cedargrove_palettefader

PaletteFader is a CircuitPython driver class for brightness-adjusting color *lists* and *displayio* palettes. Normalization is optionally applied to the palette prior to brightness and gamma adjustments. Transparency index values are preserved and associated with the adjusted palette. Creates an adjusted *displayio* color palette object (*displayio.Palette*) property that can also be read as a color *list*.

To adjust a single color value, create a color *list* or a palette containing a single color. Also, **cedargrove_unit_converter.color.colorfader.color_fader()** helper function can be used for adjusting a single color value.

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Implementation Notes

The **ulab**-based reference palette creation code was adapted from the Adafruit *Ocean Epoxy Lightbox* project's **Reshader** class; Copyright 2020 J Epler and L Fried: https://learn.adafruit.com/ocean-epoxy-resin-lightbox-with-rgb-led-matrix-image-scroller

Hardware:

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: https://circuitpython.org/downloads

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class cedargrove_palettefader.PaletteFader(*, *source_palette, brightness=1.0, gamma=1.0, normalize=False*)

Class representing the CedarGrove PaletteFader, a *displayio* palette fader with normalization, brightness (fading), and gamma control. Creates an adjusted *displayio* palette object property.

Parameters:	
	• **source_palette** – The color *list* or *displayio* palette object. No default.
	• **brightness** – The brightness floating point value for palette adjustment. Value range is 0.0 to 1.0. Default is 1.0 (maximum brightness).
	• **gamma** – The gamma floating point value for palette adjustment. Value range is 0.0 to 2.0. Default is 1.0 (no gamma adjustment).
	• **normalize** – The boolean normalization state. *True* to normalize; *False* to skip normalization. Default is *False* (no normalization).

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palette

A class getter property.

Parameters:	**palette** – Get the adjusted *displayio* palette object.

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brightness

A class getter and setter property.

Parameters:	**brightness** – Set or get the palette's overall brightness level, 0.0 to 1.0.

gamma

A class getter property.

Parameters:	**gamma** – Get the adjusted palette's gamma value, typically from 0.0 to 2.0. The gamma adjustment is applied after the palette is normalized and brightness-adjusted.

normalize

A class getter property.

Parameters:	**normalize** – Get the palette's normalization mode state; *True* for normalization applied; *False* for no normalization.