Documentation

Paint system

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1.0 Introduction

Create your own paintings in the game! You can choose from 4 pre-made painting meshes. Once your artwork is finished, you have the option to set a title and your artist name, and save the painting along with its data to load it later.

2.0 Setup

Step1:

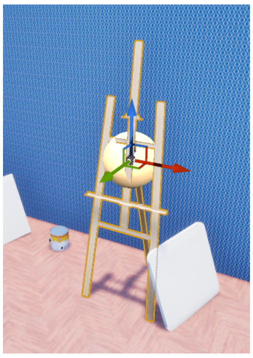
Enable "Blueprint File Utilities" plugin in your project

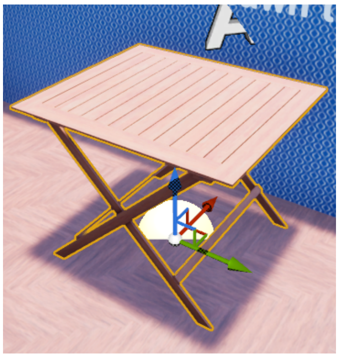
Step 2:

Enable "Support UV From Hit Results" in project settings.

Step 3:

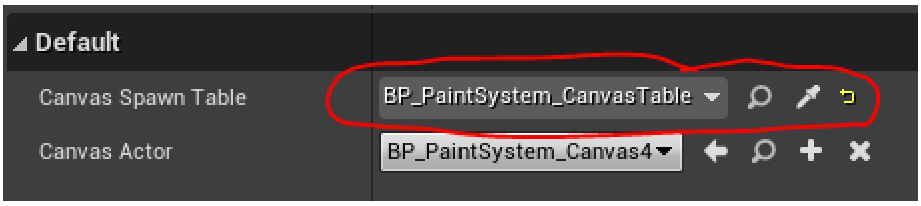
Place “BP_PaintSystem_Easel” in your level and “BP_PaintSystem_CanvasTable”.





Step 4:

Set the placed “BP_PaintSystem_CanvasTable” of step 3 in your easel default settings.



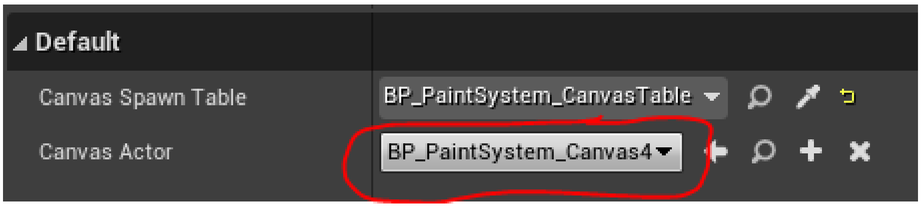
Default

Canvas Spawn Table BP_PaintSystem_CanvasTable

Canvas Actor BP_PaintSystem_Canvas4

Step 5:

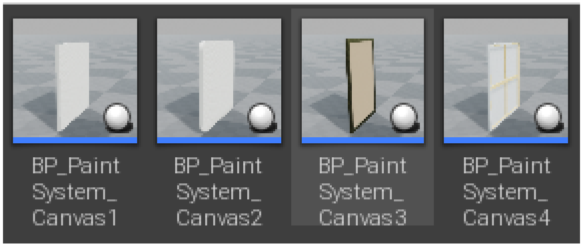
Set the preferred Canvas actor style.



Default

Canvas Spawn Table BP_PaintSystem_CanvasTable

Canvas Actor BP_PaintSystem_Canvas4



2.1 Create your own canvas bp actor

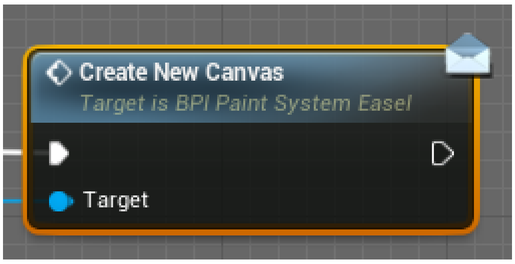
To create your own canvas actor, you need to create a child of the parent actor “BP_PaintSystem_Canvas_Parent”.
Adjust the box collision to fit your mesh.
It's important that your mesh has material slot 0 for the area to be painted and that the paintable material will be assigned to it.

2.2 Create canvas and drawing at runtime

To create a new canvas on your easel, call the interface function at runtime.

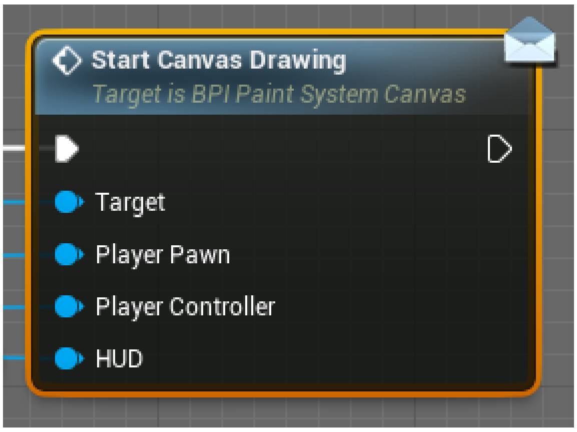
I recommend it in your “interact system”.

For example, look at the demo folder in the “BP_PaintSystem_Demo_ThirdPersonCharacter” class.



Step 7:

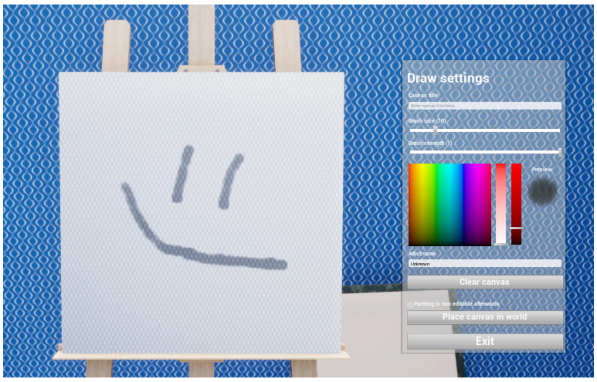
To start drawing ingame call the interface function on your canvas actor at runtime.



Pass your player pawn, player controller and your “hud widget” (if exists).

"Please refer to the BP_PaintSystem_Demo_ThirdPersonCharacter class in the demo folder for a comprehensible explanation.

3.0 Paint UI



Draw settings

Canvas title: Enter canvas title here...

Brush size (10)

Brush strength (1)

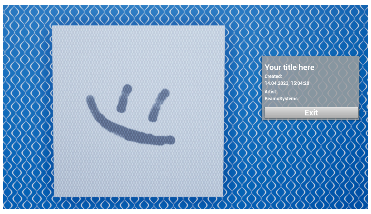
Artist name: Unknown

☑ Painting is non editable afterwards

1: Set your canvas title
2: Set the current brush size (also with mousewheel)
3: Set the brush strength
4: Set the brush color
5: Set the artist name of this canvas
6: Clear canvas: Clear your current drawing

7: “Painting is non edit-able afterwards

If checked:
Once the painting is saved, it cannot be edited anymore. When interacting with the painting, only the title, creation date, and author are displayed.

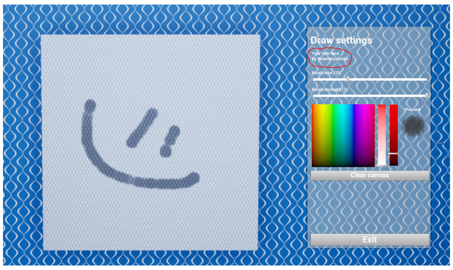


Your title here

Created:
14.04.2023, 15:04:28

Artist:
ReamoSystems

If not checked:
The painting can be edited again afterwards. However, the title and author are fixed and cannot be modified.



Draw settings

Your title here
by ReamoSystems

Brush size (15)

Brush strength (1)

8: Place canvas in world

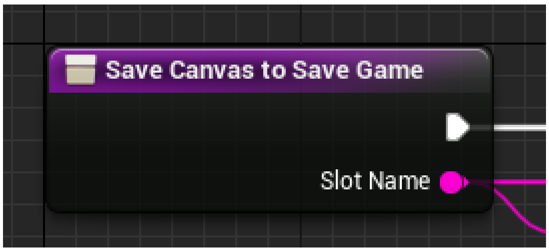
This function places your created painting on the "Spawn Table" set on the easel.
(2.0 Setup step 4)

4.0 Save / load / delete

For load and save place the invisible “BP_PaintSystem_CanvasIO” class in your level.

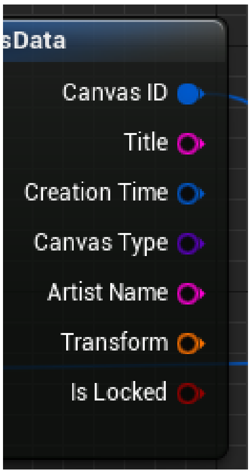
4.1 Save your canvas

To save your created canvas call the function on your “BP_PaintSystem_Canvas” (or parent) actor.

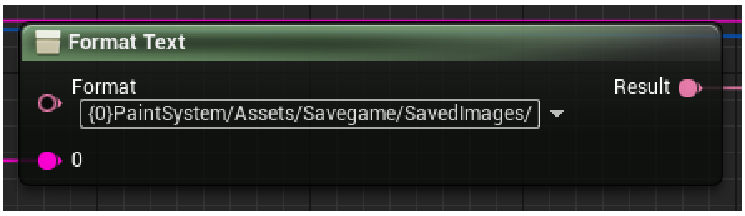


The saved painting consists of two parts.
The image texture is saved separately from the data, and each painting has a unique canvas ID.

The data part is saved in a save game with the slot name "PaintSystem" and includes the following data:



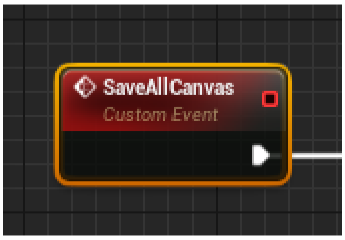
The texture is saved locally in the following project folder path:



{0}PaintSystem/Assets/Savegame/SavedImages/

4.1.1 Save all your canvas in level

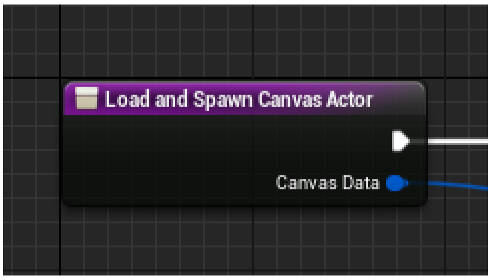
To save all your existing canvas in level (not on easel) at once use the



in your “BP_PaintSystem_CanvasIO”.

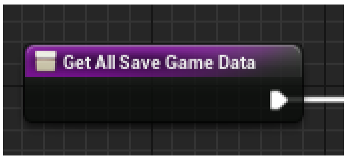
4.2 Load your canvas

To load a single saved canvas use the



in your “BP_PaintSystem_CanvasIO”.
It requires your canvas data from the save game.

To get all “canvas data” from savegame you can use the

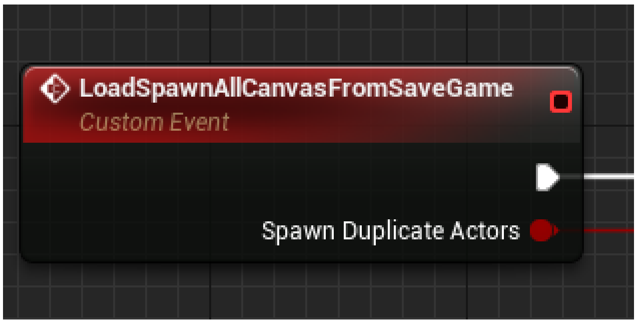


in your “BP_PaintSystem_CanvasIO”.
This function delivers an array with all saved “Canvas data”.

If you want to get the canvas data from an existing actor you can use the function “Get canvas data”.

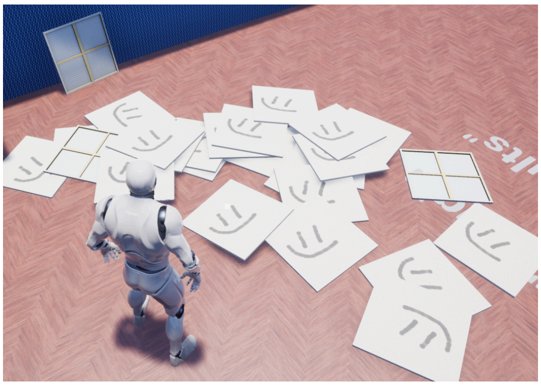
4.2.1 Load all your canvas in level

To load all saved canvas at once in your level use



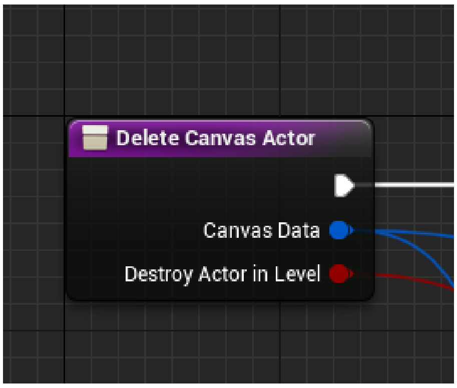
in your “BP_PaintSystem_CanvasIO”.
“Spawn duplicate actors” doesn’t check if a saved canvas already exists in level and spawn

If "Spawn Duplicate Actors" is set, it does not check whether a canvas already exists in the level. It spawns duplicates with the same ID.
Remember that only the first canvas will be saved.



4.3 Delete your canvas

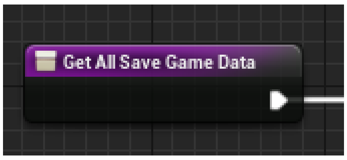
To delete a canvas just use



in your “BP_PaintSystem_CanvasIO”.

It requires your canvas data from the save game.

To get all “canvas data” from savegame you can use the



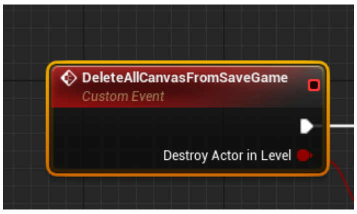
in your “BP_PaintSystem_CanvasIO”.
This function delivers an array with all saved “Canvas data”.

If you want to get the canvas data from an existing actor you can use the function “Get canvas data”.

The option “Destroy Actor in Level” destroys the physical actor in your level beside deleting your canvas save game data.

4.3.1 Delete all your canvas in level

To delete all your saved canvas actor in your level use the event



in your “BP_PaintSystem_CanvasIO”.