

# GLAMOR Image Effect Stack Framework



GLAMOR v1.0



# GLAMOR URP Setup Guide

## Overview

The **GLAMOR Image Effect Stack Framework** system is a next generation image effects framework for Unity URP.

The system is compatible with [Sky Master ULTIMATE URP](#) version, and can be combined with the **Ethereal** module to add volumetric lighting to further enhance the look.

The system also includes a screen space sun shafts effect to quickly add volume to the atmosphere when the sun is inside or near the camera field of view.

**GLAMOR** can be upgraded with a big discount to the [Environment Building Bundle](#) that includes **Sky Master ULTIMATE** and all other major [ARTnGAME](#) assets.

For quick start on the main system, please refer to the tutorial video playlist in the following link:

[GLAMOR Tutorial Playlist](#)

Video playlist showcasing the use of GLAMOR with Sky Master ULTIMATE URP Volumetric Lighting & Cloud and LUMINA Real Time global illumination.

[GLAMOR with Sky Master ULTIMATE URP Video](#)

For any questions please contact me in ARTnGAME discord channel:

<https://discord.gg/X6fx6J5>

Or in ARTnGAME email:

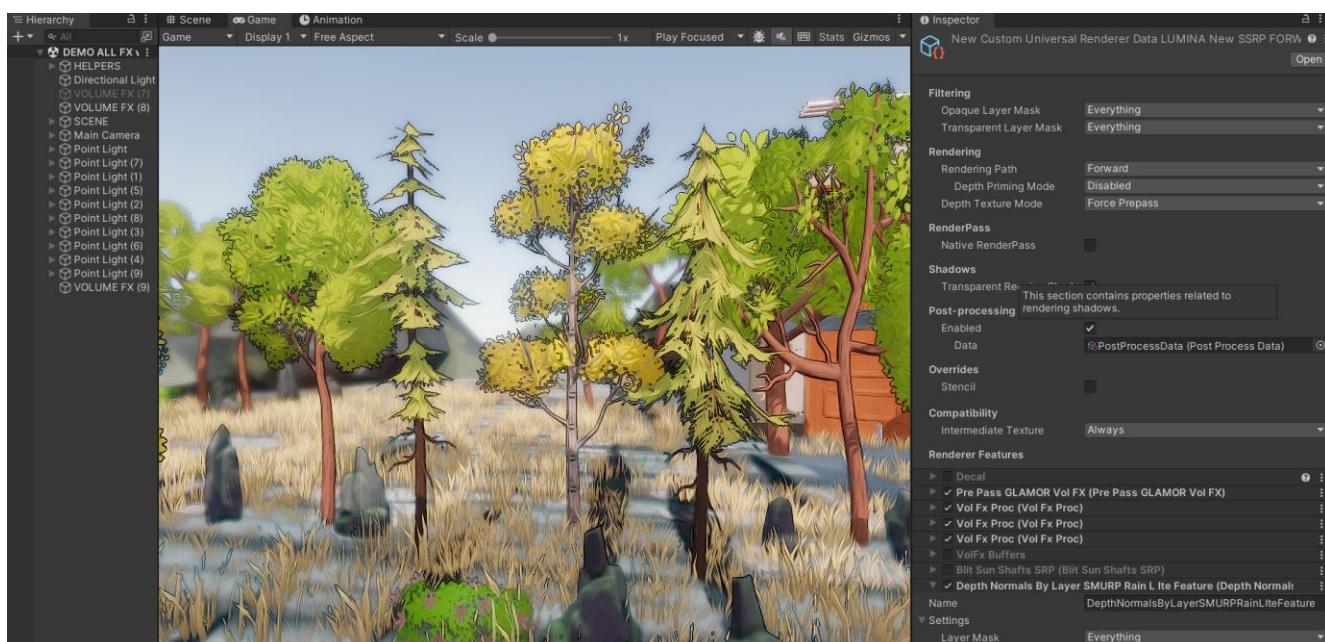
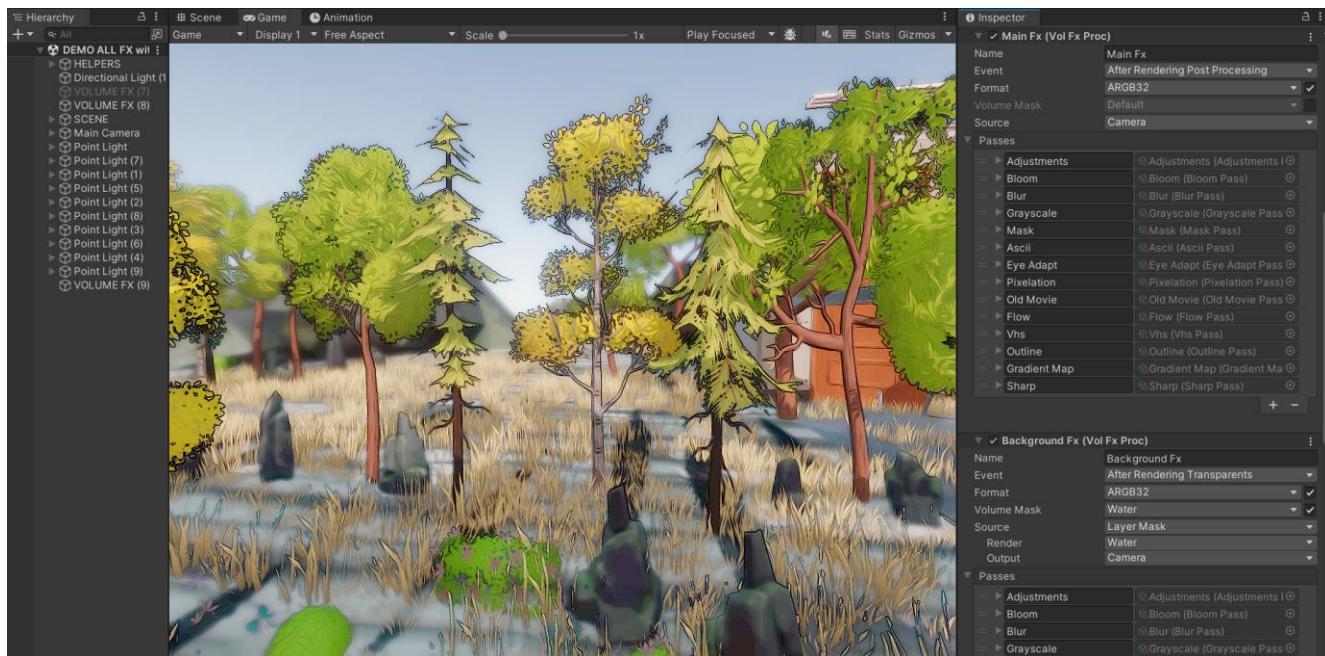
[artengames@gmail.com](mailto:artengames@gmail.com)

# GLAMOR URP Setup steps

The system setup requires the URP pipeline to have been setup and **two forward renders** assigned to the pipeline Renders list, **one for the GLAMOR effects** and **one for the Depth Normals texture creation**, used for the Rain FX.

It is advised to add a third renderer without any image effects, that will be used for the case where other helper cameras need to be rendered without effects applied. This third renderer can be set as first default option, so helper cameras that automatically grab the default renderer are not affected.

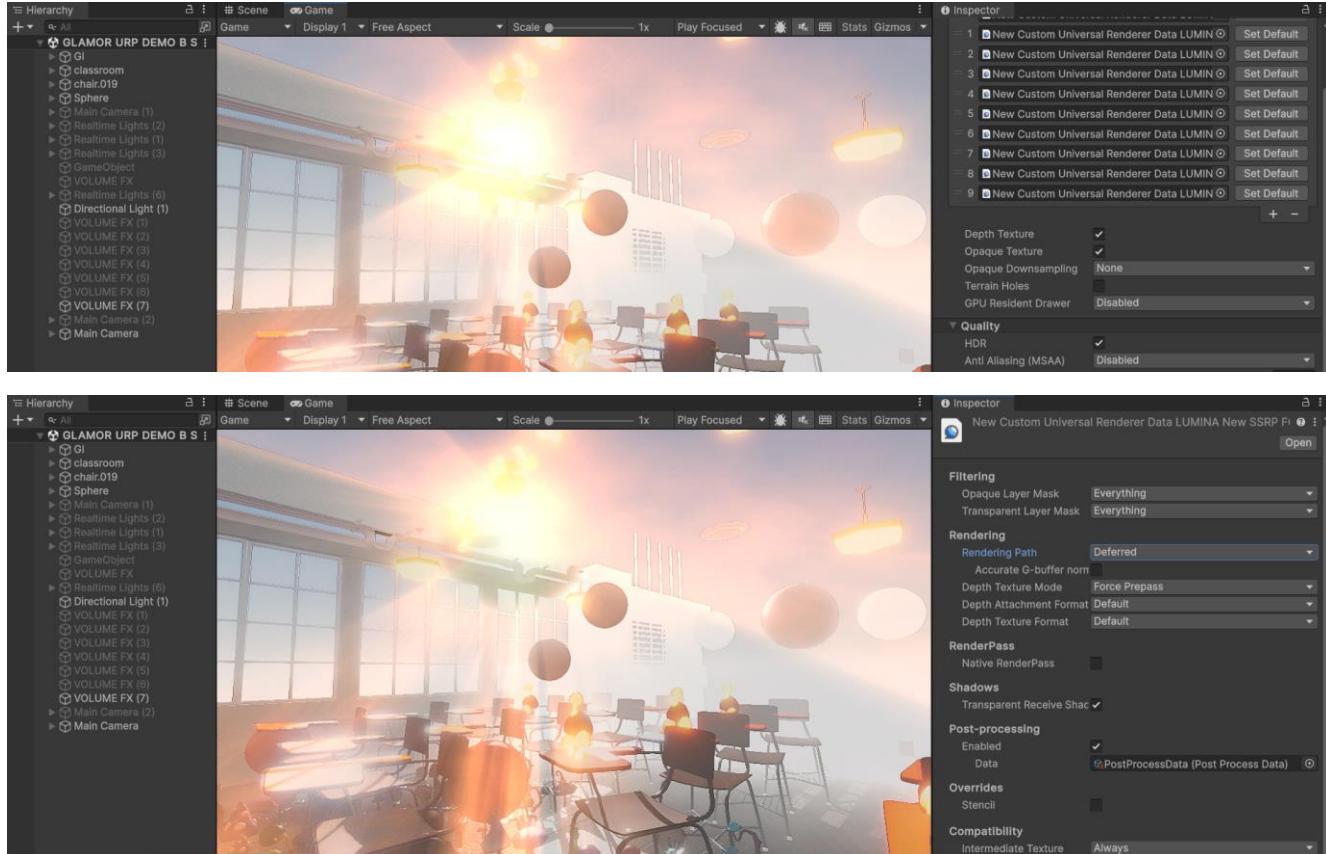
**The effects are setup** by adding the “**VolFxProc**” renderer feature in the renderers and **then add effects in its stack** as shown in the following images. Can **choose between affecting the full screen** by Camera option in Source or **select layers to affect** by the Layer Mask option in Source.



**IMPORTANT:** For use with Unity 6 or Unity 2023.3 Render Graph, a special initializer renderer feature named “**PrePassGLAMORVolFX**” must be inserted in the renderer and set to after image effects in render order, in order for the framework to function.

The “**Depth Texture**” and “**Opaque Texture**” checkboxes in the URP pipeline main settings must be enabled. Also **Linear color space** must be used, as the system is configured for that mode.

**IMPORTANT:** In some cases and Unity versions it is required to either enable or disable the 2x AA in **URP pipeline settings**, for the color buffer to be available correctly from Unity. In Unity 2023.3 can use any of Forward, Deferred and Forward+ and remove the 2x AA.



**IMPORTANT:** Make sure the scene **camera** is tagged as “**MainCamera**” for the effects to function properly.

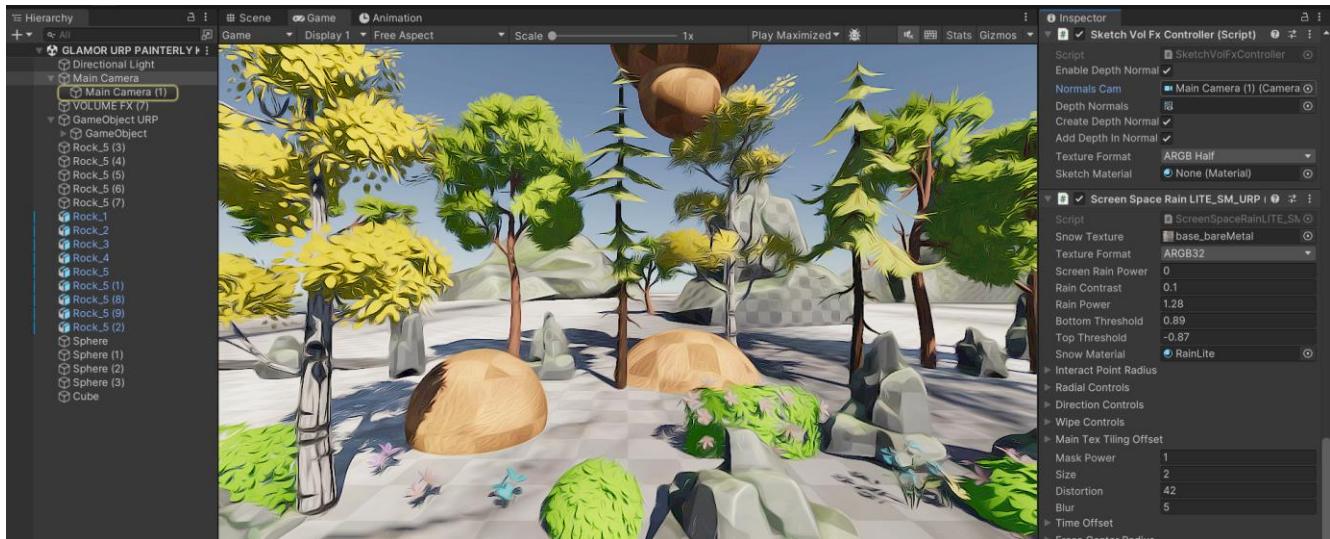
#### **IMPORTANT: (Materials used in the Effects)**

The various effects that are controlled only in the Volume create a material instance per volume directly from the effect shader. The more complex effects that require an extra separate controller than the Volume, use in order, **first the material defined in the Volume entry of the effect**, if this is not defined looks for a pre-defined material name in the Resources that implements the effect shader. These effects are the Rain, Fog and Sun Shafts ones.

## **IMPORTANT: (Depth Normals Texture)**

In the non Render Graph mode, using a second camera for the Depth Normals texture can be avoided by adding the Depth Normals renderer feature in the renderer of the Main Camera. The renderer feature is named as “**DepthNormalsByLayerSMURPRainLiteFeature**”.

**In the case that two controllers that support control of the Depth Normals camera are used, only one need to be setup with the camera and will create the texture as needed for use for the other effects.**

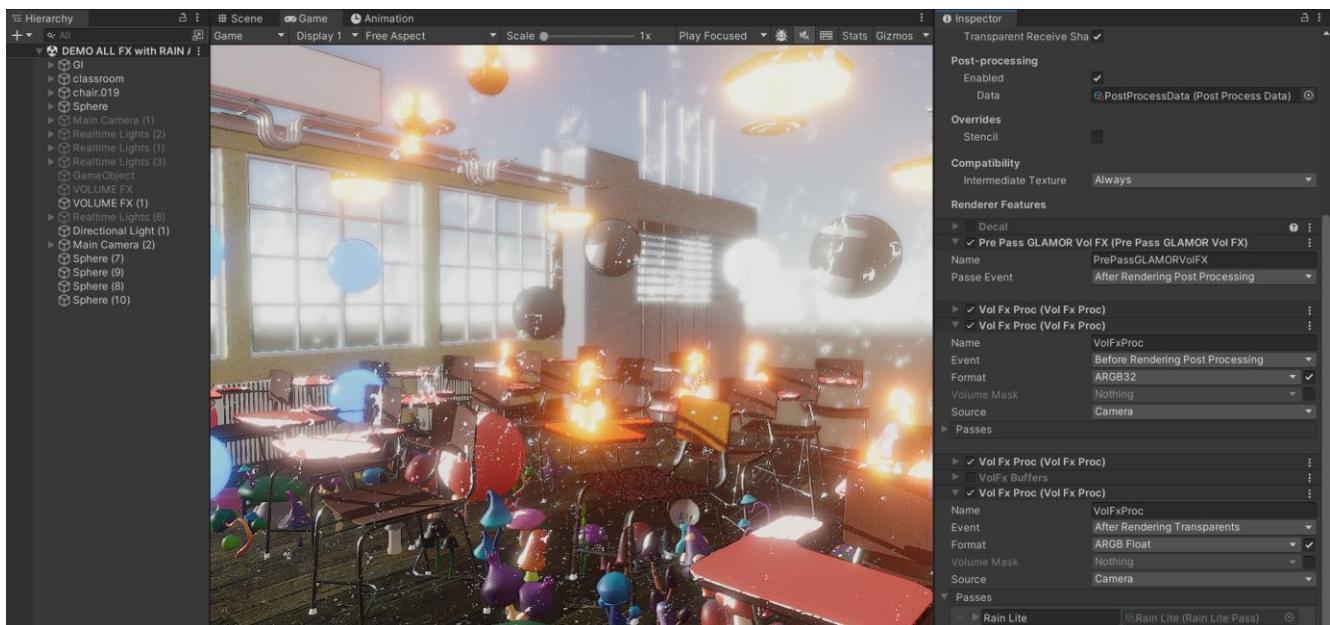


## **GLAMOR Effects – Advanced FX List**

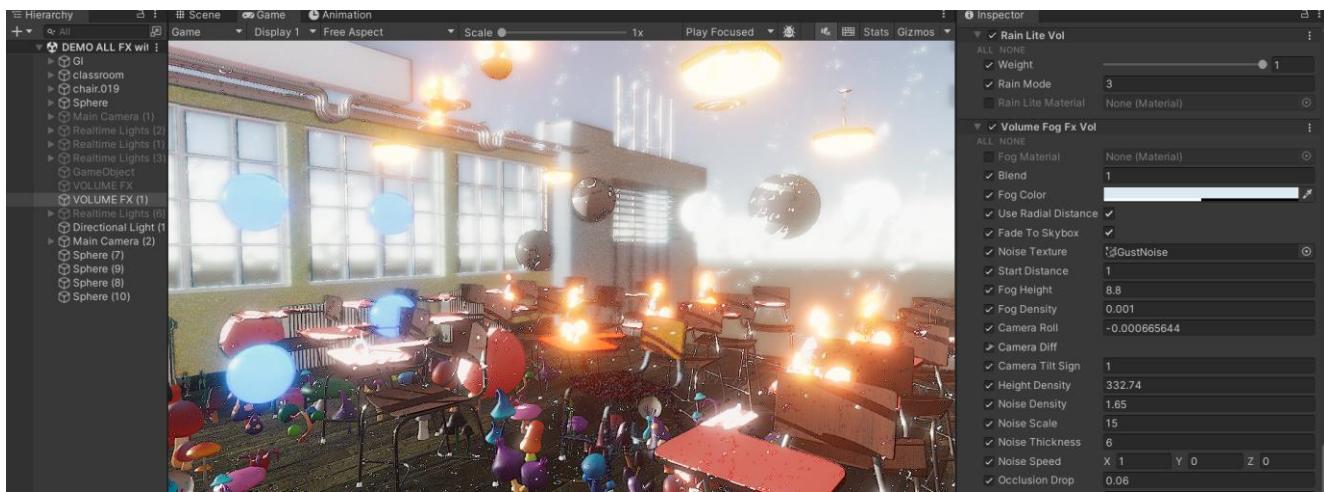
The advanced effects included in the system require extra controller(s) outside the Volume ones and extra helper textures e.g. DepthNormals texture.

### **1. RAIN EFFECT**

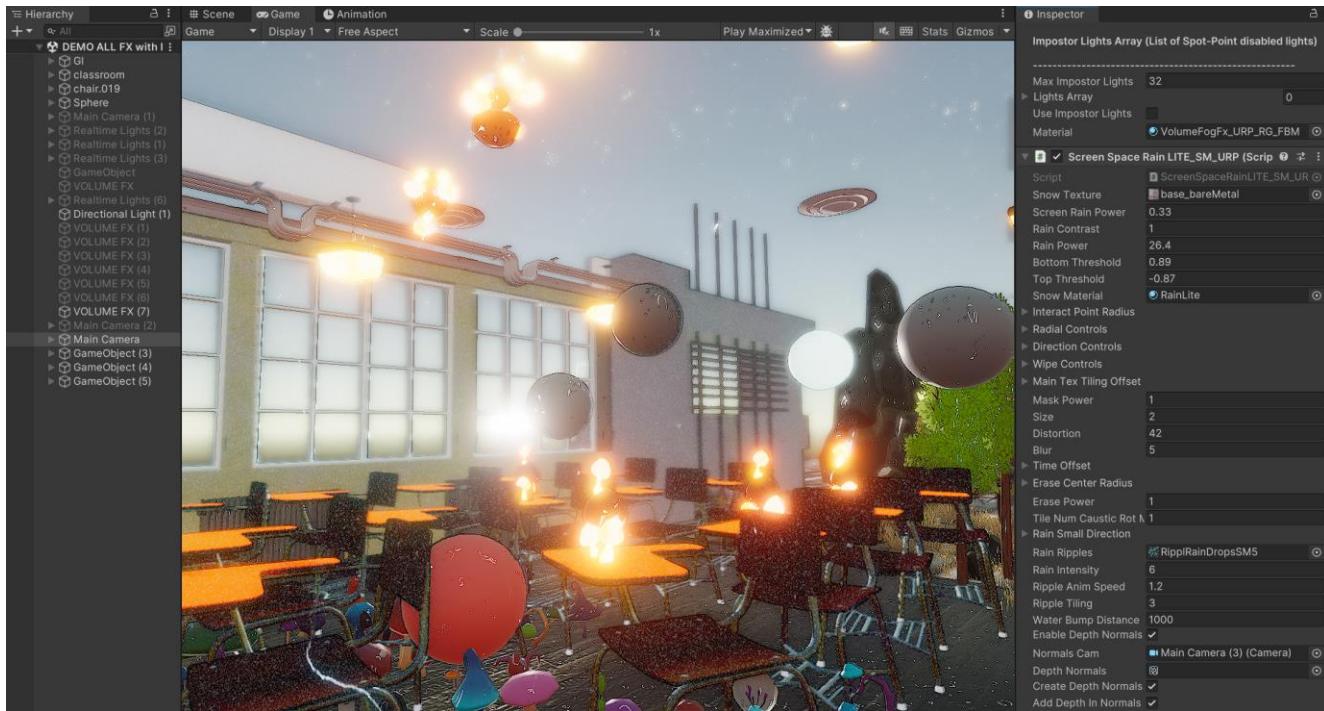
**The setup of the rain** in the pipeline is done by adding the “**Rain Lite**” effect entry in the “**VolFxProc**” stack renderer feature.



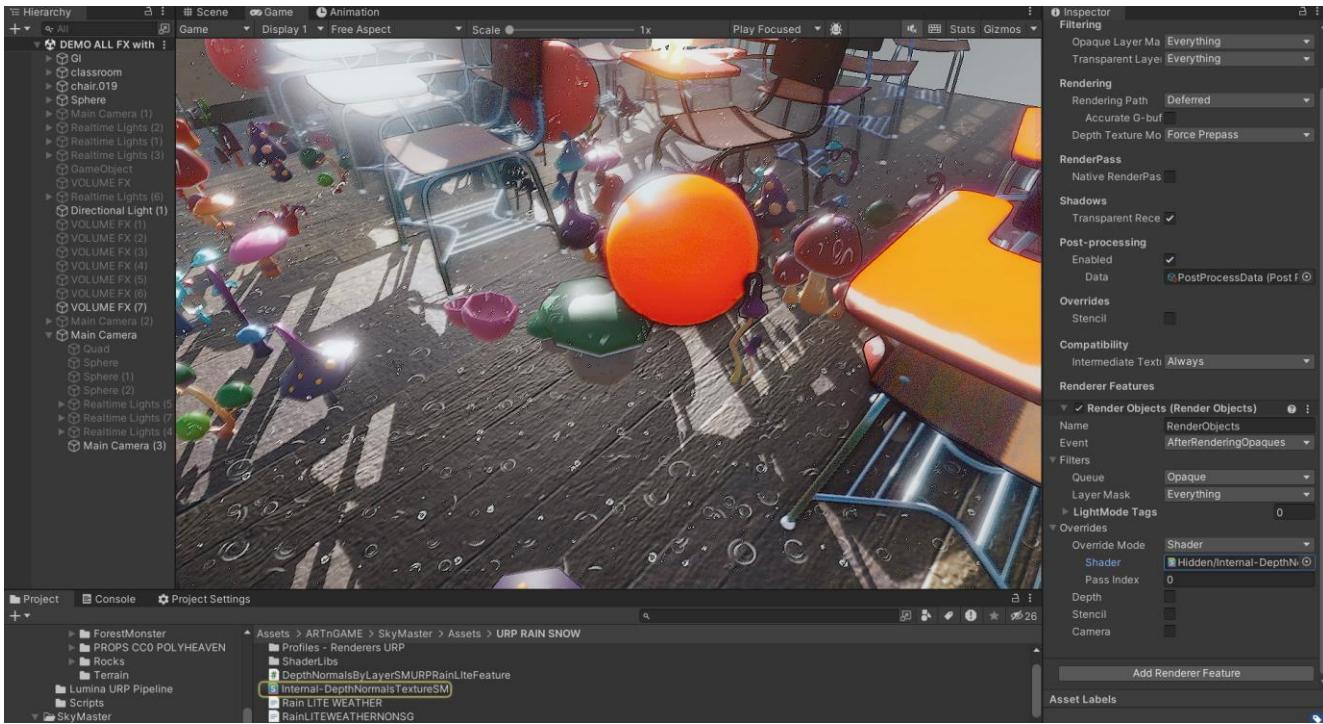
The setup of the rain in the scene is done by adding an entry in one of the scene volumes, local or global, as shown below.



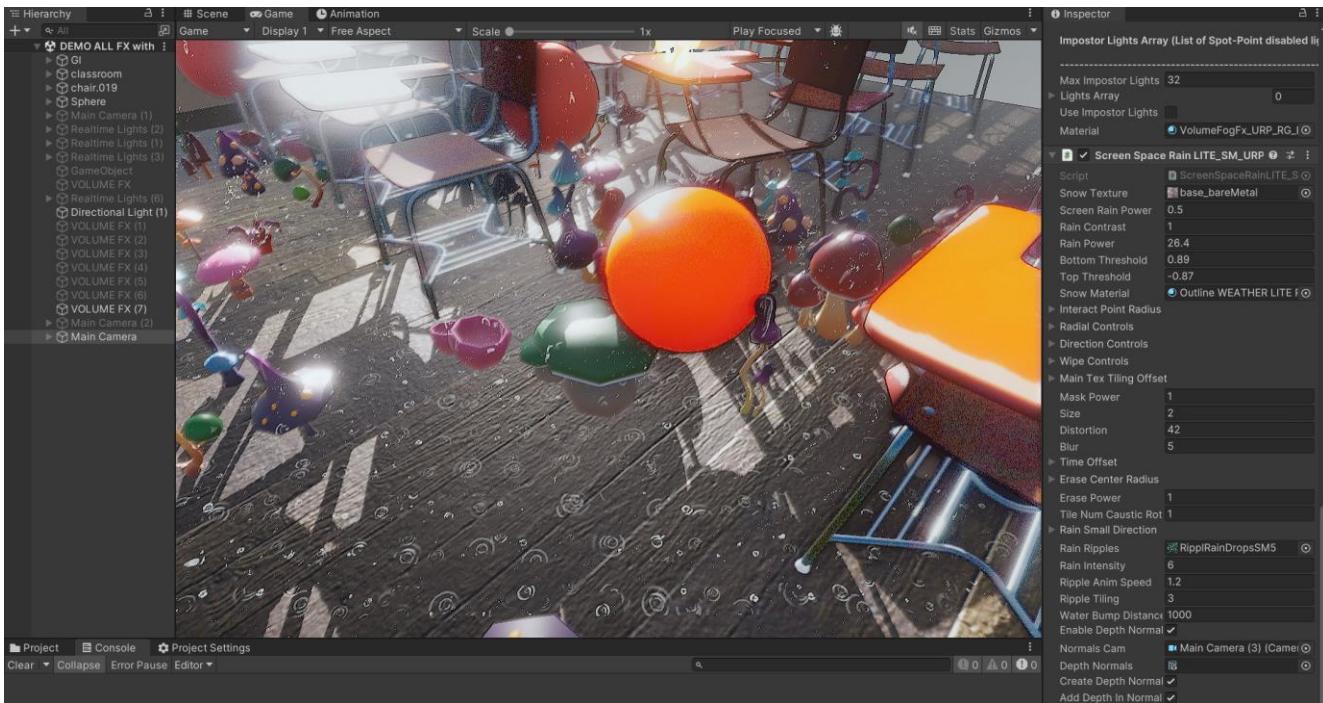
The control of the effect is done by placing the “**ScreenSpaceRainLITE\_SM\_UPR\_FX**” script in the Main Camera in the scene. The controller controls directly the referenced material in the “**Snow Material**” slot, this material can be set in the Rain entry in the scene Volume “**Rain Lite Vol**” in “**Rain Lite Material**” slot, so can correspond to the controlled material.



For the rain to be ground on the scene objects, a second camera is used in the scene, parented with zero translation and rotation to follow the main camera and uses one renderer configured with the below setup of “**Render Objects**” renderer feature, using the “**Internal-DepthNormalsTextureSM**” Shader to produce the Depth Normals texture of the scene.

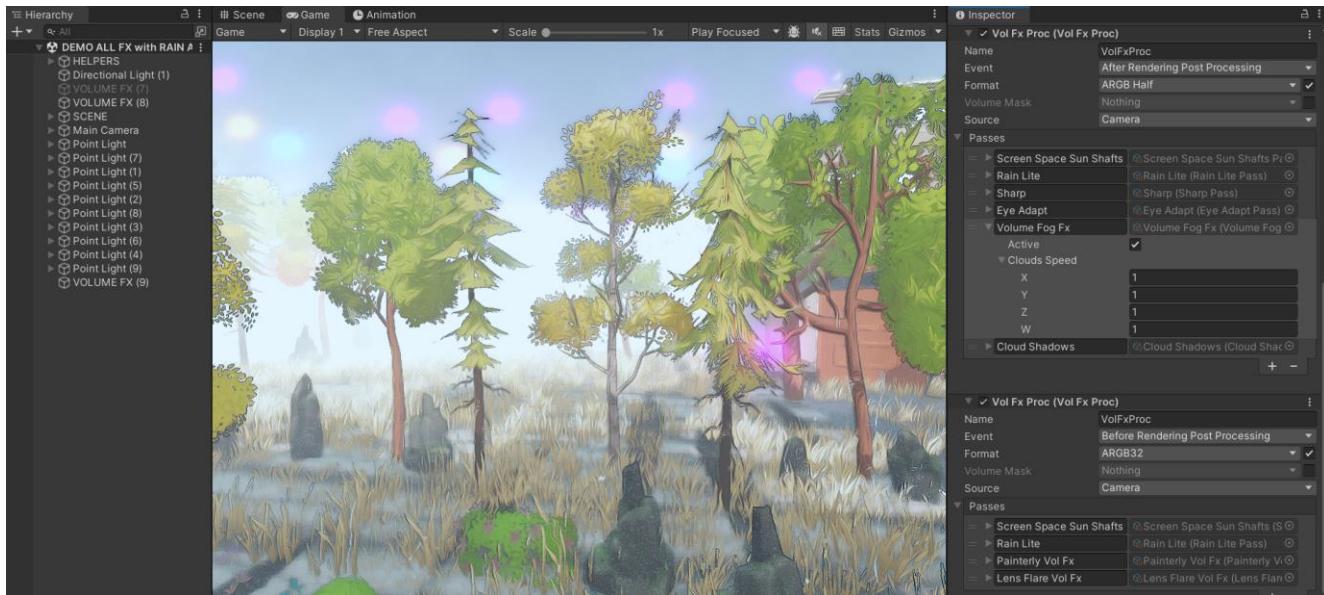


The Depth Normals camera must be referenced in the Rain controller, as shown below, so can be auto configured for the render.

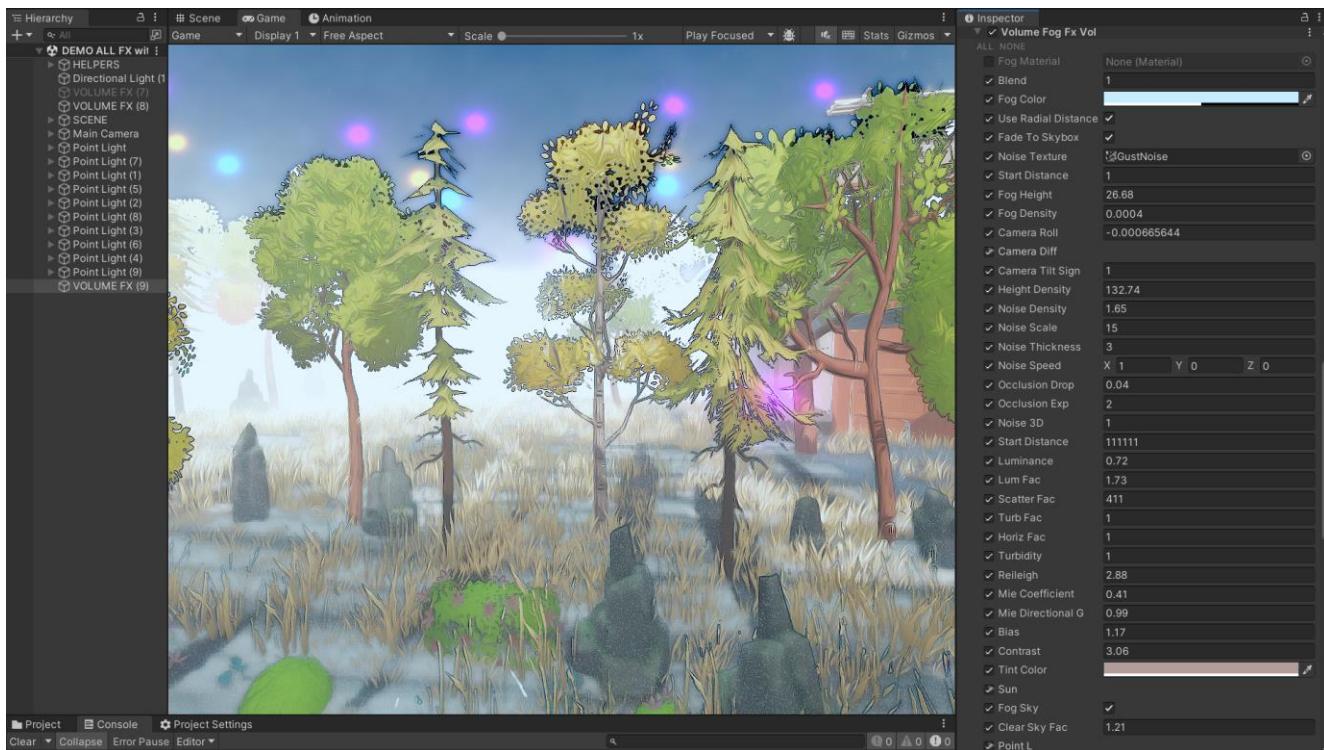


## 2. VOLUMETRIC FOG

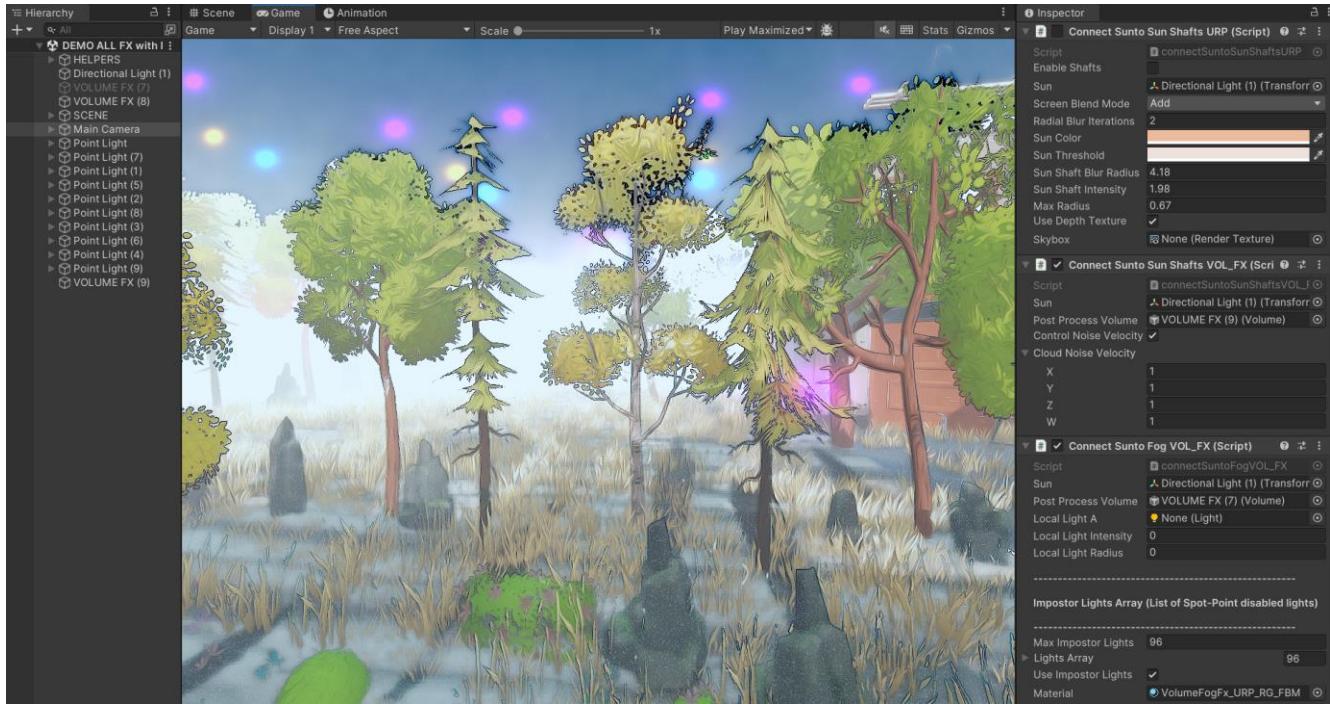
The setup of the Volumetric Fog in the pipeline is done by adding the “**Volume Fog Fx**” effect entry in the “**VolFxProc**” stack renderer feature.



The setup of the fog in the scene is done by adding an entry in one of the scene volumes, local or global, as shown below.



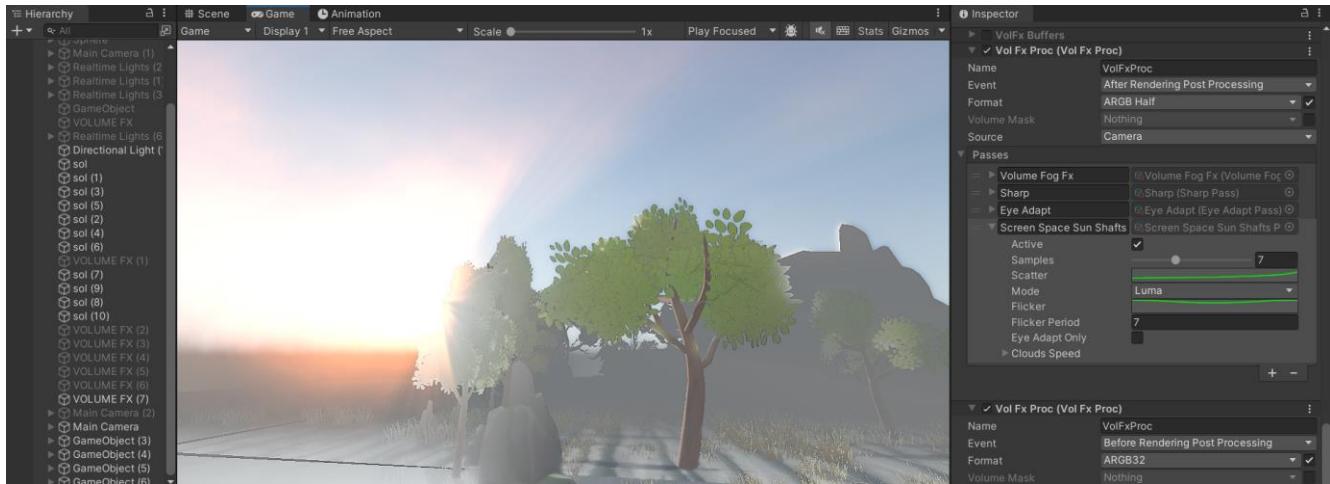
The setup of the Volumetric Fog system controller is done by placing the “**connectSuntoFogVOL\_FX**” script in the Main Camera in the scene.



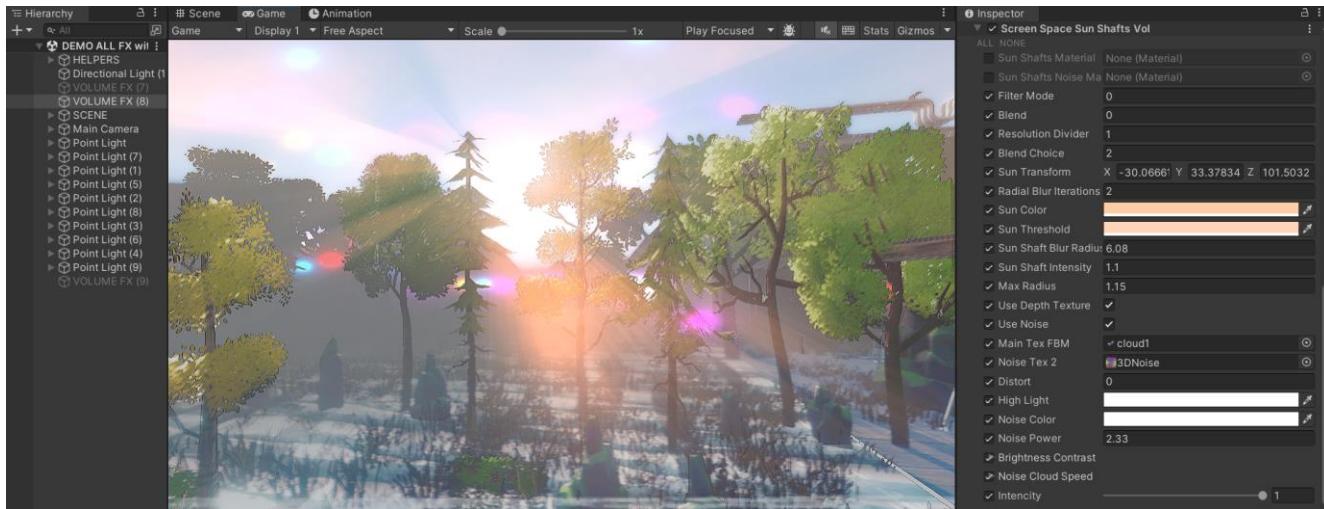
The system supports impostor light volumes, by adding point or spot lights, enabled or disabled in the scene, in the “**Lights Array**” list. Make sure to set the number of lights also in the Max Impostor Lights value, in order for the volumes to be enabled. Enable the “Use Impostor Lights” checkbox to activate the effect.

### 3. SUN SHAFTS

The setup of the Sun Shafts in the pipeline is done by adding the “**Volume Fog Fx**” effect entry in the “**VolFxProc**” stack renderer feature.

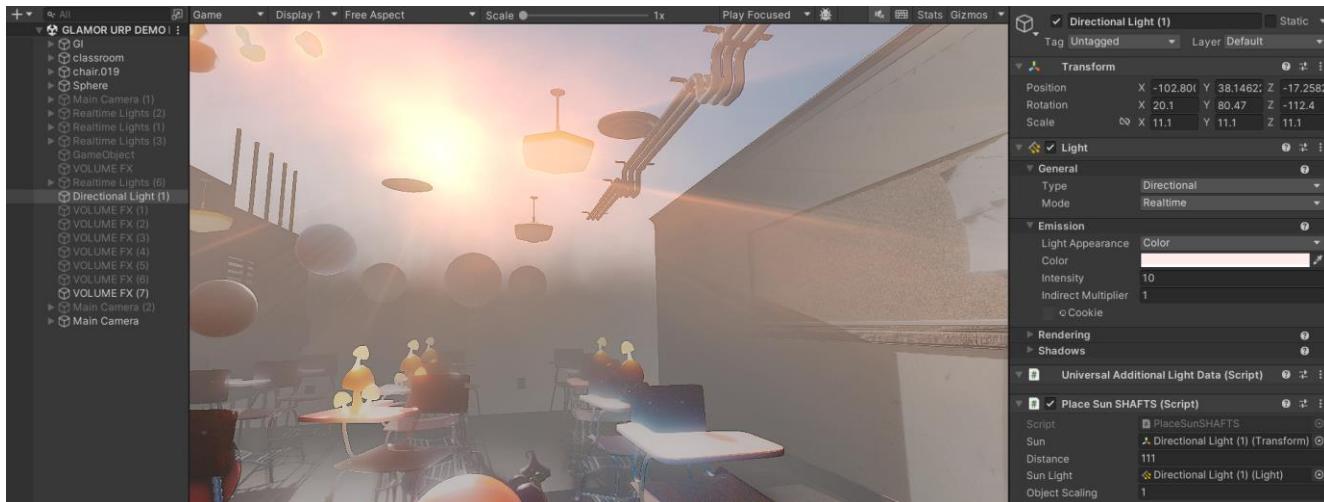


**The setup of the sun shafts** in the scene is done by adding an entry in one of the scene volumes, local or global, as shown below.

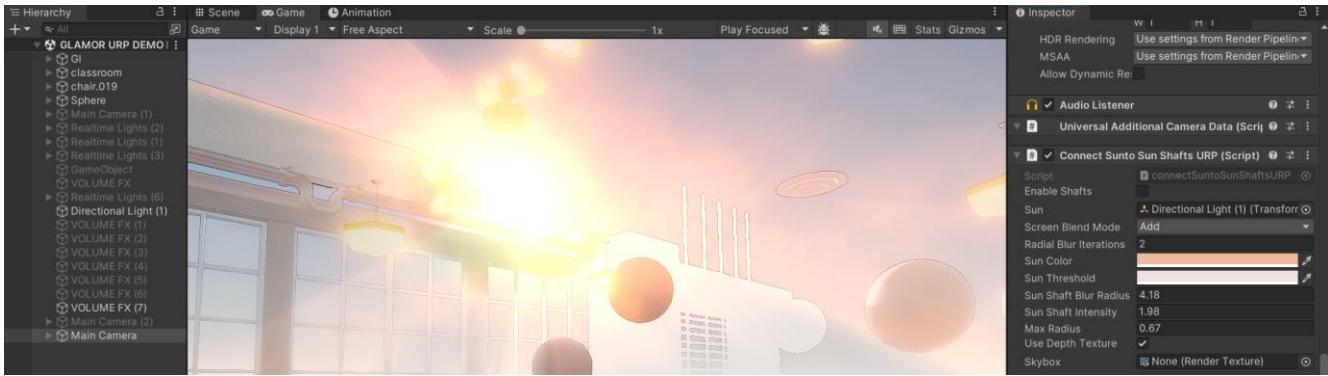
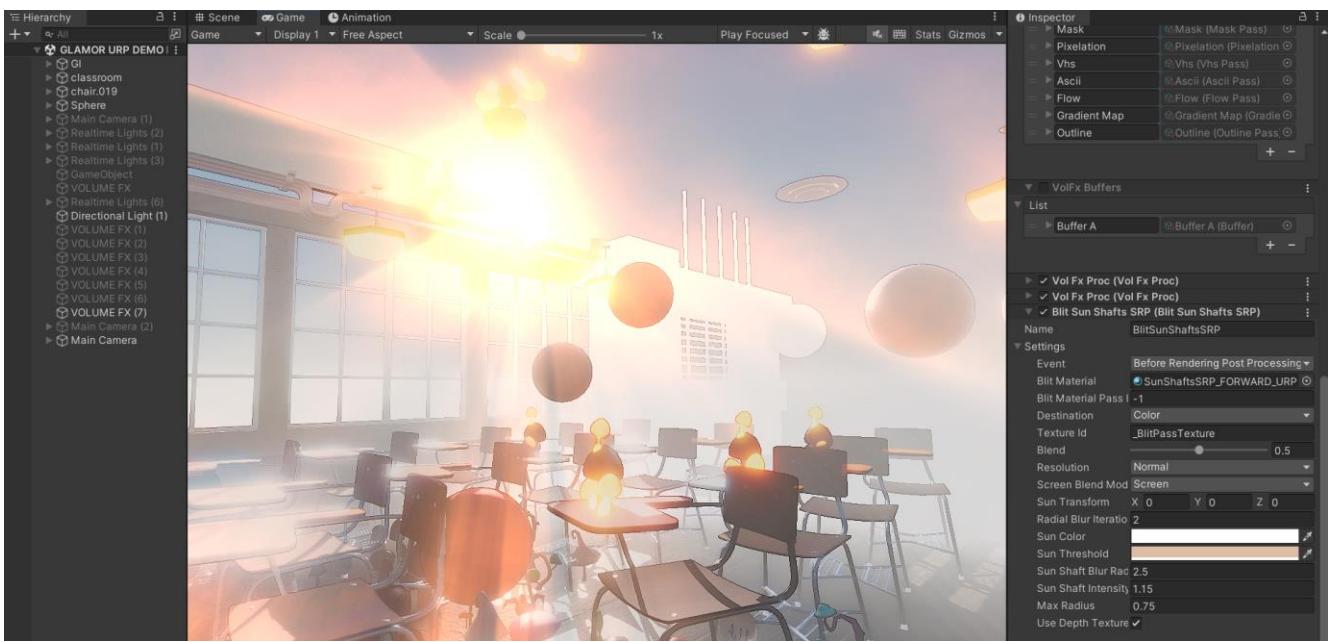


**The setup of the sun shafts system controller** is done by placing “`connectSuntoSunShaftsVOL_FX`” script in the Main Camera in the scene.

The “`PlaceSunSHAFTS`” script must be added in the sun light, in order to place its position correctly in the sky based on the light rotation. This is important as the sun shafts require the true position of sun in the sky to function.



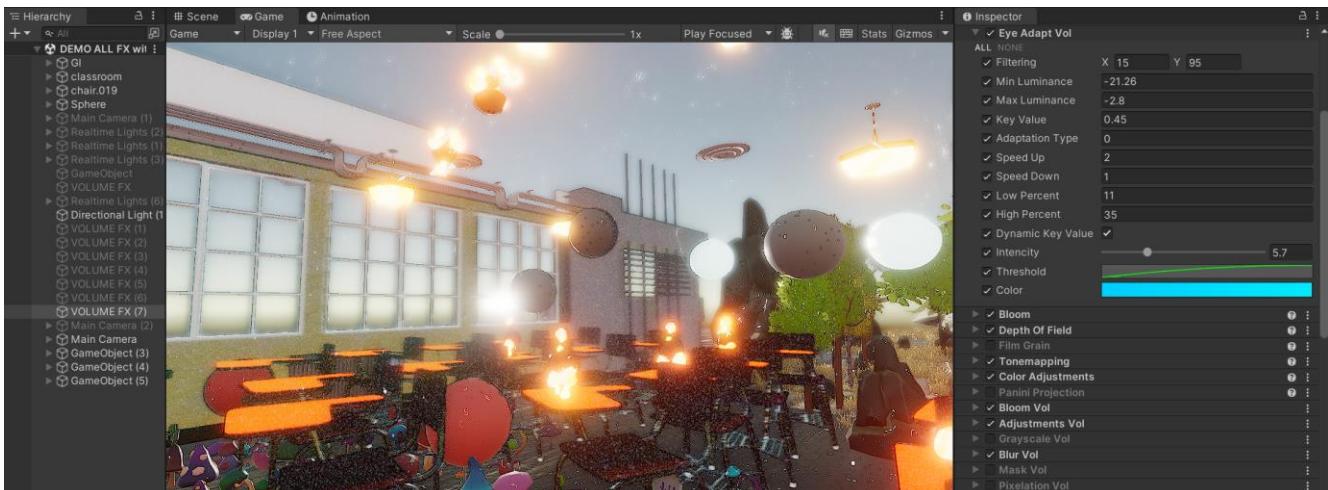
There is also an experimental standalone version of the effect that uses the “`connectSuntoSunShaftsURP`” controller in the camera and “`BlitSunShaftsSRP`” renderer feature in the camera renderer. **It is advised to use the volume integrated system instead**, as is more developed and integrates better with the other effects in the stack.



## 4. AUTO EYE EXPOSURE

The setup of the Auto Eye Exposure Adaptation filter in the pipeline is done by adding the “EyeAdaptVolFx” effect entry in the “VolFxProc” stack renderer feature.

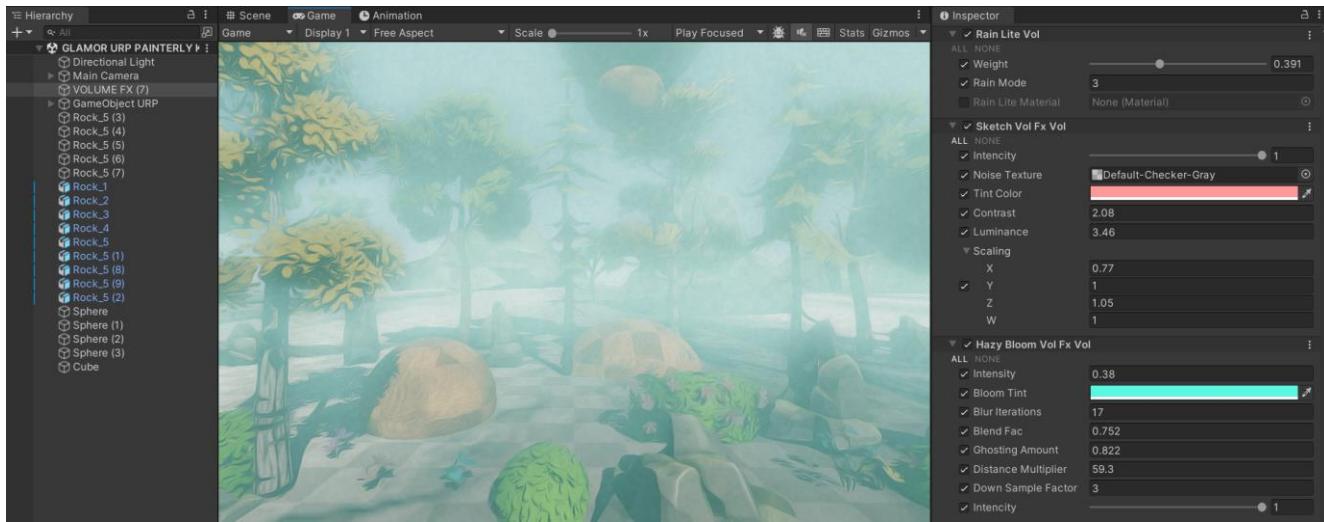
The setup of the effect in the scene is done by adding an “EyeAdaptVol” entry in one of the scene volumes, local or global, as shown below.



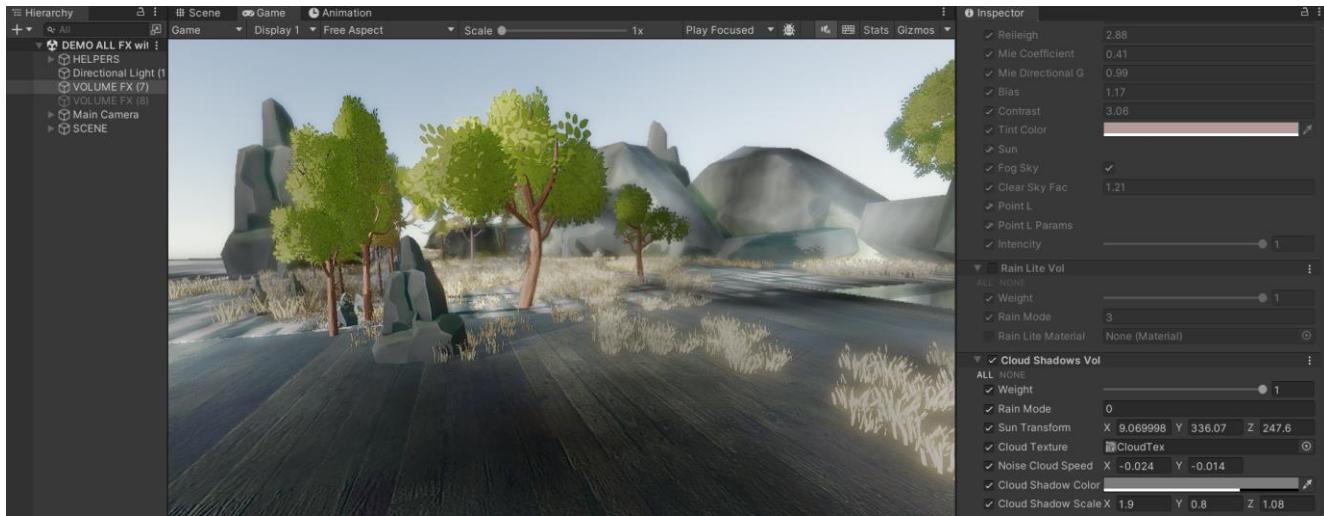
# GLAMOR Effects List in Volume

The system has an extensive range of effects that are directly controlled in the Volume, after enable them in the pipeline renderer, using the “VolFxProc” entries.

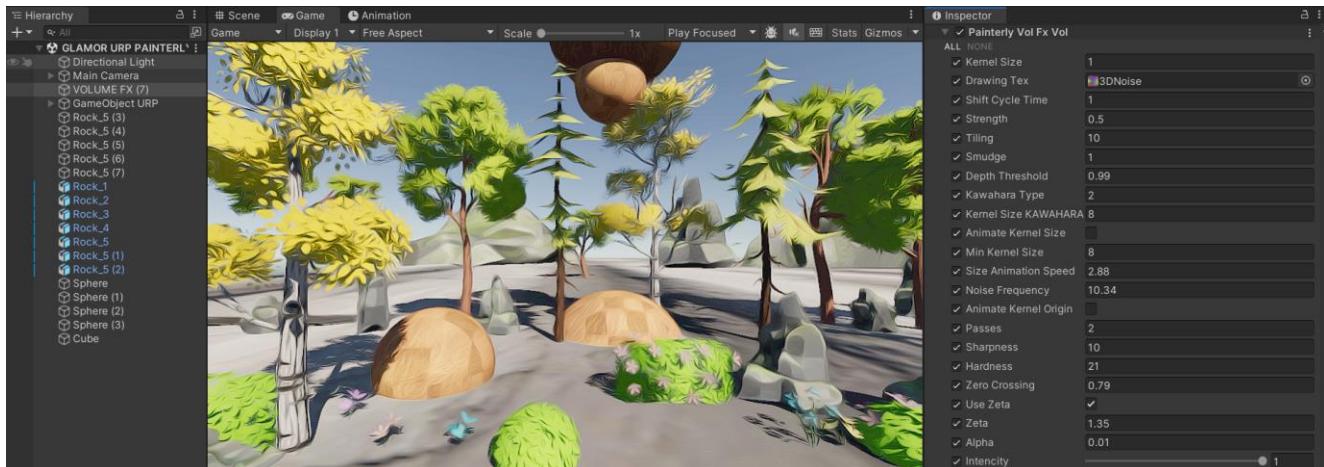
## 5. Bloomy full screen Haze



## 6. Screen space shadows

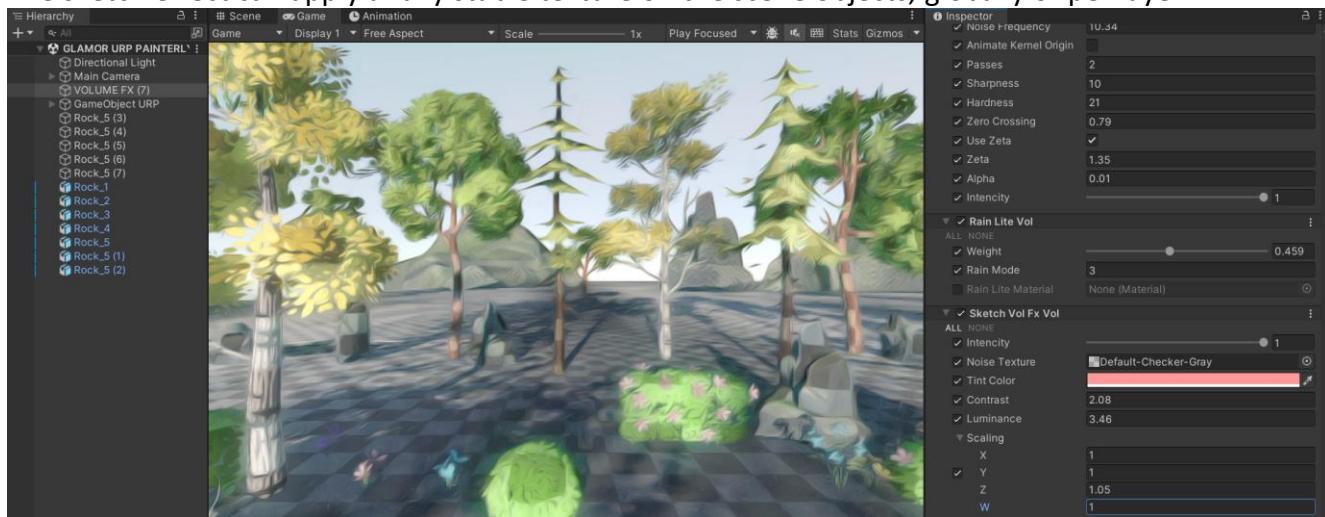


## 7. Kawahara painterly effect

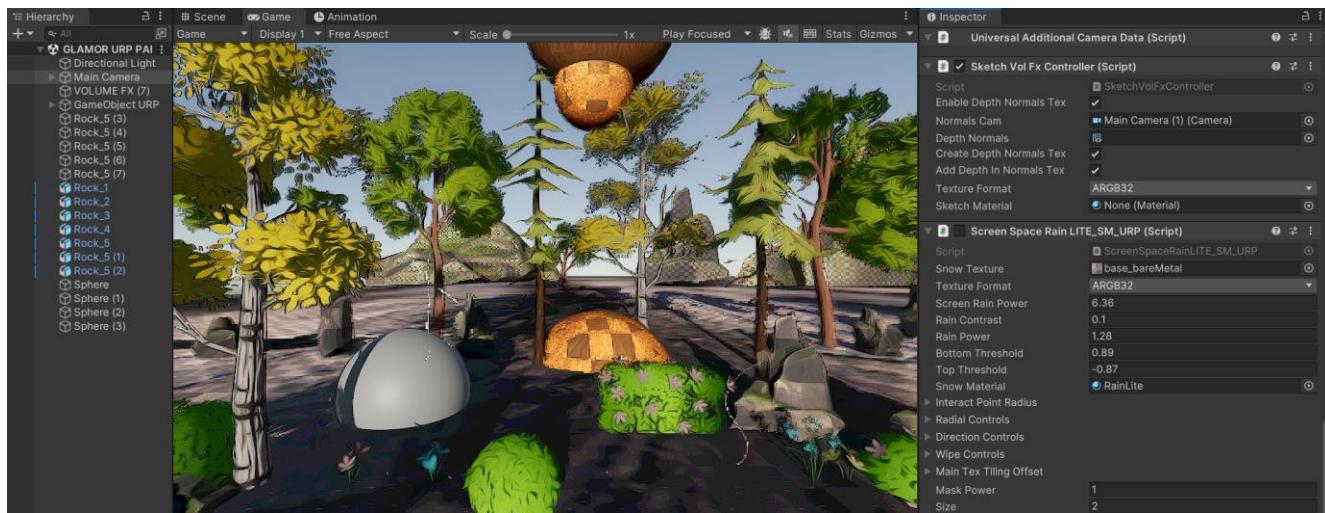


## 8. Sketch effect

The sketch effect can apply a fully stable texture on the scene objects, globally or per layer.

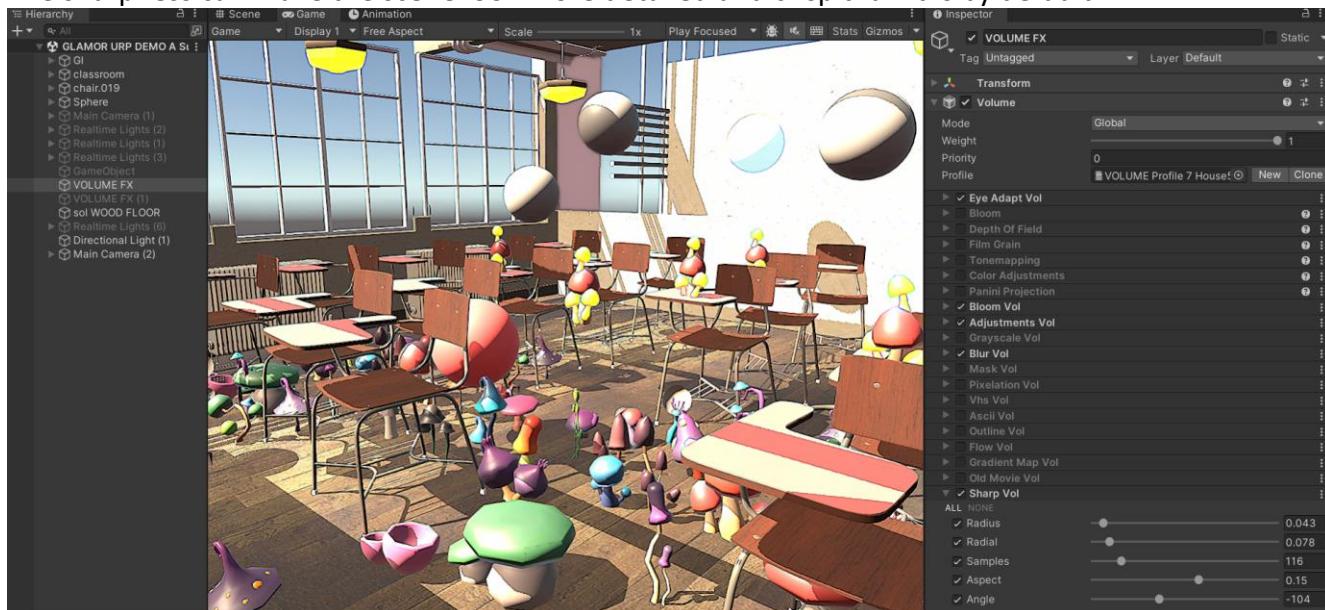


The sketch effect requires a Depth Normals texture, which can be enabled in the Rain Lite script controller or with the below shown “**SketchVolFxController**” script, attached on camera.

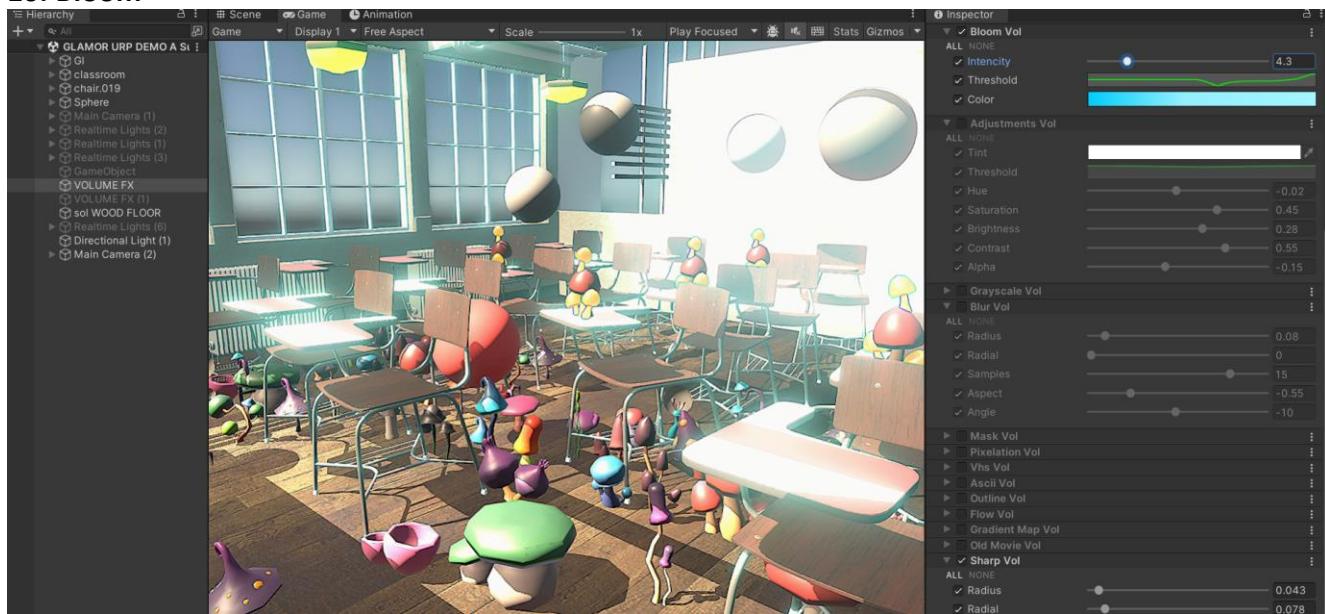


## 9. Sharpness effect

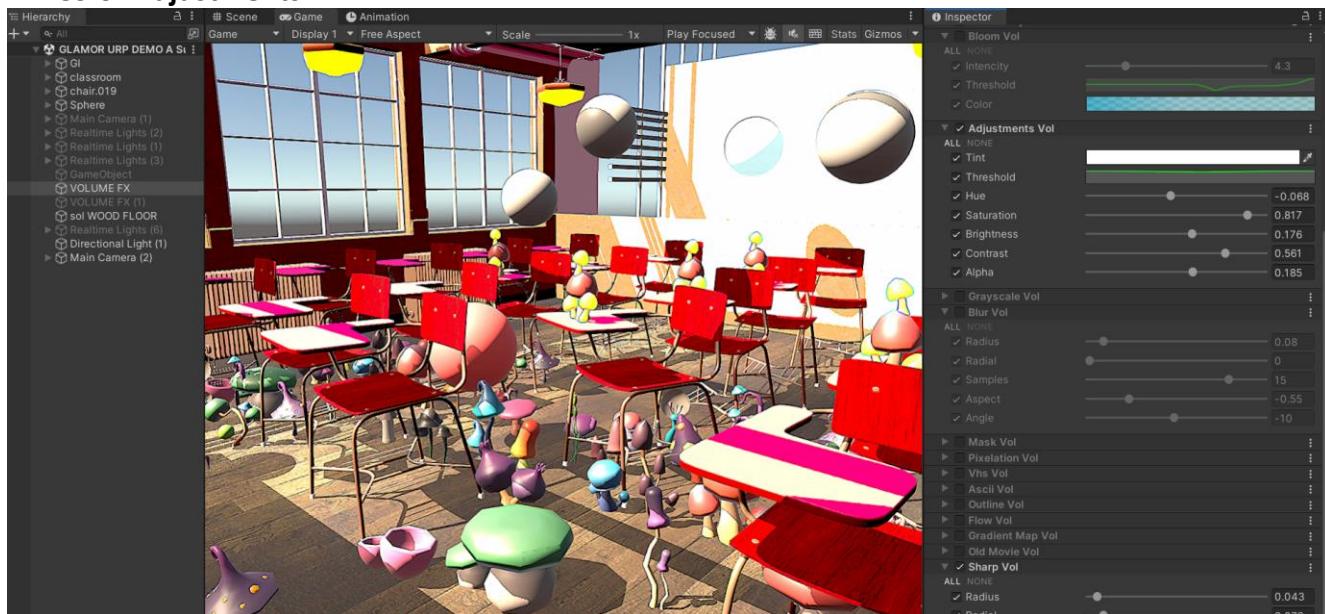
The sharpness can make the scene look more detailed and crisp than it is by default.



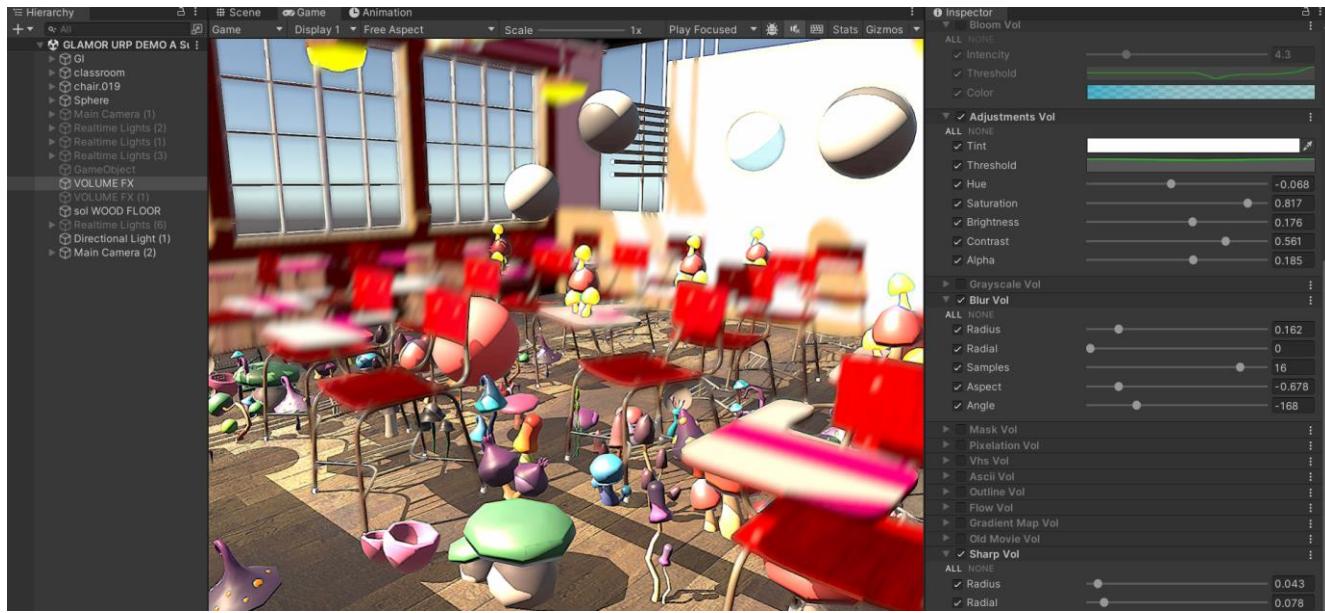
## 10. Bloom



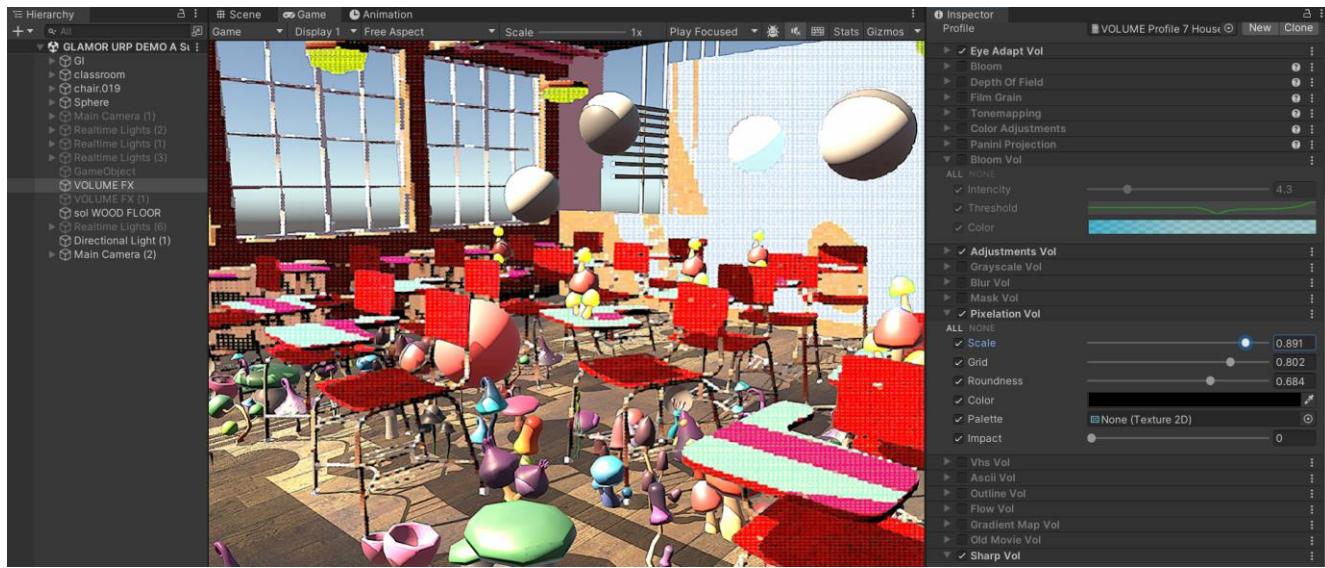
## 11. Color Adjustments



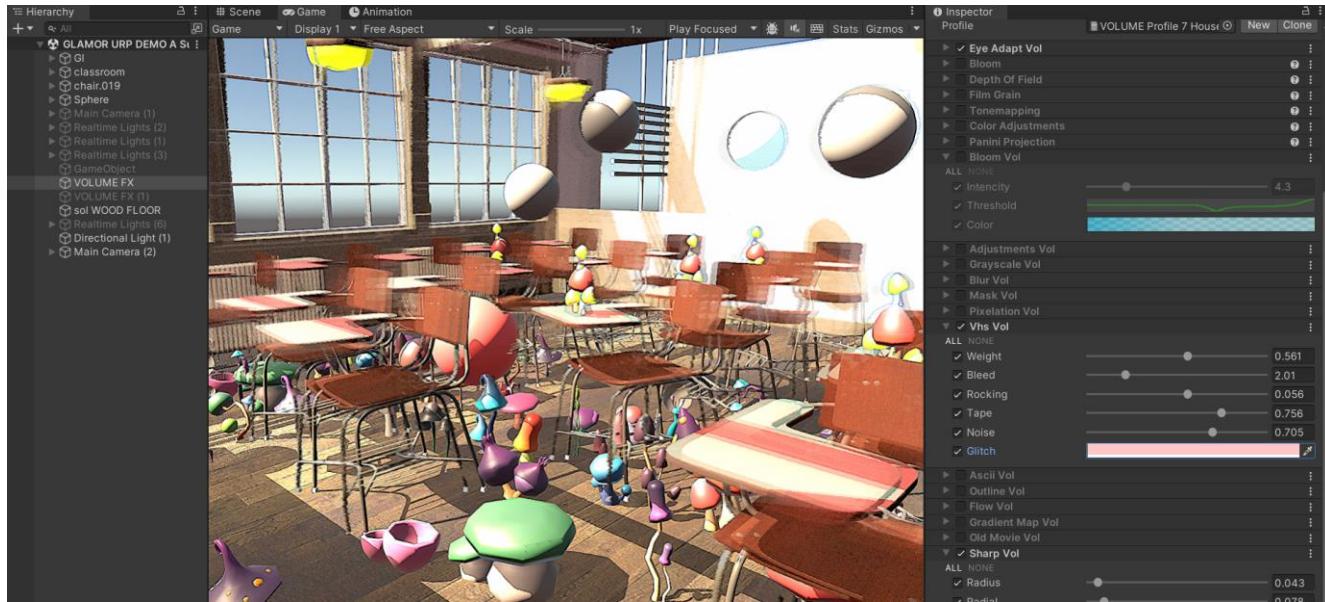
## 12. Blur



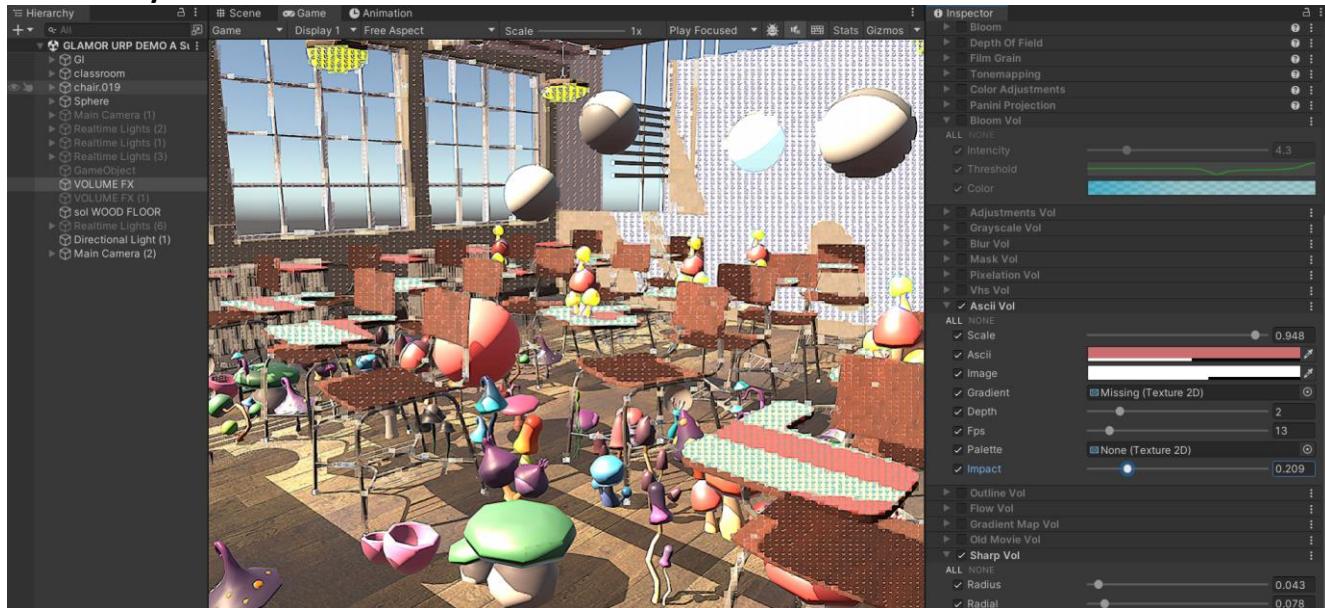
## 13. Pixelation



## 14. Vhs effect

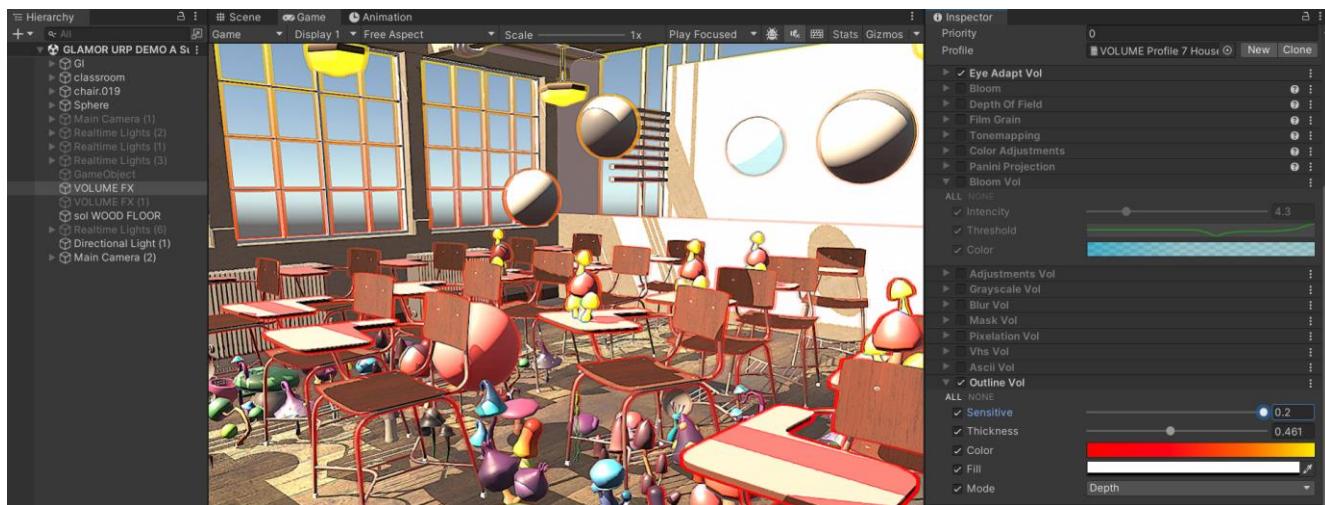
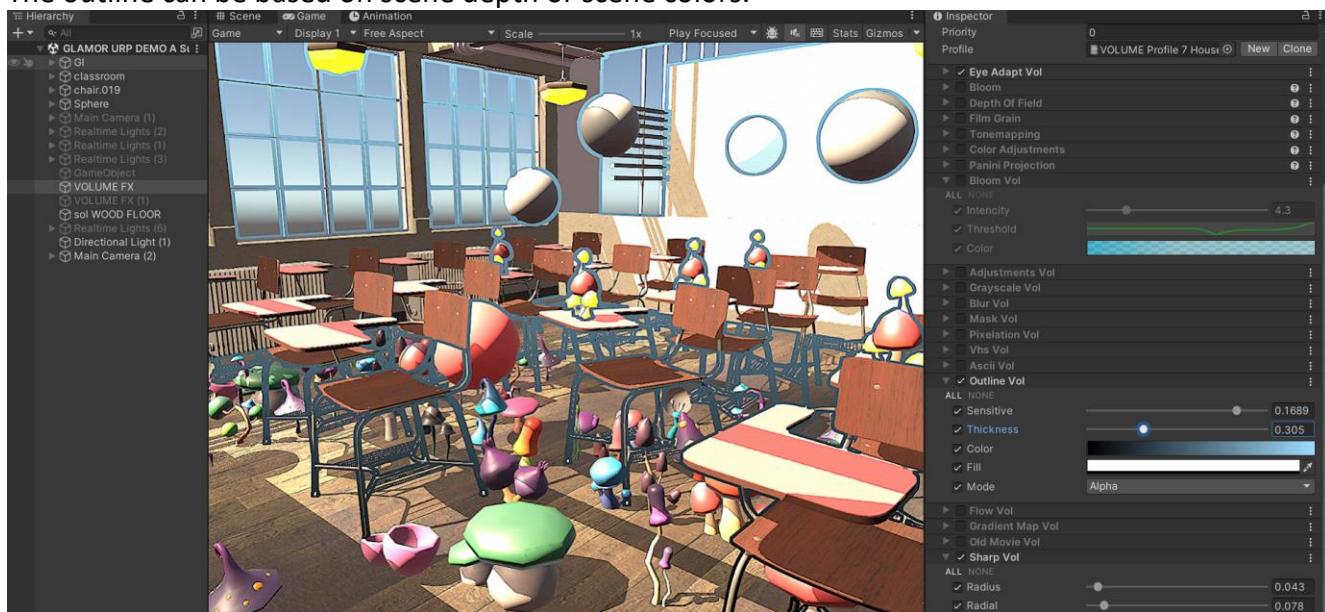


## 15. Ascii style

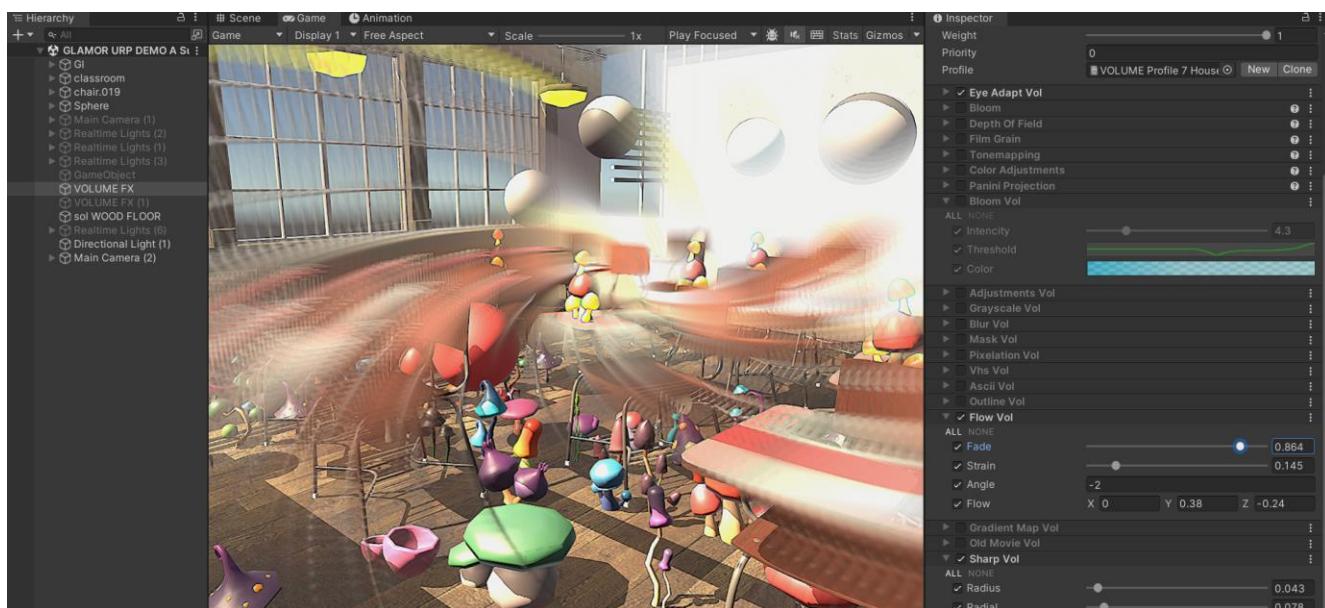


## 16. Outline effect

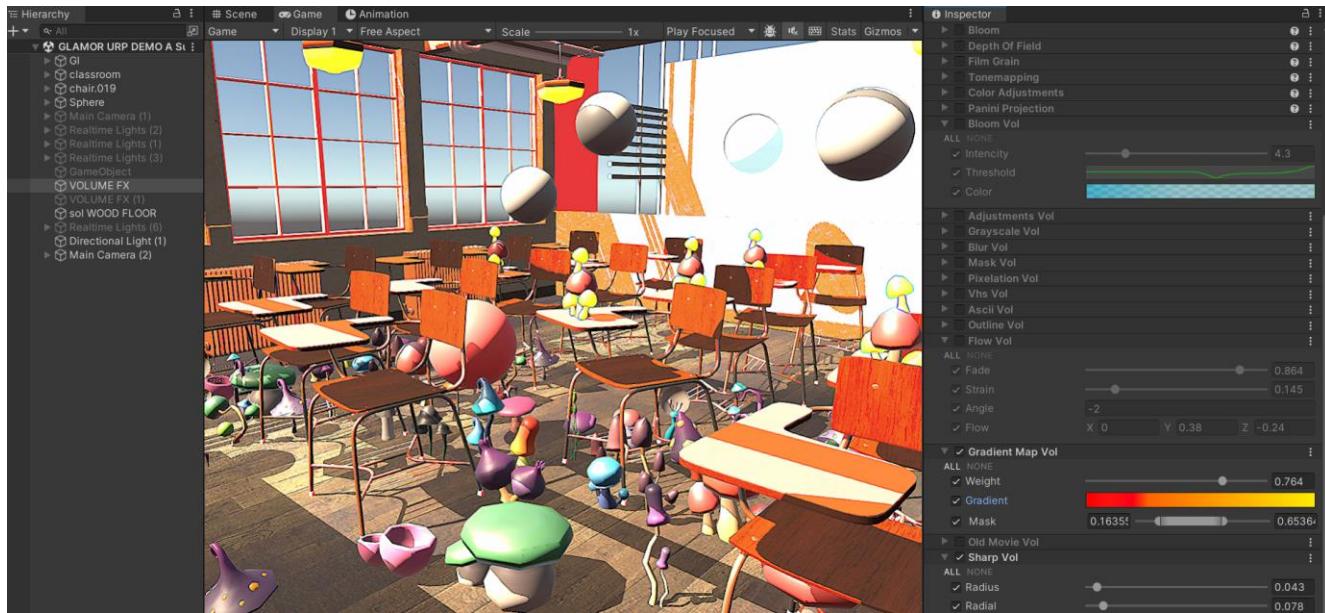
The outline can be based on scene depth or scene colors.



## 17. Flow effect



## 18. Gradient Mapping



## 19. Grayscale effect



## 20. Old movie effect



## GLAMOR Effects Combination

All effects can be combined in various ways, the render order is defined in the renderer VolFx entries by the ordering of the effects in the stack of the “VolFxProc” entries.

