Kronnect

Contents

Introduction

Thanks for purchasing!

Dynamic Fog & Mist is a collection of shaders that adds live, moving **Fog**, **Mist** and **Sky Haze** to your scenes making them less dull and boring.

This asset contains:

- **A full-screen image post-processing image effect** with 6 variants.
- **12 materials with integrated fog effect** in custom shaders.

Important: you should use either the full-screen image effect or the fog materials, but not both!

Explanation follows:

- The image effect is controlled by the script DynamicFog.cs that you add to your camera. The image effect overlays a layer of fog on top of the image every frame. The fog is computed using the depth of each pixel on the screen rendered by the camera. The farther the pixel the thicker the fog.

- On the other hand, the fog materials use custom shaders that integrate the fog calculation. There's no full screen blit nor full screen fog computation but instead the color of the objects are modified depending on the distance to the camera. Since there's no separate full-screen blit pass, using fog materials could be faster on old mobile devices.

Only if you're really concerned about performance, use the fog materials. Otherwise use the full-screen image effect. Demo scenes 1-4 show examples of the full-screen image effect whereas demo scene 5 shows how to use fog materials to create a simple arcade game.

Demo Scenes

Just load any included demo scene and click "Play". In FPS demos you will be able to move around using WASD or cursor keys. Press spacebar to jump, F to change fog style and T to toggle on/off the fog.

The Fog Of War demo scene allows you to "Cut" the fog as you pass through it (press "C" to enable fog cutting mode).

You can delete the Demo folder entirely or ignore it when importing the asset into your project.

Quick Start

To use Dynamic Fog & Mist full screen image effect (demo scenes 1-4):

1. Add the DynamicFog script to your main camera in your scene.

2. Choose one of the preset and that's all!

You can of course customize any of its parameters to match your game mood and requirements.

The effect type selector in the inspector allows you to select one of the shader variants:

- **Desktop Fog + Sky Haze**: this effect provides a fast fog effect plus sky haze options for desktop platforms. It uses two different noise textures to produce a soft animated fog effect.
- **Desktop Fog Plus + Sky Haze**: this effect provides a fog effect using a volumetric approach improving the fog coverage when there's no geometry in front of the camera. It also uses sky haze.
- **Mobile Fog + Sky Haze**: optimized version of Desktop Fog + Sky Haze for mobile devices. Uses a single noise texture.
- **Mobile Fog (No Sky Haze)**: same than Mobile Fog but without sky haze effect.
- **Mobile Fog (Simplified)**: uses a volumetric approach and no noise textures, hence, no animation nor turbulence is supported in this mode. This can be the best choice for fast static fog.
- **Mobile Fog (Basic)**: uses a even simpler version of Mobile Fog (Simplified) aimed for the low end mobile devices.

To use Dynamic Fog & Mist fog materials (not to be combined with the image effect! – see demo scene 5):

1. Select and duplicate any fog material inside DynamicFog/Resources/Materials (see below for names, they start with DFM).
2. Customize the material properties (color, texture or metallic/glossiness, depending on the chosen material).
3. Assign the material to your game objects (you can mix different material types).
4. Create an empty game object and add "DynamicFogManager.cs" script to it. This script controls the shaders of the fog materials and allows you to customize the fog properties for all materials from a centralized point.

The current fog materials available in DynamicFog/Resources/Materials are:

- **DFMStandardShader**: a derivation of the Standard Shader which integrated our fog effect.
- **DFMStandardShaderSolidColor**: same but does not use textures, just single color (faster).
- **DFMLambert**: a fog shader that uses simple lighting (faster).
- **DFMLambertSolidColor**: same but does not use textures (even faster).
- **DFMUnlit**: does not use lighting, just texture, color and fog effect (faster yet!)
- **DFMUnlitSingleColor**: same but does not use texture (the fastest shader!)

These materials are also available with a reflection texture support:

- **DFRStandardShader**: a derivation of the Standard Shader which integrated our fog effect.
- **DFRStandardShaderSolidColor**: same but does not use textures, just single color (faster).
- **DFRLambert**: a fog shader that uses simple lighting (faster).
- **DFRLambertSolidColor**: same but does not use textures (even faster).
- **DFRUnlit**: does not use lighting, just texture, color and fog effect (faster yet!)
- **DFRUnlitSingleColor**: same but does not use texture (the fastest shader!)

It's possible to assign a reflection texture to these materials (using mat.SetTexture("_ReflectionTex", texture) to blend reflections along with the fog. The free asset Realtime Reflections provide a simple way to expose the reflection textures to these materials: https://www.assetstore.unity3d.com/en/#!/content/21730

Special Features (only Image Effect)

VR and Single Pass Stereo Rendering

Dynamic Fog & Mist fully supports VR and Single Pass Stereo Rendering. It has been tested with Oculus DK2 headset and both Oculus and OpenVR SDKs.

Important: if you enable Single Pass Stereo Rendering in Player Settings, make sure to review Dynamic Fog & Mist inspector on your camera and ensure the checkbox "Single Pass Stereo" shown at top of inspector is marked. This checkbox is automatically set based on the Player Settings so no need to change it, just ensure it reflects current player settings. Reason for this checkbox is that Unity does not provide a way to check if Single Pass Stereo is enabled at runtime (from scripts) so this redundant checkbox was added. Just make sure it's in line with your Player Settings.

Fog Volumes

You can define special zones (fog volumes) where fog alpha will automatically change. Create a fog volume from the menu GameObject / Create Other / Fog Volume. Position the fog volume over the desired area, edit the collider bounds and set the desired fog alpha and transition duration in the inspector.

Fog of War

You can also set any number of void areas just calling **SetFogOfWarAlpha** method of the Volumetric script. Just pass the world space position, the radius and the desired new alpha for the fog. Just make sure the center and size of the fog of war (configured in the inspector) are properly set (by default the fog of war is centered on 0,0,0 with a size of 1024x1024).

Call **ResetForOfWar** to reset the cleared areas back to normal.

Gradient Fog

Dynamic Fog & Mist exposes two color selectors to create artistic fog gradients. Just experiment with them!

Enhanced compatibility

Compatibility with Gaia

Dynamic Fog & Mist is also available from Gaia's Extension Manager. You will find a list of convenient buttons that configures and select the different presets of Dynamic Fog & Mist in just one click.

Support

Please visit kronnect.com for questions, support and more info.

FAQ

How can I render the fog behind particles?

Just edit DynamicFog.cs and add [ImageEffectOpaque] before OnRenderImage method.

At night, fog still is showing in same color, how can I make it react to ambient light?

Assign a directional light or Sun gameobject to the Sun property in the inspector (eg. assign the Sun gameobject of Time Of Day plugin). Once assigned, DynamicFog will lerp between fog color and black depending on the Y-axis angle of the directional light.