Renovation Simulator

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Developer & Content Creation

for the **Unreal Engine Marketplace**

1. Introduction

This document is there to help you master the Asset **Renovation Simulator**. It is written so that you can from an empty project, integrate with ease all the features with the complete description of their operation. If you are already using a project or the example project, it is possible that some information is not useful.

The asset was created to meet several needs and types of games. It is therefore possible that some features do not suit you or are too much, in most cases it is possible to customize all the features that are offered.

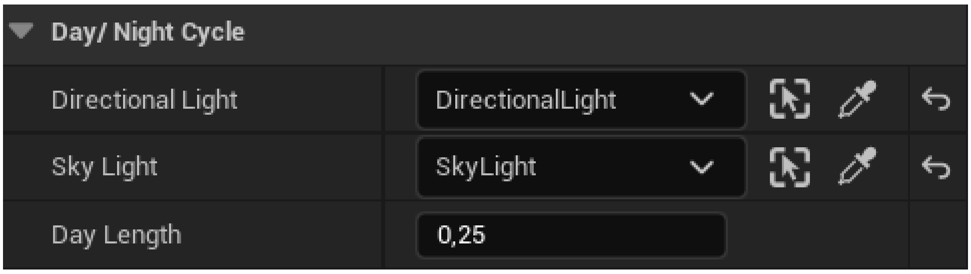
I thank you for your confidence and wish you success in your project.

The game keys are as follows:

Action	Input
Moving	WASD
Jump	Space
Interact	F
Pause Menu	P
Wheel Menu	Middle Mouse Button

2. Day/Night Cycle

To implement the day/night cycle, you must drop the **BP_TimeDay** Blueprint in your scene, available in the */Blueprints* folder. You will have the 3 parameters below to complete:



Day/ Night Cycle

Directional Light: DirectionalLight

Sky Light: SkyLight

Day Length: 0,25

- **Directional Light**
  - Select the Directional Light present in your scene.
- **Sky Light**
  - Select the Sky Light present in your scene.
- **Day Length**
  - Duration and speed of a day, by default the value is *0.25*.

The Clock

The clock is directly linked to the day/night system. If you speed up the day/night cycle then the clock will also run faster.

You can add the clock to your HUD, by dropping the **WBP_Clock** child widget into your main widget. The child widget is located in the */Blueprints/Widgets/Childs* folder.

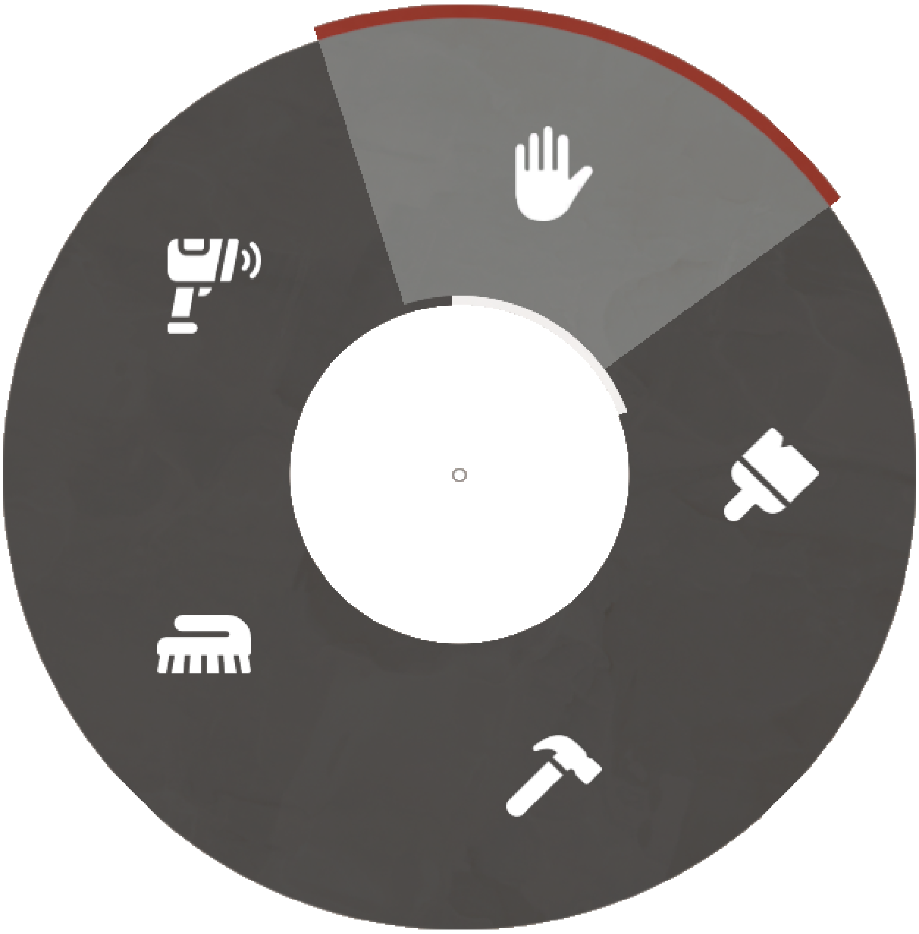
The number of days is added automatically at the end of each day at **0:00**.

3. Selection wheel

The selection wheel is used to select tools for various tasks. The wheel uses dynamic material, which means you can easily change the number of parts in the wheel without modifying the code.

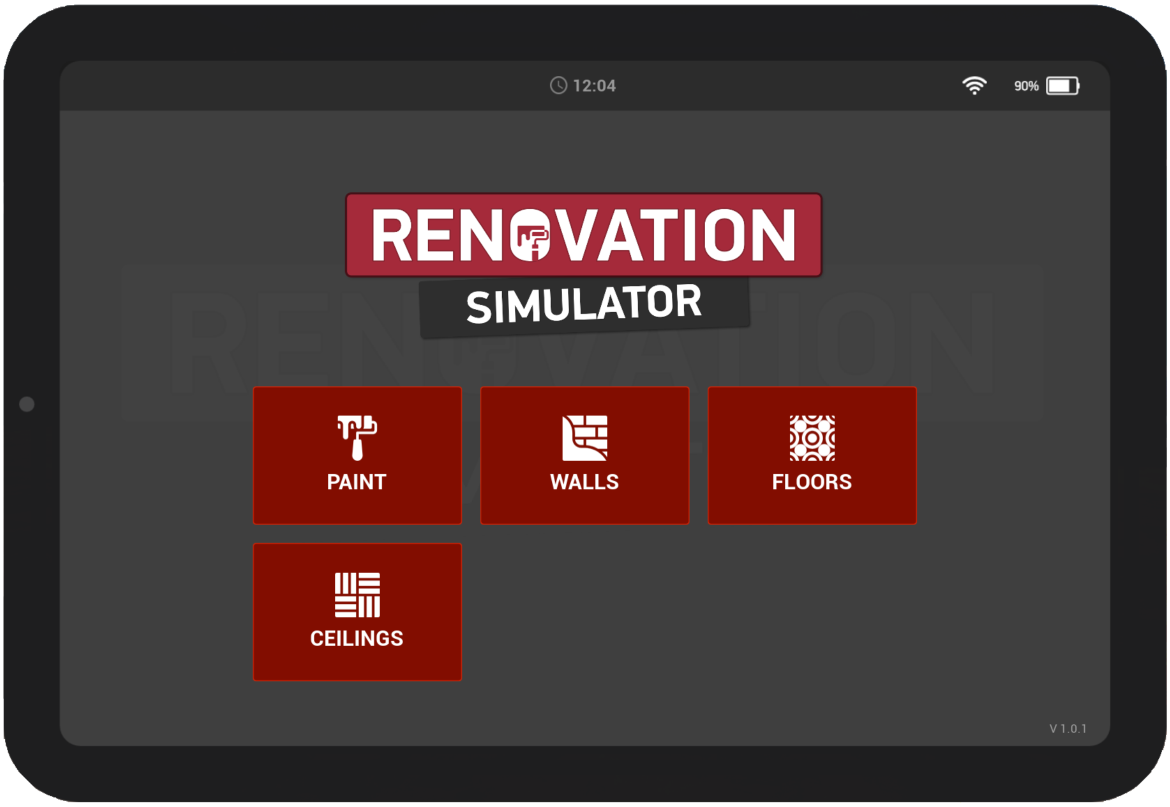
To update the wheel, you need to modify the **DT_Tools** database, located in the */Blueprints/Databases* folder. From this database, you can modify the tool name and the icon that appears in the wheel. You can modify, add or delete items in the database, which will automatically update the selection wheel.

The red border around the wheel indicates the currently selected tool. The tool is selected once the player releases the wheel key, by default, the selected tool is the hands *(Tool_01)*.



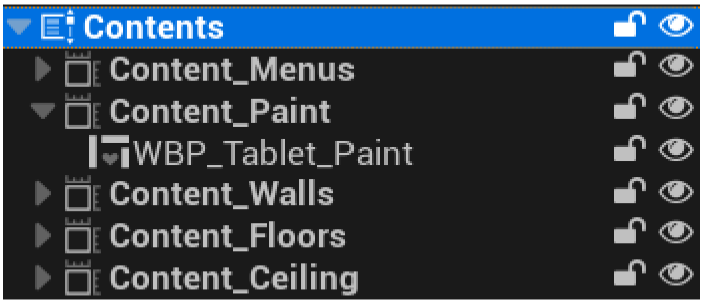
4. The tablet

The tablet brings together the main gameplay interaction. It is composed of a main widget which is called **WBP_Tablet** and its children which always have the prefix **WBP_Tablet_{child_name}**. The main widget is located in the */Blueprints/Widgets* folder while the children are placed in the */Blueprints/Widgets/Childs* folder.



Contents

The contents in the tablet are the widgets that will be displayed based on the interactions. Each content is placed in the Scroll Box called **Contents**. Contents are Size Boxes that contain child widgets.



```
Contents
  Content_Menus
  Content_Paint
    WBP_Tablet_Paint
  Content_Walls
  Content_Floors
  Content_Ceiling
```

To add or modify content, simply drop a widget into the size box from the **User Created** tab of the palette. The widget dropped into the appropriate content will automatically be displayed with the transition, this should have the horizontal and vertical alignment set to **Fill**.

The main menu

The main menu is the only tablet element that is manageable in the main widget. It is the central element that displays the content in the tablet based on the widget.

The main menu is composed of a grid of buttons, each button call via the On Clicked event the Change **Content function**.

5. Interaction system

The interaction system makes it possible to define the outline of an object and to display the action to be performed when the player looks an object in the face.

Outline

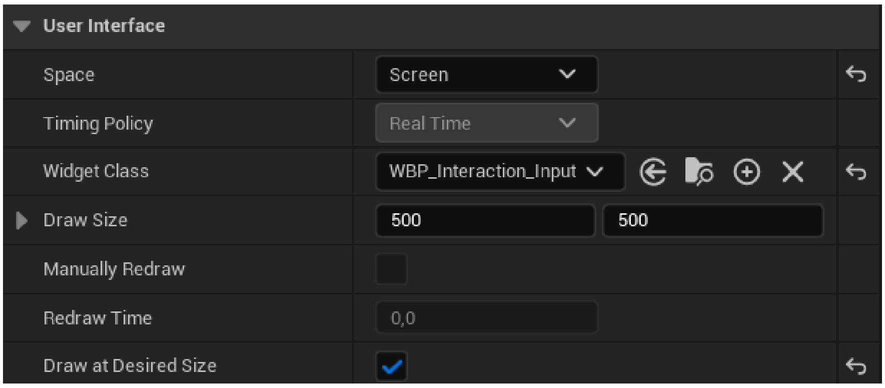
The outline is a material that you can customize, to create your material and assign it follow these steps:

- ➔ Access the */Materials* folder, right-click on the **M_Outline** material and click on **Create Material Instance**
- ➔ Give the new material a name and double-click it.
  - ◆ In the **Details tab**, you can change the Thickness which represents the border thickness and color.
  - ◆ By default the Thickness has a value of **2.0** and the color is **White**.
- ➔ Now add in your scene a **PostProcessVolume**, look for the **Post Process Materials** option and add an entry with your material as the value.
- ➔ Open the **Project Settings** and go to the *Engine > Rendering > PostProcessing* section.
  - ◆ In the **Custom Depth-Stencil Pass** option, choose the value **Enabled** with Stencil.

Widget

An interaction widget can be added when the player interacts with an object. To do this, add a **Widget component** to your actor, filling in the following options:

- ➔ Choose **Screen** for the Space option.
- ➔ In the **Widget Class** option, add the widget you want to appear during the interaction.
- ➔ Check the **Draw at Desired Size** option.
- ➔ In the Rendering tab, check the **Hidden in Game** option.



User Interface

Space	Screen
Timing Policy	Real Time
Widget Class	WBP_Interaction_Input
Draw Size	500 500
Manually Redraw	□
Redraw Time	0,0
Draw at Desired Size	☑

6. Money System

Money is used to buy items, and can be earned by selling items or completing a mission. Money can be added to or withdrawn from the balance at any time, using the **Money_Add** and **Money_Remove** functions in the **BP_FirstPersonCharacter** Blueprint.

By default, current money is set to *$1500*. To change this value, modify the **Money_Current** variable in Blueprint **BP_FirstPersonCharacter**.

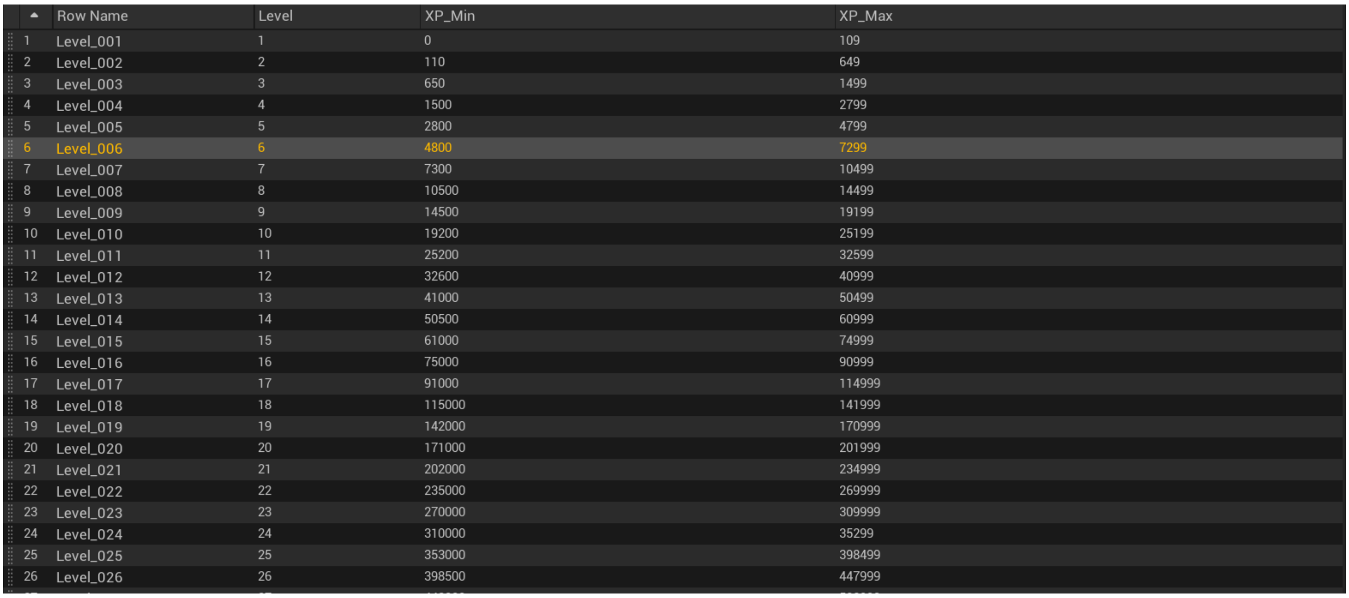
Gain

Find out more about money-making actions below:

Action	Blueprint	XP
Completing an objective	WBP_Objectives	$500
Complete all objectives	WBP_Objectives	$1,000

7. Levels

The player's level is defined by the experience gained. Levels are defined in a **database**, which indicates the name of the level and the starting and ending experience. The database is located in the */Blueprints/Databases* folder and is named **DT_Levels**.

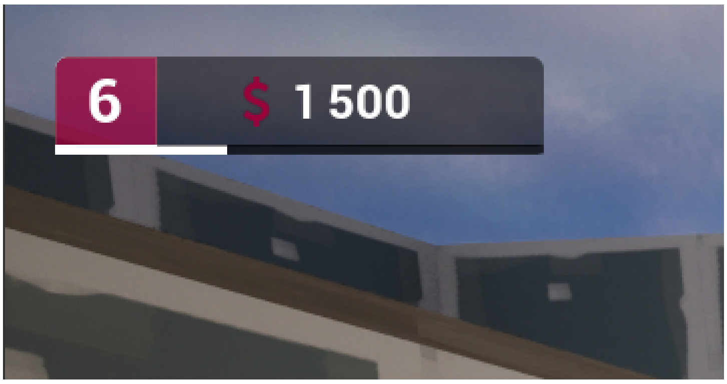


	Row Name	Level	XP_Min	XP_Max
1	Level_001	1	0	109
2	Level_002	2	110	649
3	Level_003	3	650	1499
4	Level_004	4	1500	2799
5	Level_005	5	2800	4799
6	Level_006	6	4800	7299
7	Level_007	7	7300	10499
8	Level_008	8	10500	14499
9	Level_009	9	14500	19199
10	Level_010	10	19200	25199
11	Level_011	11	25200	32599
12	Level_012	12	32600	40999
13	Level_013	13	41000	50499
14	Level_014	14	50500	60999
15	Level_015	15	61000	74999
16	Level_016	16	75000	90999
17	Level_017	17	91000	114999
18	Level_018	18	115000	141999
19	Level_019	19	142000	170999
20	Level_020	20	171000	201999
21	Level_021	21	202000	234999
22	Level_022	22	235000	269999
23	Level_023	23	270000	309999
24	Level_024	24	310000	35299
25	Level_025	25	353000	398499
26	Level_026	26	398500	447999

- ➔ By default, 100 levels are defined.
- ➔ You can modify and/or add as many levels as you like, and each modification will automatically be taken into account in the level system.

Widget

The level widget is called **WBP_Level** and is located in the */Blueprints/Widgets/Childs* folder. It displays the player's current level, as well as the progress bar for current and remaining experience.



Functions

In the **BP_FirstPersonCharacter** blueprint, you'll find several functions to help you manage levels.

- ➔ **Level_Current_XP**
  - ◆ This function retrieves the player's current level based on experience.
- ➔ **Level_Add_XP**
  - ◆ This function adds experience to the player's current XP.
- ➔ **Level_Remove_XP**
  - ◆ This function removes experience from the player's current XP.

XP

Here are the actions that give experience by default:

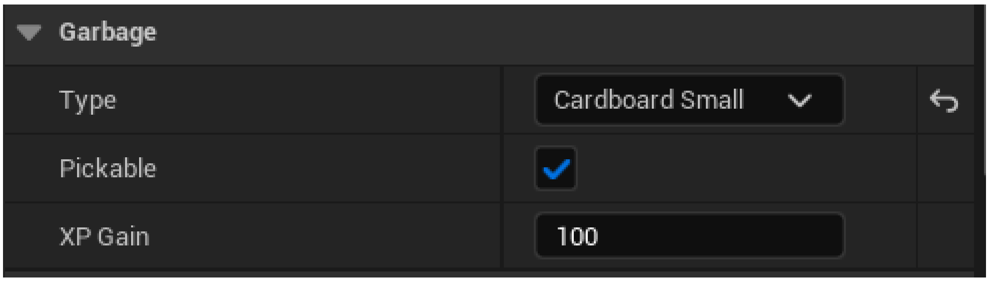
Action	Blueprint	XP

Picking up garbage	BP_Garbage	100 XP
Completing an objective	WBP_Objectives	1,000 XP
Complete all objectives	WBP_Objectives	5,000 XP
Cleaning up dirt	BP_Dirt	150 XP
Paint	BP_Wall, BP_Wall_Door & BP_Pillar	100 XP
Floor		100 XP
Repair	BP_Fence_Broken	200 XP
Sell	BP_Sell	250 XP

8. Garbage

Garbage is an object that players can pick up to clear a level. To add a garbage item, select the **BP_Garbage** blueprint in the */Blueprints/Interactions* folder and drop it into your level. For each piece of garbage you'll have the parameters below, which you can customize.

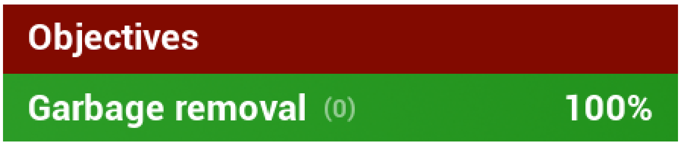
- ➔ **Type**
  - ◆ Garbage type (Mesh + Material).
- ➔ **Pickable**
  - ◆ Can garbage be picked up?
- ➔ **XP Gain**
  - ◆ The number of XP earned by picking up garbage



Garbage

Type	Cardboard Small
Pickable	☑
XP Gain	100

As soon as you add at least one piece of garbage to your level, it automatically adds the objective with the number and percentage of garbage to collect. The objective turns green when the player has collected all the garbage.



Objectives

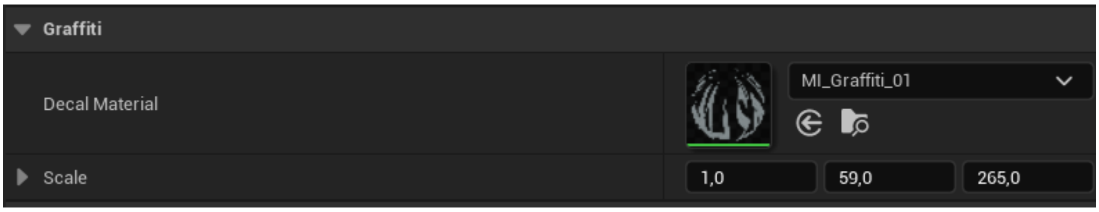
Garbage removal (0) 100%

9. Dirt

Dirt is a decal placed on the floor or walls, they can be cleaned with a sponge.

To add dirt, you need to add the **BP_Dirt** blueprint to your scene, in the */Blueprints/Interactions* folder. Then choose a material from the **Decal Material** option. By default, dirt materials are called **MI_Graffiti_X**.

You can also choose its size in the **Scale** option, taking care to keep the thickness light so that it doesn't protrude over the other side of the wall.



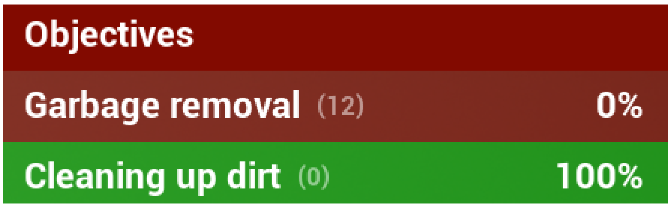
Graffiti

Decal Material: MI_Graffiti_01

Scale: 1,0 | 59,0 | 265,0

- ➔ **Decal Material**
  - ◆ Decal material instance.
- ➔ **Scale**
  - ◆ Decal size on X, Y and Z axes.

As soon as you add at least one piece of dirt to your level, it automatically adds the objective with the number and percentage of dirt to be cleaned. The objective turns green when the player has cleaned all the dirt.



Objectives

Garbage removal (12) 0%

Cleaning up dirt (0) 100%

10. Support

If you have any problems, you can contact the information below:

1. **Discord:** https://discord.gg/g9Xx4MKRgB
2. **Email:** contact@manu.dog
3. **Unreal Engine Marketplace:** https://www.unrealengine.com/marketplace/en-US/profile/Manudog