Alpha Raycaster

Documentation for version 1.4

Thank you for purchasing Alpha Raycaster! You are now able to make buttons and other interactive UI objects of any shape and they will correctly react to user input. This documentation will help you to get started using the plugin.

Introduction

The default raycaster in Unity 4.6 GUI (Graphic Raycaster) uses just the canvas bounds to check for ray hits. This is OK, while the targets element texture is of a rectangular shape and mostly opaque. However, as soon as you want to make, say, a circle button, you will have a trouble: it will react to user input (like pointer hovering and clicks) even in transparent areas, which is obviously wrong.

Using the Alpha Raycaster, you will be able to solve such problems with ease: our custom raycaster component will check if the alpha component of the target texture in a specific place is below certain threshold and will act accordingly, resulting in a correct input handling.

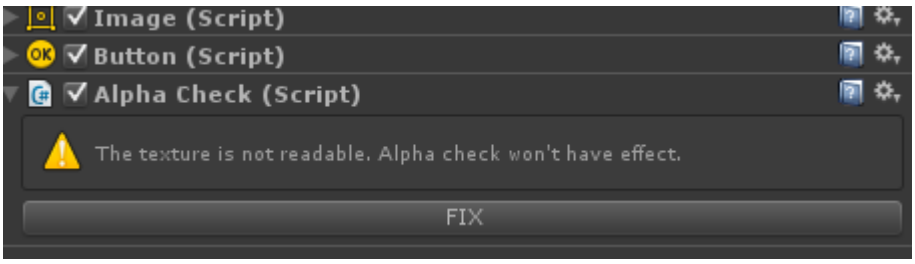
Getting started

First, import the package from the asset store. The “AlphaRaycaster” directory will appear in the Assets folder of your project. You are free to move that folder to any place in the Assets hierarchy, if you like.

After that, there are two general ways to setup the plugin:

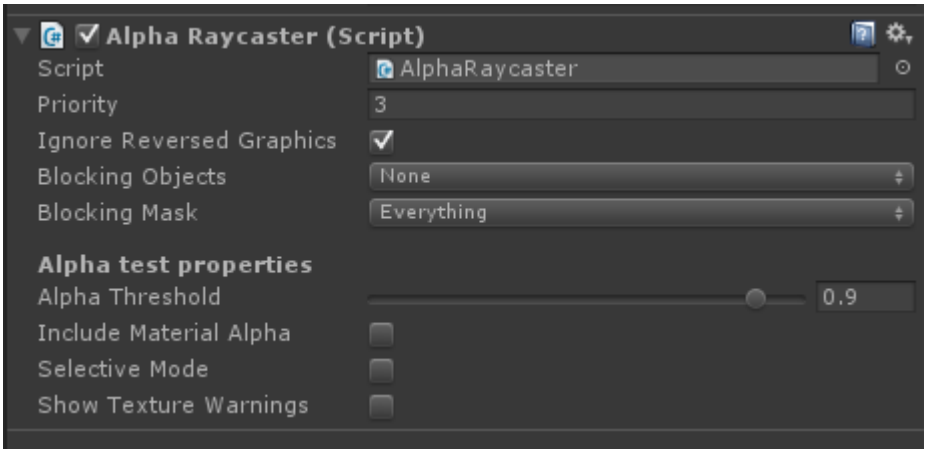
1. If you need to alpha test just a few UI objects, you may select them and add Alpha Check component to each of them. The plugin will automatically switch the default raycaster and setup the plugin to alpha-test only the objects with Alpha Check component;
2. If you want to alpha test all the objects with an Image component, you may just add the Alpha Raycaster component to the UI canvas element (the root of UI hierarchy).

To perform alpha testing the target texture has to be readable. Alpha Check component will check for this and offer to automatically configure the texture, if needed.



Configuring the plugin

The main component — Alpha Raycaster have all the properties of the default Graphic Raycaster, plus some specific for alpha testing.



For the default properties, you may consult the Unity documentation for the Graphic Raycaster – they work just the same. The custom properties are:

- **Alpha Threshold** — set this in 0.0 to 1.0 range to control the level of transparency at which the raycaster will ignore the target element. For example, if you have a fully opaque circle texture and the area outside of the circle is fully transparent — you may set the 1.0 for this property. However, if you have some effect around the circle (like glow) which is semi-transparent and you want the object to react to input when user is hovering areas with that effect — you have to set Alpha Threshold a bit lower, to the value of the transparency the effect have;
- **Include Material Alpha** — enable, if you want the objects tint color to affect the alpha threshold. May be useful, if you change the objects transparency in the editor and want these changes be reflected in the alpha testing process;
- **Selective Mode** — in this mode all the above settings will be ignored and the alpha test will happen only on the objects, which have the “Alpha Check” component. The Alpha Threshold and Include Material Alpha properties should be set for each such object. Activated by default if the plugin was set up by adding the “Alpha Check” component;
- **Show Texture Warnings** — show warning in the Unity console when you try to alpha test an object, which texture was not set to be readable.

Alpha Check component and selective mode

In a non-selective mode, the Alpha Check component can be added to a specific UI objects to override the global settings of the Alpha Threshold and Include Material Alpha. Like this, you will be able to make the Alpha Raycaster treat specific objects separately from others.

While in selective mode, the Alpha Check component is also used to indicate, that you want to perform alpha test of an object — all the objects without this component will be treated by a default Graphic Raycaster algorithm.

Compatibility

The plugin was tested to work in Unity 4.6, Unity 5, Standalone, Web (WebPlayer and WebGL) and on mobile platforms.

All of the canvas render modes are supported, with both orthographic and perspective camera modes.

Plugin is compatible with Unity atlasing system (Default Packer Policy only) and multiple sprite mode (sprite atlasing).

Support and feedback

If you need support for this product or wish to provide suggestions, please feel free to email me at elringus@gmail.com or post at the support forum.

Version changes

Version 1.4:

- Added support for perspective camera mode

Version 1.3:

- Added Unity sprite atlasing system support
- Updated demo scene to show sprite atlas (multiple sprite mode) and sprite packer usage
- Optimized memory usage

Version 1.2:

- New custom editor for the AlphaCheck component
- Auto detect when texture with AlphaCheck component is not readable and offer to fix it in one click
- Auto check for Image component and warn, if there is none

Version 1.1:

- Improved performance
- Add support for screen space camera and world space canvas modes
- The plugin will correctly work with rotated objects now

Version 1.0:

- Initial release