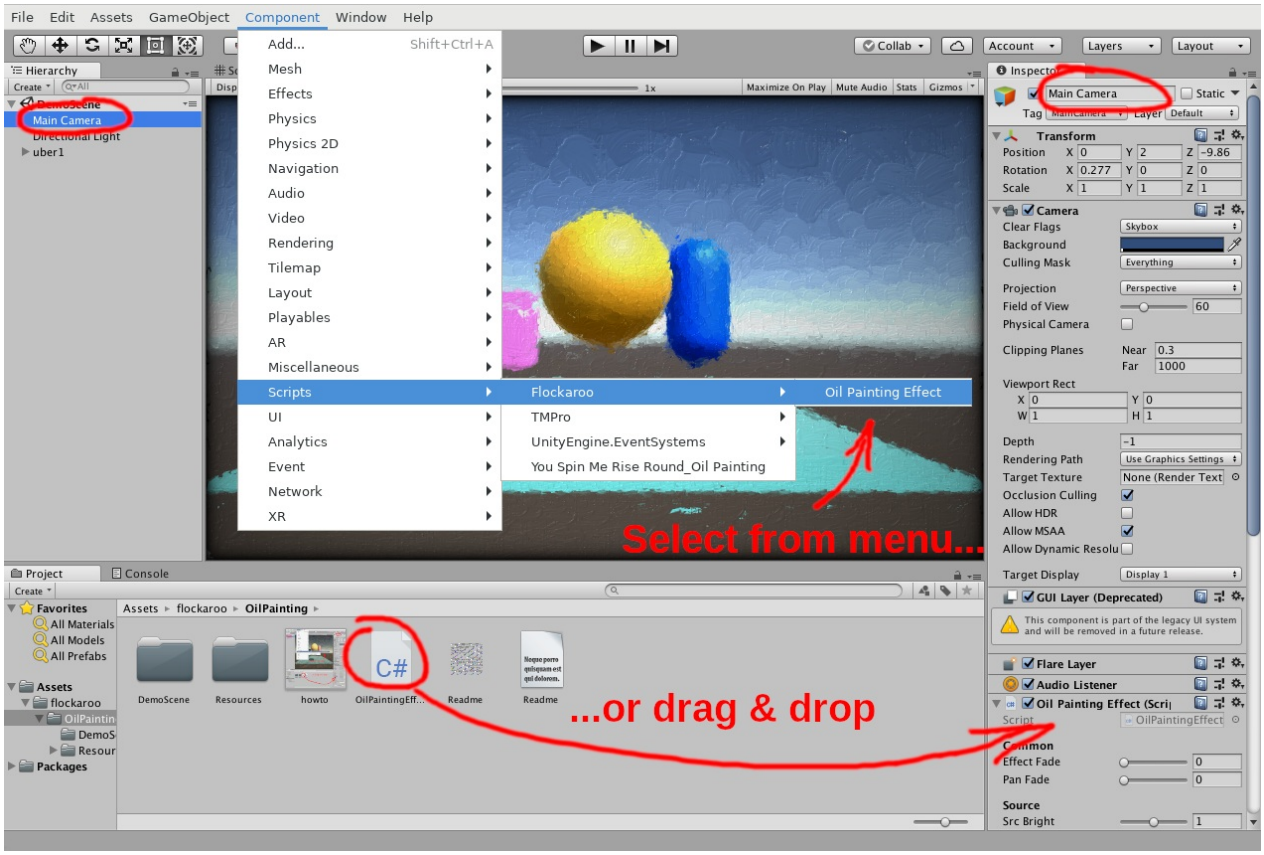
Oil Painting - Unity3D Image Effect

(c) 2018 by flockaroo (Florian Berger) - email: flockaroo@gmail.com

How to use

Select your camera node and then simply add "OilPaintingEffect" script to camera components (can be found in Assets/flockaroo/OilPainting/). You can drag/drop it to there or choose it from the menu (Component/Scripts/Flockaroo/OilPainting).



Warning!! The subfolder "flockaroo_OilPainting" in "Resources" is needed by the effect script for unique identification of files and should not be removed or renamed.

Parameters

The shader provides the following parameters:

Input/Output

Parameter	function
Input Texture	take this texture as input instead of the camera
Render To Texture	render to texture instead of screen
Output Texture	texture being rendered to if above is checked
Output Mipmap	generate mipmap for output texture

Main faders

Parameter	function
Effect Fade	0 = effect image ... 1 = original content
Pan Fade	0 = effect image ... 1 = original content - pan from left to right

Source

Parameter	function
Src Bright	adjust brightness of the content before applying the effect
Src Contrast	adjust contrast of the content before applying the effect
Src Color	adjust color intensity of the content before applying the effect
Src Blur	blur the content before applying effect (only works from Unity-5.5 upwards)

Effect

Parameter	function
Brush Detail	detail of the brush strokes
Brush Fill	how much the brush strokes fill the screen area
Num Strokes	number of strokes to be drawn
LayerScale	lower number gives less different scales of strokes
Canvas	roughness of canvas (bumpyness in the brush strokes)
Flicker Freq	controls the frequency of the flickering (flickers/sec)
Flicker Strength	makes the stroke position vary from frame to frame
Light Ang	angle of light in screen plane [degrees] 0..360
Light Offs	angle of light to screen plane normal [degrees] 0..90
Paint Diff	diffuse lighting of paint strokes
Paint Spec	specular reflections of paint strokes
Paint Shiny	shininess of paint strokes
Color Spread	adds some color variance between different strokes
Screen FOV	field of view of screen in degrees (affects specular reflection)
Stroke Ang	rotate strokes relative to gradient (e.g. 90 degree gives a very fuzzy look)
Stroke Bend	-1.0 bend towards dark content, +1.0 bend towards bright content (e.g. for clouds)
Stroke Dir	swaps front and back of stroke while maintaining its curve
Stroke Contour	harder contour of strokes - gives a slight color blob at the start of the stroke
Multi Stroke	if you enter 6 here you get 6*6 = 36 different strokes
Stroke Seed	seed for randomly generated strokes
Vignette	darkening the window border
Canvas Bg	strength of background canvas pattern
Canvas Tint	color tint of background

Some Hints:

Lower Values of "Brush Fill", "Brush Detail", "Layer Scale" and "Num Strokes" give a sketchier look.
A negative "Stroke Bend" would be best for images with clouds (bending the white strokes around the cloud shape), whereas a positive value is more usful if you have dark ojects painted on a bright background.
A "Screen FOV" of makes a specular with contant light/eye angles, as if viewer and light are far away from the image. the bigger you make this angle the more you get a localized hilight on the image plane.
If "Multi Stroke" is 0 or 1 then all strokes look the same (apart from their size), if on very plain areas the similarity is too obvious to the eye you can use bigger values so you get a diversity of different stroke shapes.

Other

Parameter	function
Flip Y	image Y flip
Geom Flip Y	Y-flip of effect-internal geometry (use this if "Effect Fade" and "Pan Fade" wont work properly)
HDRP Gamma	check this if you are using linear color space (only active in hdrp mode)

concerning "Flip Y" and "Geom Flip Y":

The screen coordinates of unity are a bit mysterious. even more when working on different platforms. The Y-coordinate seems to be flipped between versions even on the same system, and also flipped depending on the system.

So for "Flip Y" and "Geom Flip Y" follow these rules:

If you have the source ("Effect Fade" to 1) flipped and the effect correct, just check "Geom Flip Y".

If you have the source correct and the effect flipped, check both "Geom Flip Y" and "Flip Y".

If both are equally flipped just check "Flip Y".

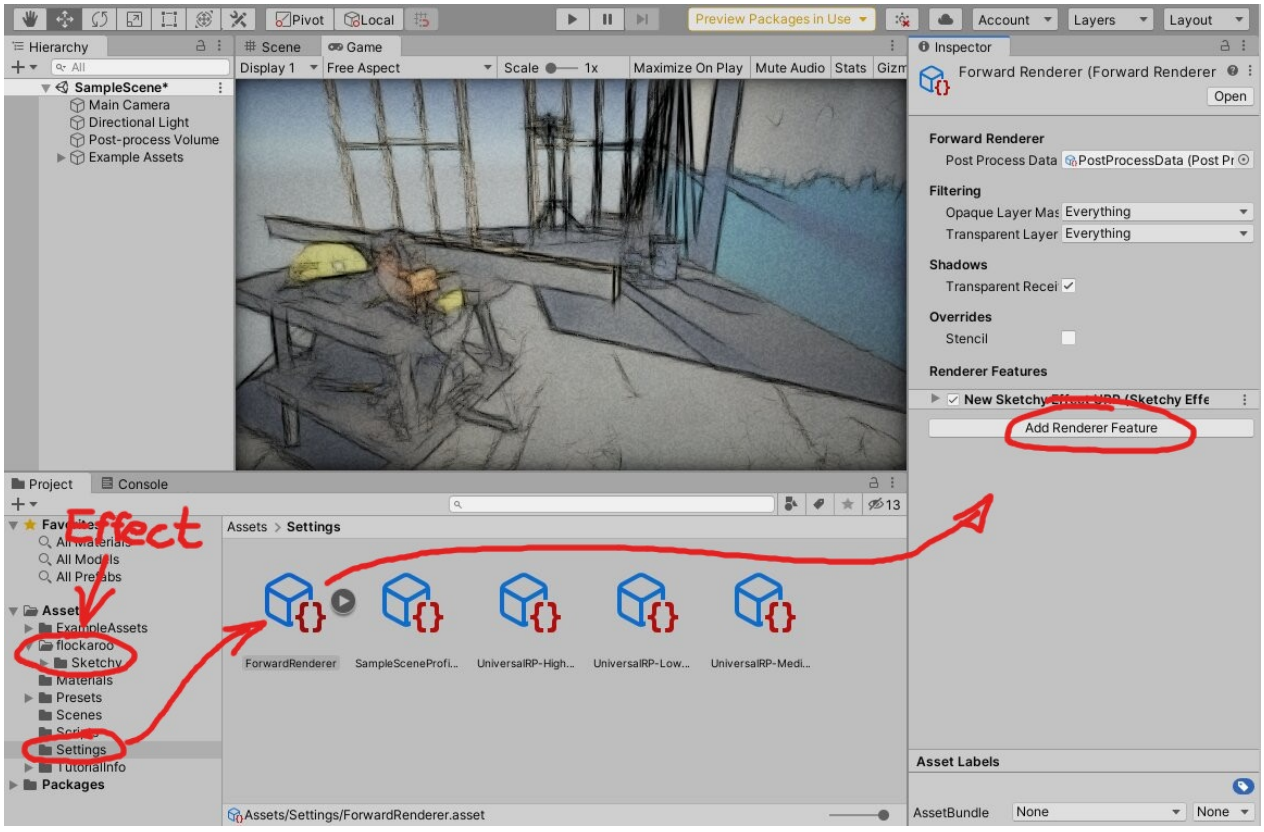
HDRP (disabled by default)

The hdrp file is disabled by default !!! here's how to use it:
Unity wont compile this effect properly if no hdrp support is present on your version, so in the hdrp "...HDRP.cs" file in the very first line the "//#USE_HDRP" must be uncommmented to make use the hdrp effect.
You also have to add it to the list of effects known to your project:
"Edit/Project Settings... -> HDRP Default Settings -> After Post Process"
..and then add it as an effect volume by clicking "Add Override" and the selecting
"Post-processing/Custom/Flockaroo/..."
from the menu.

BEWARE!! The effect is disabled by default until you set MasterFade to a non-zero value.

URP (disabled by default)

The URP file is disabled by default !!! here's how to use it:
Unity wont compile this effect properly if no URP-support is present on your version, so in the urp "...URP.cs" file in the very first line the "//#USE_URP" must be uncommmented to make use the urp effect.
Then under "Assets/Settings/ForwardRenderer" press "Add Renderer Feature" in the Inspector Tab.



BEWARE!! For now the effect can not be used after Post Processing.
Furthermore some Post-Processing-Effects like "Bloom" dont work properly. Disable those effects for proper functionality.