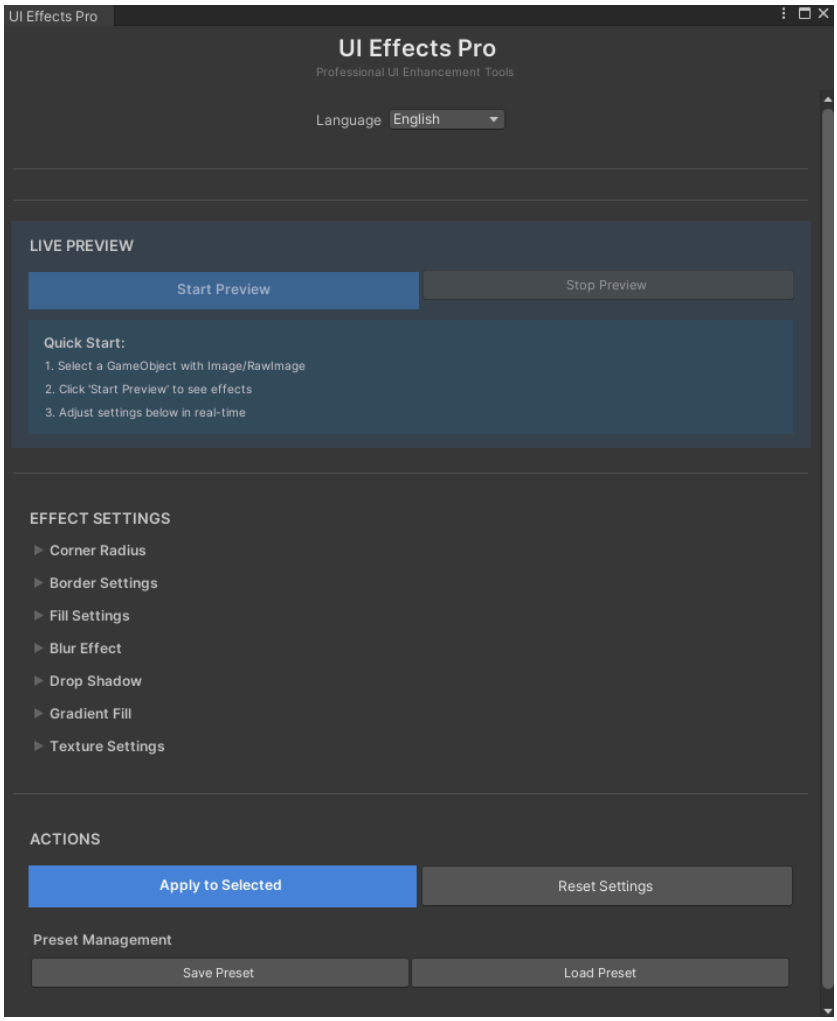
UI Effects Pro - Official Documentation (v3.2)

Version 3.2 - October 2025, Roluplay



1. Introduction

Welcome to the official documentation for **UI Effects Pro**. This guide provides a comprehensive overview of the asset's architecture, features, and workflow to help you create stunning user interfaces in Unity.

UI Effects Pro is a robust and performance-oriented styling solution for Unity's UI framework. It empowers developers and artists to move beyond the standard components, adding complex visual effects through a powerful, non-destructive editor workflow.

The system is built upon a flexible ScriptableObject-based profile system (UIEffectProfile), allowing for the creation, reuse, and management of complex visual styles with ease. From dynamic rounded corners to crisp borders, soft drop shadows, internal blurs, and texture overlays, UI Effects Pro provides the tools needed to achieve a professional and polished look in any project.

2. Key Features

- **Non-Destructive Styling**: Add and configure effects on any Image or RawImage component without altering prefabs or requiring custom components.
- **Powerful Editor Window**: A centralized interface (UIEffectsWindow) for creating, live-previewing, and applying complex effect profiles directly in the scene.
- **ScriptableObject Profiles**: Design and save your styles as UIEffectProfile assets. Reuse them across your entire project to ensure visual consistency.
- **Automatic Render Pipeline Compatibility**: The system intelligently detects and uses the correct, optimized shader for the Built-in and Universal (URP) render pipelines without any manual setup.
- **Advanced Effect Modules**:
    - **Corner Radius**: Set corner rounding in absolute **Pixels** or responsive **Percent** units, with options for global or per-corner control.
    - **Customizable Borders**: Control border width, color, and units.
    - **Advanced Drop Shadow**: A highly efficient shadow implementation that utilizes mesh modification to prevent clipping from parent layouts or masks.
    - **Internal Blur**: Applies a blur to the element's fill, perfect for creating soft, diffused, or frosted-style UI panels.
    - **Background (Scene) Blur:** This effect blurs the scene *behind* the UI element using a GrabPass (Built-in) or the Opaque Texture (URP). **Warning:** The Background Blur effect has a **high performance cost** and should be used sparingly, especially on mobile devices.
    - **Gradient Fill**: Supports **Linear**, **Radial**, and **Angular** gradients to create rich and dynamic backgrounds.
    - **Texture Overlay**: Apply a secondary texture over the fill color or gradient, with advanced controls for tiling, offset, rotation, opacity, blend modes, and aspect modes.

- **Preset Management**: Includes a **Preset Manager** window to easily view, apply, duplicate, or delete profiles in your project.
- **Localized Editor**: The editor window includes translations for **English, Spanish, German, and Chinese** for improved accessibility.

3. Core Concepts

UI Effects Pro operates on two fundamental components that work together.

UIEffectComponent

This is the core MonoBehaviour that acts as the renderer for the effects.

- **Function**: It must be attached to a GameObject that contains either an Image or RawImage component. It intercepts the rendering process, replacing the default material with a custom, dynamically configured material based on the assigned profile.
- **Mesh Modification for Shadows**: A key feature is its implementation of the IMeshModifier interface. When a drop shadow is enabled, the component rebuilds the UI mesh, adding extra padding around the original rectangle. This ensures the shadow has space to render without being clipped by the RectTransform's boundaries.
- **Shader Management**: On Enable, the component checks the project's current render pipeline and selects the appropriate shader from its internal library (RoundedBorder_Builtin, RoundedBorder_URP, etc.). This entire process is automatic.

UIEffectProfile

This is a ScriptableObject that serves as a data container for a complete visual style.

- **Workflow**: Instead of manually configuring values on each component, you assign a Profile. This workflow is ideal for maintaining consistency. If you want to change the corner radius of all your app's buttons, you only need to edit one Profile asset.
- **Presets**: The asset includes pre-configured presets for common use cases like Cards, Panels, and Buttons, which can be created directly from the Assets/Create/UI Effects Pro menu.

4. The UIEffects Pro Window

The primary interface for working with this asset is the editor window, accessible via **Window > UI Effects Pro > Effects Window**.

Live Preview

This top panel is essential for an efficient workflow.

1. Select a UI GameObject in your scene.
2. Click **Start Preview**. This temporarily attaches a UIEffectComponent to your selection and links it to the window.
3. Any change you make in the "Effect Settings" section will be reflected on your object in real-time.

4. Click **Stop Preview** to unlink the object.

Effect Settings

This is where you define every aspect of your style. The settings are organized into collapsible sections.

- **Corner Radius**
  - **Unit**: Pixels for fixed-size rounding, Percent for responsive rounding based on the object's shortest side.
  - **Individual Corners**: Allows you to set a unique radius for each corner.
- **Border Settings**: Controls the **Width** and **Color** of the element's outline.
- **Fill Settings**: Sets the solid **background color** of the element. This is overridden if a Gradient is enabled.
- **Blur Effect**:
  - This effect blurs the **fill of the element itself**. It is not a "background blur" that samples the scene behind the UI.
  - **Parameters**: Radius, Iterations, and Downsample allow you to balance quality versus performance.
- **Drop Shadow**:
  - **Parameters**: Color, Offset, Blur, and Opacity give you full control over the shadow's appearance. As noted earlier, this effect will not be clipped.
- **Gradient Fill**:
  - **Enable Gradient**: Overrides the solid Fill Color with a gradient.
  - **Type**: Choose between **Linear**, **Radial**, or **Angular**.
  - **Parameters**: Control the two color stops (Color A, Color B), the angle (for Linear and Angular), and the center and scale (for Radial).
- **Texture Settings**:
  - **Enable Texture**: Activates the texture overlay.
  - **Overlay Texture**: The texture file to be applied.
  - **Parameters**: Tiling, Offset, Rotation, Opacity, Blend Mode, UV Mode, and Aspect Mode.

Actions

This final panel is for managing your profiles.

- **Apply to Selected**: Finalizes your design. This action creates a new, independent UIEffectProfile asset in your project based on the current settings and permanently assigns it to the selected UI object(s).
- **Reset Settings**: Resets all fields in the window to their default state.
- **Save/Load Preset**: Allows you to save the current settings into a new .asset file or load an existing UIEffectProfile into the window to edit it.

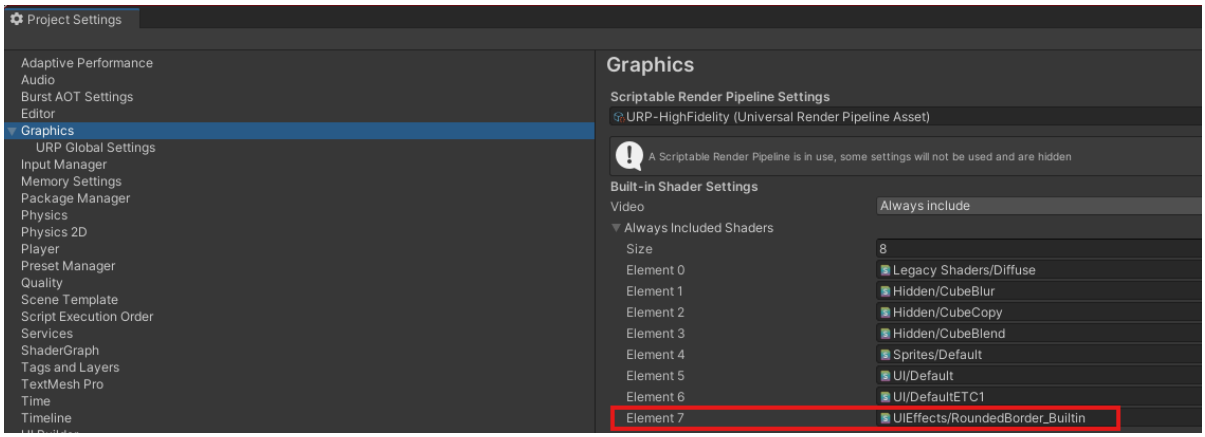
5. Performance & Optimization

UI Effects Pro is designed for performance, but understanding the cost of each effect is crucial.

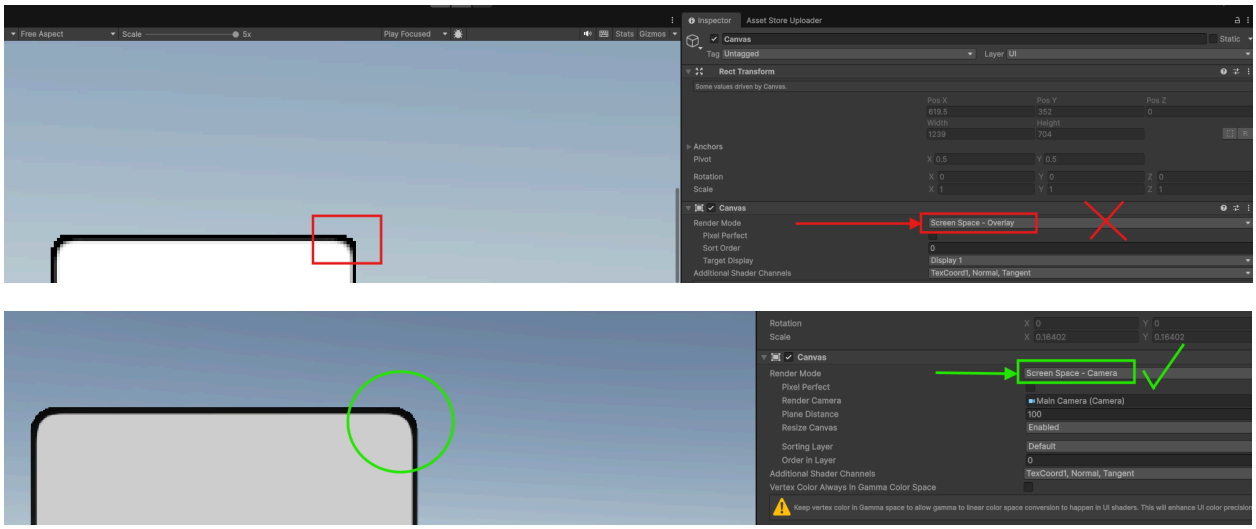
- **Highest Impact**: The **Internal Blur** is the most computationally expensive effect. Its performance depends heavily on the Radius and Iterations. Use it judiciously, especially on large UI panels or on mobile platforms.
- **Moderate to Low Impact**: The **Drop Shadow** is highly optimized. Its main "cost" is a slightly increased vertex count for the UI mesh. A **Texture Overlay**'s cost depends on the texture size and blend mode used.
- **Low Impact**: **Corner Radius**, **Border**, and **Gradient** effects have a minimal to negligible impact on performance.

6. Troubleshooting & FAQ

- **Q: My shadow is being clipped / cut off.**
  - **A**: UI Effects Pro is designed to prevent this by expanding the mesh. If clipping still occurs, the cause is almost always a Mask or RectMask2D component on a parent GameObject. The shadow needs physical space to render; ensure no parent element is masking the area where the shadow should appear.
- **Q: The blur effect isn't blurring the 3D scene behind my UI.**
  - **A**: Correct. The effect is an **Internal Blur**, which only affects the fill of the UI element itself. It does not use a "grab pass" to sample other camera outputs. This is a deliberate design choice to ensure broad compatibility and high performance.
- **Q: I get a pink/error material in my build.**
  - **A**: This can happen if Unity's shader stripping process removes the effect shaders. To fix this, you must manually add the shader to the **Always Included Shaders** list.
    1. Go to **Edit > Project Settings...**
    2. Select the **Graphics** tab.
    3. Find the **Always Included Shaders** section and increase its Size by 1.
    4. In the new Element X slot that appears, click the selection circle and search for the UIEffects/RoundedBorder_Builtin shader.



- **Q: My UI corners are pixelated / jagged (aliasing) even with MSAA enabled in URP.**
- A: This is caused by a fundamental limitation in URP: MSAA does not affect UI Canvases set to Screen Space - Overlay mode.
- To fix this and get smooth, anti-aliased UI, you must change your Canvas to be rendered by the camera:
    1. Select your Canvas object.
    2. In the Inspector, change the Render Mode to Screen Space - Camera.
    3. Drag your Main Camera into the Render Camera slot that appears.



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8. Contact & Support

For technical support, bug reports, or feature requests, please contact us at:
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