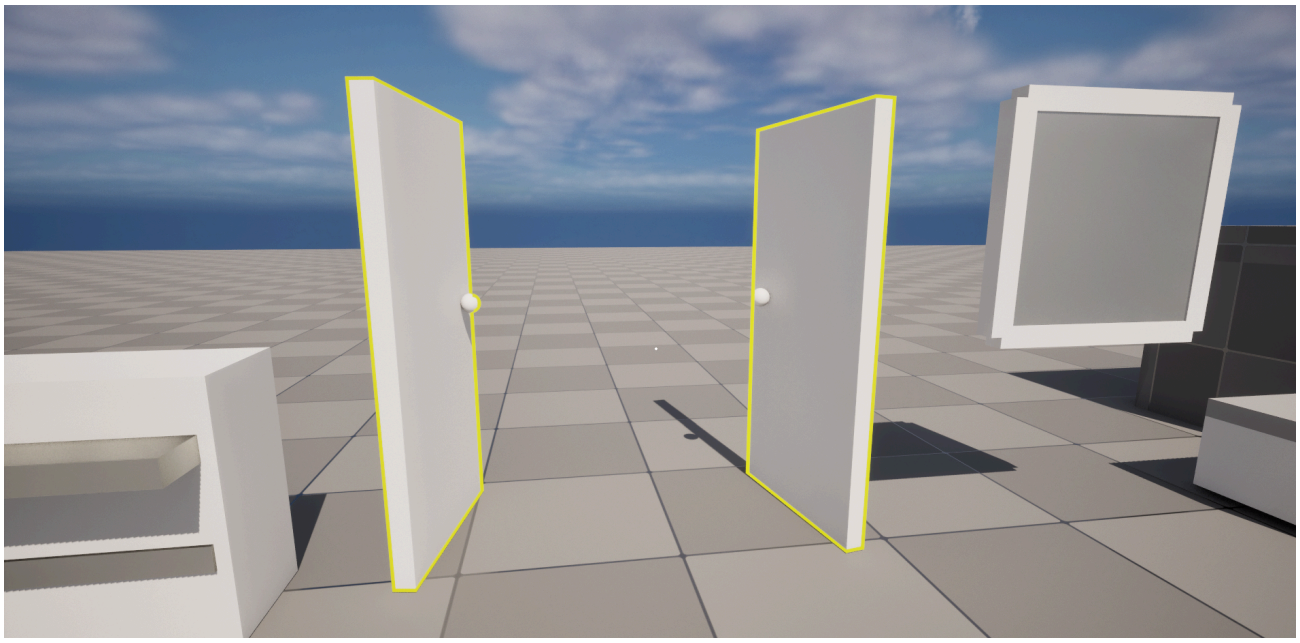
Open System Plugin

The Open System plugin allows any actor to be opened, closed, locked, or unlocked through a simple component-based setup. Define one or multiple openable points on any actor, with smooth animation, customizable transform targets, and lock state support. Works standalone or with the included flexible interaction system.

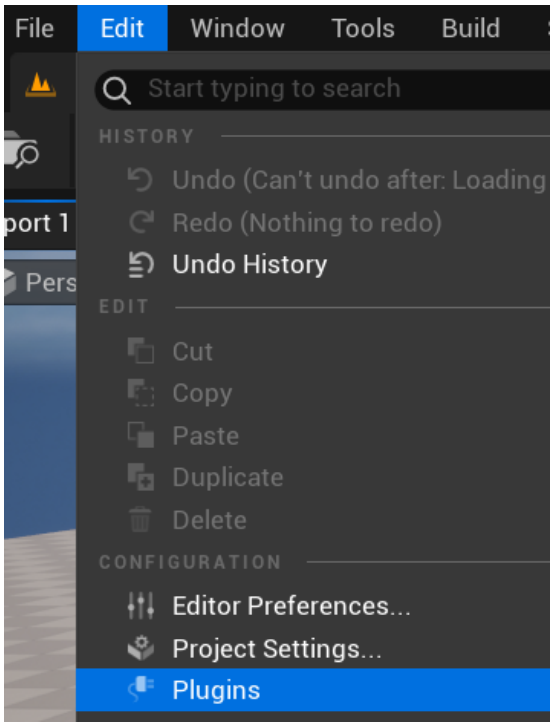
Disclaimer: This plugin relies on the Gameplay Interaction System for interacting with objects in the world, allowing them to be opened and closed. Refer to its documentation to learn how to set up interactions and create new ones for this plugin: Gameplay Interaction System Documentation. **This is optional**, if you don't need interactions you can ignore it and only use the Open System.

Help: louisgirard.games@gmail.com



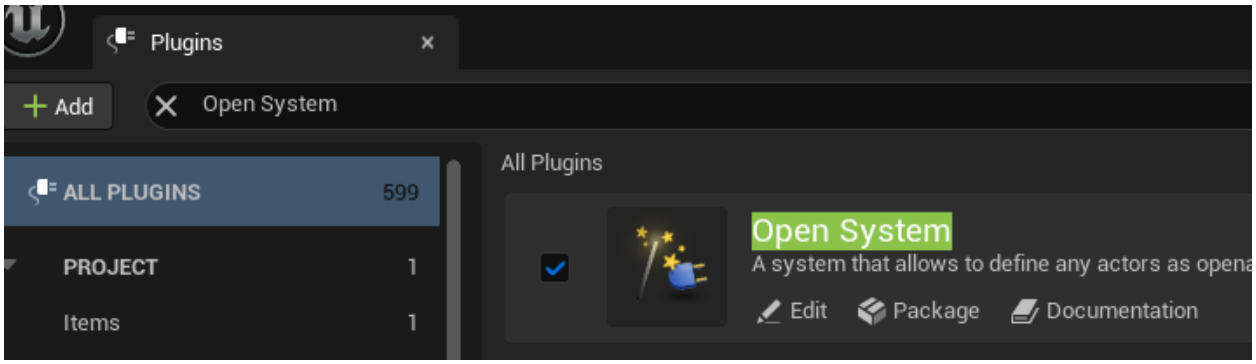
Activating the Plugin

Go to plugins



Enable the Open System plugin

Search for Open System and tick the box to enable it.

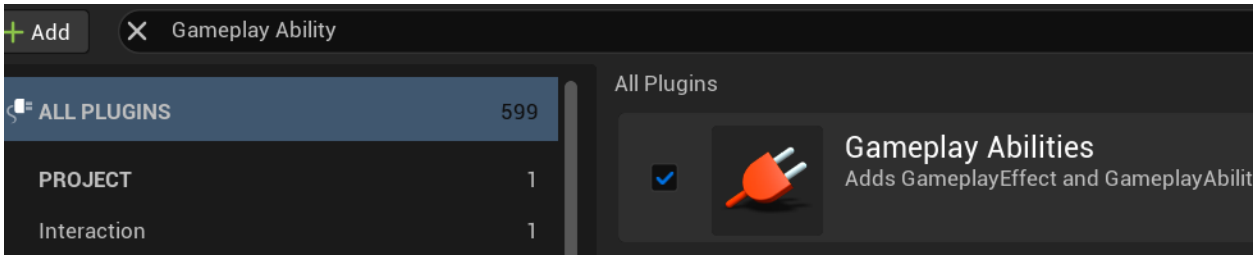


Enable the Gameplay Interaction System plugin

The Gameplay Interaction System already comes included in the Carry & Drop System plugin, so there is nothing to enable for that.

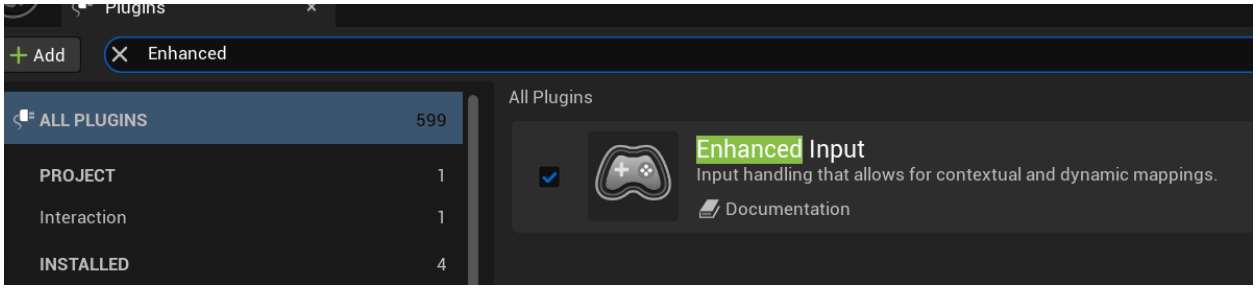
Enable the Gameplay Abilities plugin

If you didn't do it already as part of the Gameplay Interaction System Documentation, search for Gameplay Abilities and tick the box to enable it.



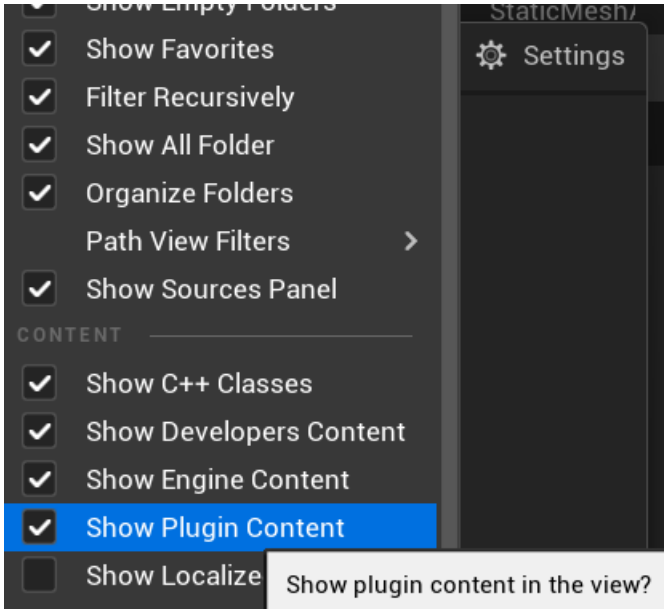
Enabled the Enhanced Input plugin

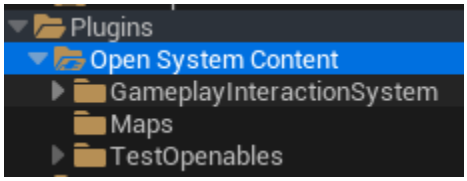
If you didn't do it already as part of the Gameplay Interaction System Documentation, search for Enhanced Input and tick the box to enable it.



Sample Content

Once the plugins are enabled you can enable the Plugin Content by going in the Content Browser and tick “Show Plugin Content”.





Disclaimer: As you can see, since the Gameplay Interaction System is included, there is a dedicated folder for it. You can follow the documentation on how to set up interactions from here: Gameplay Interaction System Setup

You can launch the **L_OpenSystem map** and start exploring the open interactions, or follow the documentation on how to set up openable actors and open interactions.

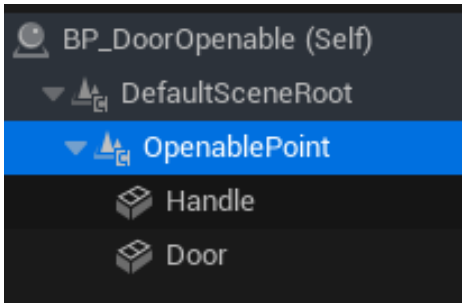
Character Setup

If you need Open / Close interactions you can use BP_GameplayInteractionCharacter which has been described in its documentation.

Openable Actor

Any actor can be opened, closed or locked. The only component that you need to add is the **Openable Point Component**.

Openable Point Component



This component is a Scene Component that you can place multiple times on your actors at all the places it could be opened. Below this component you will have to put all the meshes that should be impacted by the Open / Close actions (like a door rotating or a drawer moving).

Overview

Opened by Default

You can define if by default the component should be considered opened or closed.

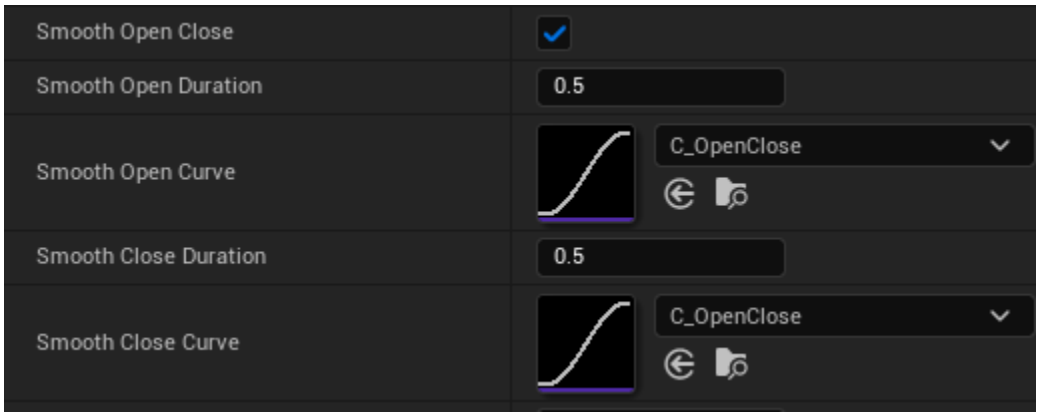
Locked by Default

You can define if by default the component should be considered locked or unlocked.

Opened Transform

You can define what the transform of the component should be when opened.
If you select **Opened Transform Offset** this transform will be applied on top of the current one to represent the opened transform. If you set it to false, the transform will be absolute and override the current one to represent the opened transform.

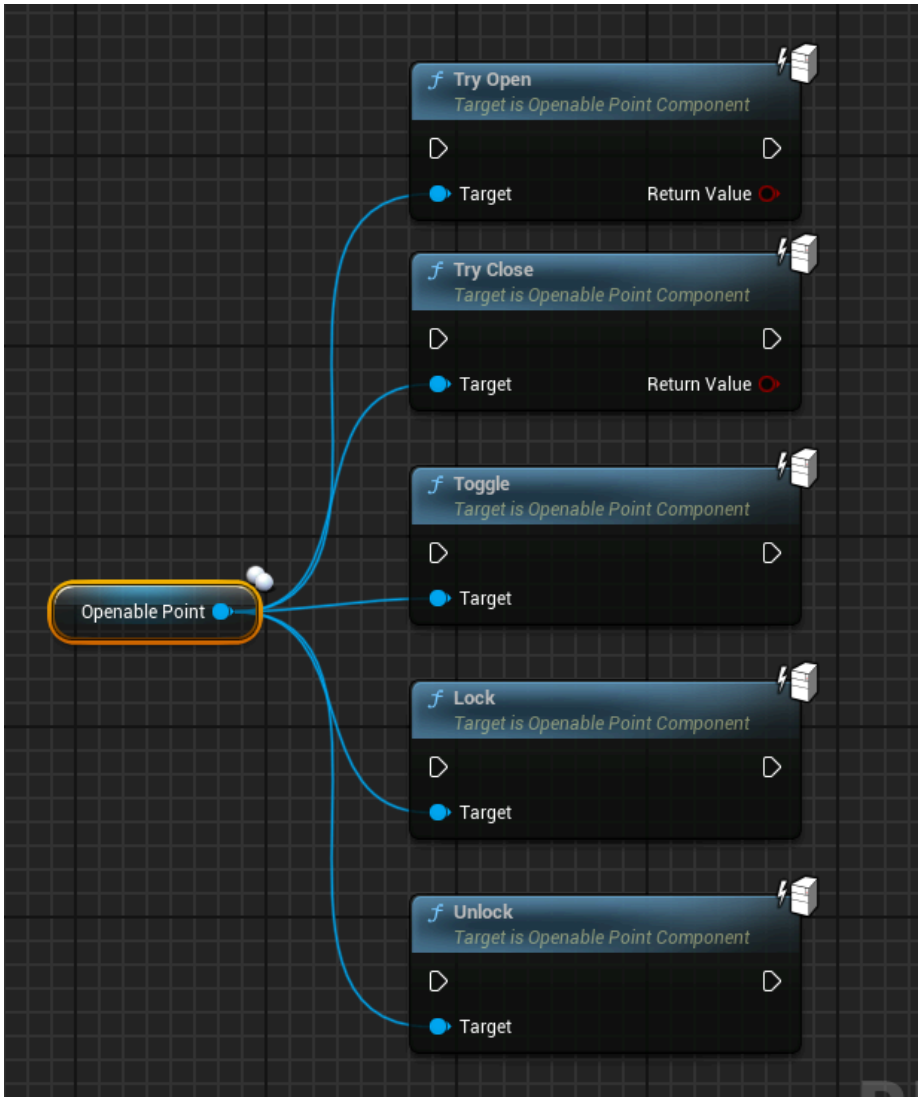
Smooth Open Close



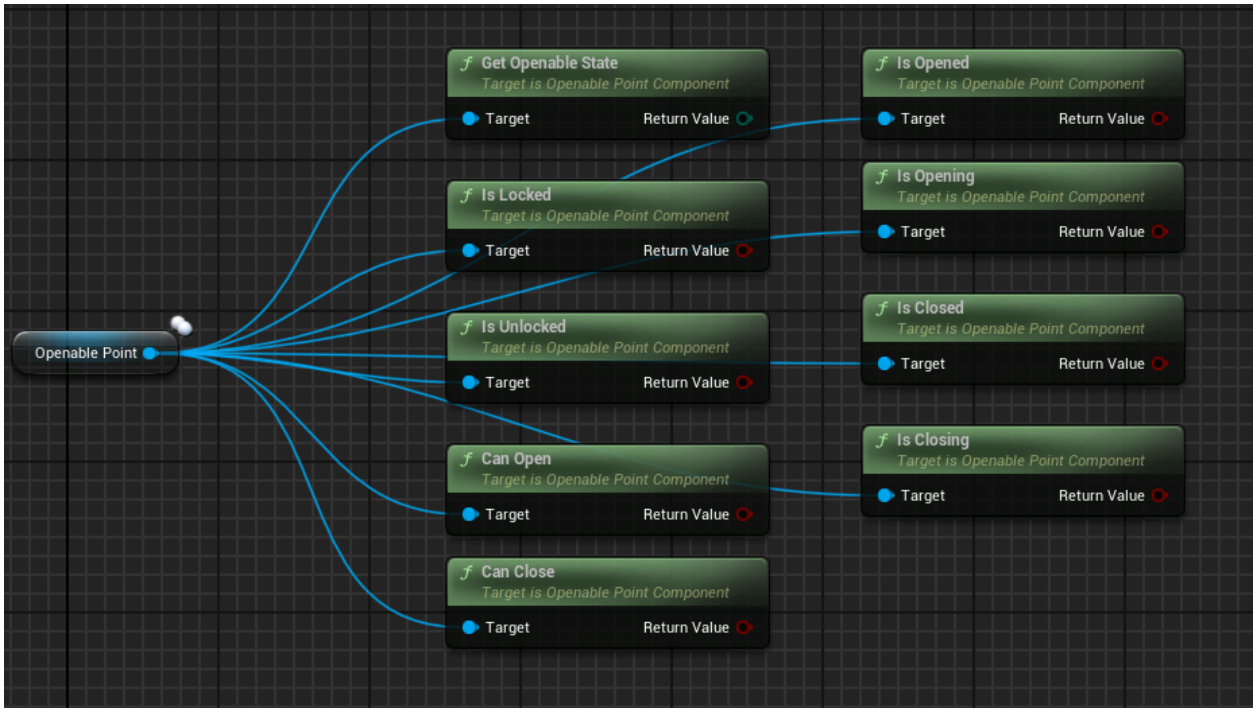
If you want the Open and Close to happen over a duration instead of instantly you can enable **Smooth Open Close.**

You can define the time it takes to Open and Close with **Smooth Open Duration** and **Smooth Close Duration**.
If you don't want the movement to be linear, you can define a curve (between 0 and 1) which represents the interpolation curve to go from Open to Close transform (and vice versa).

Functions

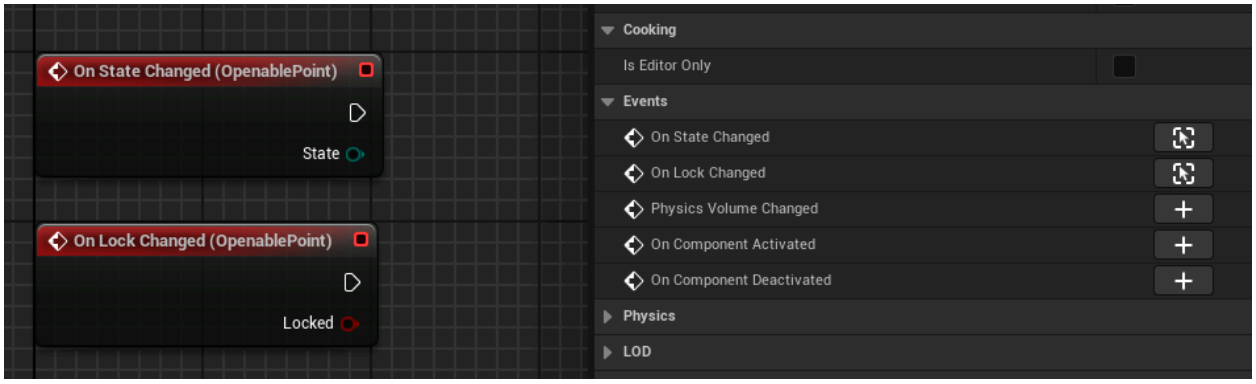


Here are some functions you can call on the **Openable Point Component** to Open, Close, Toggle, Lock or Unlock it.



Here are some other functions that you can use to check the state of the **Openable Point Component**, or if it can be opened or closed. More details in tooltips.

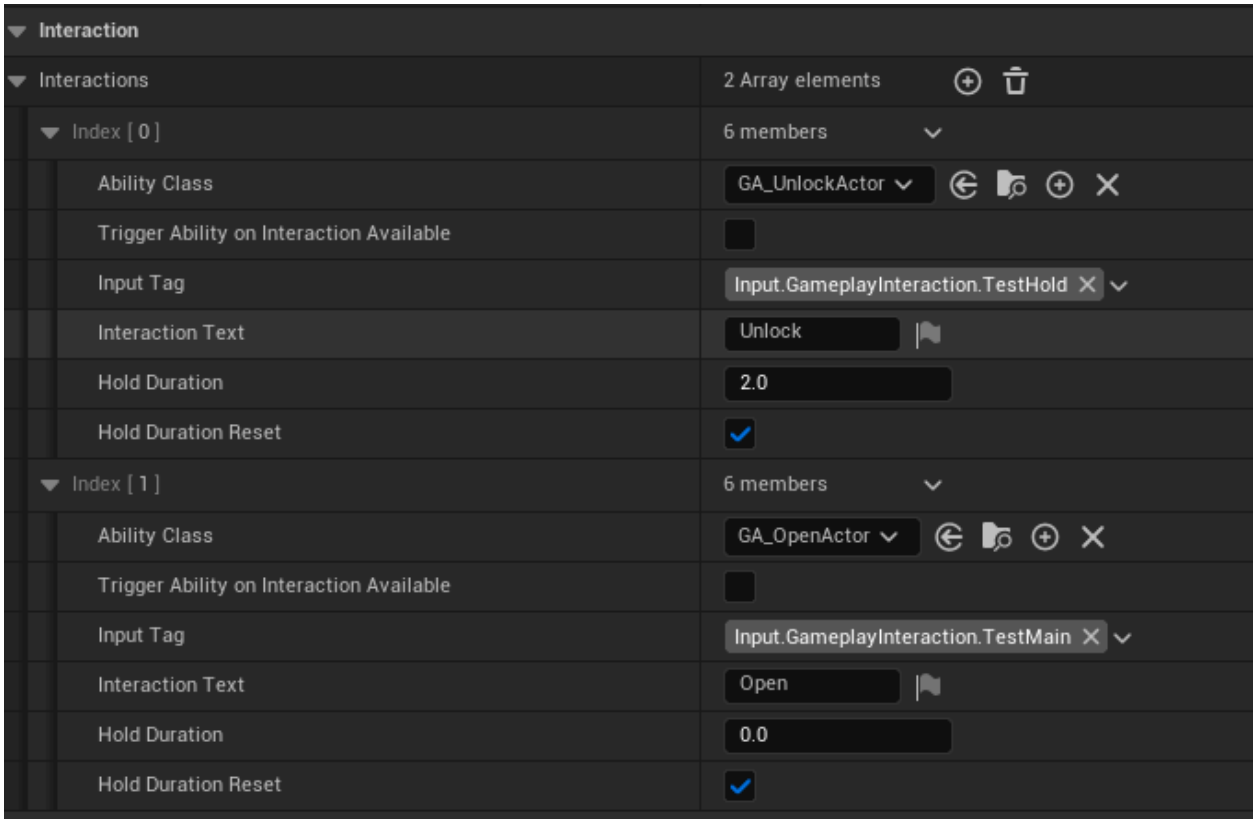
Delegates



You can listen to the state change of the component, to check if it's opened, opening, closed or closing. You can also listen to its lock changed, to see if it's locked or unlocked.

Open / Close Abilities

This section is only useful if you want to open, close or unlock actors with interactions.
Open, Close or Unlock can be done with Gameplay Abilities to benefit from the Gameplay Interaction System. They will be placed in the interactions of the different openable actors.

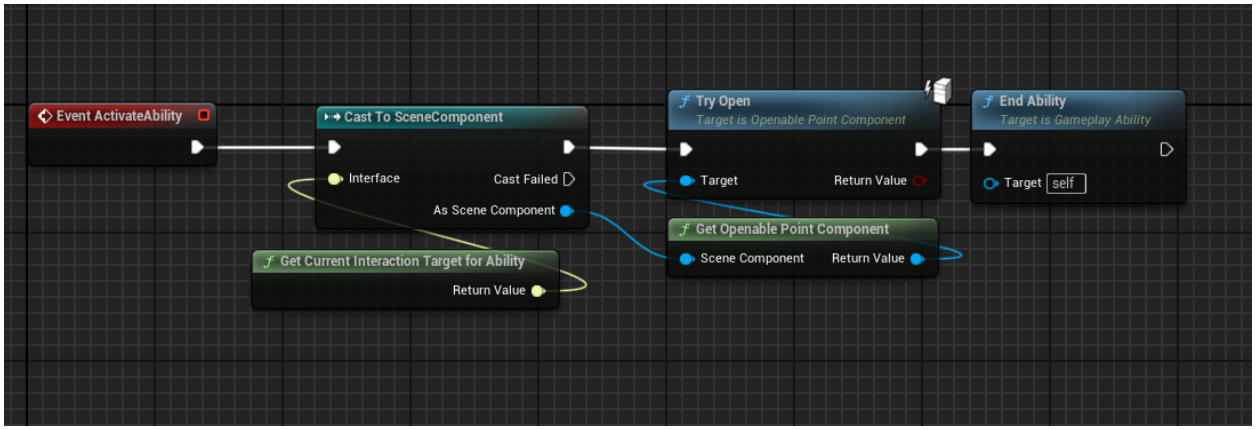


Every Gameplay Abilities have been done in Blueprint so you can customize them as you want. You will see the format of all the abilities is very similar.

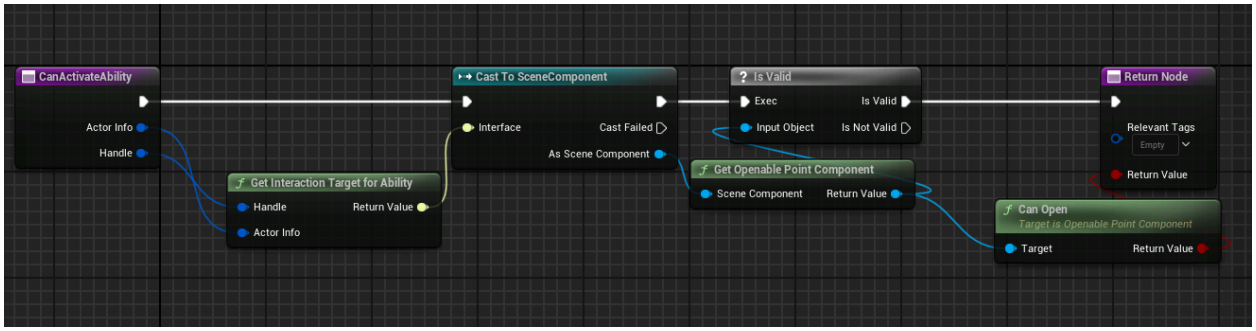
Open

Open Point

To Open an Openable Point Component we get the Interaction Target for the Ability (usually the Gameplay Interaction Component and get the associated **Openable Point Component**. Then we call **Try Open** on it.

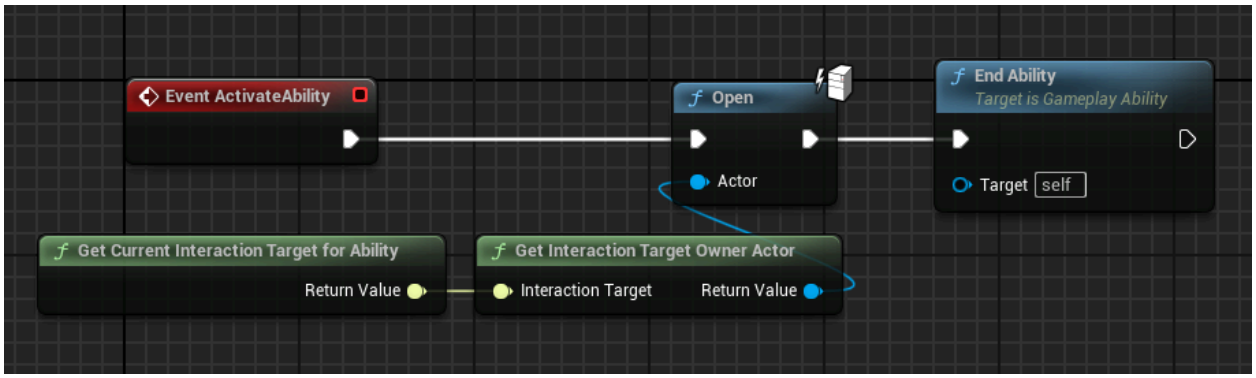


To check if we can open an Openable Point Component, we do the same thing but call **Can Open** instead.

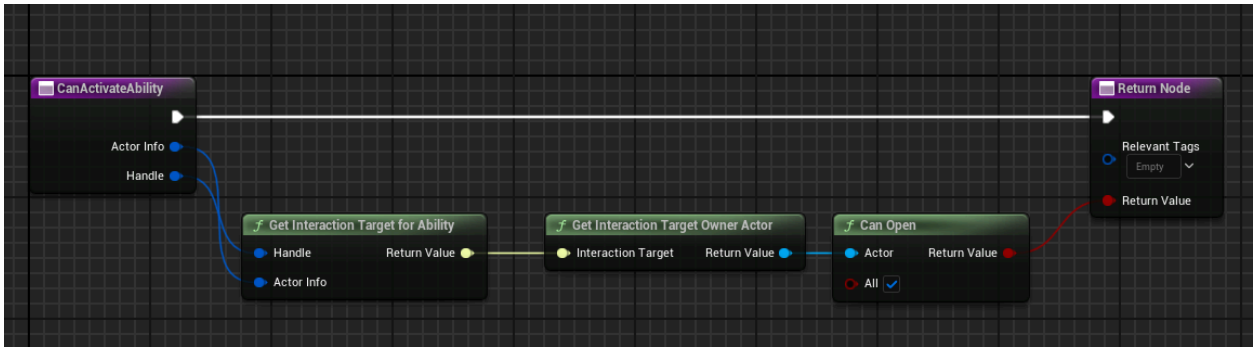


Open Actor

If you don’t care about opening a specific point of the actor but all of its components instead you can call **Open** on the Interaction Target Owner Actor instead.



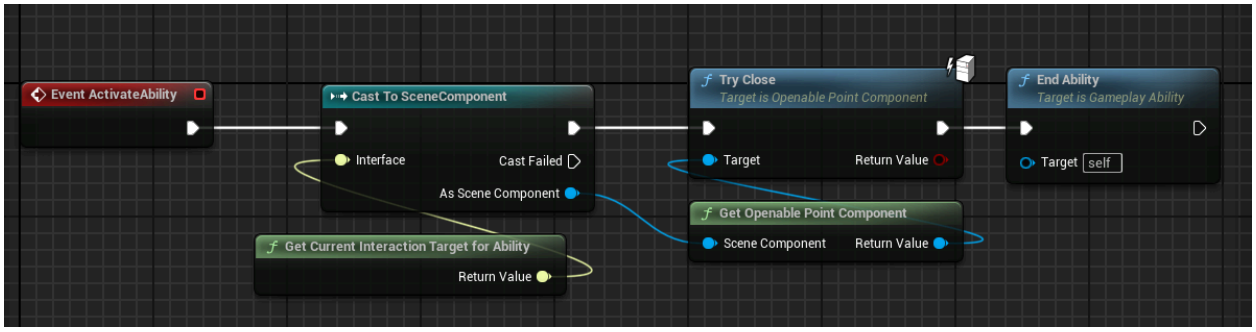
Same thing for **Can Open**

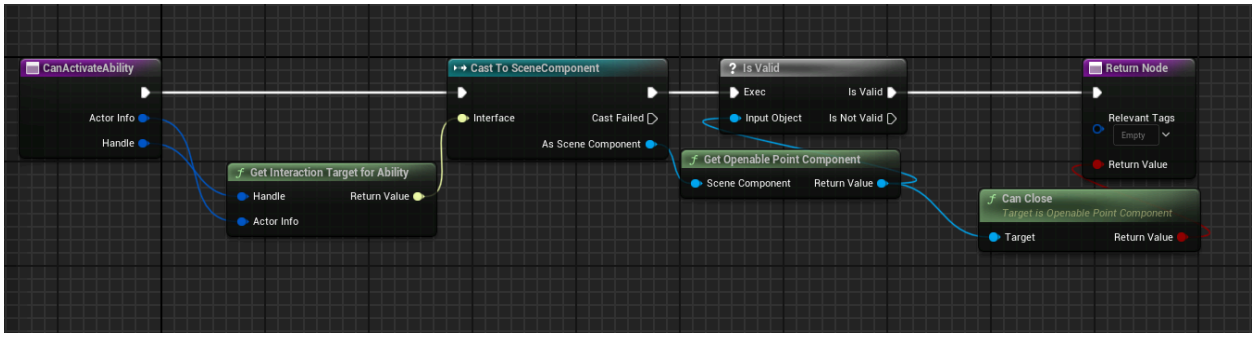


Close

Close Point

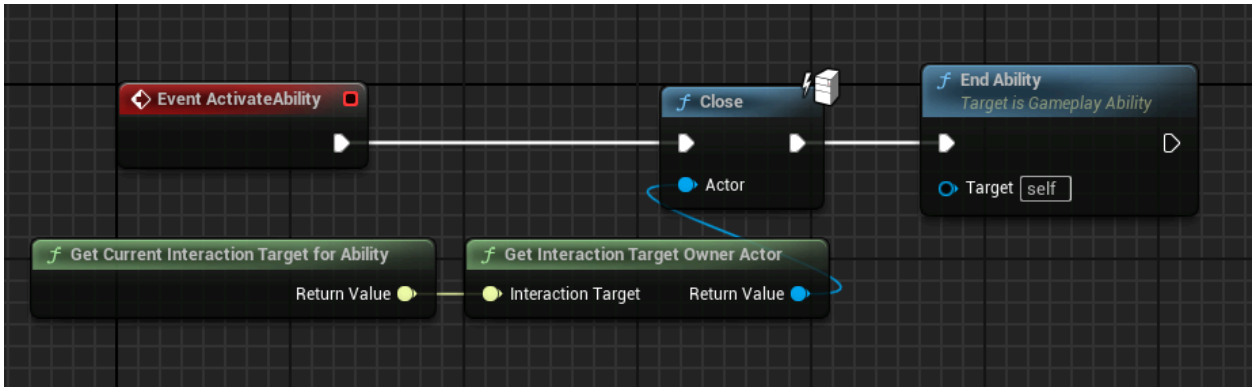
To close an Openable Point Component the logic is the same with **Try Close** and **Can Close**

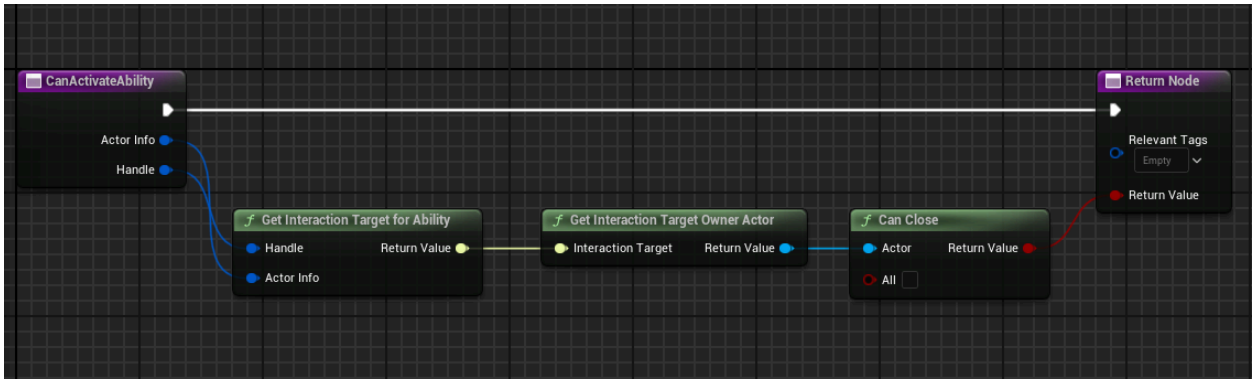




Close Actor

Same for closing an actor with **Close** and **Can Close**

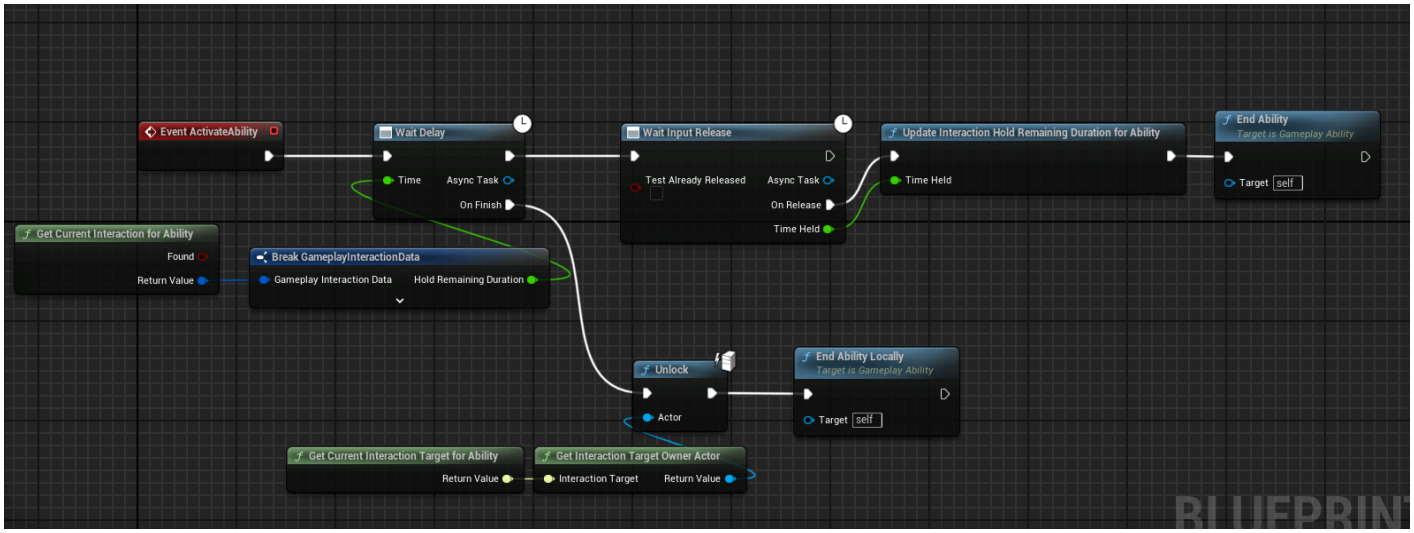




Unlock

To unlock a point or an actor the logic would be identical as before but with **Unlock** and **Is Locked.**

Let's take a look instead at the logic to unlock with a hold interaction. The logic will be the same as described in the [Gameplay Interaction System - Hold Interaction] but with the Open System.



We first use the **Wait Delay** ability task to wait for the Hold Remaining Duration. On finish we do the interaction logic, in our case Unlock.
Then we use the **Wait Input Release** ability task to wait for a release of the input, to end the interaction.
We need to call **Update Interaction Hold Remaining Duration For Ability** to update the remaining duration of this hold interaction.
The most important part to end the interaction normally is to use **End Ability Locally.** That way the client can finish the interaction and let the server finish the Hold Duration and end the ability normally on its side as well.

With all that you should have all the information needed to start using the plugin and customize it the way you want. If you feel there is some information missing or you don’t understand some part, feel free to contact me at louisgirard.games@gmail.com.