

# Namespace PAC

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# Class Finder

Namespace: [PAC](#)

```
public class Finder
```

## Inheritance

[object](#) ← Finder

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Properties

### animationManager

```
public static AnimationManager animationManager { get; }
```

Property Value

[AnimationManager](#)

### clipboard

```
public static Clipboard clipboard { get; }
```

Property Value

[Clipboard](#)

### colourPicker

```
public static GlobalColourPicker colourPicker { get; }
```

Property Value

[GlobalColourPicker](#)

## dialogBoxManager

```
public static DialogBoxManager dialogBoxManager { get; }
```

Property Value

[DialogBoxManager](#)

## drawingArea

```
public static DrawingArea drawingArea { get; }
```

Property Value

[DrawingArea](#)

## fileManager

```
public static FileManager fileManager { get; }
```

Property Value

[FileManager](#)

## fileTabsManager

```
public static FileTabsManager fileTabsManager { get; }
```

Property Value

[FileTabsManager](#)

## gridManager

```
public static GridManager gridManager { get; }
```

Property Value

[GridManager](#)

## imageEditManager

```
public static ImageEditManager imageEditManager { get; }
```

Property Value

[ImageEditManager](#)

## inputSystem

```
public static InputSystem inputSystem { get; }
```

Property Value

[InputSystem](#)

## keyboard

```
public static Keyboard keyboard { get; }
```

Property Value

[Keyboard](#)

## layerManager

```
public static LayerManager layerManager { get; }
```

Property Value

[LayerManager](#)

## mouse

```
public static Mouse mouse { get; }
```

Property Value

[Mouse](#)

## themeManager

```
public static ThemeManager themeManager { get; }
```

Property Value

[ThemeManager](#)

## tileOutlineManager

```
public static TileOutlineManager tileOutlineManager { get; }
```

Property Value

[TileOutlineManager](#)

## tilesetManager

```
public static TilesetManager tilesetManager { get; }
```

Property Value

[TilesetManager](#)

## toolbar

```
public static Toolbar toolbar { get; }
```

Property Value

[Toolbar](#)

## uiManager

```
public static UIManager uiManager { get; }
```

Property Value

[UIManager](#)

## undoRedoManager

```
public static UndoRedoManager undoRedoManager { get; }
```

Property Value

[UndoRedoManager](#)

# Enum FlipDirection

Namespace: [PAC](#)

```
public enum FlipDirection
```

## Fields

None = 0

X = 1

Y = 2

# Class Functions

Namespace: [PAC](#)

```
public static class Functions
```

## Inheritance

[object](#) ← Functions

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### ArrayToString<T>(T[])

```
public static string ArrayToString<T>(T[] array)
```

#### Parameters

array T[]

#### Returns

[string](#)

#### Type Parameters

T

### CeilToMultiple(float, int)

```
public static int CeilToMultiple(float toRound, int multipleOf)
```

Parameters

`toRound float`

`multipleOf int`

Returns

`int`

## CeilToMultiple(float, float)

```
public static float CeilToMultiple(float toRound, float multipleOf)
```

Parameters

`toRound float`

`multipleOf float`

Returns

`float`

## CompareArrays<T>(T[], T[])

```
public static bool CompareArrays<T>(T[] array1, T[] array2)
```

Parameters

`array1 T[]`

`array2 T[]`

Returns

`bool`

## Type Parameters

T

## ConcatArrays<T>(T[], T[])

```
public static T[] ConcatArrays<T>(T[] array1, T[] array2)
```

### Parameters

array1 T[]

array2 T[]

### Returns

T[]

## Type Parameters

T

## CopyArray<T>(T[])

```
public static T[] CopyArray<T>(T[] array)
```

### Parameters

array T[]

### Returns

T[]

## Type Parameters

T

## FirstNChars(string, int)

```
public static string FirstNChars(string str, int numOfChars)
```

Parameters

str [string](#)

numOfChars [int](#)

Returns

[string](#)

## FloorToMultiple(float, int)

```
public static int FloorToMultiple(float toRound, int multipleOf)
```

Parameters

toRound [float](#)

multipleOf [int](#)

Returns

[int](#)

## FloorToMultiple(float, float)

```
public static float FloorToMultiple(float toRound, float multipleOf)
```

Parameters

toRound [float](#)

multipleOf [float](#)

Returns

[float](#)

## Mod(int, int)

Returns a mod b, giving a non-negative result.

```
public static int Mod(int a, int b)
```

Parameters

a [int](#)

b [int](#)

Returns

[int](#)

## Range(int, int)

Creates an array starting at start and ending at end (inclusive).

```
public static int[] Range(int start, int end)
```

Parameters

start [int](#)

end [int](#)

Returns

[int](#)[]

## RoundDecimalPlaces(float, int)

```
public static float RoundDecimalPlaces(float f, int decimalPlaces)
```

Parameters

f [float](#)

decimalPlaces [int](#)

Returns

[float](#)

## RoundToMultiple(float, int)

```
public static int RoundToMultiple(float toRound, int multipleOf)
```

Parameters

toRound [float](#)

multipleOf [int](#)

Returns

[int](#)

## RoundToMultiple(float, float)

```
public static float RoundToMultiple(float toRound, float multipleOf)
```

Parameters

toRound [float](#)

multipleOf [float](#)

Returns

[float](#)

## SymmetricCeil(float)

```
public static float SymmetricCeil(float f)
```

Parameters

f [float](#)

Returns

[float](#)

## SymmetricCeilToInt(float)

```
public static int SymmetricCeilToInt(float f)
```

Parameters

f [float](#)

Returns

[int](#)

## SymmetricFloor(float)

```
public static float SymmetricFloor(float f)
```

Parameters

f [float](#)

Returns

[float](#)

## SymmetricFloorToInt(float)

```
public static int SymmetricFloorToInt(float f)
```

Parameters

f [float](#)

Returns

[int](#)

## ToArray<T>(HashSet<T>)

```
public static T[] ToArray<T>(this HashSet<T> hashSet)
```

Parameters

hashSet [HashSet](#)<T>

Returns

T[]

Type Parameters

T

## TruncateDecimalPlaces(float, int)

```
public static float TruncateDecimalPlaces(float f, int decimalPlaces)
```

Parameters

f [float](#)

decimalPlaces [int](#)

Returns

[float](#)

## Vector2ToVector3(Vector3)

```
public static Vector3 Vector2ToVector3(Vector3 vector2)
```

Parameters

vector2 [Vector3](#)

Returns

[Vector3](#)

## Vector3ToVector2(Vector3)

```
public static Vector2 Vector3ToVector2(Vector3 vector3)
```

Parameters

vector3 [Vector3](#)

Returns

[Vector2](#)

# Class ImageConverter

Namespace: [PAC](#)

```
public static class ImageConverter
```

## Inheritance

[object](#) ← ImageConverter

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

# Class KeyCodeFunctions

Namespace: [PAC](#)

```
public static class KeyCodeFunctions
```

## Inheritance

[object](#) ← KeyCodeFunctions

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### IsAlpha(KeyCode)

```
public static bool IsAlpha(KeyCode keyCode)
```

#### Parameters

keyCode KeyCode

#### Returns

[bool](#)

### IsAlphanumeric(KeyCode)

```
public static bool IsAlphanumeric(KeyCode keyCode)
```

#### Parameters

keyCode KeyCode

Returns

[bool](#)

## IsDigit(KeyCode)

```
public static bool IsDigit(KeyCode keyCode)
```

Parameters

**keyCode** KeyCode

Returns

[bool](#)

## StrToKeyCode(string)

```
public static KeyCode StrToKeyCode(string str)
```

Parameters

**str** [string](#)

Returns

KeyCode

# Struct OutlineSideFill

Namespace: [PAC](#)

```
public struct OutlineSideFill
```

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

OutlineSideFill(bool, bool, bool, bool, bool, bool, bool, bool)

```
public OutlineSideFill(bool topLeft, bool topMiddle, bool topRight, bool middleLeft,  
bool middleRight, bool bottomLeft, bool bottomMiddle, bool bottomRight)
```

## Parameters

topLeft [bool](#)

topMiddle [bool](#)

topRight [bool](#)

middleLeft [bool](#)

middleRight [bool](#)

bottomLeft [bool](#)

bottomMiddle [bool](#)

bottomRight [bool](#)

## Fields

### bottomLeft

```
public bool bottomLeft
```

#### Field Value

[bool](#) ↗

### bottomMiddle

```
public bool bottomMiddle
```

#### Field Value

[bool](#) ↗

### bottomRight

```
public bool bottomRight
```

#### Field Value

[bool](#) ↗

### middleLeft

```
public bool middleLeft
```

#### Field Value

[bool](#) ↗

## middleRight

```
public bool middleRight
```

Field Value

[bool](#) ↗

## topLeft

```
public bool topLeft
```

Field Value

[bool](#) ↗

## topMiddle

```
public bool topMiddle
```

Field Value

[bool](#) ↗

## topRight

```
public bool topRight
```

Field Value

[bool](#) ↗

# Class Preferences

Namespace: [PAC](#)

```
public static class Preferences
```

## Inheritance

[object](#) ← Preferences

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### startupAnimationFramerate

```
public static readonly Preferences.Preference<int> startupAnimationFramerate
```

#### Field Value

[Preferences.Preference<int>](#)

### startupBrushSize

```
public static readonly Preferences.Preference<int> startupBrushSize
```

#### Field Value

[Preferences.Preference<int>](#)

### startupFileHeight

```
public static readonly Preferences.Preference<int> startupFileHeight
```

Field Value

[Preferences.Preference<int>](#)

## startupFileWidth

```
public static readonly Preferences.Preference<int> startupFileWidth
```

Field Value

[Preferences.Preference<int>](#)

## startupPrimaryColour

```
public static readonly Preferences.Preference<Color> startupPrimaryColour
```

Field Value

[Preferences.Preference<Color>](#)

## startupSecondaryColour

```
public static readonly Preferences.Preference<Color> startupSecondaryColour
```

Field Value

[Preferences.Preference<Color>](#)

## transparentCheckerboardColour1

This is the colour that will be in the bottom left / top right of the checkerboard.

```
public static readonly Preferences.Preference<Color32>
transparentCheckerboardColour1
```

## Field Value

[Preferences.Preference<Color32>](#)

## transparentCheckerboardColour2

This is the colour that will be in the bottom right / top left of the checkerboard.

```
public static readonly Preferences.Preference<Color32>
transparentCheckerboardColour2
```

## Field Value

[Preferences.Preference<Color32>](#)

## Methods

### CreatePreference(string, string, Color)

```
public static Preferences.Preference<Color> CreatePreference(string displayName,
string playerPrefsKey, Color defaultValue)
```

## Parameters

displayName [string](#)

playerPrefsKey [string](#)

defaultValue Color

## Returns

[Preferences.Preference<Color>](#)

## CreatePreference(string, string, Color32)

```
public static Preferences.Preference<Color32> CreatePreference(string displayName,  
string playerPrefsKey, Color32 defaultValue)
```

### Parameters

displayName [string](#)

playerPrefsKey [string](#)

defaultValue Color32

### Returns

[Preferences.Preference<Color32>](#)

## CreatePreference(string, string, int, int, int)

```
public static Preferences.Preference<int> CreatePreference(string displayName,  
string playerPrefsKey, int defaultValue, int minValue = -2147483648, int maxValue  
= 2147483647)
```

### Parameters

displayName [string](#)

playerPrefsKey [string](#)

defaultValue [int](#)

minValue [int](#)

maxValue [int](#)

### Returns

[Preferences.Preference<int>](#)

# Class Preferences.Preference<T>

Namespace: [PAC](#)

```
public class Preferences.Preference<T>
```

## Type Parameters

T

### Inheritance

[object](#) ← Preferences.Preference<T>

### Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

Preference(string, Func<T>, Action<T>)

```
public Preference(string displayName, Func<T> getter, Action<T> setter)
```

## Parameters

displayName [string](#)

getter [Func](#)<T>

setter [Action](#)<T>

## Properties

displayName

```
public string displayName { get; }
```

Property Value

[string](#) ↗

## Methods

### Get()

Gets the value of the preference. Can also be done via casting.

```
public T Get()
```

Returns

T

### Set(T)

Change the value of the preference and save it.

```
public void Set(T value)
```

Parameters

value T

## Operators

### implicit operator T(Preference<T>)

Gets the value of the preference.

```
public static implicit operator T(Preferences.Preference<T> pref)
```

## Parameters

`pref Preferences.Preference<T>`

## Returns

`T`

# Enum RotationAngle

Namespace: [PAC](#)

```
public enum RotationAngle
```

## Fields

`Minus90 = -90`

`_0 = 0`

`_180 = 180`

`_90 = 90`

# Class Tex2DSprite

Namespace: [PAC](#)

```
public static class Tex2DSprite
```

## Inheritance

[object](#) ← Tex2DSprite

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### ApplyMask(Texture2D, IntVector2[])

```
public static Texture2D ApplyMask(Texture2D texture, IntVector2[] mask)
```

#### Parameters

texture Texture2D

mask [IntVector2\[\]](#)

#### Returns

Texture2D

### ApplyMask(Texture2D, Texture2D)

```
public static Texture2D ApplyMask(Texture2D texture, Texture2D mask)
```

#### Parameters

`texture` Texture2D

`mask` Texture2D

Returns

Texture2D

## BlankTexture(int, int)

```
public static Texture2D BlankTexture(int width, int height)
```

Parameters

`width` [int](#)

`height` [int](#)

Returns

Texture2D

## Blend(Color, Texture2D, BlendMode)

Overlays topColour onto each pixel of bottomTex using the given blend mode.

```
public static Texture2D Blend(Color topColour, Texture2D bottomTex,  
BlendMode blendMode)
```

Parameters

`topColour` Color

`bottomTex` Texture2D

`blendMode` [BlendMode](#)

Returns

## Blend(Texture2D, Texture2D, BlendMode)

Overlays topTex onto bottomTex using the given blend mode, placing the bottom-left corner on the bottom-left corner.

```
public static Texture2D Blend(Texture2D topTex, Texture2D bottomTex,  
BlendMode blendMode)
```

### Parameters

topTex Texture2D

bottomTex Texture2D

blendMode [BlendMode](#)

### Returns

Texture2D

## Blend(Texture2D, Texture2D, IntVector2, BlendMode)

Overlays topTex onto bottomTex using the given blend mode, placing the bottom-left corner at the coordinates topTexOffset (which don't have to be within the image).

```
public static Texture2D Blend(Texture2D topTex, Texture2D bottomTex, IntVector2  
topTexOffset, BlendMode blendMode)
```

### Parameters

topTex Texture2D

bottomTex Texture2D

topTexOffset [IntVector2](#)

blendMode [BlendMode](#)

Returns

Texture2D

## ChangeRect(Texture2D, IntRect)

Changes the dimensions of the texture to the new rect.

```
public static Texture2D ChangeRect(Texture2D texture, IntRect newRect)
```

Parameters

**texture** Texture2D

**newRect** [IntRect](#)

The coords of the new rect relative to the coords of the old rect.

Returns

Texture2D

## CheckerboardBackground(int, int)

```
public static Texture2D CheckerboardBackground(int width, int height)
```

Parameters

**width** [int](#)

**height** [int](#)

Returns

Texture2D

## ContainsPixel(Texture2D, IntVector2)

```
public static bool ContainsPixel(this Texture2D texture, IntVector2 pixel)
```

Parameters

texture Texture2D

pixel [IntVector2](#)

Returns

[bool](#)

## ContainsPixel(Texture2D, int, int)

```
public static bool ContainsPixel(this Texture2D texture, int x, int y)
```

Parameters

texture Texture2D

x [int](#)

y [int](#)

Returns

[bool](#)

## Copy(Texture2D)

Creates a deepcopy of the texture using Color colours.

```
public static Texture2D Copy(Texture2D texture)
```

Parameters

texture Texture2D

Returns

Texture2D

## Copy32(Texture2D)

Creates a deepcopy of the texture using Color32 colours.

```
public static Texture2D Copy32(Texture2D texture)
```

Parameters

**texture** Texture2D

Returns

Texture2D

## Extend(Texture2D, int, int, int, int)

Adds the given number of transparent pixels to each side of the texture. Negative amounts will crop the image.

```
public static Texture2D Extend(Texture2D texture, int left, int right, int up,  
int down)
```

Parameters

**texture** Texture2D

**left** [int](#)

**right** [int](#)

**up** [int](#)

**down** [int](#)

Returns

Texture2D

## Fill(Texture2D, IntVector2, Color, int)

```
public static Texture2D Fill(Texture2D texture, IntVector2 startPoint, Color colour,  
int maxNumberOfIterations = 1000000)
```

### Parameters

`texture` Texture2D

`startPoint` [IntVector2](#)

`colour` Color

`maxNumberOfIterations` [int](#)

### Returns

Texture2D

## Flip(Texture2D, FlipDirection)

```
public static Texture2D Flip(Texture2D texture, FlipDirection direction)
```

### Parameters

`texture` Texture2D

`direction` [FlipDirection](#)

### Returns

Texture2D

## FlipX(Texture2D)

```
public static Texture2D FlipX(Texture2D texture)
```

Parameters

**texture** Texture2D

Returns

Texture2D

## FlipY(Texture2D)

```
public static Texture2D FlipY(Texture2D texture)
```

Parameters

**texture** Texture2D

Returns

Texture2D

## GetFillMask(Texture2D, IntVector2, int)

```
public static Texture2D GetFillMask(Texture2D texture, IntVector2 startPoint, int  
maxNumOfIterations = 100000)
```

Parameters

**texture** Texture2D

**startPoint** [IntVector2](#)

**maxNumOfIterations** [int](#)

Returns

Texture2D

## GetPixel(Texture2D, IntVector2)

```
public static Color GetPixel(this Texture2D texture, IntVector2 coords)
```

Parameters

texture Texture2D

coords [IntVector2](#)

Returns

Color

## GetPixelsToFill(Texture2D, IntVector2, int)

```
public static IntVector2[] GetPixelsToFill(Texture2D texture, IntVector2 startPoint,  
int maxNumOfIterations = 100000)
```

Parameters

texture Texture2D

startPoint [IntVector2](#)

maxNumOfIterations [int](#)

Returns

[IntVector2\[\]](#)

## HSLHueSaturationGrid(int, int)

```
public static Texture2D HSLHueSaturationGrid(int width, int height)
```

Parameters

width [int](#)

height [int](#)

Returns

Texture2D

## LoadFromFile(string)

```
public static Texture2D LoadFromFile(string filePath)
```

Parameters

filePath [string](#)

Returns

Texture2D

## Multiply(Texture2D, Color)

```
public static Texture2D Multiply(Texture2D texture, Color colour)
```

Parameters

texture Texture2D

colour Color

Returns

Texture2D

## Offset(Texture2D, IntVector2)

```
public static Texture2D Offset(Texture2D texture, IntVector2 offset)
```

## Parameters

**texture** Texture2D

**offset** [IntVector2](#)

## Returns

Texture2D

## Outline(Texture2D, Color, bool, OutlineSideFill)

Makes an outline around the non-transparent pixels of the given texture.

```
public static Texture2D Outline(Texture2D texture, Color outlineColour, bool  
outlineOutside, OutlineSideFill outlineSideFill)
```

## Parameters

**texture** Texture2D

**outlineColour** Color

**outlineOutside** [bool](#)

When true: the outline is created next to existing pixels (widens the sprite). When false: replaces the outer pixels.

**outlineSideFill** [OutlineSideFill](#)

## Returns

Texture2D

## Overlay(Texture2D, Texture2D)

Overlays topTex onto bottomTex, placing the bottom-left corner on the bottom-left corner.  
Uses Normal blend mode.

```
public static Texture2D Overlay(Texture2D topTex, Texture2D bottomTex)
```

Parameters

topTex Texture2D

bottomTex Texture2D

Returns

Texture2D

## Overlay(Texture2D, Texture2D, IntVector2)

Overlays topTex onto bottomTex, placing the bottom-left corner at the coordinates topTexOffset (which don't have to be within the image). Uses Normal blend mode.

```
public static Texture2D Overlay(Texture2D topTex, Texture2D bottomTex,  
IntVector2 topTexOffset)
```

Parameters

topTex Texture2D

bottomTex Texture2D

topTexOffset [IntVector2](#)

Returns

Texture2D

## ReplaceColour(Texture2D, Color, Color)

```
public static Texture2D ReplaceColour(Texture2D texture, Color toReplace,  
Color replaceWith)
```

## Parameters

`texture` Texture2D

`toReplace` Color

`replaceWith` Color

## Returns

Texture2D

## Rotate(Texture2D, RotationAngle)

Rotation is clockwise.

```
public static Texture2D Rotate(Texture2D texture, RotationAngle angle)
```

## Parameters

`texture` Texture2D

`angle` [RotationAngle](#)

## Returns

Texture2D

## Rotate180(Texture2D)

```
public static Texture2D Rotate180(Texture2D texture)
```

## Parameters

`texture Texture2D`

Returns

`Texture2D`

## `Rotate90(Texture2D)`

Rotation is clockwise.

```
public static Texture2D Rotate90(Texture2D texture)
```

Parameters

`texture Texture2D`

Returns

`Texture2D`

## `RotateMinus90(Texture2D)`

Rotation is clockwise.

```
public static Texture2D RotateMinus90(Texture2D texture)
```

Parameters

`texture Texture2D`

Returns

`Texture2D`

## `Scale(Texture2D, int, int)`

```
public static Texture2D Scale(Texture2D texture, int newWidth, int newHeight)
```

## Parameters

**texture** Texture2D

**newWidth** [int](#)

**newHeight** [int](#)

## Returns

Texture2D

## Scale(Texture2D, float)

```
public static Texture2D Scale(Texture2D texture, float scaleFactor)
```

## Parameters

**texture** Texture2D

**scaleFactor** [float](#)

## Returns

Texture2D

## Scale(Texture2D, float, float)

```
public static Texture2D Scale(Texture2D texture, float xScaleFactor,  
float yScaleFactor)
```

## Parameters

**texture** Texture2D

xScaleFactor [float](#)

yScaleFactor [float](#)

Returns

Texture2D

## SetPixel(Texture2D, IntVector2, Color)

```
public static void SetPixel(this Texture2D texture, IntVector2 coords, Color colour)
```

Parameters

texture Texture2D

coords [IntVector2](#)

colour Color

## SolidTexture(int, int, Color)

Creates a texture of the given dimensions filled with the given colour.

NOTE: the overload that takes in a Color32 is faster.

```
public static Texture2D SolidTexture(int width, int height, Color colour)
```

Parameters

width [int](#)

height [int](#)

colour Color

Returns

Texture2D

## SolidTexture(int, int, Color32)

Creates a texture of the given dimensions filled with the given colour.

NOTE: this is faster than the overload that takes in a Color.

```
public static Texture2D SolidTexture(int width, int height, Color32 colour)
```

### Parameters

width [int](#)

height [int](#)

colour Color32

### Returns

Texture2D

## Subtract(Texture2D, Texture2D)

```
public static Texture2D Subtract(Texture2D topTex, Texture2D bottomTex)
```

### Parameters

topTex Texture2D

bottomTex Texture2D

### Returns

Texture2D

## Tex2DToSprite(Texture2D)

```
public static Sprite Tex2DToSprite(Texture2D tex)
```

## Parameters

**tex** Texture2D

## Returns

Sprite

# Namespace PAC.Animation

## Classes

### [AnimationKeyFrame](#)

A class representing a single keyframe for a layer.

### [AnimationKeyFrame.JsonConverter](#)

### [AnimationManager](#)

Handles the animation timeline and playback of animations. The animation system is still a work in progress.

### [FrameNotch](#)

A class for the frame number markers on the animation timeline.

### [KeyFrameIcon](#)

Stores the data about a keyframe icon on the animation timeline.

# Class AnimationKeyFrame

Namespace: [PAC.Animation](#)

A class representing a single keyframe for a layer.

```
public class AnimationKeyFrame
```

## Inheritance

[object](#) ← AnimationKeyFrame

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### AnimationKeyFrame(AnimationKeyFrame)

Creates a deep copy of the AnimationKeyFrame.

```
public AnimationKeyFrame(AnimationKeyFrame animationKeyFrame)
```

#### Parameters

animationKeyFrame [AnimationKeyFrame](#)

### AnimationKeyFrame(int, Texture2D)

```
public AnimationKeyFrame(int frame, Texture2D texture)
```

#### Parameters

frame [int](#)

`texture` Texture2D

## Fields

### frame

The number of the frame this keyframe is on.

```
public int frame
```

#### Field Value

[int](#)

### texture

The texture displayed at this keyframe.

```
public Texture2D texture
```

#### Field Value

Texture2D

## Methods

### DeepCopy()

Creates a deep copy of the AnimationKeyFrame.

```
public AnimationKeyFrame DeepCopy()
```

#### Returns

[AnimationKeyFrame](#)

# Class AnimationKeyFrame.JsonConverter

Namespace: [PAC.Animation](#)

```
public class AnimationKeyFrame.JsonConverter :  
JsonConversion.JsonConverter<AnimationKeyFrame, JsonData.Object>
```

## Inheritance

```
object ↪ JsonConversion.JsonConverter<AnimationKeyFrame, JsonData.Object> ↪  
AnimationKeyFrame.JsonConverter
```

## Inherited Members

```
JsonConversion.JsonConverter<AnimationKeyFrame,  
JsonData.Object>.ToJson\(AnimationKeyFrame\) ,  
JsonConversion.JsonConverter<AnimationKeyFrame,  
JsonData.Object>.FromJson\(JsonData.Object\) ,  
JsonConversion.JsonConverter<AnimationKeyFrame,JsonData.Object>.FromJson\(JsonData\) ,  
object.Equals\(object\) , object.Equals\(object, object\) , object.GetHashCode\(\) ,  
object.GetType\(\) , object.MemberwiseClone\(\) , object.ReferenceEquals\(object, object\) ,  
object.ToString\(\)
```

## Constructors

### JsonConverter(SemanticVersion)

```
public JsonConverter(SemanticVersion fromJsonFileFormatVersion)
```

## Parameters

fromJsonFileFormatVersion [SemanticVersion](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override AnimationKeyFrame FromJson(JsonData.Object jsonData)
```

Parameters

jsonData [JsonData.Object](#)

Returns

[AnimationKeyFrame](#)

## ToJson(AnimationKeyFrame)

Attempts to convert the C# object into JSON data.

```
public override JsonData.Object ToJson(AnimationKeyFrame keyFrame)
```

Parameters

keyFrame [AnimationKeyFrame](#)

Returns

[JsonData.Object](#)

# Class AnimationManager

Namespace: [PAC.Animation](#)

Handles the animation timeline and playback of animations. The animation system is still a work in progress.

```
public class AnimationManager : MonoBehaviour
```

## Inheritance

[object](#) ← AnimationManager

## Fields

### framerate

```
public int framerate
```

Field Value

[int](#)

### onionSkinColour

```
public Color onionSkinColour
```

Field Value

Color

### showOnionSkin

```
public bool showOnionSkin
```

## Field Value

[bool](#) ↗

## Properties

### currentFrameIndex

The number of the frame currently being displayed.

```
public int currentFrameIndex { get; set; }
```

## Property Value

[int](#) ↗

## Methods

### AddKeyFrame()

Extends the length of the animation by adding one frame to the end.

```
public void AddKeyFrame()
```

### DebugLogKeyFrames()

For debugging purposes. Prints the current frame number and the frame numbers of each keyframe.

```
public void DebugLogKeyFrames()
```

### DeleteSelectedKeyFrame()

Deletes the selected key frame.

```
public void DeleteSelectedKeyFrame()
```

## Pause()

Pauses the animation playback.

```
public void Pause()
```

## Play()

Starts/resumes the animation playback.

```
public void Play()
```

## RemoveKeyFrame()

Reduces the length of the animation by removing the final frame.

```
public void RemoveKeyFrame()
```

## Stop()

Stops the animation playback and resets the current frame number back to the start.

```
public void Stop()
```

## SubscribeToOnCurrentFrameIndexChange(UnityAction)

Event is invoked when the current frame number changes.

```
public void SubscribeToOnCurrentFrameIndexChange(UnityAction call)
```

Parameters

**call** UnityAction

## SubscribeToOnKeyFrameAdded(UnityAction)

Event is invoked when a keyframe is added.

```
public void SubscribeToOnKeyFrameAdded(UnityAction call)
```

Parameters

**call** UnityAction

## SubscribeToOnKeyFrameDeleted(UnityAction)

Event is invoked when a keyframe is deleted.

```
public void SubscribeToOnKeyFrameDeleted(UnityAction call)
```

Parameters

**call** UnityAction

# Class FrameNotch

Namespace: [PAC.Animation](#)

A class for the frame number markers on the animation timeline.

```
public class FrameNotch : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← FrameNotch

## Properties

### frameNum

```
public int frameNum { get; set; }
```

Property Value

[int](#) ↗

## Methods

### SetFrameNumber(int)

```
public void SetFrameNumber(int num)
```

Parameters

num [int](#) ↗

# Class KeyFrameIcon

Namespace: [PAC.Animation](#)

Stores the data about a keyframe icon on the animation timeline.

```
public class KeyFrameIcon : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← KeyFrameIcon

## Fields

### frameIndex

The frame number this keyframe is on.

```
public int frameIndex
```

#### Field Value

[int](#) ↗

### layerIndex

The layer index this keyframe is on.

```
public int layerIndex
```

#### Field Value

[int](#) ↗

# Namespace PAC.Clipboard

## Classes

### [Clipboard](#)

A class to handle copy/paste functionality. Not yet properly implemented.

# Class Clipboard

Namespace: [PAC.Clipboard](#)

A class to handle copy/paste functionality. Not yet properly implemented.

```
public class Clipboard : MonoBehaviour
```

## Inheritance

[object](#) ↗ Clipboard

## Methods

### Copy()

```
public void Copy()
```

### Cut()

```
public void Cut()
```

### Paste()

```
public void Paste()
```

# Namespace PAC.Colour

## Classes

### [BlendMode](#)

A class for blend modes.

### [BlendMode.JsonConverter](#)

### [ColorExtensions](#)

## Structs

### [HSL](#)

Represents a colour in HSL form.

### [HSV](#)

Represents a colour in HSV form.

# Class BlendMode

Namespace: [PAC.Colour](#)

A class for blend modes.

```
public class BlendMode
```

## Inheritance

[object](#) ← BlendMode

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Fields

### Add

Add blend mode.

```
public static readonly BlendMode Add
```

### Field Value

[BlendMode](#)

### Multiply

Multiply blend mode.

```
public static readonly BlendMode Multiply
```

### Field Value

[BlendMode](#)

## Normal

Normal blend mode.

```
public static readonly BlendMode Normal
```

Field Value

[BlendMode](#)

## Overlay

Overlay blend mode.

```
public static readonly BlendMode Overlay
```

Field Value

[BlendMode](#)

## Replace

Replace blend mode.

```
public static readonly BlendMode Replace
```

Field Value

[BlendMode](#)

## Screen

Screen blend mode.

```
public static readonly BlendMode Screen
```

## Field Value

[BlendMode](#)

## Subtract

Subtract blend mode.

```
public static readonly BlendMode Subtract
```

## Field Value

[BlendMode](#)

## blendModes

All implemented blend modes.

```
public static readonly BlendMode[] blendModes
```

## Field Value

[BlendMode\[\]](#)

## Methods

### Blend(Color, Color)

Blend the two colours using the blend mode's blend function.

```
public Color Blend(Color topColour, Color bottomColour)
```

#### Parameters

`topColour` Color

`bottomColour` Color

Returns

Color

## Equals(object)

Determines whether the specified object is equal to the current object.

```
public override bool Equals(object obj)
```

Parameters

obj [object](#)

The object to compare with the current object.

Returns

[bool](#)

[true](#) if the specified object is equal to the current object; otherwise, [false](#).

## GetHashCode()

Serves as the default hash function.

```
public override int GetHashCode()
```

Returns

[int](#)

A hash code for the current object.

## MultiplyColours(Color, Color)

Multiplies the colours component-wise.

```
public static Color MultiplyColours(Color colour1, Color colour2)
```

Parameters

colour1 Color

colour2 Color

Returns

Color

## StringToBlendMode(string)

Returns the blend mode with that name (case-insensitive).

```
public static BlendMode StringToBlendMode(string blendModeName)
```

Parameters

blendModeName [string](#)

Returns

[BlendMode](#)

## ToString()

Returns a string that represents the current object.

```
public override string ToString()
```

Returns

[string](#)

A string that represents the current object.

# Operators

## operator ==(BlendMode, BlendMode)

```
public static bool operator ==(BlendMode a, BlendMode b)
```

### Parameters

a [BlendMode](#)

b [BlendMode](#)

### Returns

[bool](#) ↗

## operator !=(BlendMode, BlendMode)

```
public static bool operator !=(BlendMode a, BlendMode b)
```

### Parameters

a [BlendMode](#)

b [BlendMode](#)

### Returns

[bool](#) ↗

# Class BlendMode.JsonConverter

Namespace: [PAC.Colour](#)

```
public class BlendMode.JsonConverter : JsonConversion.JsonConverter<BlendMode,  
JsonData.String>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<BlendMode, jsonData.String>](#) ←  
BlendMode.JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<BlendMode, jsonData.String>.ToJson\(BlendMode\)](#) ,  
[JsonConversion.JsonConverter<BlendMode, jsonData.String>.FromJson\(jsonData.String\)](#) ,  
[JsonConversion.JsonConverter<BlendMode, jsonData.String>.FromJson\(jsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson(String)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override BlendMode FromJson\(JsonData.String jsonData\)
```

## Parameters

[jsonData](#) [JsonData.String](#)

## Returns

[BlendMode](#)

## ToJson(BlendMode)

Attempts to convert the C# object into JSON data.

```
public override JsonData.String ToJson(BlendMode blendMode)
```

Parameters

blendMode [BlendMode](#)

Returns

[JsonData.String](#)

# Class ColorExtensions

Namespace: [PAC.Colour](#)

```
public static class ColorExtensions
```

## Inheritance

[object](#) ← ColorExtensions

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### Invert(Color, bool)

Inverts the colour, i.e. does  $1 - \text{value}$  for each component.

```
public static Color Invert(this Color colour, bool invertAlpha = false)
```

#### Parameters

colour Color

invertAlpha [bool](#)

Whether to invert the alpha value as well.

#### Returns

Color

### ToHSL(Color)

```
public static HSL ToHSL(this Color color)
```

Parameters

**color** Color

Returns

[HSL](#)

## ToHSV(Color)

```
public static HSV ToHSV(this Color color)
```

Parameters

**color** Color

Returns

[HSV](#)

# Struct HSL

Namespace: [PAC.Colour](#)

Represents a colour in HSL form.

```
public struct HSL
```

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Constructors

### HSL(Color)

```
public HSL(Color rgb)
```

#### Parameters

rgb Color

### HSL(float, float, float)

```
public HSL(float hue, float saturation, float lightness)
```

#### Parameters

hue [float](#)

saturation [float](#)

lightness [float](#)

### HSL(float, float, float, float)

```
public HSL(float hue, float saturation, float lightness, float alpha)
```

## Parameters

hue [float](#)

saturation [float](#)

lightness [float](#)

alpha [float](#)

## Properties

a

Alpha.

```
public float a { readonly get; set; }
```

### Property Value

[float](#)

color

```
public Color color { get; }
```

### Property Value

Color

h

Hue.

```
public float h { readonly get; set; }
```

Property Value

[float](#)

hsv

```
public HSV hsv { get; }
```

Property Value

[HSV](#)

|

Lightness.

```
public float l { readonly get; set; }
```

Property Value

[float](#)

S

Saturation.

```
public float s { readonly get; set; }
```

Property Value

[float](#)

# Methods

## ToColor()

```
public Color ToColor()
```

Returns

Color

## ToHSV()

```
public HSV ToHSV()
```

Returns

[HSV](#)

## ToString()

Returns the fully qualified type name of this instance.

```
public override string ToString()
```

Returns

[string](#)

The fully qualified type name.

## ToString(int)

```
public string ToString(int decimalPlaces)
```

Parameters

decimalPlaces [int](#)

Returns

[string](#)

## Operators

### explicit operator Color(HSL)

```
public static explicit operator Color(HSL hsl)
```

Parameters

hsl [HSL](#)

Returns

Color

### explicit operator HSV(HSL)

```
public static explicit operator HSV(HSL hsl)
```

Parameters

hsl [HSL](#)

Returns

[HSV](#)

# Struct HSV

Namespace: [PAC.Colour](#)

Represents a colour in HSV form.

```
public struct HSV
```

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Constructors

### HSV(Color)

```
public HSV(Color rgb)
```

#### Parameters

rgb Color

### HSV(float, float, float)

```
public HSV(float hue, float saturation, float value)
```

#### Parameters

hue [float](#)

saturation [float](#)

value [float](#)

### HSV(float, float, float, float)

```
public HSV(float hue, float saturation, float value, float alpha)
```

## Parameters

hue [float](#)

saturation [float](#)

value [float](#)

alpha [float](#)

## Properties

a

Alpha.

```
public float a { readonly get; set; }
```

### Property Value

[float](#)

color

```
public Color color { get; }
```

### Property Value

Color

h

Hue.

```
public float h { readonly get; set; }
```

Property Value

[float](#)

hsl

```
public HSL hsl { get; }
```

Property Value

[HSL](#)

s

Saturation.

```
public float s { readonly get; set; }
```

Property Value

[float](#)

v

Value.

```
public float v { readonly get; set; }
```

Property Value

[float](#)

# Methods

## ToColor()

```
public Color ToColor()
```

Returns

Color

## ToHSL()

```
public HSL ToHSL()
```

Returns

HSL

## ToString()

Returns the fully qualified type name of this instance.

```
public override string ToString()
```

Returns

string ↗

The fully qualified type name.

## ToString(int)

```
public string ToString(int decimalPlaces)
```

Parameters

decimalPlaces [int](#)

Returns

[string](#)

## Operators

### explicit operator Color(HSV)

```
public static explicit operator Color(HSV hsv)
```

Parameters

hsv [HSV](#)

Returns

Color

### explicit operator HSL(HSV)

```
public static explicit operator HSL(HSV hsv)
```

Parameters

hsv [HSV](#)

Returns

[HSL](#)

# Namespace PAC.ColourPicker

## Classes

### [ColourPreview](#)

A class to represent colour previews - the boxes on colour pickers that show what colours you have selected.

### [GlobalColourPicker](#)

A class for the main colour picker in the program - the one that appears in the main view.

### [HSLColourPicker](#)

A class for the HSL colour picker.

### [HSLHueSaturationBox](#)

A class for the hue/saturation box of the HSL colour picker.

### [HSLLightnessSlider](#)

A class for the lightness slider of the HSL colour picker.

# Class ColourPreview

Namespace: [PAC.ColourPicker](#)

A class to represent colour previews - the boxes on colour pickers that show what colours you have selected.

```
public class ColourPreview : MonoBehaviour
```

## Inheritance

[object](#) ← ColourPreview

## Properties

### colour

The colour displayed in the colour preview.

```
public Color colour { get; }
```

#### Property Value

Color

### outlineThickness

```
public float outlineThickness { get; }
```

#### Property Value

[float](#)

## Methods

## SetColour(Color)

```
public void SetColour(Color colour)
```

### Parameters

`colour` Color

## SubscribeToOnDeselect(UnityAction)

Event invoked when colour preview is deselected.

```
public void SubscribeToOnDeselect(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToOnSelect(UnityAction)

Event invoked when colour preview is selected.

```
public void SubscribeToOnSelect(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToOnToggle(UnityAction)

Event invoked when colour preview is selected or deselected.

```
public void SubscribeToOnToggle(UnityAction call)
```

### Parameters

call UnityAction

# Class GlobalColourPicker

Namespace: [PAC.ColourPicker](#)

A class for the main colour picker in the program - the one that appears in the main view.

```
public class GlobalColourPicker : MonoBehaviour
```

## Inheritance

[object](#) ← GlobalColourPicker

## Properties

### colour

The currently-selected colour.

```
public Color colour { get; }
```

### Property Value

Color

### numOfColourPreviews

```
public int numOfColourPreviews { get; }
```

### Property Value

[int](#)

### primaryColour

The current primary colour.

```
public Color primaryColour { get; }
```

Property Value

Color

## secondaryColour

The current secondary colour.

```
public Color secondaryColour { get; }
```

Property Value

Color

## Methods

### GetColour(int)

Gets the chosen colour at the given index: 0 - primary; 1 - secondary.

```
public Color GetColour(int colourPreviewIndex)
```

Parameters

colourPreviewIndex [int ↗](#)

Returns

Color

### SetColour(Color)

Sets the current colour.

```
public void SetColour(Color colour)
```

Parameters

colour Color

## SubscribeToOnColourChange(UnityAction)

Event is invoked when the selected colour changes.

```
public void SubscribeToOnColourChange(UnityAction call)
```

Parameters

call UnityAction

# Class HSLColourPicker

Namespace: [PAC.ColourPicker](#)

A class for the HSL colour picker.

```
public class HSLColourPicker : MonoBehaviour
```

## Inheritance

[object](#) ← HSLColourPicker

## Properties

### alpha

```
public float alpha { get; }
```

Property Value

[float](#)

### color

```
public Color color { get; }
```

Property Value

Color

### hsl

```
public HSL hsl { get; }
```

Property Value

[HSL](#)

**hue**

```
public float hue { get; }
```

Property Value

[float](#)

**lightness**

```
public float lightness { get; }
```

Property Value

[float](#)

**mouseSensitivity**

```
public float mouseSensitivity { get; }
```

Property Value

[float](#)

**saturation**

```
public float saturation { get; }
```

Property Value

[float](#)

## slowSensitivityScalar

The sensitivity of the mouse when holding the modifier keyboard shortcut to reduce the sensitivity.

```
public float slowSensitivityScalar { get; }
```

Property Value

[float](#)

## Methods

### SetColour(Color)

```
public void SetColour(Color colour)
```

Parameters

**colour** Color

### SubscribeToOnColourChange(UnityAction)

Event invoked when the selected colour changes.

```
public void SubscribeToOnColourChange(UnityAction call)
```

Parameters

**call** UnityAction

### UpdateColour()

```
public void UpdateColour()
```

# Class HSLHueSaturationBox

Namespace: [PAC.ColourPicker](#)

A class for the hue/saturation box of the HSL colour picker.

```
public class HSLHueSaturationBox : MonoBehaviour
```

## Inheritance

[object](#) ← HSLHueSaturationBox

## Properties

### hue

```
public float hue { get; }
```

Property Value

[float](#)

### saturation

```
public float saturation { get; }
```

Property Value

[float](#)

## Methods

### SetHue(float)

```
public void SetHue(float hue)
```

Parameters

hue [float](#)

## SetSaturation(float)

```
public void SetSaturation(float saturation)
```

Parameters

saturation [float](#)

# Class HSLLightnessSlider

Namespace: [PAC.ColourPicker](#)

A class for the lightness slider of the HSL colour picker.

```
public class HSLLightnessSlider : MonoBehaviour
```

## Inheritance

[object](#) ← HSLLightnessSlider

## Properties

### lightness

```
public float lightness { get; }
```

Property Value

[float](#)

## Methods

### SetDisplayHueSaturation(float, float)

Sets the hue/saturation to use for displaying the lightness gradient.

```
public void SetDisplayHueSaturation(float hue, float saturation)
```

## Parameters

hue [float](#)

saturation [float](#)

## SetLightness(float)

```
public void SetLightness(float lightness)
```

### Parameters

lightness [float](#)

# Namespace PAC.Config

## Classes

[Colours](#)

[Files](#)

[Tools](#)

# Class Colours

Namespace: [PAC.Config](#)

```
public static class Colours
```

## Inheritance

[object](#) ← Colours

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### brushOutlineDark

```
public static readonly Color brushOutlineDark
```

Field Value

Color

### brushOutlineLight

```
public static readonly Color brushOutlineLight
```

Field Value

Color

### mask

```
public static readonly Color mask
```

Field Value

Color

**transparent**

```
public static readonly Color transparent
```

Field Value

Color

# Class Files

Namespace: [PAC.Config](#)

```
public static class Files
```

## Inheritance

[object](#) ↴ ← Files

## Inherited Members

[object.Equals\(object\)](#) ↴ , [object.Equals\(object, object\)](#) ↴ , [object.GetHashCode\(\)](#) ↴ ,  
[object.GetType\(\)](#) ↴ , [object.MemberwiseClone\(\)](#) ↴ , [object.ReferenceEquals\(object, object\)](#) ↴ ,  
[object.ToString\(\)](#) ↴

## Fields

### fileFormatVersion

```
public static readonly SemanticVersion fileFormatVersion
```

#### Field Value

[SemanticVersion](#)

### pacFileExtension

```
public const string pacFileExtension = "pac"
```

#### Field Value

[string](#) ↴

# Class Tools

Namespace: [PAC.Config](#)

```
public static class Tools
```

## Inheritance

[object](#) ← Tools

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### maxBrushSize

```
public const int maxBrushSize = 25
```

Field Value

[int](#)

### minBrushSize

```
public const int minBrushSize = 1
```

Field Value

[int](#)

# Namespace PAC.DataStructures

## Classes

### [CustomStack<T>](#)

A custom implementation of a stack to allow removal of items at a specific index.

### [SemanticVersion.JsonConverter](#)

## Structs

### [IntRect](#)

A struct to represent a rectangular region of integer coordinates.

### [IntVector2](#)

A struct to represent a 2-dimensional vector with integer coordinates.

### [SemanticVersion](#)

# Class CustomStack<T>

Namespace: [PAC.DataStructures](#)

A custom implementation of a stack to allow removal of items at a specific index.

```
public class CustomStack<T>
```

## Type Parameters

T

## Inheritance

[object](#) ← CustomStack<T>

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Properties

### Count

```
public int Count { get; }
```

### Property Value

[int](#)

## Methods

### Clear()

Removes all items from the stack.

```
public void Clear()
```

## Peek()

Returns the item on top of the stack.

```
public T Peek()
```

Returns

T

## Pop()

Removes and returns the item on top of the stack.

```
public T Pop()
```

Returns

T

## Push(T)

Adds the item to the top of the stack.

```
public void Push(T item)
```

Parameters

item T

## Remove(T)

Removes the first occurrence (starting from the top) of the item in the stack.

```
public bool Remove(T item)
```

Parameters

item T

Returns

[bool](#)

true if the item is successfully removed.

## RemoveAll(T)

Removes all occurrences of the item in the stack.

```
public void RemoveAll(T item)
```

Parameters

item T

## RemoveAt(int)

Removes the item at the given index and returns it.

```
public T RemoveAt(int index)
```

Parameters

index [int](#)

Returns

T

## ToArray()

```
public T[] ToArray()
```

Returns

T[]

## ToList()

```
public List<T> ToList()
```

Returns

[List](#)<T>

# Struct IntRect

Namespace: [PAC.DataStructures](#)

A struct to represent a rectangular region of integer coordinates.

```
public struct IntRect : IEnumerable
```

## Implements

[IEnumerable](#)

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

### IntRect(IntVector2, IntVector2)

```
public IntRect(IntVector2 corner, IntVector2 oppositeCorner)
```

## Parameters

corner [IntVector2](#)

oppositeCorner [IntVector2](#)

## Properties

### area

```
public int area { get; }
```

## Property Value

[int](#)

## bottomLeft

```
public IntVector2 bottomLeft { get; set; }
```

Property Value

[IntVector2](#)

## bottomRight

```
public IntVector2 bottomRight { get; set; }
```

Property Value

[IntVector2](#)

## centre

```
public Vector2 centre { get; }
```

Property Value

[Vector2](#)

## height

```
public int height { get; }
```

Property Value

[int](#)

## isSquare

True if the rect is a square.

```
public bool isSquare { get; }
```

Property Value

[bool](#)

## points

Gets the points in the rect, starting with the bottom row, read left to right, then the next row, etc.

WARNING: this is very expensive for large rects.

```
public IntVector2[] points { get; }
```

Property Value

[IntVector2\[\]](#)

## topLeft

```
public IntVector2 topLeft { get; set; }
```

Property Value

[IntVector2](#)

## topRight

```
public IntVector2 topRight { get; set; }
```

Property Value

[IntVector2](#)

width

```
public int width { get; }
```

Property Value

[int](#)

Methods

Area(IntRect)

```
public static int Area(IntRect rect)
```

Parameters

rect [IntRect](#)

Returns

[int](#)

Clamp(IntRect)

Shifts the given rect so it is (weakly) contained within the rect.

```
public IntRect Clamp(IntRect intRect)
```

Parameters

intRect [IntRect](#)

Returns

[IntRect](#)

## Clamp(IntVector2)

Clamps the vector component-wise so its coordinates are within the rect.

```
public IntVector2 Clamp(IntVector2 intVector)
```

Parameters

intVector [IntVector2](#)

Returns

[IntVector2](#)

## Contains(IntRect)

Returns true if the given rect is (weakly) contained in this rect.

```
public bool Contains(IntRect intRect)
```

Parameters

intRect [IntRect](#)

Returns

[bool](#) ↗

## Contains(IntVector2)

Returns true if the point is in the rect.

```
public bool Contains(IntVector2 point)
```

Parameters

point [IntVector2](#)

Returns

[bool](#)

## Contains(int, int)

Returns true if the point is in the rect.

```
public bool Contains(int x, int y)
```

Parameters

x [int](#)

y [int](#)

Returns

[bool](#)

## Contains(float, float)

```
public bool Contains(float x, float y)
```

Parameters

x [float](#)

y [float](#)

Returns

[bool](#)

## Contains(Vector2)

```
public bool Contains(Vector2 point)
```

Parameters

[point](#) Vector2

Returns

[bool](#)

## Equals(object)

Indicates whether this instance and a specified object are equal.

```
public override bool Equals(object obj)
```

Parameters

[obj](#) [object](#)

The object to compare with the current instance.

Returns

[bool](#)

[true](#) if [obj](#) and this instance are the same type and represent the same value; otherwise, [false](#).

## FilterPointsInside(IntVector2[])

Removes all IntVector2s outside the rect.

```
public IntVector2[] FilterPointsInside(IntVector2[] intVectors)
```

Parameters

intVectors [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## FilterPointsOutside(IntVector2[])

Removes all IntVector2s inside the rect.

```
public IntVector2[] FilterPointsOutside(IntVector2[] intVectors)
```

Parameters

intVectors [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## GetEnumerator()

Enumerates the points in the rect, starting with the bottom row, read left to right, then the next row, etc.

```
public IEnumator GetEnumerator()
```

Returns

[IEnumerator](#)

## GetHashCode()

Returns the hash code for this instance.

```
public override int GetHashCode()
```

Returns

[int](#)

A 32-bit signed integer that is the hash code for this instance.

## GetPoints()

Gets the points in the rect, starting with the bottom row, read left to right, then the next row, etc.

WARNING: this is very expensive for large rects.

```
public IntVector2[] GetPoints()
```

Returns

[IntVector2\[\]](#)

## IsContainedIn(IntRect)

Returns true if this rect is (weakly) contained in the given rect.

```
public bool IsContainedIn(IntRect intRect)
```

Parameters

[intRect](#) [IntRect](#)

Returns

[bool](#)

## IsSquare(IntRect)

Returns true if the rect is a square.

```
public static bool IsSquare(IntRect intRect)
```

Parameters

`intRect` [IntRect](#)

Returns

`bool` ↗

## Overlap(IntRect, IntRect)

Returns true if the two rects overlap at all.

```
public static bool Overlap(IntRect rect1, IntRect rect2)
```

Parameters

`rect1` [IntRect](#)

`rect2` [IntRect](#)

Returns

`bool` ↗

## Overlaps(IntRect)

Returns true if this rect overlaps the given rect at all.

```
public bool Overlaps(IntRect intRect)
```

Parameters

`intRect IntRect`

Returns

`bool` ↗

## ToRect()

Cast to Unity Rect.

`public Rect ToRect()`

Returns

Rect

## ToString()

Returns the fully qualified type name of this instance.

`public override string ToString()`

Returns

`string` ↗

The fully qualified type name.

## Operators

### operator +(IntRect, IntVector2)

Shifts the whole rect by the given vector.

`public static IntRect operator +(IntRect intRect, IntVector2 intVector)`

Parameters

`intRect` [IntRect](#)

`intVector` [IntVector2](#)

Returns

[IntRect](#)

## operator +(IntVector2, IntRect)

Shifts the whole rect by the given vector.

```
public static IntRect operator +(IntVector2 intVector, IntRect intRect)
```

Parameters

`intVector` [IntVector2](#)

`intRect` [IntRect](#)

Returns

[IntRect](#)

## operator ==(IntRect, IntRect)

```
public static bool operator ==(IntRect rect1, IntRect rect2)
```

Parameters

`rect1` [IntRect](#)

`rect2` [IntRect](#)

Returns

[bool](#) ↗

## explicit operator Rect(IntRect)

Cast to Unity Rect.

```
public static explicit operator Rect(IntRect intRect)
```

Parameters

[intRect](#) [IntRect](#)

Returns

Rect

## operator !=(IntRect, IntRect)

```
public static bool operator !=(IntRect a, IntRect b)
```

Parameters

[a](#) [IntRect](#)

[b](#) [IntRect](#)

Returns

[bool](#) ↗

## operator -(IntRect, IntVector2)

Shifts the whole rect by the given vector.

```
public static IntRect operator -(IntRect intRect, IntVector2 intVector)
```

Parameters

`intRect` [IntRect](#)

`intVector` [IntVector2](#)

Returns

[IntRect](#)

# Struct IntVector2

Namespace: [PAC.DataStructures](#)

A struct to represent a 2-dimensional vector with integer coordinates.

```
public struct IntVector2
```

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

### IntVector2(int, int)

```
public IntVector2(int x, int y)
```

#### Parameters

x [int](#)

y [int](#)

### IntVector2(float, float)

Rounds the coords towards zero.

```
public IntVector2(float x, float y)
```

#### Parameters

x [float](#)

y [float](#)

## IntVector2(Vector2)

Rounds the coords towards zero.

```
public IntVector2(Vector2 vector2)
```

Parameters

**vector2** Vector2

## Fields

**down**

The vector (0, -1).

```
public static IntVector2 down
```

Field Value

[IntVector2](#)

**left**

The vector (-1, 0).

```
public static IntVector2 left
```

Field Value

[IntVector2](#)

**one**

The vector (1, 1).

```
public static IntVector2 one
```

Field Value

[IntVector2](#)

**right**

The vector (1, 0).

```
public static IntVector2 right
```

Field Value

[IntVector2](#)

**up**

The vector (0, 1).

```
public static IntVector2 up
```

Field Value

[IntVector2](#)

**x**

```
public int x
```

Field Value

[int](#)

y

```
public int y
```

Field Value

[int](#)

zero

The vector (0, 0).

```
public static IntVector2 zero
```

Field Value

[IntVector2](#)

Properties

magnitude

```
public float magnitude { get; }
```

Property Value

[float](#)

squaredMagnitude

```
public float squaredMagnitude { get; }
```

Property Value

[float](#)

# Methods

## CeilToIntVector2(Vector2)

Cells component-wise.

```
public static IntVector2 CeilToIntVector2(Vector2 vector2)
```

Parameters

`vector2` Vector2

Returns

[IntVector2](#)

## Distance(IntVector2, IntVector2)

Computes the Euclidean distance between the vectors.

```
public static float Distance(IntVector2 a, IntVector2 b)
```

Parameters

`a` [IntVector2](#)

`b` [IntVector2](#)

Returns

[float](#)

## Dot(IntVector2, IntVector2)

Computes the dot product.

```
public static int Dot(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[int](#)

## Equals(object)

Indicates whether this instance and a specified object are equal.

```
public override bool Equals(object obj)
```

Parameters

obj [object](#)

The object to compare with the current instance.

Returns

[bool](#)

[true](#) if obj and this instance are the same type and represent the same value; otherwise, [false](#).

## FloorToIntVector2(Vector2)

Floors component-wise.

```
public static IntVector2 FloorToIntVector2(Vector2 vector2)
```

Parameters

`vector2` `Vector2`

Returns

[IntVector2](#)

## GetHashCode()

Returns the hash code for this instance.

```
public override int GetHashCode()
```

Returns

[int](#)

A 32-bit signed integer that is the hash code for this instance.

## Magnitude(IntVector2)

```
public static float Magnitude(IntVector2 a)
```

Parameters

`a` [IntVector2](#)

Returns

[float](#)

## Max(IntVector2, IntVector2)

Takes the maximum of a and b component-wise.

```
public static IntVector2 Max(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

## Max(params IntVector2[])

Takes the maximum of the vectors component-wise.

```
public static IntVector2 Max(params IntVector2[] intVectors)
```

Parameters

intVectors [IntVector2\[\]](#)

Returns

[IntVector2](#)

## Min(IntVector2, IntVector2)

Takes the minimum of a and b component-wise.

```
public static IntVector2 Min(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

## Min(params IntVector2[])

Takes the minimum of the vectors component-wise.

```
public static IntVector2 Min(params IntVector2[] intVectors)
```

Parameters

intVectors [IntVector2\[\]](#)

Returns

[IntVector2](#)

## RoundToIntVector2(Vector2)

Rounds component-wise.

```
public static IntVector2 RoundToIntVector2(Vector2 vector2)
```

Parameters

vector2 Vector2

Returns

[IntVector2](#)

## SqrDistance(IntVector2, IntVector2)

```
public static float SqrDistance(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[float](#)

## SqrMagnitude(IntVector2)

```
public static float SqrMagnitude(IntVector2 a)
```

Parameters

a [IntVector2](#)

Returns

[float](#)

## ToString()

Returns the fully qualified type name of this instance.

```
public override string ToString()
```

Returns

[string](#)

The fully qualified type name.

## ToVector2()

Cast to Unity Vector2.

```
public Vector2 ToVector2()
```

Returns

Vector2

## ToVector3()

Cast to Unity Vector3, with a 0 in the z-coord.

```
public Vector3 ToVector3()
```

Returns

Vector3

## Operators

### operator +(IntVector2, IntVector2)

Adds component-wise.

```
public static IntVector2 operator +(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

### operator +(IntVector2, IntVector2[])

Adds the vector to each element of the array.

```
public static IntVector2[] operator +(IntVector2 intVector,  
IntVector2[] intVectorArray)
```

Parameters

`intVector` [IntVector2](#)

`intVectorArray` [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## operator +(IntVector2[], IntVector2)

Adds the vector to each element of the array.

```
public static IntVector2[] operator +(IntVector2[] intVectorArray,  
IntVector2 intVector)
```

Parameters

`intVectorArray` [IntVector2\[\]](#)

`intVector` [IntVector2](#)

Returns

[IntVector2\[\]](#)

## operator /(IntVector2, IntVector2)

Divides (integer division) component-wise.

```
public static IntVector2 operator /(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

## operator /([IntVector2](#), [IntVector2](#)[])

Divides the vector by each element of the array.

```
public static IntVector2[] operator /(IntVector2 intVector,  
IntVector2[] intVectorArray)
```

Parameters

intVector [IntVector2](#)

intVectorArray [IntVector2](#)[]

Returns

[IntVector2](#)[]

## operator /([IntVector2](#), int)

Divides (integer division) component-wise.

```
public static IntVector2 operator /(IntVector2 vector, int scalar)
```

Parameters

vector [IntVector2](#)

scalar [int](#)

Returns

[IntVector2](#)

## operator /(IntVector2[], IntVector2)

Divides each element of the array by the vector.

```
public static IntVector2[] operator /(IntVector2[] intVectorArray,  
IntVector2 intVector)
```

Parameters

intVectorArray [IntVector2\[\]](#)

intVector [IntVector2](#)

Returns

[IntVector2\[\]](#)

## operator ==(IntVector2, IntVector2)

```
public static bool operator ==(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#) ↗

## operator >(IntVector2, IntVector2)

Compares component-wise.

```
public static bool operator >(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#)

## operator >=(IntVector2, IntVector2)

Compares component-wise.

```
public static bool operator >=(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#)

## implicit operator Vector2(IntVector2)

Cast to Unity Vector2.

```
public static implicit operator Vector2(IntVector2 intVector)
```

Parameters

intVector [IntVector2](#)

Returns

Vector2

## implicit operator Vector3(IntVector2)

Cast to Unity Vector3, with a 0 in the z-coord.

```
public static implicit operator Vector3(IntVector2 intVector)
```

Parameters

intVector [IntVector2](#)

Returns

Vector3

## operator !=(IntVector2, IntVector2)

```
public static bool operator !=(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#)

## operator <(IntVector2, IntVector2)

Compares component-wise.

```
public static bool operator <(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#)

## operator <=(IntVector2, IntVector2)

Compares component-wise.

```
public static bool operator <=(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[bool](#)

## operator \*(IntVector2, IntVector2)

Multiplies component-wise.

```
public static IntVector2 operator *(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

## operator \*(IntVector2, IntVector2[])

Multiplies each element of the array by the vector.

```
public static IntVector2[] operator *(IntVector2 intVector,  
IntVector2[] intVectorArray)
```

Parameters

intVector [IntVector2](#)

intVectorArray [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## operator \*(IntVector2, int)

Multiplies component-wise.

```
public static IntVector2 operator *(IntVector2 vector, int scalar)
```

Parameters

vector [IntVector2](#)

scalar [int](#)

Returns

[IntVector2](#)

## operator \*(IntVector2[], IntVector2)

Multiplies each element of the array by the vector.

```
public static IntVector2[] operator *(IntVector2[] intVectorArray,  
IntVector2 intVector)
```

Parameters

intVectorArray [IntVector2\[\]](#)

intVector [IntVector2](#)

Returns

[IntVector2\[\]](#)

## operator \*(int, IntVector2)

Multiplies component-wise.

```
public static IntVector2 operator *(int scalar, IntVector2 vector)
```

Parameters

scalar [int](#)

vector [IntVector2](#)

Returns

[IntVector2](#)

## operator -(IntVector2, IntVector2)

Subtracts component-wise.

```
public static IntVector2 operator -(IntVector2 a, IntVector2 b)
```

Parameters

a [IntVector2](#)

b [IntVector2](#)

Returns

[IntVector2](#)

## operator -(IntVector2, IntVector2[])

Subtracts each element of the array from the vector.

```
public static IntVector2[] operator -(IntVector2 intVector,  
IntVector2[] intVectorArray)
```

Parameters

intVector [IntVector2](#)

intVectorArray [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## operator -(IntVector2[], IntVector2)

Subtracts the vector from each element of the array.

```
public static IntVector2[] operator -(IntVector2[] intVectorArray,  
IntVector2 intVector)
```

Parameters

intVectorArray [IntVector2\[\]](#)

intVector [IntVector2](#)

Returns

[IntVector2\[\]](#)

## operator -(IntVector2)

Negates component-wise.

```
public static IntVector2 operator -(IntVector2 a)
```

Parameters

a [IntVector2](#)

Returns

[IntVector2](#)

# Struct SemanticVersion

Namespace: [PAC.DataStructures](#)

```
public struct SemanticVersion
```

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

### SemanticVersion(int, int, int)

```
public SemanticVersion(int major, int minor, int patch)
```

## Parameters

major [int](#)

minor [int](#)

patch [int](#)

## Properties

### major

```
public int major { get; set; }
```

## Property Value

[int](#)

## minor

```
public int minor { get; set; }
```

Property Value

[int](#)

## patch

```
public int patch { get; set; }
```

Property Value

[int](#)

## Methods

### Equals(object)

Indicates whether this instance and a specified object are equal.

```
public override bool Equals(object obj)
```

Parameters

**obj** [object](#)

The object to compare with the current instance.

Returns

[bool](#)

[true](#) if **obj** and this instance are the same type and represent the same value; otherwise, [false](#).

## GetHashCode()

Returns the hash code for this instance.

```
public override int GetHashCode()
```

Returns

[int](#)

A 32-bit signed integer that is the hash code for this instance.

## IncrementMajor()

Adds 1 to the major and resets the minor and patch to 0.

```
public void IncrementMajor()
```

## IncrementMinor()

Adds 1 to the minor and resets the patch to 0. (The major is unchanged.)

```
public void IncrementMinor()
```

## IncrementPatch()

Adds 1 to the patch. (The major and minor are unchanged.)

```
public void IncrementPatch()
```

## ToString()

Returns the fully qualified type name of this instance.

```
public override string ToString()
```

Returns

[string](#)

The fully qualified type name.

## Operators

### operator ==(SemanticVersion, SemanticVersion)

```
public static bool operator ==(SemanticVersion version1, SemanticVersion version2)
```

Parameters

version1 [SemanticVersion](#)

version2 [SemanticVersion](#)

Returns

[bool](#)

### operator >(SemanticVersion, SemanticVersion)

```
public static bool operator >(SemanticVersion version1, SemanticVersion version2)
```

Parameters

version1 [SemanticVersion](#)

version2 [SemanticVersion](#)

Returns

[bool](#)

## operator >=(SemanticVersion, SemanticVersion)

```
public static bool operator >=(SemanticVersion version1, SemanticVersion version2)
```

Parameters

version1 [SemanticVersion](#)

version2 [SemanticVersion](#)

Returns

[bool](#)

## operator !=(SemanticVersion, SemanticVersion)

```
public static bool operator !=(SemanticVersion version1, SemanticVersion version2)
```

Parameters

version1 [SemanticVersion](#)

version2 [SemanticVersion](#)

Returns

[bool](#)

## operator <(SemanticVersion, SemanticVersion)

```
public static bool operator <(SemanticVersion version1, SemanticVersion version2)
```

Parameters

version1 [SemanticVersion](#)

`version2` [SemanticVersion](#)

Returns

`bool` ↗

## operator <=([SemanticVersion](#), [SemanticVersion](#))

```
public static bool operator <=(SemanticVersion version1, SemanticVersion version2)
```

Parameters

`version1` [SemanticVersion](#)

`version2` [SemanticVersion](#)

Returns

`bool` ↗

## operator -([SemanticVersion](#), [SemanticVersion](#))

Returns a Version such that the most important field in which the operands differ (in the order major, minor, patch) is set to the positive difference of them in this field, and the other two fields are set to 0.

NOTE: This operation is commutative (swapping the order of the operands doesn't affect the result).

Example:

```
Version(1, 4, 3) - Version(1, 6, 10) = Version(0, 2, 0)
```

```
public static SemanticVersion operator -(SemanticVersion version1,  
SemanticVersion version2)
```

Parameters

`version1` [SemanticVersion](#)

`version2` [SemanticVersion](#)

Returns

[SemanticVersion](#)

# Class SemanticVersion.JsonConverter

Namespace: [PAC.DataStructures](#)

```
public class SemanticVersion.JsonConverter :  
JsonConversion.JsonConverter<SemanticVersion, JsonData.String>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<SemanticVersion, JsonData.String>](#) ←  
SemanticVersion.JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<SemanticVersion, JsonData.String>.ToJson\(SemanticVersion\)](#),  
,

[JsonConversion.JsonConverter<SemanticVersion, JsonData.String>.FromJson\(JsonData.String\)](#),  
[JsonConversion.JsonConverter<SemanticVersion, JsonData.String>.FromJson\(JsonData\)](#),  
[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),  
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),  
[object.ToString\(\)](#)

## Methods

### FromJson(String)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override SemanticVersion FromJson\(JsonData.String jsonData\)
```

## Parameters

[jsonData](#) [JsonData.String](#)

## Returns

## [SemanticVersion](#)

### ToJson(SemanticVersion)

Attempts to convert the C# object into JSON data.

```
public override JsonData.String ToJson(SemanticVersion version)
```

Parameters

**version** [SemanticVersion](#)

Returns

[JsonData.String](#)

# Namespace PAC.Drawing

## Classes

### [DrawingArea](#)

### [GridManager](#)

Handles drawing a grid over the image when the grid is enabled.

### [Shapes](#)

A class to define how different shapes are drawn.

### [Tool](#)

Defines the tools available to use and their properties.

### [Toolbar](#)

Handles selecting tools, brush size, etc.

### [Tools](#)

Defines how different tools act. I may rework this to be more like the BlendMode class where each Tool instance defines how it acts. Then to use a tool you would just do tool.Use(pixel) or similar.

## Enums

### [BrushShape](#)

### [GradientMode](#)

### [SelectionMode](#)

### [Shape](#)

# Enum BrushShape

Namespace: [PAC.Drawing](#)

```
public enum BrushShape
```

## Fields

Circle = 0

Custom = -1

Diamond = 2

Square = 1

# Class DrawingArea

Namespace: [PAC.Drawing](#)

```
public class DrawingArea : MonoBehaviour
```

## Inheritance

[object](#) ← DrawingArea

## Properties

### file

```
public File file { get; }
```

Property Value

[File](#)

### hasSelection

```
public bool hasSelection { get; }
```

Property Value

[bool](#)

### pixelsPerUnit

```
public float pixelsPerUnit { get; }
```

Property Value

[float](#)

## scrollSpeed

```
public float scrollSpeed { get; }
```

Property Value

[float](#)

## selectionMask

```
public Texture2D selectionMask { get; }
```

Property Value

Texture2D

## selectionRect

```
public IntRect selectionRect { get; }
```

Property Value

[IntRect](#)

## zoomScrollSpeed

```
public float zoomScrollSpeed { get; }
```

Property Value

[float](#)

# Methods

## DeleteSelection()

```
public void DeleteSelection()
```

## PixelsToWorldPos(IntVector2)

Turns the pixel coordinate in the drawing into a world coordinate (the resulting coord is the centre of the pixel in the world).

```
public Vector2 PixelsToWorldPos(IntVector2 pixel)
```

### Parameters

pixel [IntVector2](#)

### Returns

Vector2

## PixelsToWorldPos(int, int)

Turns the pixel coordinate in the drawing into a world coordinate (the resulting coord is the centre of the pixel in the world).

```
public Vector2 PixelsToWorldPos(int x, int y)
```

### Parameters

x [int](#)

y [int](#)

### Returns

Vector2

## PixelsToWorldPos(float, float)

Turns the pixel coordinate in the drawing into a world coordinate.

```
public Vector2 PixelsToWorldPos(float x, float y)
```

Parameters

x [float](#)

y [float](#)

Returns

Vector2

## PixelsToWorldPos(Vector2)

Turns the pixel coordinate in the drawing into a world coordinate.

```
public Vector2 PixelsToWorldPos(Vector2 pixel)
```

Parameters

pixel Vector2

Returns

Vector2

## PreviewGradient(IntVector2, IntVector2, Color, Color, GradientMode)

```
public void PreviewGradient(IntVector2 start, IntVector2 end, Color startColour, Color endColour, GradientMode gradientMode)
```

## Parameters

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

gradientMode [GradientMode](#)

## UpdateDrawing()

Makes any changes to the file visible on the drawing area.

```
public void UpdateDrawing()
```

## WorldPosToPixel(Vector2)

Turns the world coord into a pixel coord in the drawing.

```
public IntVector2 WorldPosToPixel(Vector2 worldPos)
```

## Parameters

worldPos Vector2

## Returns

[IntVector2](#)

## WorldPosToPixels(float, float)

Turns the world coord into a pixel coord in the drawing.

```
public IntVector2 WorldPosToPixels(float x, float y)
```

## Parameters

x [float](#)

y [float](#)

## Returns

[IntVector2](#)

# Enum GradientMode

Namespace: [PAC.Drawing](#)

```
public enum GradientMode
```

## Fields

Linear = 0

Radial = 1

# Class GridManager

Namespace: [PAC.Drawing](#)

Handles drawing a grid over the image when the grid is enabled.

```
public class GridManager : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← GridManager

## Fields

### lineThickness

```
public float lineThickness
```

Field Value

[float](#) ↗

## Properties

### height

```
public int height { get; }
```

Property Value

[int](#) ↗

### on

```
public bool on { get; }
```

Property Value

[bool](#)

width

```
public int width { get; }
```

Property Value

[int](#)

xOffset

```
public int xOffset { get; }
```

Property Value

[int](#)

yOffset

```
public int yOffset { get; }
```

Property Value

[int](#)

Methods

SetGrid(int, int, int, int)

```
public void SetGrid(int width, int height, int xOffset, int yOffset)
```

Parameters

width [int](#)

height [int](#)

xOffset [int](#)

yOffset [int](#)

## SetOnOff(bool)

```
public void SetOnOff(bool on)
```

Parameters

on [bool](#)

## SetOnOffNoDisplayUpdate(bool)

```
public void SetOnoffNoDisplayUpdate(bool on)
```

Parameters

on [bool](#)

# Enum SelectionMode

Namespace: [PAC.Drawing](#)

```
public enum SelectionMode
```

## Fields

Draw = 0

Ellipse = 11

MagicWand = 1

Rectangle = 10

# Enum Shape

Namespace: [PAC.Drawing](#)

```
public enum Shape
```

## Fields

Ellipse = 1

Rectangle = 0

Triangle = 2

# Class Shapes

Namespace: [PAC.Drawing](#)

A class to define how different shapes are drawn.

```
public static class Shapes
```

## Inheritance

[object](#) ← Shapes

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

**Circle(int, int, IntVector2, IntVector2, Color, bool, bool)**

```
public static Texture2D Circle(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled, bool stayWithinImageBounds)
```

## Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

stayWithinImageBounds [bool](#)

Returns

Texture2D

## Diamond(int, int, IntVector2, IntVector2, Color, bool)

```
public static Texture2D Diamond(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

Returns

Texture2D

## Ellipse(int, int, IntVector2, IntVector2, Color, bool)

```
public static Texture2D Ellipse(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

Returns

Texture2D

## Gradient(int, int, IntVector2, IntVector2, Color, Color, GradientMode)

```
public static Texture2D Gradient(int texWidth, int texHeight, IntVector2 start, IntVector2 end, Color startColour, Color endColour, GradientMode gradientMode)
```

Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

gradientMode [GradientMode](#)

Returns

Texture2D

## GradientLinear(int, int, IntVector2, IntVector2, Color, Color)

```
public static Texture2D GradientLinear(int texWidth, int texHeight, IntVector2 start, IntVector2 end, Color startColour, Color endColour)
```

## Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

## Returns

Texture2D

## GradientRadial(int, int, IntVector2, IntVector2, Color, Color)

```
public static Texture2D GradientRadial(int texWidth, int texHeight, IntVector2 start, IntVector2 end, Color startColour, Color endColour)
```

## Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

Returns

Texture2D

## IsoBox(int, int, IntVector2, IntVector2, IntVector2, Color, bool)

```
public static Texture2D IsoBox(int texWidth, int texHeight, IntVector2 baseStart,  
IntVector2 baseEnd, IntVector2 heightEnd, Color colour, bool filled)
```

Parameters

texWidth [int](#)

texHeight [int](#)

baseStart [IntVector2](#)

baseEnd [IntVector2](#)

heightEnd [IntVector2](#)

colour Color

filled [bool](#)

Returns

Texture2D

## IsoRectangle(int, int, IntVector2, IntVector2, Color, bool)

```
public static Texture2D IsoRectangle(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

Returns

Texture2D

## Line(int, int, IntVector2, IntVector2, Color)

```
public static Texture2D Line(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour)
```

Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

Returns

Texture2D

## LineCoords(IntVector2, IntVector2)

Gets the coords of a pixel-perfect line between two points, ordered from start to end.

```
public static IntVector2[] LineCoords(IntVector2 start, IntVector2 end)
```

Parameters

start [IntVector2](#)  
end [IntVector2](#)

Returns

[IntVector2\[\]](#)

**Rectangle(int, int, IntVector2, IntVector2, Color, bool)**

```
public static Texture2D Rectangle(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

Parameters

texWidth [int](#)  
texHeight [int](#)  
start [IntVector2](#)  
end [IntVector2](#)  
colour [Color](#)  
filled [bool](#)

Returns

[Texture2D](#)

**RightTriangle(int, int, IntVector2, IntVector2, Color, bool, bool)**

```
public static Texture2D RightTriangle(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool rightAngleOnBottom, bool filled)
```

Parameters

`texWidth` [int](#)

`texHeight` [int](#)

`start` [IntVector2](#)

`end` [IntVector2](#)

`colour` Color

`rightAngleOnBottom` [bool](#)

`filled` [bool](#)

Returns

Texture2D

## SnapEndCoordToSquare(IntVector2, IntVector2)

Snaps the end coord so that the rect it forms with the start coord is a square.

```
public static IntVector2 SnapEndCoordToSquare(IntVector2 start, IntVector2 end)
```

Parameters

`start` [IntVector2](#)

`end` [IntVector2](#)

Returns

[IntVector2](#)

## SnapEndCoordToSquare(int, int, IntVector2, IntVector2, bool)

Snaps the end coord so that the rect it forms with the start coord is a square.

```
public static IntVector2 SnapEndCoordToSquare(int texWidth, int texHeight,  
IntVector2 start, IntVector2 end, bool stayWithinImageBounds)
```

## Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

stayWithinImageBounds [bool](#)

## Returns

[IntVector2](#)

## Square(int, int, IntVector2, IntVector2, Color, bool, bool)

```
public static Texture2D Square(int texWidth, int texHeight, IntVector2 start,  
IntVector2 end, Color colour, bool filled, bool stayWithinImageBounds)
```

## Parameters

texWidth [int](#)

texHeight [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour [Color](#)

filled [bool](#)

stayWithinImageBounds [bool](#)

## Returns

## Texture2D

# Class Tool

Namespace: [PAC.Drawing](#)

Defines the tools available to use and their properties.

```
public class Tool
```

## Inheritance

[object](#) ← Tool

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### Brush

```
public static Tool Brush
```

### Field Value

[Tool](#)

### EyeDropper

```
public static Tool EyeDropper
```

### Field Value

[Tool](#)

## Fill

```
public static Tool Fill
```

Field Value

[Tool](#)

## GlobalEyeDropper

```
public static Tool GlobalEyeDropper
```

Field Value

[Tool](#)

## Gradient

```
public static Tool Gradient
```

Field Value

[Tool](#)

## IsoBox

```
public static Tool IsoBox
```

Field Value

[Tool](#)

## Line

```
public static Tool Line
```

Field Value

[Tool](#)

Move

```
public static Tool Move
```

Field Value

[Tool](#)

None

```
public static Tool None
```

Field Value

[Tool](#)

Pencil

```
public static Tool Pencil
```

Field Value

[Tool](#)

Rubber

```
public static Tool Rubber
```

Field Value

[Tool](#)

## Selection

```
public static Tool Selection
```

Field Value

[Tool](#)

## Shape

```
public static Tool Shape
```

Field Value

[Tool](#)

## canBeCancelled

```
public bool canBeCancelled
```

Field Value

[bool](#) ↗

## tools

All implemented tools.

```
public static readonly Tool[] tools
```

Field Value

[Tool\[\]](#)

## Properties

### finishMode

What action causes a use of the tool to be ended.

```
public MouseTargetDeselectMode finishMode { get; }
```

Property Value

[MouseTargetDeselectMode](#)

### name

```
public string name { get; }
```

Property Value

[string](#)

### showBrushBorder

Whether the outline of the brush shape should be shown.

```
public bool showBrushBorder { get; }
```

Property Value

[bool](#)

## useMovementInterpolation

When the mouse position jumps between frames: true - the tool should be applied to each coord the mouse moved through; false - just applied to the ending coord.

```
public bool useMovementInterpolation { get; }
```

Property Value

[bool](#)

## Methods

### StringToTool(string)

Gets the tool with that name.

```
public static Tool StringToTool(string toolName)
```

Parameters

toolName [string](#)

Returns

[Tool](#)

# Class Toolbar

Namespace: [PAC.Drawing](#)

Handles selecting tools, brush size, etc.

```
public class Toolbar : MonoBehaviour
```

## Inheritance

[object](#) ← Toolbar

## Properties

### brushPixels

The pixels, given relative to the position of the mouse, that will be affected by the current brush.

```
public IntVector2[] brushPixels { get; }
```

Property Value

[IntVector2\[\]](#)

### brushPixelsHeight

```
public int brushPixelsHeight { get; }
```

Property Value

[int](#)

### brushPixelsIsEmpty

```
public bool brushPixelsIsEmpty { get; }
```

Property Value

[bool](#)

## brushPixelsIsSingleCentralPixel

```
public bool brushPixelsIsSingleCentralPixel { get; }
```

Property Value

[bool](#)

## brushPixelsWidth

```
public int brushPixelsWidth { get; }
```

Property Value

[int](#)

## brushShape

```
public BrushShape brushShape { get; set; }
```

Property Value

[BrushShape](#)

## brushSize

```
public int brushSize { get; }
```

Property Value

[int](#)

## brushTexture

```
public Texture2D brushTexture { get; }
```

Property Value

Texture2D

## gradientMode

```
public GradientMode gradientMode { get; }
```

Property Value

[GradientMode](#)

## lineSmoothingTime

The amount of time you have to draw a new pixel in for an old one to be potentially smoothed.

```
public float lineSmoothingTime { get; }
```

Property Value

[float](#)

## previousTool

```
public Tool previousTool { get; }
```

Property Value

[Tool](#)

## selectedTool

```
public Tool selectedTool { get; }
```

Property Value

[Tool](#)

## selectionMode

```
public SelectionMode selectionMode { get; }
```

Property Value

[SelectionMode](#)

## shapeToolShape

```
public Shape shapeToolShape { get; }
```

Property Value

[Shape](#)

## Methods

## DeselectGlobalEyeDropper()

```
public void DeselectGlobalEyeDropper()
```

## LoadCustomBrush(Texture2D)

Turns the given texture into a brush shape by taking any pixels with non-zero alpha.

```
public void LoadCustomBrush(Texture2D brushShape)
```

### Parameters

**brushShape** Texture2D

## SelectGlobalEyeDropper()

```
public void SelectGlobalEyeDropper()
```

## SetBrushSize(int)

```
public bool SetBrushSize(int brushSize)
```

### Parameters

**brushSize** [int](#)

### Returns

[bool](#)

## SubscribeToOnBrushPixelsChanged(UnityAction)

Event invoked when brush pixels change.

```
public void SubscribeToOnBrushPixelsChanged(UnityAction call)
```

## Parameters

**call** UnityAction

## SubscribeToOnBrushSizeChanged(UnityAction)

Event invoked when brush size changes.

```
public void SubscribeToOnBrushSizeChanged(UnityAction call)
```

## Parameters

**call** UnityAction

## SubscribeToOnToolChanged(UnityAction)

Event invoked when selected tool changes.

```
public void SubscribeToOnToolChanged(UnityAction call)
```

## Parameters

**call** UnityAction

# Class Tools

Namespace: [PAC.Drawing](#)

Defines how different tools act. I may rework this to be more like the BlendMode class where each Tool instance defines how it acts. Then to use a tool you would just do tool.Use(pixel) or similar.

```
public static class Tools
```

## Inheritance

[object](#) ← Tools

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### PencilLineSmoothing(File, int, int, IntVector2[], IntVector2[], Color)

Smooth the meeting point of the two lines (given as coords) so it is pixel-perfect - i.e. no hard 90-degree corner.

```
public static bool PencilLineSmoothing(File file, int layer, int frame, IntVector2[] line, IntVector2[] previousLine, Color colourLineMeetingPoint)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

line [IntVector2\[\]](#)

`previousLine` [IntVector2\[\]](#)

`colourLineMeetingPoint` Color

Returns

[bool](#)

## UseBrush(File, int, int, IntVector2, IntVector2[], Color)

```
public static void UseBrush(File file, int layer, int frame, IntVector2 pixel,  
IntVector2[] brushBorderMaskPixels, Color colour)
```

Parameters

`file` [File](#)

`layer` [int](#)

`frame` [int](#)

`pixel` [IntVector2](#)

`brushBorderMaskPixels` [IntVector2\[\]](#)

`colour` Color

## UseBrush(File, int, int, int, int, IntVector2[], Color)

```
public static void UseBrush(File file, int layer, int frame, int x, int y,  
IntVector2[] brushBorderMaskPixels, Color colour)
```

Parameters

`file` [File](#)

`layer` [int](#)

`frame` [int](#)

x [int](#)

y [int](#)

brushBorderMaskPixels [IntVector2\[\]](#)

colour Color

## UseCircle(File, int, int, IntVector2, IntVector2, Color, bool, bool)

```
public static void UseCircle(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color colour, bool filled, bool stayWithinImageBounds)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

stayWithinImageBounds [bool](#)

## UseEllipse(File, int, int, IntVector2, IntVector2, Color, bool)

```
public static void UseEllipse(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

## UseEyeDropper(File, int, int, IntVector2)

```
public static Color UseEyeDropper(File file, int layer, int frame, IntVector2 pixel)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

pixel [IntVector2](#)

### Returns

Color

## UseEyeDropper(File, int, int, int, int)

```
public static Color UseEyeDropper(File file, int layer, int frame, int x, int y)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

x [int](#)

y [int](#)

Returns

Color

## UseFill(File, int, int, IntVector2, Color, int)

```
public static void UseFill(File file, int layer, int frame, IntVector2 pixel, Color  
colour, int maxNumOfIterations = 1000000)
```

Parameters

file [File](#)

layer [int](#)

frame [int](#)

pixel [IntVector2](#)

colour Color

maxNumOfIterations [int](#)

## UseFill(File, int, int, int, int, Color, int)

```
public static void UseFill(File file, int layer, int frame, int x, int y, Color  
colour, int maxNumOfIterations = 1000000)
```

Parameters

file [File](#)

layer [int](#)

frame [int](#)

x [int](#)

y [int](#)

colour Color

maxNumOfIterations [int](#)

## UseGradient(File, int, int, IntVector2, IntVector2, Color, Color, GradientMode)

```
public static void UseGradient(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color startColour, Color endColour, GradientMode gradientMode)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

gradientMode [GradientMode](#)

## UseGradient(File, int, int, IntVector2, IntVector2, Color, Color, GradientMode, IntVector2[])

```
public static void UseGradient(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color startColour, Color endColour, GradientMode gradientMode,  
IntVector2[])
```

```
IntVector2[] mask)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

gradientMode [GradientMode](#)

mask [IntVector2\[\]](#)

## UseGradient(File, int, int, IntVector2, IntVector2, Color, Color, GradientMode, Texture2D)

```
public static void UseGradient(File file, int layer, int frame, IntVector2 start,
IntVector2 end, Color startColour, Color endColour, GradientMode gradientMode,
Texture2D mask)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

`endColour` Color

`gradientMode` [GradientMode](#)

`mask` Texture2D

## UseGradientLinear(File, int, int, IntVector2, IntVector2, Color, Color)

```
public static void UseGradientLinear(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color startColour, Color endColour)
```

### Parameters

`file` [File](#)

`layer` [int](#)

`frame` [int](#)

`start` [IntVector2](#)

`end` [IntVector2](#)

`startColour` Color

`endColour` Color

## UseGradientLinear(File, int, int, IntVector2, IntVector2, Color, Color, IntVector2[])

```
public static void UseGradientLinear(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color startColour, Color endColour, IntVector2[] mask)
```

### Parameters

`file` [File](#)

`layer` [int](#)

```
frame int
start IntVector2
end IntVector2
startColour Color
endColour Color
mask IntVector2\[\]
```

## UseGradientLinear(File, int, int, IntVector2, IntVector2, Color, Color, Texture2D)

```
public static void UseGradientLinear(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color startColour, Color endColour, Texture2D mask)
```

### Parameters

```
file File
layer int
frame int
start IntVector2
end IntVector2
startColour Color
endColour Color
mask Texture2D
```

## UseGradientRadial(File, int, int, IntVector2, IntVector2, Color, Color)

```
public static void UseGradientRadial(File file, int layer, int frame, IntVector2
```

```
start, IntVector2 end, Color startColour, Color endColour)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

## UseGradientRadial(File, int, int, IntVector2, IntVector2, Color, Color, IntVector2[])

```
public static void UseGradientRadial(File file, int layer, int frame, IntVector2
start, IntVector2 end, Color startColour, Color endColour, IntVector2[] mask)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour Color

endColour Color

mask [IntVector2\[\]](#)

## UseGradientRadial(File, int, int, IntVector2, IntVector2, Color, Color, Texture2D)

```
public static void UseGradientRadial(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color startColour, Color endColour, Texture2D mask)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

startColour [Color](#)

endColour [Color](#)

mask [Texture2D](#)

## UseIsoBox(File, int, int, IntVector2, IntVector2, IntVector2, Color, bool)

```
public static void UseIsoBox(File file, int layer, int frame, IntVector2 baseStart, IntVector2 baseEnd, IntVector2 heightEnd, Color colour, bool filled)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

baseStart [IntVector2](#)

baseEnd [IntVector2](#)

heightEnd [IntVector2](#)

colour Color

filled [bool](#)

## UseIsoRectangle(File, int, int, IntVector2, IntVector2, Color, bool)

```
public static void UseIsoRectangle(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color colour, bool filled)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

## UseLine(File, int, int, IntVector2, IntVector2, Color)

```
public static void UseLine(File file, int layer, int frame, IntVector2 start, IntVector2 end, Color colour)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

## UsePencil(File, int, int, IntVector2, Color)

```
public static void UsePencil(File file, int layer, int frame, IntVector2 pixel,  
Color colour)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

pixel [IntVector2](#)

colour Color

## UsePencil(File, int, int, int, int, Color)

```
public static void UsePencil(File file, int layer, int frame, int x, int y,  
Color colour)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

x [int](#)

y [int](#)

colour Color

## UseRectangle(File, int, int, IntVector2, IntVector2, Color, bool)

```
public static void UseRectangle(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color colour, bool filled)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour Color

filled [bool](#)

## UseRightTriangle(File, int, int, IntVector2, IntVector2, Color, bool, bool)

```
public static void UseRightTriangle(File file, int layer, int frame, IntVector2  
start, IntVector2 end, Color colour, bool rightAngleOnBottom, bool filled)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

```
end IntVector2
```

colour Color

rightAngleOnBottom [bool](#)

filled [bool](#)

## UseRubber(File, int, int, IntVector2)

```
public static void UseRubber(File file, int layer, int frame, IntVector2 pixel)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

pixel [IntVector2](#)

## UseRubber(File, int, int, IntVector2, IntVector2[])

```
public static void UseRubber(File file, int layer, int frame, IntVector2 pixel,  
IntVector2[] brushBorderMaskPixels)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

pixel [IntVector2](#)

brushBorderMaskPixels [IntVector2\[\]](#)

## UseRubber(File, int, int, int, int)

```
public static void UseRubber(File file, int layer, int frame, int x, int y)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

x [int](#)

y [int](#)

## UseRubber(File, int, int, int, int, IntVector2[])

```
public static void UseRubber(File file, int layer, int frame, int x, int y,  
IntVector2[] brushBorderMaskPixels)
```

### Parameters

file [File](#)

layer [int](#)

frame [int](#)

x [int](#)

y [int](#)

brushBorderMaskPixels [IntVector2\[\]](#)

## UseSquare(File, int, int, IntVector2, IntVector2, Color, bool, bool)

```
public static void UseSquare(File file, int layer, int frame, IntVector2 start,  
IntVector2 end, Color colour, bool filled, bool stayWithinImageBounds)
```

## Parameters

file [File](#)

layer [int](#)

frame [int](#)

start [IntVector2](#)

end [IntVector2](#)

colour [Color](#)

filled [bool](#)

stayWithinImageBounds [bool](#)

# Namespace PAC.EffectPanels

## Classes

### [BlurPanel](#)

A panel that blurs the view behind it.

### [EffectPanel](#)

A class to represent a type of panel that applies an effect to the view behind it - e.g. a blur panel or a pixellate panel.

### [PixellatePanel](#)

A panel that pixellates the view behind it.

# Class BlurPanel

Namespace: [PAC.EffectPanels](#)

A panel that blurs the view behind it.

```
public class BlurPanel : MonoBehaviour
```

## Inheritance

[object](#) ← BlurPanel

## Properties

### blurEnabled

```
public bool blurEnabled { get; }
```

Property Value

[bool](#)

## Methods

### EnableDisable(bool)

```
public void EnableDisable(bool enabled)
```

Parameters

enabled [bool](#)

# Class EffectPanel

Namespace: [PAC.EffectPanels](#)

A class to represent a type of panel that applies an effect to the view behind it - e.g. a blur panel or a pixellate panel.

```
public class EffectPanel : MonoBehaviour
```

## Inheritance

[object](#) ← EffectPanel

## Methods

### EnableDisable(bool)

```
public void EnableDisable(bool enabled)
```

## Parameters

enabled [bool](#)

# Class PixellatePanel

Namespace: [PAC.EffectPanels](#)

A panel that pixellates the view behind it.

```
public class PixellatePanel : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← PixellatePanel

## Properties

### pixellateOn

```
public bool pixellateOn { get; }
```

Property Value

[bool](#) ↗

# Namespace PAC.Exceptions

## Classes

[UnderflowException](#)

# Class UnderflowException

Namespace: [PAC.Exceptions](#)

```
public class UnderflowException : ArithmeticException, ISerializable
```

## Inheritance

[object](#) ← [Exception](#) ← [SystemException](#) ← [ArithmeticException](#) ← UnderflowException

## Implements

[ISerializable](#)

## Inherited Members

[Exception.GetBaseException\(\)](#) , [Exception.GetType\(\)](#) , [Exception.ToString\(\)](#) ,  
[Exception.Data](#) , [Exception.HelpLink](#) , [Exception.HResult](#) , [Exception.InnerException](#) ,  
[Exception.Message](#) , [Exception.Source](#) , [Exception.StackTrace](#) , [Exception.TargetSite](#) ,  
[Exception.SerializeObjectState](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

### UnderflowException(string)

```
public UnderflowException(string message)
```

## Parameters

message [string](#)

# Namespace PAC.Extensions

## Classes

[IEnumerableExtensions](#)

[JsonConverters](#)

[JsonConverters.ColorJsonConverter](#)

Custom JSON converter for Color.

[JsonConverters.Texture2DJsonConverter](#)

Custom JSON converter for Texture2D.

[JsonConverters.Vector2JsonConverter](#)

Custom JSON converter for Vector2.

[JsonConverters.Vector3JsonConverter](#)

Custom JSON converter for Vector3.

[TextReaderExtensions](#)

[TypeExtensions](#)

# Class IEnumerableExtensions

Namespace: [PAC.Extensions](#)

```
public static class IEnumerableExtensions
```

## Inheritance

[object](#) ↗ ← IEnumerableExtensions

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ ,  
[object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗ ,  
[object.ToString\(\)](#) ↗

## Methods

### RepeatIEnumerable<T>(IEnumerable<T>)

Creates an IEnumerable that repeats the given IEnumerable indefinitely, looping back round to the beginning when it reaches the end.

```
public static IEnumerable<T> RepeatIEnumerable<T>( IEnumerable<T> elements)
```

#### Parameters

elements [IEnumerable](#) ↗ <T>

#### Returns

[IEnumerable](#) ↗ <T>

#### Type Parameters

T

### Repeat<T>(T)

Creates an `IEnumerable` that repeats the given element indefinitely.

```
public static IEnumerable<T> Repeat<T>(T element)
```

Parameters

`element` `T`

Returns

[IEnumerable](#)<`T`>

Type Parameters

`T`

# Class JsonConverters

Namespace: [PAC.Extensions](#)

```
public static class JsonConverters
```

## Inheritance

[object](#) ← JsonConverters

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### allConverters

All the custom JSON converters define in this class.

```
public static readonly JsonConversion.JsonConverterSet allConverters
```

## Field Value

[JsonConversion.JsonConverterSet](#)

# Class JsonConverters.ColorJsonConverter

Namespace: [PAC.Extensions](#)

Custom JSON converter for Color.

```
public class JsonConverters.ColorJsonConverter : JsonConversion.JsonConverter<Color,  
JsonData.List>
```

## Inheritance

```
object ↪ ← JsonConversion.JsonConverter<Color, jsonData.List> ←  
JsonConverters.ColorJsonConverter
```

## Inherited Members

```
JsonConversion.JsonConverter<Color, jsonData.List>.ToJson(Color) ,  
JsonConversion.JsonConverter<Color, jsonData.List>.FromJson(jsonData.List) ,  
JsonConversion.JsonConverter<Color, jsonData.List>.FromJson(jsonData) ,  
object.Equals(object) ↪ , object.Equals(object, object) ↪ , object.GetHashCode() ↪ ,  
object.GetType() ↪ , object.MemberwiseClone() ↪ , object.ReferenceEquals(object, object) ↪ ,  
object.ToString() ↪
```

## Methods

### FromJson(List)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override Color FromJson(JsonData.List jsonData)
```

### Parameters

jsonData [JsonData.List](#)

### Returns

## ToJson(Color)

Attempts to convert the C# object into JSON data.

```
public override JsonData.List ToJson(Color color)
```

### Parameters

**color** Color

### Returns

[JsonData.List](#)

# Class JsonConverters.Texture2DJsonConverter

Namespace: [PAC.Extensions](#)

Custom JSON converter for Texture2D.

```
public class JsonConverters.Texture2DJsonConverter :  
JsonConversion.JsonConverter<Texture2D, JsonData.Object>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter](#)<Texture2D, [JsonData.Object](#)> ←  
JsonConverters.Texture2DJsonConverter

## Inherited Members

[JsonConversion.JsonConverter<Texture2D, JsonData.Object>.ToJson\(Texture2D\)](#) ,  
[JsonConversion.JsonConverter<Texture2D, JsonData.Object>.FromJson\(JsonData.Object\)](#) ,  
[JsonConversion.JsonConverter<Texture2D, JsonData.Object>.FromJson\(JsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override Texture2D FromJson(JsonData.Object jsonData)
```

## Parameters

jsonData [JsonData.Object](#)

Returns

Texture2D

## ToJson(Texture2D)

Attempts to convert the C# object into JSON data.

```
public override JsonData.Object ToJson(Texture2D tex)
```

Parameters

**tex** Texture2D

Returns

[JsonData.Object](#)

# Class JsonConverters.Vector2JsonConverter

Namespace: [PAC.Extensions](#)

Custom JSON converter for Vector2.

```
public class JsonConverters.Vector2JsonConverter :  
JsonConversion.JsonConverter<Vector2, JsonData.List>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter](#)<Vector2, [JsonData.List](#)> ←  
JsonConverters.Vector2JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<Vector2, JsonData.List>.ToJson\(Vector2\)](#) ,  
[JsonConversion.JsonConverter<Vector2, JsonData.List>.FromJson\(JsonData.List\)](#) ,  
[JsonConversion.JsonConverter<Vector2, JsonData.List>.FromJson\(JsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson(List)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override Vector2 FromJson(JsonData.List jsonData)
```

## Parameters

jsonData [JsonData.List](#)

Returns

Vector2

## ToJson(Vector2)

Attempts to convert the C# object into JSON data.

```
public override JsonData.List ToJson(Vector2 vec)
```

Parameters

**vec** Vector2

Returns

[JsonData.List](#)

# Class JsonConverters.Vector3JsonConverter

Namespace: [PAC.Extensions](#)

Custom JSON converter for Vector3.

```
public class JsonConverters.Vector3JsonConverter :  
JsonConversion.JsonConverter<Vector3, jsonData.List>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter](#)<Vector3, jsonData.List> ←  
JsonConverters.Vector3JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<Vector3, jsonData.List>.ToJson\(Vector3\)](#) ,  
[JsonConversion.JsonConverter<Vector3, jsonData.List>.FromJson\(jsonData.List\)](#) ,  
[JsonConversion.JsonConverter<Vector3, jsonData.List>.FromJson\(jsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson(List)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override Vector3 FromJson(jsonData.List jsonData)
```

## Parameters

jsonData [jsonData.List](#)

Returns

Vector3

## ToJson(Vector3)

Attempts to convert the C# object into JSON data.

```
public override JsonData.List ToJson(Vector3 vec)
```

Parameters

**vec** Vector3

Returns

[JsonData.List](#)

# Class TextReaderExtensions

Namespace: [PAC.Extensions](#)

```
public static class TextReaderExtensions
```

## Inheritance

[object](#) ← TextReaderExtensions

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### ReadMatch(TextReader, IEnumerable<char>)

Reads, checking if it reads the given sequence of characters (starting at the current point). Returns the characters it matched before it found a non-match. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static string ReadMatch(this TextReader reader, IEnumerable<char> text)
```

#### Parameters

reader [TextReader](#)

text [IEnumerable](#)<[char](#)>

#### Returns

[string](#)

#### Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatch(TextReader, IEnumerable<ICollection<char>>)

Reads, checking if the first read character is in the first collection of characters, then if the second is in the second collection, etc. until all character collections have been matched or until a character doesn't match. Returns the characters it matched before it found a non-match. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static string ReadMatch(this TextReader reader,  
IEnumerable<ICollection<char>> charSets)
```

### Parameters

reader [TextReader](#)

charSets [IEnumerable](#)<[ICollection](#)<[char](#)>>

### Returns

[string](#)

### Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatch(TextReader, IEnumerable<Func<char, bool>>)

Reads, checking if the first read character satisfies the first match condition, then if the second matches the second condition, etc. until all character collections have been matched or until a character doesn't match. Returns the characters it matched before it found a non-match. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static string ReadMatch(this TextReader reader, IEnumerable<Func<char, bool>> matchConditions)
```

## Parameters

reader [TextReader](#)

matchConditions [IEnumerable](#)<[Func](#)<char, bool>>

## Returns

[string](#)

## Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatch(TextReader, string)

Reads, checking if it reads the given string (starting at the current point). Returns the characters it matched before it found a non-match. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static string ReadMatch(this TextReader reader, string text)
```

## Parameters

reader [TextReader](#)

text [string](#)

## Returns

[string](#)

## Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatchAll(TextReader, IEnumerable<char>)

Reads, checking if it reads the given sequence of characters (starting at the current point).

```
public static bool ReadMatchAll(this TextReader reader, IEnumerable<char> text)
```

Parameters

reader [TextReader](#)

text [IEnumerable](#)<[char](#)>

Returns

[bool](#)

Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatchAll(TextReader, IEnumerable<ICollection<char>>)

Reads, checking if the first read character is in the first collection of characters, then if the second is in the second collection, etc. until all character collections have been matched. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static bool ReadMatchAll(this TextReader reader,  
IEnumerable<ICollection<char>> charSets)
```

Parameters

reader [TextReader](#)

charSets [IEnumerable](#)<[ICollection](#)<char>>>

Returns

[bool](#)

Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## ReadMatchAll(TextReader, string)

Reads, checking if it reads the given string (starting at the current point). Doesn't reach the non-match character / the next character after all have characters been matched. Doesn't reach the non-match character / the next character after all have characters been matched.

```
public static bool ReadMatchAll(this TextReader reader, string text)
```

Parameters

reader [TextReader](#)

text [string](#)

Returns

[bool](#)

Exceptions

[EndOfStreamException](#)

If there is nothing left for the reader to read at the start of the method.

## TryReadIntoChar(TextReader, ref char)

If the TextReader can read another character, it will read it into chr and return true. Otherwise, it will return false without changing chr and without reading.

```
public static bool TryReadIntoChar(this TextReader reader, ref char chr)
```

Parameters

reader [TextReader](#)

chr [char](#)

Returns

[bool](#)

# Class TypeExtensions

Namespace: [PAC.Extensions](#)

```
public static class TypeExtensions
```

## Inheritance

[object](#) ← TypeExtensions

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### GetTypeOfRawGenericSuperclass(Type, Type)

Gets the concrete version of the given raw generic type that 'subType' inherits - e.g. List<int> inherits from the raw generic IEnumerable<>, with the concrete type returned by this method being IEnumerable<int>.

Throws an exception if 'rawGeneric' is not a raw generic. For example, List<> is a raw generic, but List<int> is not.

Throws an exception if 'subType' does not inherit from 'rawGeneric'.

```
public static Type GetTypeOfRawGenericSuperclass(this Type subType, Type rawGeneric)
```

## Parameters

subType [Type](#)

rawGeneric [Type](#)

## Returns

[Type](#)

## IsAutoProperty(PropertyInfo)

Determines if the given property is an auto property - i.e. it has both a getter and setter with no body, for example

```
public string name { get; set; }
```

```
public static bool IsAutoProperty(this PropertyInfo property)
```

Parameters

property  [PropertyInfo](#)

Returns

[bool](#)

## IsGenericList(Type)

Determines if the given type is List<T> for some type T.

```
public static bool IsGenericList(this Type type)
```

Parameters

type  [Type](#)

Returns

[bool](#)

## IsRawGeneric(Type)

Determines if the given type is a raw generic - e.g. List<> is a raw generic, but List<int> is not. Also returns false for non-generic types.

```
public static bool IsRawGeneric(this Type type)
```

Parameters

type [Type](#)

Returns

[bool](#)

## IsStruct(Type)

Determines if the given type is a struct or not.

```
public static bool IsStruct(this Type type)
```

Parameters

type [Type](#)

Returns

[bool](#)

## IsSubclassOfRawGeneric(Type, Type)

Determines if the given type inherits from the given some concrete version of the given raw generic type - e.g. List<int> inherits from the raw generic IEnumerable<>.

Throws an exception if 'rawGeneric' is not a raw generic. For example, List<> is a raw generic, but List<int> is not.

```
public static bool IsSubclassOfRawGeneric(this Type subType, Type rawGeneric)
```

Parameters

subType [Type](#)

rawGeneric [Type](#)

## Returns

[bool](#) ↗

# Namespace PAC.Files

## Classes

### [File](#)

A class to represent a single Pixel Art Creator file.

### [File.JsonConverter](#)

### [FileManager](#)

### [FileTab](#)

### [FileTabsManager](#)

### [ImageEditManager](#)

# Class File

Namespace: [PAC.Files](#)

A class to represent a single Pixel Art Creator file.

```
public class File
```

## Inheritance

[object](#) ← File

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### File(File)

Creates a deep copy of the File.

```
public File(File file)
```

#### Parameters

file [File](#)

### File(string, int, int)

Creates a blank file.

```
public File(string name, int width, int height)
```

#### Parameters

`name` [string](#)

`width` [int](#)

`height` [int](#)

## Properties

### height

```
public int height { get; }
```

Property Value

[int](#)

### keyFrameIndices

The frame indices at which some layer has a key frame.

```
public int[] keyFrameIndices { get; }
```

Property Value

[int](#)[]

### layers

```
public List<Layer> layers { get; }
```

Property Value

[List](#)<[Layer](#)>

### liveRender

```
public Texture2D liveRender { get; }
```

Property Value

Texture2D

## mostRecentSavePath

```
public string mostRecentSavePath { get; }
```

Property Value

[string](#)

## name

```
public string name { get; set; }
```

Property Value

[string](#)

## numOfFrames

The number of frames the animation lasts for.

```
public int numOfFrames { get; set; }
```

Property Value

[int](#)

## rect

```
public IntRect rect { get; }
```

Property Value

[IntRect](#)

## savedSinceLastEdit

```
public bool savedSinceLastEdit { get; }
```

Property Value

[bool](#)

## tiles

All the tile objects currently in the file.

```
public Tile[] tiles { get; }
```

Property Value

[Tile\[\]](#)

## width

```
public int width { get; }
```

Property Value

[int](#)

## Methods

## AddLayer(Layer)

Adds the given layer on top of all existing layers.

```
public void AddLayer(Layer layer)
```

Parameters

layer [Layer](#)

## AddLayer(Layer, int)

Adds the given layer at the given index. Throws an error if the layer is already in the file.

```
public void AddLayer(Layer layer, int index)
```

Parameters

layer [Layer](#)

index [int](#)

## AddLayers(params Layer[])

Adds the layers on top of all existing layers, retaining the order they have in the array - i.e. first layer in the array is the one on top, etc.

```
public void AddLayers(params Layer[] layers)
```

Parameters

layers [Layer](#)[]

## AddNormalLayer()

Adds a blank normal layer on top of all existing layers.

```
public void AddNormalLayer()
```

## AddNormalLayer(int)

Adds a blank normal layer at the given index.

```
public void AddNormalLayer(int index)
```

### Parameters

index [int](#)

## AddNormalLayer(Texture2D, int)

Adds a normal layer at the given index with the given texture.

```
public void AddNormalLayer(Texture2D texture, int index = 0)
```

### Parameters

texture [Texture2D](#)

index [int](#)

## AddTile(File, IntVector2, int)

Adds the given file as a tile.

```
public void AddTile(File file, IntVector2 bottomLeft, int lowestLayer)
```

### Parameters

file [File](#)

bottomLeft [IntVector2](#)

`lowestLayer` [int ↗](#)

## AddTile(Tile)

Adds the tile to the file.

```
public void AddTile(Tile tile)
```

Parameters

`tile` [Tile](#)

## AddTileLayer()

Adds a blank tile layer on top of all existing layers.

```
public void AddTileLayer()
```

## AddTileLayer(int)

Adds a blank tile layer at the given index.

```
public void AddTileLayer(int index)
```

Parameters

`index` [int ↗](#)

## ContainsTile(Tile)

```
public bool ContainsTile(Tile tile)
```

Parameters

`tile` [Tile](#)

Returns

[bool](#) ↗

## DeepCopy()

Creates a deep copy of the File.

```
public File DeepCopy()
```

Returns

[File](#)

## ExportAnimation(string)

Exports each frame of the animation and puts them in a folder. The file path specifies the folder name and location, and the file extension to export each frame as.

```
public bool ExportAnimation(string filePath)
```

Parameters

`filePath` [string](#) ↗

Returns

[bool](#) ↗

## ExportFrame(int, string)

Exports the frame to the file path, according to the file extension.

```
public bool ExportFrame(int frame, string filePath)
```

Parameters

`frame` [int](#)

`filePath` [string](#)

Returns

[bool](#)

## Extend(int, int, int, int)

Extends the dimensions of the file in each direction by the given amounts.

```
public void Extend(int left, int right, int up, int down)
```

Parameters

`left` [int](#)

`right` [int](#)

`up` [int](#)

`down` [int](#)

## Flip(FlipDirection)

Flips the file.

```
public void Flip(FlipDirection direction)
```

Parameters

`direction` [FlipDirection](#)

## ImportImage(string)

Adds the image at the file path as a new layer.

```
public void ImportImage(string filePath)
```

Parameters

filePath [string](#)

## ImportLayers(params Layer[])

Adds deep copies of the layers on top of all existing layers, retaining the order they have in the array - i.e. first layer in the array is the one on top, etc.

```
public void ImportLayers(params Layer[] layers)
```

Parameters

layers [Layer](#)[]

## IndexOfLayer(Layer)

Gets the index of the layer within the file.

```
public int IndexOfLayer(Layer layer)
```

Parameters

layer [Layer](#)

Returns

[int](#)

The index of the layer, or -1 if the layer is not in the file.

## IsBlank()

Returns true if and only if all pixels on all layers are completely transparent.

```
public bool IsBlank()
```

Returns

[bool](#)

## MoveLayer(Layer, int)

Moves the layer to indexToMoveTo. Throws an error if the layer is not in the file.

```
public void MoveLayer(Layer layerToMove, int indexToMoveTo)
```

Parameters

layerToMove [Layer](#)

indexToMoveTo [int](#)

## MoveLayer(int, int)

Moves the layer at indexToMove to indexToMoveTo.

```
public void MoveLayer(int layerToMove, int indexToMoveTo)
```

Parameters

layerToMove [int](#)

indexToMoveTo [int](#)

## OpenFile(string)

Opens the file according to its file extension.

```
public static File OpenFile(string filePath)
```

Parameters

**filePath** [string](#)

Returns

[File](#)

## OpenImage(string)

Opens the file at the file path if it is an image file type, e.g. PNG or JPEG.

```
public static File OpenImage(string filePath)
```

Parameters

**filePath** [string](#)

Returns

[File](#)

## OpenJPEG(string)

Opens the JPEG/JPG file. Throws an error if the file is not a JPEG/JPG file.

```
public static File OpenJPEG(string filePath)
```

Parameters

**filePath** [string](#)

Returns

[File](#)

## OpenPAC(string)

Opens the PAC file. Throws an error if the file is not a PAC file.

```
public static File OpenPAC(string filePath)
```

Parameters

filePath [string](#)

Returns

[File](#)

## OpenPNG(string)

Opens the PNG file. Throws an error if the file is not a PNG file.

```
public static File OpenPNG(string filePath)
```

Parameters

filePath [string](#)

Returns

[File](#)

## RemoveAllLayers()

Removes all layers, then adds a blank normal layer.

```
public void RemoveAllLayers()
```

## RemoveLayer(Layer)

Removes the layer from the file. Throws an error if the layer is not in the file.

```
public void RemoveLayer(Layer layer)
```

Parameters

layer [Layer](#)

## RemoveLayer(int)

Removes the layer at the given index.

```
public void RemoveLayer(int layer)
```

Parameters

layer [int](#)

## RemoveLayers(Layer[])

Removes the given layers from the file. Throws an error if a layer is not in the file.

```
public void RemoveLayers(Layer[] layers)
```

Parameters

layers [Layer](#)[]

## RemoveLayers(int[])

Removes the layers at the given indices.

```
public void RemoveLayers(int[] layers)
```

Parameters

`layers int[]`

## RemoveTile(Tile)

Removes the tile. Throws an error if the tile is not in the file.

```
public void RemoveTile(Tile tile)
```

Parameters

`tile Tile`

## Render(int)

Renders all layers down to a Texture2D. Does not apply the texture.

```
public Texture2D Render(int frame)
```

Parameters

`frame int`

Returns

Texture2D

## RenderLayers(int, int, int, bool)

Renders all the layers with index between lowestLayer and highestLayer (inclusive iff inclusive == true) down to a Texture2D. highestLayer and lowestLayer are automatically clamped to be in the valid range of layers. Does not apply the texture.

```
public Texture2D RenderLayers(int highestLayer, int lowestLayer, int frame, bool inclusive = true)
```

## Parameters

**highestLayer** [int](#)

The higher layer (so lower index).

**lowestLayer** [int](#)

The lower layer (so higher index).

**frame** [int](#)

**inclusive** [bool](#)

## Returns

Texture2D

## RenderLayers(int[], int)

Renders the layers at the given layer indices down to a Texture2D. Does not apply the texture.

```
public Texture2D RenderLayers(int[] layerIndices, int frame)
```

## Parameters

**layerIndices** [int](#)[]

The layer indices in the order you want them to be rendered, from highest layer (so lowest index) to lowest.

**frame** [int](#)

## Returns

Texture2D

## RenderLayersAbove(int, int, bool)

Renders all layers that appear above the given layer (includes the layer iff inclusive == true) down to a Texture2D. Returns a blank texture if there are none. Does not apply the texture.

```
public Texture2D RenderLayersAbove(int layer, int frame, bool inclusive = false)
```

Parameters

layer [int](#)

frame [int](#)

inclusive [bool](#)

Returns

Texture2D

## RenderLayersBelow(int, int, bool)

Renders all layers that appear strictly beneath the given layer (includes the layer iff inclusive == true) down to a Texture2D. Returns a blank texture if there are none. Does not apply the texture.

```
public Texture2D RenderLayersBelow(int layer, int frame, bool inclusive = false)
```

Parameters

layer [int](#)

frame [int](#)

inclusive [bool](#)

Returns

Texture2D

## RenderPixel(IntVector2, int)

Renders the colour of the given pixel.

```
public Color RenderPixel(IntVector2 pixel, int frame)
```

Parameters

pixel [IntVector2](#)

frame [int](#)

Returns

Color

## RenderPixel(IntVector2, int, int, int, bool)

```
public Color RenderPixel(IntVector2 pixel, int highestLayer, int lowestLayer, int frame, bool inclusive = true)
```

Parameters

pixel [IntVector2](#)

highestLayer [int](#)

lowestLayer [int](#)

frame [int](#)

inclusive [bool](#)

Returns

Color

## RenderPixel(IntVector2, int[], int)

Renders the colour of the pixel on the layers at the given layer indices. Throws an error if there are no layer indices.

```
public Color RenderPixel(IntVector2 pixel, int[] layerIndices, int frame)
```

Parameters

pixel [IntVector2](#)

layerIndices [int](#)[]

frame [int](#)

Returns

Color

## RenderPixel(int, int, int)

Renders the colour of the given pixel.

```
public Color RenderPixel(int x, int y, int frame)
```

Parameters

x [int](#)

y [int](#)

frame [int](#)

Returns

Color

## RenderPixel(int, int, int, int, int, bool)

```
public Color RenderPixel(int x, int y, int highestLayer, int lowestLayer, int frame,
```

```
bool inclusive = true)
```

## Parameters

x [int](#)

y [int](#)

highestLayer [int](#)

lowestLayer [int](#)

frame [int](#)

inclusive [bool](#)

## Returns

Color

## RenderPixel(int, int, int[], int)

Renders the colour of pixel (x, y) on the layers at the given layer indices. Throws an error if there are no layer indices.

```
public Color RenderPixel(int x, int y, int[] layerIndices, int frame)
```

## Parameters

x [int](#)

y [int](#)

layerIndices [int](#)[]

frame [int](#)

## Returns

Color

## ReplaceLayer(Layer, Layer)

Replaces the layer with the given layer. Throws an error if the layer to replace is not in the file, or if the layer to replace with is already in the file.

```
public void ReplaceLayer(Layer layerToReplace, Layer layerToReplaceWith)
```

### Parameters

layerToReplace [Layer](#)

layerToReplaceWith [Layer](#)

## ReplaceLayer(int, Layer)

Replaces the layer at the given index with the given layer. Throws an error if the layer to replace with is already in the file.

```
public void ReplaceLayer(int layerToReplace, Layer layerToReplaceWith)
```

### Parameters

layerToReplace [int](#)

layerToReplaceWith [Layer](#)

## Rotate(RotationAngle)

Rotates the file. Rotation is clockwise.

```
public void Rotate(RotationAngle angle)
```

### Parameters

angle [RotationAngle](#)

## SaveAsPAC(string)

Saves the file as a PAC file at the given file path. Throws an error if the file is not a PAC file.

```
public void SaveAsPAC(string filePath)
```

### Parameters

filePath [string](#)

## SavePAC()

Saves the file as a PAC file at the location it was most recently saved at. Throws an error if the file hasn't been saved before.

```
public void SavePAC()
```

## Scale(int, int)

Resizes the file to the new width and height.

```
public void Scale(int newWidth, int newHeight)
```

### Parameters

newWidth [int](#)

newHeight [int](#)

## Scale(float)

Resizes the dimensions of the file by the scale factor.

```
public void Scale(float scaleFactor)
```

### Parameters

scaleFactor [float](#)

## Scale(float, float)

Resizes the dimensions of the file by the scale factors.

```
public void Scale(float xScaleFactor, float yScaleFactor)
```

Parameters

xScaleFactor [float](#)

yScaleFactor [float](#)

## SetLiveRenderFrame(int)

Sets the frame that the live render will be for.

```
public void SetLiveRenderFrame(int frame)
```

Parameters

frame [int](#)

## SubscribeToOnPixelsChanged(UnityAction<IntVector2[], Layer[], int[]>)

Event invoked when some pixels have been changed on a layer. Passes the pixels, layers and frames that were affected.

```
public void SubscribeToOnPixelsChanged(UnityAction<IntVector2[], Layer[], int[]> call)
```

Parameters

call [UnityAction<IntVector2\[\], Layer\[\], int\[\]>](#)

## SubscribeToOnSavedSinceEditChanged(UnityAction)

Event invoked when the a change to file is made or when the file is saved.

```
public void SubscribeToOnSavedSinceEditChanged(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToOnTileAdded(UnityAction)

Event invoked when a tile is added to the file.

```
public void SubscribeToOnTileAdded(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToOnTileRemoved(UnityAction)

Event invoked when a tile is removed from the file.

```
public void SubscribeToOnTileRemoved(UnityAction call)
```

Parameters

`call` UnityAction

# Class File.JsonConverter

Namespace: [PAC.Files](#)

```
public class File.JsonConverter : JsonConversion.JsonConverter<File,  
JsonData.Object>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<File, jsonData.Object>](#) ← [File.JsonConverter](#)

## Inherited Members

[JsonConversion.JsonConverter<File, jsonData.Object>.ToJson\(File\)](#) ,  
[JsonConversion.JsonConverter<File, jsonData.Object>.FromJson\(JsonData.Object\)](#) ,  
[JsonConversion.JsonConverter<File, jsonData.Object>.FromJson\(JsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### JsonConverter(SemanticVersion)

```
public JsonConverter(SemanticVersion fromJsonFileVersion)
```

## Parameters

[fromJsonFileVersion](#) [SemanticVersion](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override File FromJson(JsonData.Object jsonData)
```

Parameters

[jsonData](#) [JsonData.Object](#)

Returns

[File](#)

## ToJson(File)

Attempts to convert the C# object into JSON data.

```
public override JsonData.Object ToJson(File file)
```

Parameters

[file](#) [File](#)

Returns

[JsonData.Object](#)

# Class FileManager

Namespace: [PAC.Files](#)

```
public class FileManager : MonoBehaviour
```

## Inheritance

[object](#) ← FileManager

## Fields

### defaultFileName

```
public const string defaultFileName = "Untitled Image"
```

#### Field Value

[string](#)

### previousFile

```
public File previousFile
```

#### Field Value

[File](#)

## Properties

### currentFile

```
public File currentFile { get; }
```

Property Value

[File](#)

## currentPageIndex

```
public int currentPageIndex { get; }
```

Property Value

[int](#)

## files

```
public List<File> files { get; }
```

Property Value

[List](#)<[File](#)>

## Methods

### AddFile(File)

```
public bool AddFile(File file)
```

Parameters

[file](#) [File](#)

Returns

[bool](#)

## CloseFile(File)

Closes the file, with no checks for unsaved changes.

```
public bool CloseFile(File file)
```

Parameters

file [File](#)

Returns

[bool](#)

## CloseFile(int)

Closes the file, with no checks for unsaved changes.

```
public File CloseFile(int fileIndex)
```

Parameters

fileIndex [int](#)

Returns

[File](#)

## ExportAnimation(int, string)

```
public bool ExportAnimation(int fileIndex, string filePath)
```

Parameters

fileIndex [int](#)

filePath [string](#)

Returns

[bool](#)

## ExportCurrentAnimation(string)

```
public bool ExportCurrentAnimation(string filePath)
```

Parameters

[filePath](#) [string](#)

Returns

[bool](#)

## ExportCurrentAnimationDialog()

```
public void ExportCurrentAnimationDialog()
```

## ExportCurrentFrame(int, string)

```
public bool ExportCurrentFrame(int frameIndex, string filePath)
```

Parameters

[frameIndex](#) [int](#)

[filePath](#) [string](#)

Returns

[bool](#)

## ExportCurrentFrameDialog()

```
public void ExportCurrentFrameDialog()
```

## ExportFrame(int, int, string)

```
public bool ExportFrame(int frameIndex, int fileIndex, string filePath)
```

### Parameters

frameIndex [int](#)

fileIndex [int](#)

filePath [string](#)

### Returns

[bool](#)

## ImportDialog()

```
public void ImportDialog()
```

## NewFile(int, int)

```
public void NewFile(int width, int height)
```

### Parameters

width [int](#)

height [int](#)

## OpenFile(File)

```
public bool OpenFile(File file)
```

Parameters

file [File](#)

Returns

[bool](#)

## OpenFile(string)

```
public bool OpenFile(string filePath)
```

Parameters

filePath [string](#)

Returns

[bool](#)

## OpenFileDialog()

```
public void OpenFileDialog()
```

## ReloadFile()

```
public void ReloadFile()
```

## SaveAsCurrentFile(string)

```
public void SaveAsCurrentFile(string filePath)
```

Parameters

filePath [string](#)

## SaveAsCurrentFileDialog()

```
public void SaveAsCurrentFileDialog()
```

## SaveAsFile(File, string)

```
public void SaveAsFile(File file, string filePath)
```

Parameters

file [File](#)

filePath [string](#)

## SaveAsFile(int, string)

```
public void SaveAsFile(int fileIndex, string filePath)
```

Parameters

fileIndex [int](#)

filePath [string](#)

## SaveAsFileDialog(File)

```
public void SaveAsFileDialog(File file)
```

Parameters

`file` [File](#)

## SaveCurrentFileDialog()

```
public void SaveCurrentFileDialog()
```

## SaveFileDialog(File)

```
public void SaveFileDialog(File file)
```

Parameters

`file` [File](#)

## SubscribeToFileSwitched(UnityAction)

```
public void SubscribeToFileSwitched(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToFilesChanged(UnityAction)

```
public void SubscribeToFilesChanged(UnityAction call)
```

Parameters

`call` UnityAction

## SwitchToFile(int)

```
public void SwitchToFile(int fileIndex)
```

### Parameters

fileIndex [int](#)

## TryCloseFile(File)

Will close the file if there are no unsaved changes. Otherwise it will open a dialog box asking if you want to save.

```
public bool TryCloseFile(File file)
```

### Parameters

file [File](#)

### Returns

[bool](#)

## TryCloseFile(int)

Will close the file if there are no unsaved changes. Otherwise it will open a dialog box asking if you want to save.

```
public bool TryCloseFile(int fileIndex)
```

### Parameters

fileIndex [int](#)

### Returns

[bool](#)



# Class FileTab

Namespace: [PAC.Files](#)

```
public class FileTab : MonoBehaviour
```

## Inheritance

[object](#) ← FileTab

## Properties

### closed

```
public bool closed { get; set; }
```

Property Value

[bool](#)

### file

```
public File file { get; }
```

Property Value

[File](#)

### selected

```
public bool selected { get; }
```

Property Value

[bool](#)

## tileToggle

```
public UIToggleButton tileToggle { get; }
```

Property Value

[UIToggleButton](#)

## Methods

### SetFile(File)

```
public void SetFile(File file)
```

Parameters

[file](#) [File](#)

### SubscribeToClose(UnityAction)

```
public void SubscribeToClose(UnityAction call)
```

Parameters

[call](#) UnityAction

### SubscribeToNameChange(UnityAction)

```
public void SubscribeToNameChange(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToSelect(UnityAction)

```
public void SubscribeToSelect(UnityAction call)
```

### Parameters

`call` UnityAction

# Class FileTabsManager

Namespace: [PAC.Files](#)

```
public class FileTabsManager : MonoBehaviour
```

## Inheritance

[object](#) ← FileTabsManager

## Properties

### selectedFile

```
public File selectedFile { get; }
```

Property Value

[File](#)

### selectedFileIndex

```
public int selectedFileIndex { get; }
```

Property Value

[int](#)

## Methods

### CloseFile()

```
public void CloseFile()
```

## OnFilesChanged()

```
public void OnFilesChanged()
```

## SelectFile()

```
public void SelectFile()
```

## SubscribeToOnFilesChanged(UnityAction)

```
public void SubscribeToOnFilesChanged(UnityAction call)
```

### Parameters

`call` UnityAction

# Class ImageEditManager

Namespace: [PAC.Files](#)

```
public class ImageEditManager : MonoBehaviour
```

## Inheritance

[object](#) ← ImageEditManager

## Methods

### ExtendFile(int, int, int, int)

```
public void ExtendFile(int left, int right, int up, int down)
```

#### Parameters

left [int](#)

right [int](#)

up [int](#)

down [int](#)

### ExtendFileDown(int)

```
public void ExtendFileDown(int amount)
```

#### Parameters

amount [int](#)

### ExtendFileLeft(int)

```
public void ExtendFileLeft(int amount)
```

Parameters

amount [int](#)

## ExtendFileRight(int)

```
public void ExtendFileRight(int amount)
```

Parameters

amount [int](#)

## ExtendFileUp(int)

```
public void ExtendFileUp(int amount)
```

Parameters

amount [int](#)

## FlipFile(FlipDirection)

```
public void FlipFile(FlipDirection direction)
```

Parameters

direction [FlipDirection](#)

## FlipFileX()

```
public void FlipFileX()
```

## FlipFileY()

```
public void FlipFileY()
```

## FlipSelectedLayers(FlipDirection)

```
public void FlipSelectedLayers(FlipDirection direction)
```

### Parameters

direction [FlipDirection](#)

## FlipSelectedLayersX()

```
public void FlipSelectedLayersX()
```

## FlipSelectedLayersY()

```
public void FlipSelectedLayersY()
```

## RotateFile(RotationAngle)

```
public void RotateFile(RotationAngle angle)
```

### Parameters

angle [RotationAngle](#)

## RotateSelectedLayers(RotationAngle)

```
public void RotateSelectedLayers(RotationAngle angle)
```

### Parameters

angle [RotationAngle](#)

## RotateSelectedLayers180()

```
public void RotateSelectedLayers180()
```

## RotateSelectedLayers90()

```
public void RotateSelectedLayers90()
```

## RotateSelectedLayersMinus90()

```
public void RotateSelectedLayersMinus90()
```

## ScaleFile(int, int)

```
public void ScaleFile(int newWidth, int newHeight)
```

### Parameters

newWidth [int](#)

newHeight [int](#)

## ScaleFile(float)

```
public void ScaleFile(float scaleFactor)
```

Parameters

scaleFactor [float](#)

## ScaleFile(float, float)

```
public void ScaleFile(float xScaleFactor, float yScaleFactor)
```

Parameters

xScaleFactor [float](#)

yScaleFactor [float](#)

## SubscribeToEdit(UnityAction)

```
public void SubscribeToEdit(UnityAction call)
```

Parameters

call UnityAction

## SubscribeToImageSizeChanged(UnityAction)

```
public void SubscribeToImageSizeChanged(UnityAction call)
```

Parameters

call UnityAction

# Namespace PAC.Input

## Classes

[InputSystem](#)

[InputTarget](#)

[Keyboard](#)

[KeyboardTarget](#)

[Mouse](#)

[MouseTarget](#)

[Tooltip](#)

## Enums

[CursorState](#)

[MouseButton](#)

[MouseTargetDeselectMode](#)

[MouseTargetState](#)

# Enum CursorState

Namespace: [PAC.Input](#)

```
public enum CursorState
```

## Fields

CrossArrows = 7

CurrentTool = -1

EyeDropper = 5

Grab = 12

Hover = 2

Invisible = 4

LeftRightArrow = 9

LinearGradient = 30

MagicWand = 11

MagnifyingGlass = 10

Normal = 1

Press = 3

RadialGradient = 31

SelectionEllipse = 101

SelectionRectangle = 100

Text = 6

Unspecified = 0

UpDownArrow = 8

# Class InputSystem

Namespace: [PAC.Input](#)

```
public class InputSystem : MonoBehaviour
```

## Inheritance

[object](#) ← InputSystem

## Fields

### timeBetweenKeySpam

```
public float timeBetweenKeySpam
```

Field Value

[float](#)

### timeUntilKeySpam

```
public float timeUntilKeySpam
```

Field Value

[float](#)

## Properties

### globalInputTarget

```
public InputTarget globalInputTarget { get; }
```

Property Value

[InputTarget](#)

## globalKeyboardTarget

```
public KeyboardTarget globalKeyboardTarget { get; }
```

Property Value

[KeyboardTarget](#)

## globalMouseTarget

```
public MouseTarget globalMouseTarget { get; }
```

Property Value

[MouseTarget](#)

## hasInputTarget

```
public bool hasInputTarget { get; }
```

Property Value

[bool](#) ↗

## inputTarget

```
public InputTarget inputTarget { get; }
```

Property Value

## InputTarget

### keyboard

```
public Keyboard keyboard { get; }
```

#### Property Value

[Keyboard](#)

### mouse

```
public Mouse mouse { get; }
```

#### Property Value

[Mouse](#)

## Methods

### LockForAFrame()

```
public void LockForAFrame()
```

### SubscribeToGlobalKeyboard(UnityAction)

```
public void SubscribeToGlobalKeyboard(UnityAction call)
```

#### Parameters

`call` UnityAction

## SubscribeToGlobalLeftClick(UnityAction)

```
public void SubscribeToGlobalLeftClick(UnityAction call)
```

Parameters

**call** UnityAction

## SubscribeToGlobalMouseScroll(UnityAction)

```
public void SubscribeToGlobalMouseScroll(UnityAction call)
```

Parameters

**call** UnityAction

## Target(InputTarget)

```
public bool Target(InputTarget newTarget)
```

Parameters

**newTarget** [InputTarget](#)

Returns

[bool](#)

## Untarget()

```
public InputTarget Untarget()
```

Returns

[InputTarget](#)



# Class InputTarget

Namespace: [PAC.Input](#)

```
public class InputTarget : MonoBehaviour
```

## Inheritance

[object](#) ← InputTarget

## Fields

### allowHoldingKeySpam

```
public bool allowHoldingKeySpam
```

Field Value

[bool](#)

### allowLeftClick

```
public bool allowLeftClick
```

Field Value

[bool](#)

### allowMiddleClick

```
public bool allowMiddleClick
```

Field Value

[bool](#) ↴

## allowRightClick

`public bool allowRightClick`

Field Value

[bool](#) ↴

## allowScroll

`public bool allowScroll`

Field Value

[bool](#) ↴

## cursorHover

`public CursorState cursorHover`

Field Value

[CursorState](#)

## cursorPress

`public CursorState cursorPress`

Field Value

[CursorState](#)

## cursorSelected

```
public CursorState cursorSelected
```

Field Value

[CursorState](#)

## disableMouseWhenSelected

```
public bool disableMouseWhenSelected
```

Field Value

[bool](#)

## isHoverTrigger

```
public bool isHoverTrigger
```

Field Value

[bool](#)

## keyboardInputEnabled

```
public bool keyboardInputEnabled
```

Field Value

[bool](#)

## mouseDeselectMode

```
public MouseTargetDeselectMode mouseDeselectMode
```

Field Value

[MouseTargetDeselectMode](#)

## mouseInputEnabled

```
public bool mouseInputEnabled
```

Field Value

[bool](#)

## receiveAlreadyHeldKeys

```
public bool receiveAlreadyHeldKeys
```

Field Value

[bool](#)

## uiElement

```
public UIElement uiElement
```

Field Value

[UIElement](#)

## viewport

```
public UIPortage viewport
```

Field Value

[UIViewport](#)

## Properties

collider

```
public Collider2D collider { get; }
```

Property Value

Collider2D

cursorScroll

```
public CursorState cursorScroll { get; set; }
```

Property Value

[CursorState](#)

keyboardTarget

```
public KeyboardTarget keyboardTarget { get; }
```

Property Value

[KeyboardTarget](#)

mouseTarget

```
public MouseTarget mouseTarget { get; }
```

Property Value

[MouseTarget](#)

targetName

```
public string targetName { get; }
```

Property Value

[string](#)

targetTag

```
public int targetTag { get; }
```

Property Value

[int](#)

Methods

GetUntargeted()

```
public void GetUntargeted()
```

SubscribeToTarget(UnityAction)

```
public void SubscribeToTarget(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToUntarget(UnityAction)

```
public void SubscribeToUntarget(UnityAction call)
```

Parameters

`call` UnityAction

## Target()

```
public void Target()
```

## Untarget()

```
public void Untarget()
```

# Class Keyboard

Namespace: [PAC.Input](#)

```
public class Keyboard : MonoBehaviour
```

## Inheritance

[object](#) ← Keyboard

## Fields

### canInteract

```
public bool canInteract
```

Field Value

[bool](#)

# Class KeyboardTarget

Namespace: [PAC.Input](#)

```
public class KeyboardTarget
```

## Inheritance

[object](#) ← KeyboardTarget

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### KeyboardTarget()

```
public KeyboardTarget()
```

## Fields

### allowHoldingKeySpam

```
public bool allowHoldingKeySpam
```

Field Value

[bool](#)

### receiveAlreadyHeldKeys

```
public bool receiveAlreadyHeldKeys
```

Field Value

[bool](#) ↗

## Properties

### inputThisFrame

```
public bool inputThisFrame { get; }
```

Property Value

[bool](#) ↗

### keysHeld

The keys that are currently held down, in order of when they were pressed (most recent first).

```
public CustomKeyCode[] keysHeld { get; }
```

Property Value

[CustomKeyCode\[\]](#)

### keysPressed

```
public CustomKeyCode[] keysPressed { get; }
```

Property Value

[CustomKeyCode\[\]](#)

## Methods

## IsHeld(CustomKeyCode)

Returns true if all the given key (and potentially some other keys) is held (and is a key detectable by KeyboardTarget).

```
public bool IsHeld(CustomKeyCode key)
```

Parameters

key [CustomKeyCode](#)

Returns

[bool](#)

## IsHeld(params CustomKeyCode[])

Returns true if all the given keys (and potentially some other keys) are held (and are keys detectable by KeyboardTarget).

```
public bool IsHeld(params CustomKeyCode[] keys)
```

Parameters

keys [CustomKeyCode](#)[]

Returns

[bool](#)

## IsHeld(KeyboardShortcut)

Returns true if all the given key (and potentially some other keys) is held (and is a key detectable by KeyboardTarget).

```
public bool IsHeld(KeyboardShortcut shortcut)
```

Parameters

`shortcut` [KeyboardShortcut](#)

Returns

[bool](#)

## IsHeldExactly(params CustomKeyCode[])

Returns true if all and only the given keys are held (and are keys detectable by KeyboardTarget).

```
public bool IsHeldExactly(params CustomKeyCode[] keys)
```

Parameters

`keys` [CustomKeyCode](#)[]

Returns

[bool](#)

## IsHeldExactly(KeyboardShortcut)

Returns true if all and only the given keys are held (and are keys detectable by KeyboardTarget).

```
public bool IsHeldExactly(KeyboardShortcut shortcut)
```

Parameters

`shortcut` [KeyboardShortcut](#)

Returns

[bool](#)

## IsPressed(CustomKeyCode)

Returns true if all the given key (and potentially some other keys) has been pressed this frame (and is a key detectable by KeyboardTarget).

```
public bool IsPressed(CustomKeyCode key)
```

Parameters

key [CustomKeyCode](#)

Returns

[bool](#)

## IsPressed(params CustomKeyCode[])

Returns true if all the given keys (and potentially some other keys) have been pressed this frame (and are keys detectable by KeyboardTarget).

```
public bool IsPressed(params CustomKeyCode[] keys)
```

Parameters

keys [CustomKeyCode](#)[]

Returns

[bool](#)

## IsPressed(KeyboardShortcut)

Returns true if all the given keys (and potentially some other keys) have been pressed this frame (and are keys detectable by KeyboardTarget).

```
public bool IsPressed(KeyboardShortcut shortcut)
```

Parameters

`shortcut` [KeyboardShortcut](#)

Returns

`bool` ↗

## KeyDown(CustomKeyCode)

Simulates the key being pressed, if it is a key detectable by KeyboardTarget.

```
public void KeyDown(CustomKeyCode key)
```

Parameters

`key` [CustomKeyCode](#)

## KeyDownNoSpamReset(CustomKeyCode)

Simulates the key being pressed, if it is a key detectable by KeyboardTarget, without restting the timer until key spamming occurs.

```
public void KeyDownNoSpamReset(CustomKeyCode key)
```

Parameters

`key` [CustomKeyCode](#)

## KeyUp(CustomKeyCode)

Simulates the key being unpressed.

```
public void KeyUp(CustomKeyCode key)
```

Parameters

key [CustomKeyCode](#)

## KeysDown(params CustomKeyCode[])

Simulates the keys being pressed, if they are keys detectable by KeyboardTarget.

```
public void KeysDown(params CustomKeyCode[] keys)
```

### Parameters

keys [CustomKeyCode\[\]](#)

## KeysDownNoSpamReset(params CustomKeyCode[])

Simulates the keys being pressed, if they are keys detectable by KeyboardTarget, without restting the timer until key spamming occurs.

```
public void KeysDownNoSpamReset(params CustomKeyCode[] keys)
```

### Parameters

keys [CustomKeyCode\[\]](#)

## KeysUp(params CustomKeyCode[])

Simulates the keys being unpressed.

```
public void KeysUp(params CustomKeyCode[] keys)
```

### Parameters

keys [CustomKeyCode\[\]](#)

## ManualUpdate()

Only to be called in InputTarget's Update() method.

```
public void ManualUpdate()
```

## OnIsHeld(IEnumerable<KeyboardShortcut>)

Returns true if all the given keys (and potentially some other keys) are held (and are keys detectable by KeyboardTarget) for one of the given keyboard shortcuts.

```
public bool OneIsHeld(IEnumerable<KeyboardShortcut> shortcuts)
```

Parameters

`shortcuts` [IEnumerable<KeyboardShortcut>](#)

Returns

[bool](#)

## OnIsHeldExactly(IEnumerable<KeyboardShortcut>)

Returns true if all and only the given keys are held (and are keys detectable by KeyboardTarget) for one of the given keyboard shortcuts.

```
public bool OneIsHeldExactly(IEnumerable<KeyboardShortcut> shortcuts)
```

Parameters

`shortcuts` [IEnumerable<KeyboardShortcut>](#)

Returns

[bool](#)

## OnIsPressed(IEnumerable<KeyboardShortcut>)

Returns true if all the given keys (and potentially some other keys) have been pressed this frame (and are keys detectable by KeyboardTarget) for one of the given keyboard shortcuts.

```
public bool OneIsPressed(IEnumerable<KeyboardShortcut> shortcuts)
```

Parameters

**shortcuts** [IEnumerable](#)<KeyboardShortcut>

Returns

[bool](#)

## SubscribeToOnInput(UnityAction)

```
public void SubscribeToOnInput(UnityAction call)
```

Parameters

**call** UnityAction

## SubscribeToOnKeyDown(UnityAction<CustomKeyCode>)

```
public void SubscribeToOnKeyDown(UnityAction<CustomKeyCode> call)
```

Parameters

**call** UnityAction<CustomKeyCode>

## SubscribeToOnKeyUp(UnityAction<CustomKeyCode>)

```
public void SubscribeToOnKeyUp(UnityAction<CustomKeyCode> call)
```

Parameters

`call` UnityAction<[CustomKeyCode](#)>

## SubscribeToUntarget(UnityAction)

```
public void SubscribeToUntarget(UnityAction call)
```

Parameters

`call` UnityAction

## Untarget()

```
public void Untarget()
```

# Class Mouse

Namespace: [PAC.Input](#)

```
public class Mouse : MonoBehaviour
```

## Inheritance

[object](#) ← Mouse

## Fields

### canInteract

```
public bool canInteract
```

#### Field Value

[bool](#)

### lockAllUIInteractions

```
public bool lockAllUIInteractions
```

#### Field Value

[bool](#)

## Properties

### click

```
public bool click { get; }
```

Property Value

[bool ↗](#)

## cursorState

```
public CursorState cursorState { get; }
```

Property Value

[CursorState](#)

## hasHoverTrigger

```
public bool hasHoverTrigger { get; }
```

Property Value

[bool ↗](#)

## held

```
public bool held { get; }
```

Property Value

[bool ↗](#)

## hoverTarget

```
public InputTarget hoverTarget { get; }
```

Property Value

## InputTarget

### leftClick

```
public bool leftClick { get; }
```

Property Value

[bool](#) ↗

### leftHold

```
public bool leftHold { get; }
```

Property Value

[bool](#) ↗

### leftUnclick

```
public bool leftUnclick { get; }
```

Property Value

[bool](#) ↗

### middleClick

```
public bool middleClick { get; }
```

Property Value

[bool](#) ↗

## middleHold

```
public bool middleHold { get; }
```

Property Value

[bool](#) ↗

## middleUnclick

```
public bool middleUnclick { get; }
```

Property Value

[bool](#) ↗

## nothingClick

```
public bool nothingClick { get; }
```

Property Value

[bool](#) ↗

## nothingHeld

```
public bool nothingHeld { get; }
```

Property Value

[bool](#) ↗

## numButtonsHeld

```
public int numButtonsHeld { get; }
```

Property Value

[int](#)

## rightClick

```
public bool rightClick { get; }
```

Property Value

[bool](#)

## rightHold

```
public bool rightHold { get; }
```

Property Value

[bool](#)

## rightUnclick

```
public bool rightUnclick { get; }
```

Property Value

[bool](#)

## scrollCursorDisplayTime

```
public float scrollCursorDisplayTime { get; }
```

Property Value

[float](#) ↗

## scrollDelta

```
public float scrollDelta { get; }
```

Property Value

[float](#) ↗

## unclick

```
public bool unclick { get; }
```

Property Value

[bool](#) ↗

## worldPos

```
public Vector2 worldPos { get; }
```

Property Value

Vector2

## Methods

### IsClicked(MouseButton)

```
public bool IsClicked(MouseButton mouseButton)
```

Parameters

mouseButton [MouseButton](#)

Returns

[bool](#)

## IsHeld(MouseButton)

```
public bool IsHeld(MouseButton mouseButton)
```

Parameters

mouseButton [MouseButton](#)

Returns

[bool](#)

## IsUnclicked(MouseButton)

```
public bool IsUnclicked(MouseButton mouseButton)
```

Parameters

mouseButton [MouseButton](#)

Returns

[bool](#)

## SetCursorSprite(CursorState)

```
public void SetCursorSprite(CursorState cursorState)
```

Parameters

cursorState [CursorPosition](#)

## SetCursorState(CursorState)

```
public void SetCursorState(CursorState cursorState)
```

Parameters

cursorState [CursorPosition](#)

## SubscribeToClick(UnityAction)

```
public void SubscribeToClick(UnityAction call)
```

Parameters

call UnityAction

## SubscribeToLeftClick(UnityAction)

```
public void SubscribeToLeftClick(UnityAction call)
```

Parameters

call UnityAction

## SubscribeToLeftUnclick(UnityAction)

```
public void SubscribeToLeftUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToMiddleClick(UnityAction)

```
public void SubscribeToMiddleClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToMiddleUnclick(UnityAction)

```
public void SubscribeToMiddleUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToRightClick(UnityAction)

```
public void SubscribeToRightClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToRightUnclick(UnityAction)

```
public void SubscribeToRightUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToScroll(UnityAction)

```
public void SubscribeToScroll(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToUnclick(UnityAction)

```
public void SubscribeToUnclick(UnityAction call)
```

Parameters

`call` UnityAction

# Enum MouseButton

Namespace: [PAC.Input](#)

```
public enum MouseButton
```

## Fields

Left = 0

Middle = 2

Right = 1

# Class MouseTarget

Namespace: [PAC.Input](#)

```
public class MouseTarget
```

## Inheritance

[object](#) ← MouseTarget

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### allowLeftClick

```
public bool allowLeftClick
```

#### Field Value

[bool](#)

### allowMiddleClick

```
public bool allowMiddleClick
```

#### Field Value

[bool](#)

### allowRightClick

```
public bool allowRightClick
```

Field Value

[bool](#)

## allowScroll

```
public bool allowScroll
```

Field Value

[bool](#)

## buttonTargetedWith

```
public MouseButton buttonTargetedWith
```

Field Value

[MouseButton](#)

## cursorHover

```
public CursorState cursorHover
```

Field Value

[CursorState](#)

## cursorPress

```
public CursorState cursorPress
```

Field Value

[CursorState](#)

## cursorScroll

```
public CursorState cursorScroll
```

Field Value

[CursorState](#)

## cursorSelected

```
public CursorState cursorSelected
```

Field Value

[CursorState](#)

## deselectMode

```
public MouseTargetDeselectMode deselectMode
```

Field Value

[MouseTargetDeselectMode](#)

## isHoverTrigger

```
public bool isHoverTrigger
```

Field Value

[bool](#) ↗

## Properties

selected

```
public bool selected { get; }
```

Property Value

[bool](#) ↗

state

```
public MouseTargetState state { get; }
```

Property Value

[MouseTargetState](#)

timeHovered

```
public float timeHovered { get; }
```

Property Value

[float](#) ↗

## Methods

## Deselect()

```
public void Deselect()
```

## Hover()

```
public void Hover()
```

## Idle()

```
public void Idle()
```

## Press()

```
public void Press()
```

## Scroll()

```
public void Scroll()
```

## Select()

```
public void Select()
```

## SubscribeToClick(UnityAction)

```
public void SubscribeToClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToDeselect(UnityAction)

```
public void SubscribeToDeselect(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToHover(UnityAction)

```
public void SubscribeToHover(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToIdle(UnityAction)

```
public void SubscribeToIdle(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToLeftClick(UnityAction)

```
public void SubscribeToLeftClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToLeftUnclick(UnityAction)

```
public void SubscribeToLeftUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToMiddleClick(UnityAction)

```
public void SubscribeToMiddleClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToMiddleUnclick(UnityAction)

```
public void SubscribeToMiddleUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToPress(UnityAction)

```
public void SubscribeToPress(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToRightClick(UnityAction)

```
public void SubscribeToRightClick(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToRightUnclick(UnityAction)

```
public void SubscribeToRightUnclick(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToScroll(UnityAction)

```
public void SubscribeToScroll(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToSelect(UnityAction)

```
public void SubscribeToSelect(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToStateChange(UnityAction)

```
public void SubscribeToStateChange(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToUnclick(UnityAction)

```
public void SubscribeToUnclick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToUntarget(UnityAction)

```
public void SubscribeToUntarget(UnityAction call)
```

Parameters

`call` UnityAction

## Untarget()

```
public void Untarget()
```

# Enum MouseTargetDeselectMode

Namespace: [PAC.Input](#)

```
public enum MouseTargetDeselectMode
```

## Fields

ClickAgain = 1

Manual = 100

Unclick = 0

# Enum MouseTargetState

Namespace: [PAC.Input](#)

```
public enum MouseTargetState
```

## Fields

Hover = 1

Idle = 0

Pressed = 2

# Class Tooltip

Namespace: [PAC.Input](#)

```
public class Tooltip : MonoBehaviour
```

## Inheritance

[object](#) ← Tooltip

## Fields

### hoverTimeUntilTooltip

```
public float hoverTimeUntilTooltip
```

#### Field Value

[float](#)

### padding

```
public Vector2 padding
```

#### Field Value

Vector2

## Properties

### text

```
public string text { get; set; }
```

Property Value

[string](#)

## tooltipVisible

```
public bool tooltipVisible { get; }
```

Property Value

[bool](#)

## Methods

### HideTooltip()

```
public void HideTooltip()
```

### ShowTooltip(Vector2)

```
public void ShowTooltip(Vector2 worldCoords)
```

Parameters

`worldCoords` Vector2

# Namespace PAC.Json

## Classes

### [JsonConversion](#)

#### [JsonConversion.JsonConverterSet](#)

Represents a set of JsonConverter objects, making sure there's at most one custom converter for each type. For example, a class MyClass cannot have two JSON converters defined for it in the list.

NOTE: Accessing converters is O(1).

#### [JsonConversion.JsonConverter<T, JsonDataType>](#)

An interface that custom JSON converters must implement.

NOTE: Has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

#### [JsonData.Bool](#)

Represents a bool in JSON data.

#### [JsonData.Float](#)

Represents a float in JSON data.

#### [JsonData.Int](#)

Represents an int in JSON data.

#### [JsonData.List](#)

Represents a non-null list/array in JSON data.

#### [JsonData.Null](#)

Represents a null value in JSON data.

#### [JsonData.Object](#)

Represents a non-null object in JSON data.

#### [JsonData.String](#)

Represents a non-null string in JSON data.

## Interfaces

### [JsonData](#)

Represents a piece of JSON data.



# Class JsonConversion

Namespace: [PAC.Json](#)

```
public static class JsonConversion
```

## Inheritance

[object](#) ← JsonConversion

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson<T>(JsonData, JsonConverterSet, bool)

Attempts to convert the JSON data into a C# object of the given type.

```
public static T FromJson<T>(JsonData jsonData, JsonConversion.JsonConverterSet  
customConverters, bool allowUndefinedConversions = false)
```

#### Parameters

##### `jsonData` [JsonData](#)

The JSON data to convert.

##### `customConverters` [JsonConversion.JsonConverterSet](#)

A collection of JsonConverter objects that defined custom conversions for certain data types.

##### `allowUndefinedConversions` [bool](#)

If false, an exception will be thrown if the code encounters a type that can not be converted using conversions for primitive JSON types and/or custom converters.

Returns

T

Type Parameters

T

The type to convert the JSON into.

**FromJson<T>(JsonData, JsonConverterSet, bool, HashSet<JsonData>)**

Attempts to convert the JSON data into a C# object of the given type.

```
public static T FromJson<T>(JsonData jsonData, JsonConversion.JsonConverterSet  
customConverters, bool allowUndefinedConversions, HashSet<JsonData>  
dataAlreadyTryingToConvert)
```

Parameters

**jsonData** [JsonData](#)

The JSON data to convert.

**customConverters** [JsonConversion.JsonConverterSet](#)

A collection of JsonConverter objects that defined custom conversions for certain data types.

**allowUndefinedConversions** [bool](#)

If false, an exception will be thrown if the code encounters a type that can not be converted using conversions for primitive JSON types and/or custom converters.

**dataAlreadyTryingToConvert** [HashSet](#)<JsonData>

The JSON data objects trying to be converted in the current function call stack. Used to prevent infinite loops when converting objects with circular references.

Returns

T

## Type Parameters

T

The type to convert the JSON into.

## FromJson<T>(JsonData, bool)

Attempts to convert the JSON data into a C# object of the given type.

```
public static T FromJson<T>(JsonData jsonData, bool allowUndefinedConversions  
= false)
```

## Parameters

jsonData [JsonData](#)

The JSON data to convert.

allowUndefinedConversions [bool](#)

If false, an exception will be thrown if the code encounters a type that can not be converted using conversions for primitive JSON types and/or custom converters.

## Returns

T

## Type Parameters

T

The type to convert the JSON into.

## ToJson(object, JsonConverterSet, bool)

Attempts to convert the C# object into JSON data.

NOTE: When converting an enum value which has more than one name, one of those names will be chosen, but not necessarily the one originally used to assign that value. E.g. for an enum with values Value1 = 0, Value2 = 0, Value3 = 1, converting Value1 into JSON may end up as "Value2".

```
public static JsonData ToJson(object obj, JsonConversion.JsonConverterSet  
customConverters, bool allowUndefinedConversions = false)
```

## Parameters

### obj object

The object to convert into JSON.

### customConverters JsonConversion.JsonConverterSet

A collection of JsonConverter objects that defined custom conversions for certain data types.

### allowUndefinedConversions bool

If false, an exception will be thrown if the code encounters a type that can not be converted using conversions for primitive JSON types and/or custom converters.

## Returns

### JsonData

## ToJson(object, bool)

Attempts to convert the C# object into JSON data.

NOTE: When converting an enum value which has more than one name, one of those names will be chosen, but not necessarily the one originally used to assign that value. E.g. for an enum with values Value1 = 0, Value2 = 0, Value3 = 1, converting Value1 into JSON may end up as "Value2".

```
public static JsonData ToJson(object obj, bool allowUndefinedConversions = false)
```

## Parameters

`obj` [object](#)

The object to convert into JSON.

`allowUndefinedConversions` [bool](#)

If false, an exception will be thrown if the code encounters a type that can not be converted using conversions for primitive JSON types and/or custom converters.

Returns

[JsonData](#)

# Class JsonConversion.JsonConverterSet

Namespace: [PAC.Json](#)

Represents a set of JsonConverter objects, making sure there's at most one custom converter for each type. For example, a class MyClass cannot have two JSON converters defined for it in the list.

NOTE: Accessing converters is O(1).

```
public class JsonConversion.JsonConverterSet : IEnumerable
```

## Inheritance

[object](#) ← JsonConversion.JsonConverterSet

## Implements

[IEnumerable](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### JsonConverterSet()

Creates an empty JsonConverterSet.

```
public JsonConverterSet()
```

### JsonConverterSet(IEnumerable)

```
public JsonConverterSet(IEnumerable converters)
```

## Parameters

converters [IEnumerable](#)

## JsonConverterSet(params object[])

Creates a JsonConverterSet with the given converters. Throws an error if an object is not a type that implements JsonConverter, or if the set already contains a converter for the type a converter converts.

```
public JsonConverterSet(params object[] converters)
```

### Parameters

converters [object](#)[]

## Methods

### Add(object)

Adds the converter to the set. Throws an error if it is not a type that implements JsonConverter, or if the set already contains a converter for the type the converter converts.

```
public void Add(object converter)
```

### Parameters

converter [object](#)

### ContainsConverterFor(Type)

Returns whether the set contains a converter that converts the given type.

```
public bool ContainsConverterFor(Type converterType)
```

### Parameters

`converterType` [Type](#)

Returns

[bool](#)

true if the set has a converter for the given type.

## GetConverterFor(Type)

If the set contains a converter that converts the given type, this will return it.

```
public object GetConverterFor(Type converterType)
```

Parameters

`converterType` [Type](#)

Returns

[object](#)

The converter for the given type, if there is one, otherwise null.

## GetEnumerator()

Returns an enumerator that iterates through a collection.

```
public IEnumarator GetEnumerator()
```

Returns

[IEnumarator](#)

An [IEnumarator](#) object that can be used to iterate through the collection.

## RemoveConverterFor(Type)

If the set contains a converter that converts the given type, this will remove it.

```
public bool RemoveConverterFor(Type converterType)
```

Parameters

converterType [Type](#)

Returns

[bool](#)

true if a converter was removed.

# Class JsonConversion.JsonConverter<T, JsonDataType>

Namespace: [PAC.Json](#)

An interface that custom JSON converters must implement.

NOTE: Has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonData jsonType jsonData).

```
public abstract class JsonConversion.JsonConverter<T, JsonDataType> where  
JsonDataType : JsonData
```

## Type Parameters

T

The type the converter will convert to/from JSON.

JsonDataType

The type of JSON data the converter will convert to/from.

## Inheritance

[object](#) ↗ ← JsonConversion.JsonConverter<T, JsonDataType>

## Derived

[AnimationKeyFrame.JsonConverter](#), [BlendMode.JsonConverter](#),  
[SemanticVersion.JsonConverter](#), [JsonConverters.ColorJsonConverter](#),  
[JsonConverters.Texture2DJsonConverter](#), [JsonConverters.Vector2JsonConverter](#),  
[JsonConverters.Vector3JsonConverter](#), [File.JsonConverter](#), [CustomKeyCode.JsonConverter](#),  
[KeyboardShortcut.JsonConverter](#), [Layer.JsonConverter](#), [NormalLayer.JsonConverter](#),  
[TileLayer.JsonConverter](#)

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ ,  
[object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗ ,  
[object.ToString\(\)](#) ↗

# Methods

## FromJson(JsonData)

Attempts to convert the JSON data into a C# object of the given type. Ensures the JSON data is the correct type before calling the FromJson() overload for the specific type of JSON data.

```
public T FromJson(JsonData jsonData)
```

Parameters

jsonData [JsonData](#)

Returns

T

## FromJson(JsonDataType)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public abstract T FromJson(JsonDataType jsonData)
```

Parameters

jsonData [JsonDataType](#)

Returns

T

## ToJson(T)

Attempts to convert the C# object into JSON data.

```
public abstract JsonDataType ToJson(T obj)
```

Parameters

**obj** T

Returns

JsonDataType

# Interface JsonData

Namespace: [PAC.Json](#)

Represents a piece of JSON data.

```
public interface JsonData
```

## Methods

### HaveSameData(JsonData, JsonData, float)

Returns whether the two pieces of JSON data are equal by value rather than whether they point to the same JsonData object.

```
public static bool HaveSameData(JsonData jsonData1, JsonData jsonData2, float  
floatTolerance = 0)
```

#### Parameters

`jsonData1` [JsonData](#)

`jsonData2` [JsonData](#)

`floatTolerance` [float](#)

A tolerance (inclusive) to allow close floats to be considered equal.

#### Returns

[bool](#)

### Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as JsonData. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData Parse(TextReader reader, bool mustReadAll)
```

## Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

## Returns

[JsonData](#)

## Parse(string)

Attempts to parse the string as JsonData.

```
public static JsonData Parse(string str)
```

## Parameters

str [string](#)

## Returns

[JsonData](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as JsonData. If successful, the index will be moved to the last character of the data.

```
public static JsonData Parse(string str, ref int index)
```

## Parameters

`str` [string](#)

`index` [int](#)

Returns

[JsonData](#)

## ParseNumber(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.Int or JsonData.Float. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData ParseNumber(TextReader reader, bool mustReadAll)
```

Parameters

`reader` [TextReader](#)

`mustReadAll` [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

Returns

[JsonData](#)

## ParseNumber(string)

Attempts to parse the string into a JsonData.Int or JsonData.Float.

```
public static JsonData ParseNumber(string str)
```

Parameters

`str` [string](#)

Returns

[JsonData](#)

## ParseNumber(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a JsonData.Int or JsonData.Float. If successful, the index will be moved to the last digit of the number.

```
public static JsonData ParseNumber(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
string ToJsonObject(bool pretty)
```

Parameters

pretty [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

# Class JsonData.Bool

Namespace: [PAC.Json](#)

Represents a bool in JSON data.

```
public class JsonData.Bool : JsonData
```

## Inheritance

[object](#) ← JsonData.Bool

## Implements

[JsonData](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Bool(bool)

```
public Bool(bool value)
```

## Parameters

value [bool](#)

## Properties

### value

```
public bool value { get; set; }
```

## Property Value

## Methods

### Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.Bool. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.Bool Parse(TextReader reader, bool mustReadAll)
```

#### Parameters

reader [TextReader ↗](#)

mustReadAll [bool ↗](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

#### Returns

[JsonData.Bool](#)

### Parse(string)

Attempts to parse the string into a JsonData.Bool.

```
public static JsonData.Bool Parse(string str)
```

#### Parameters

str [string ↗](#)

#### Returns

[JsonData.Bool](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as JsonData.Bool. If successful, the index will be moved to the last character of the null.

```
public static JsonData.Bool Parse(string str, ref int index)
```

Parameters

`str` [string](#)

`index` [int](#)

Returns

[JsonData.Bool](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

`pretty` [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

## Operators

### implicit operator bool(Bool)

```
public static implicit operator bool(JsonData.Bool jsonBool)
```

Parameters

jsonBool [JsonData.Bool](#)

Returns

bool ↗

## implicit operator Bool(bool)

```
public static implicit operator JsonData.Bool(bool value)
```

Parameters

value bool ↗

Returns

[JsonData.Bool](#)

# Class jsonData.Float

Namespace: [PAC.Json](#)

Represents a float in JSON data.

```
public class jsonData.Float : jsonData
```

## Inheritance

[object](#) ← jsonData.Float

## Implements

[jsonData](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Float(float)

```
public Float(float value)
```

## Parameters

value [float](#)

## Properties

### value

```
public float value { get; set; }
```

## Property Value

## Methods

### Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.Float. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.Float Parse(TextReader reader, bool mustReadAll)
```

#### Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

#### Returns

[JsonData.Float](#)

### Parse(string)

Attempts to parse the string into a JsonData.Float.

```
public static JsonData.Float Parse(string str)
```

#### Parameters

str [string](#)

#### Returns

[JsonData.Float](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a JsonData.Float. If successful, the index will be moved to the last digit of the float.

```
public static JsonData.Float Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.Float](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

pretty [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

## Operators

explicit operator int(Float)

```
public static explicit operator int(JsonData.Float jsonfloat)
```

Parameters

jsonfloat [JsonData.Float](#)

Returns

[int](#)

## implicit operator float(Float)

```
public static implicit operator float(JsonData.Float jsonfloat)
```

Parameters

jsonfloat [JsonData.Float](#)

Returns

[float](#)

## implicit operator Float(int)

```
public static implicit operator JsonData.Float(int value)
```

Parameters

value [int](#)

Returns

[JsonData.Float](#)

## implicit operator Float(float)

```
public static implicit operator JsonData.Float(float value)
```

Parameters

value [float](#)

Returns

[JsonData.Float](#)

# Class jsonData.Int

Namespace: [PAC.Json](#)

Represents an int in JSON data.

```
public class jsonData.Int : jsonData
```

## Inheritance

[object](#) ↗ ← jsonData.Int

## Implements

[jsonData](#)

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ ,  
[object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗ ,  
[object.ToString\(\)](#) ↗

## Constructors

### Int(int)

```
public Int(int value)
```

## Parameters

value [int](#) ↗

## Properties

### value

```
public int value { get; set; }
```

## Property Value

## Methods

### Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.Int. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.Int Parse(TextReader reader, bool mustReadAll)
```

#### Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

#### Returns

[JsonData.Int](#)

### Parse(string)

Attempts to parse the string into a JsonData.Int.

```
public static JsonData.Int Parse(string str)
```

#### Parameters

str [string](#)

#### Returns

[JsonData.Int](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a JsonData.Int. If successful, the index will be moved to the last digit of the int.

```
public static JsonData.Int Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.Int](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

pretty [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

## Operators

explicit operator Int(float)

```
public static explicit operator jsonData.Int(float value)
```

Parameters

value [float](#)

Returns

[jsonData.Int](#)

## implicit operator int(Int)

```
public static implicit operator int(jsonData.Int jsonInt)
```

Parameters

jsonInt [jsonData.Int](#)

Returns

[int](#)

## implicit operator float(Int)

```
public static implicit operator float(jsonData.Int jsonInt)
```

Parameters

jsonInt [jsonData.Int](#)

Returns

[float](#)

## implicit operator Int(int)

```
public static implicit operator JsonData.Int(int value)
```

Parameters

value [int](#)

Returns

[JsonData.Int](#)

# Class jsonData.List

Namespace: [PAC.Json](#)

Represents a non-null list/array in JSON data.

```
public class jsonData.List : List<jsonData>, IList<jsonData>, ICollection<jsonData>,
IReadOnlyList<jsonData>, IReadOnlyCollection<jsonData>, IEnumerable<jsonData>,
IList, ICollection, IEnumerable, jsonData
```

## Inheritance

[object](#) ← [List](#)<[jsonData](#)> ← jsonData.List

## Implements

[IList](#)<[jsonData](#)>, [ICollection](#)<[jsonData](#)>, [IReadOnlyList](#)<[jsonData](#)>,
[IReadOnlyCollection](#)<[jsonData](#)>, [IEnumerable](#)<[jsonData](#)>, [IList](#), [ICollection](#),
[IEnumerable](#), [jsonData](#)

## Inherited Members

[List<jsonData>.Add\(jsonData\)](#) , [List<jsonData>.AddRange\(IEnumerable<jsonData>\)](#) ,
[List<jsonData>.AsReadOnly\(\)](#) ,
[List<jsonData>.BinarySearch\(int, int, jsonData, IComparer<jsonData>\)](#) ,
[List<jsonData>.BinarySearch\(JsonData\)](#) ,
[List<jsonData>.BinarySearch\(JsonData, IComparer<jsonData>\)](#) ,
[List<jsonData>.Clear\(\)](#) , [List<jsonData>.Contains\(JsonData\)](#) ,
[List<jsonData>.ConvertAll<TOutput>\(Converter<jsonData, TOutput>\)](#) ,
[List<jsonData>.CopyTo\(int, jsonData\[\], int, int\)](#) , [List<jsonData>.CopyTo\(JsonData\[\]\)](#) ,
[List<jsonData>.CopyTo\(JsonData\[\], int\)](#) , [List<jsonData>.EnsureCapacity\(int\)](#) ,
[List<jsonData>.Exists\(Predicate<jsonData>\)](#) ,
[List<jsonData>.Find\(Predicate<jsonData>\)](#) ,
[List<jsonData>.FindAll\(Predicate<jsonData>\)](#) ,
[List<jsonData>.FindIndex\(int, int, Predicate<jsonData>\)](#) ,
[List<jsonData>.FindIndex\(int, Predicate<jsonData>\)](#) ,
[List<jsonData>.FindIndex\(Predicate<jsonData>\)](#) ,
[List<jsonData>.FindLast\(Predicate<jsonData>\)](#) ,
[List<jsonData>.FindLastIndex\(int, int, Predicate<jsonData>\)](#) ,
[List<jsonData>.FindLastIndex\(int, Predicate<jsonData>\)](#) ,
[List<jsonData>.FindLastIndex\(Predicate<jsonData>\)](#) ,
[List<jsonData>.ForEach\(Action<jsonData>\)](#) , [List<jsonData>.GetEnumerator\(\)](#) ,
[List<jsonData>.GetRange\(int, int\)](#) , [List<jsonData>.IndexOf\(JsonData\)](#) ,

[List<JsonData>.IndexOf\(JsonData, int\)](#) , [List<JsonData>.IndexOf\(JsonData, int, int\)](#) ,  
[List<JsonData>.Insert\(int, JsonData\)](#) ,  
[List<JsonData>.InsertRange\(int, IEnumerable<JsonData>\)](#) ,  
[List<JsonData>.LastIndexOf\(JsonData\)](#) , [List<JsonData>.LastIndexOf\(JsonData, int\)](#) ,  
[List<JsonData>.LastIndexOf\(JsonData, int, int\)](#) , [List<JsonData>.Remove\(JsonData\)](#) ,  
[List<JsonData>.RemoveAll\(Predicate<JsonData>\)](#) , [List<JsonData>.RemoveAt\(int\)](#) ,  
[List<JsonData>.RemoveRange\(int, int\)](#) , [List<JsonData>.Reverse\(\)](#) ,  
[List<JsonData>.Reverse\(int, int\)](#) , [List<JsonData>.Slice\(int, int\)](#) ,  
[List<JsonData>.Sort\(\)](#) , [List<JsonData>.Sort\(IComparer<JsonData>\)](#) ,  
[List<JsonData>.Sort\(Comparison<JsonData>\)](#) ,  
[List<JsonData>.Sort\(int, int, IComparer<JsonData>\)](#) , [List<JsonData>.ToArray\(\)](#) ,  
[List<JsonData>.TrimExcess\(\)](#) , [List<JsonData>.TrueForAll\(Predicate<JsonData>\)](#) ,  
[List<JsonData>.Capacity](#) , [List<JsonData>.Count](#) , [List<JsonData>.this\[int\]](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### List(params Bool[])

```
public List(params JsonData.Bool[] jsonData)
```

#### Parameters

jsonData [Bool\[\]](#)

### List(params Float[])

```
public List(params JsonData.Float[] jsonData)
```

#### Parameters

jsonData [Float\[\]](#)

## List(params Int[])

```
public List(params jsonData.JsonData.Int[] jsonData)
```

### Parameters

jsonData [Int\[\]](#)

## List(params List[])

```
public List(params jsonData.JsonData.List[] jsonData)
```

### Parameters

jsonData [List\[\]](#)

## List(params Null[])

```
public List(params jsonData.JsonData.Null[] jsonData)
```

### Parameters

jsonData [Null\[\]](#)

## List(params Object[])

```
public List(params jsonData.JsonData.Object[] jsonData)
```

### Parameters

jsonData [Object\[\]](#)

## List(params String[])

```
public List(params JsonData.String[] jsonData)
```

Parameters

jsonData [String\[\]](#)

## List(params JsonData[])

```
public List(params JsonData[] jsonData)
```

Parameters

jsonData [JsonData\[\]](#)

## List(bool)

```
public List(bool separateLinesInPrettyString = true)
```

Parameters

separateLinesInPrettyString [bool](#) ↴

## List(params bool[])

```
public List(params bool[] jsonData)
```

Parameters

jsonData [bool](#) ↴[]

## List(IEnumerable<Bool>)

```
public List(IEnumerable<JsonData.Bool> collection)
```

Parameters

collection [IEnumerable](#)<[JsonData.Bool](#)>

## List(IEnumerable<Float>)

```
public List(IEnumerable<JsonData.Float> collection)
```

Parameters

collection [IEnumerable](#)<[JsonData.Float](#)>

## List(IEnumerable<Int>)

```
public List(IEnumerable<JsonData.Int> collection)
```

Parameters

collection [IEnumerable](#)<[JsonData.Int](#)>

## List(IEnumerable<List>)

```
public List(IEnumerable<JsonData.List> collection)
```

Parameters

collection [IEnumerable](#)<[JsonData.List](#)>

## List(IEnumerable<Null>)

```
public List(IEnumerable<JsonData.Null> collection)
```

Parameters

collection [IEnumerable](#)<JsonData.Null>

## List(IEnumerable<Object>)

```
public List(IEnumerable<JsonData.Object> collection)
```

Parameters

collection [IEnumerable](#)<JsonData.Object>

## List(IEnumerable<String>)

```
public List(IEnumerable<JsonData.String> collection)
```

Parameters

collection [IEnumerable](#)<JsonData.String>

## List(IEnumerable<JsonData>)

```
public List(IEnumerable<JsonData> collection)
```

Parameters

collection [IEnumerable](#)<JsonData>

## List(IEnumerable<bool>)

```
public List(IEnumerable<bool> collection)
```

Parameters

collection [IEnumerable<bool>](#)

## List(IEnumerable<int>)

```
public List(IEnumerable<int> collection)
```

Parameters

collection [IEnumerable<int>](#)

## List(IEnumerable<float>)

```
public List(IEnumerable<float> collection)
```

Parameters

collection [IEnumerable<float>](#)

## List(IEnumerable<string>)

```
public List(IEnumerable<string> collection)
```

Parameters

collection [IEnumerable<string>](#)

## List(int)

```
public List(int capacity)
```

Parameters

capacity [int](#)

## List(params int[])

```
public List(params int[] jsonData)
```

Parameters

jsonData [int](#)[]

## List(params float[])

```
public List(params float[] jsonData)
```

Parameters

jsonData [float](#)[]

## List(params string[])

```
public List(params string[] jsonData)
```

Parameters

jsonData [string](#)[]

## Properties

separateLinesInPrettyString

```
public bool separateLinesInPrettyString { get; set; }
```

Property Value

[bool](#)

## Methods

### Add(Bool)

```
public void Add(JsonData.Bool jsonData)
```

Parameters

jsonData [JsonData.Bool](#)

### Add(Float)

```
public void Add(JsonData.Float jsonData)
```

Parameters

jsonData [JsonData.Float](#)

### Add(Int)

```
public void Add(JsonData.Int jsonData)
```

Parameters

jsonData [JsonData.Int](#)

### Add(List)

```
public void Add(JsonData.List jsonData)
```

Parameters

jsonData [JsonData.List](#)

## Add(Null)

```
public void Add(JsonData.Null jsonData)
```

Parameters

jsonData [JsonData.Null](#)

## Add(Object)

```
public void Add(JsonData.Object jsonData)
```

Parameters

jsonData [JsonData.Object](#)

## Add(String)

```
public void Add(JsonData.String jsonData)
```

Parameters

jsonData [JsonData.String](#)

## Add(bool)

```
public void Add(bool jsonData)
```

Parameters

jsonData [bool](#)

## Add(int)

```
public void Add(int jsonData)
```

Parameters

jsonData [int](#)

## Add(float)

```
public void Add(float jsonData)
```

Parameters

jsonData [float](#)

## Add(string)

```
public void Add(string jsonData)
```

Parameters

jsonData [string](#)

## Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.List. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.List Parse(TextReader reader, bool mustReadAll)
```

## Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

## Returns

[JsonData.List](#)

## Parse(string)

Attempts to parse the string into a JsonData.List.

```
public static JsonData.List Parse(string str)
```

## Parameters

str [string](#)

## Returns

[JsonData.List](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a JsonData.List. If successful, the index will be moved to the closing square bracket.

```
public static JsonData.List Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.List](#)

## ParseMaybeNull(string)

Attempts to parse the string into a JSON list, with the potential to parse it into `JsonData.Null`.

```
public static JsonData ParseMaybeNull(string str)
```

Parameters

str [string](#)

Returns

[JsonData](#)

## ParseMaybeNull(string, ref int)

Attempts to parse the string into a JSON list, with the potential to parse it into `JsonData.Null`. If successful, moves the index to the last parsed character.

```
public static JsonData ParseMaybeNull(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

[pretty](#) [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

# Class jsonData.Null

Namespace: [PAC.Json](#)

Represents a null value in JSON data.

```
public class jsonData.Null : jsonData
```

## Inheritance

[object](#) ← jsonData.Null

## Implements

[jsonData](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Null()

```
public Null()
```

## Methods

### Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as jsonData.Null. If successful, the last read character will be the last character of the parsed JSON.

```
public static jsonData.Null Parse(TextReader reader, bool mustReadAll)
```

## Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

Returns

[JsonData.Null](#)

## Parse(string)

Attempts to parse the string as JsonData.Null.

```
public static JsonData.Null Parse(string str)
```

Parameters

str [string](#)

Returns

[JsonData.Null](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as JsonData.Null. If successful, the index will be moved to the last character of the null.

```
public static JsonData.Null Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.Null](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

**pretty** [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

## Operators

### implicit operator List(Null)

```
public static implicit operator JsonData.List(JsonData.Null jsonNull)
```

Parameters

**jsonNull** [JsonData.Null](#)

Returns

[JsonData.List](#)

### implicit operator Object(Null)

```
public static implicit operator jsonData.Object(jsonData.Null jsonNull)
```

Parameters

jsonNull [jsonData.Null](#)

Returns

[jsonData.Object](#)

## implicit operator string(Null)

```
public static implicit operator string(jsonData.Null jsonNull)
```

Parameters

jsonNull [jsonData.Null](#)

Returns

[string](#) ↗

# Class jsonData.Object

Namespace: [PAC.Json](#)

Represents a non-null object in JSON data.

```
public class jsonData.Object : Dictionary<string, jsonData>, IDictionary<string, jsonData>, ICollection<KeyValuePair<string, jsonData>>, IReadOnlyDictionary<string, jsonData>, IReadOnlyCollection<KeyValuePair<string, jsonData>>, IEnumerable<KeyValuePair<string, jsonData>>, IDictionary, ICollection, IEnumerable, IDeserializationCallback, ISerializable, jsonData
```

## Inheritance

[object](#) ← [Dictionary](#)<[string](#), [jsonData](#)> ← [jsonData.Object](#)

## Implements

[IDictionary](#)<[string](#), [jsonData](#)>, [ICollection](#)<[KeyValuePair](#)<[string](#), [jsonData](#)>>,  
[IReadOnlyDictionary](#)<[string](#), [jsonData](#)>,  
[IReadOnlyCollection](#)<[KeyValuePair](#)<[string](#), [jsonData](#)>>,  
[IEnumerable](#)<[KeyValuePair](#)<[string](#), [jsonData](#)>>, [IDictionary](#), [ICollection](#),  
[IEnumerable](#), [IDeserializationCallback](#), [ISerializable](#), [jsonData](#)

## Inherited Members

[Dictionary](#)<[string](#), [jsonData](#)>.Add([string](#), [jsonData](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.Clear() ,  
[Dictionary](#)<[string](#), [jsonData](#)>.ContainsKey([string](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.ContainsValue([jsonData](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.EnsureCapacity([int](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.GetEnumerator() ,  
[Dictionary](#)<[string](#), [jsonData](#)>.OnDeserialization([object](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.Remove([string](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.Remove([string](#), [out jsonData](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.TrimExcess() ,  
[Dictionary](#)<[string](#), [jsonData](#)>.TrimExcess([int](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.TryAdd([string](#), [jsonData](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.TryGetValue([string](#), [out jsonData](#)) ,  
[Dictionary](#)<[string](#), [jsonData](#)>.Comparer , [Dictionary](#)<[string](#), [jsonData](#)>.Count ,  
[Dictionary](#)<[string](#), [jsonData](#)>.this[[string](#)] , [Dictionary](#)<[string](#), [jsonData](#)>.Keys ,  
[Dictionary](#)<[string](#), [jsonData](#)>.Values , [object.Equals\(object\)](#) ,

[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,  
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Constructors

### Object()

```
public Object()
```

### Object(IDictionary<string, JsonData>)

```
public Object(IDictionary<string, JsonData> collection)
```

#### Parameters

collection [IDictionary](#)<[string](#), [JsonData](#)>

### Object(IEnumerable<KeyValuePair<string, JsonData>>)

```
public Object(IEnumerable<KeyValuePair<string, JsonData>> collection)
```

#### Parameters

collection [IEnumerable](#)<[KeyValuePair](#)<[string](#), [JsonData](#)>>

### Object(int)

```
public Object(int capacity)
```

#### Parameters

capacity [int](#)

# Methods

## Add(string, Bool)

```
public void Add(string key, jsonData.Bool value)
```

### Parameters

key [string](#)

value [jsonData.Bool](#)

## Add(string, Float)

```
public void Add(string key, jsonData.Float value)
```

### Parameters

key [string](#)

value [jsonData.Float](#)

## Add(string, Int)

```
public void Add(string key, jsonData.Int value)
```

### Parameters

key [string](#)

value [jsonData.Int](#)

## Add(string, List)

```
public void Add(string key, jsonData.List value)
```

Parameters

key [string](#)

value [JsonData.List](#)

## Add(string, Null)

```
public void Add(string key, JsonData.Null value)
```

Parameters

key [string](#)

value [JsonData.Null](#)

## Add(string, Object)

```
public void Add(string key, JsonData.Object value)
```

Parameters

key [string](#)

value [JsonData.Object](#)

## Add(string, String)

```
public void Add(string key, JsonData.String value)
```

Parameters

key [string](#)

value [JsonData.String](#)

## Add(string, bool)

```
public void Add(string key, bool value)
```

### Parameters

key [string](#)

value [bool](#)

## Add(string, int)

```
public void Add(string key, int value)
```

### Parameters

key [string](#)

value [int](#)

## Add(string, float)

```
public void Add(string key, float value)
```

### Parameters

key [string](#)

value [float](#)

## Add(string, string)

```
public void Add(string key, string value)
```

### Parameters

key [string](#)

value [string](#)

## Append(params Object[])

Returns a JSON object with this object's entries, followed by the first objects's entries, then the second objects's entries, etc.

```
public JsonData.Object Append(params JsonData.Object[] jsonObjs)
```

Parameters

jsonObjs [Object\[\]](#)

Returns

[JsonData.Object](#)

## Append(IEnumerable<Object>)

Returns a JSON object with this object's entries, followed by the first objects's entries, then the second objects's entries, etc.

```
public JsonData.Object Append(IEnumerable<JsonData.Object> jsonObjs)
```

Parameters

jsonObjs [IEnumerable](#)<[JsonData.Object](#)>

Returns

[JsonData.Object](#)

## Concat(params Object[])

Combines the JSON objects into one by putting the first object's entries first, then the second object's entries, etc. Returns an empty object if no JSON objects are given.

```
public static JsonData.Object Concat(params JsonData.Object[] jsonObjs)
```

Parameters

jsonObjs [Object\[\]](#)

Returns

[JsonData.Object](#)

## Concat(IEnumerable<Object>)

Combines the JSON objects into one by putting the first object's entries first, then the second object's entries, etc. Returns an empty object if no JSON objects are given.

```
public static JsonData.Object Concat(IEnumerable<JsonData.Object> jsonObjs)
```

Parameters

jsonObjs [IEnumerable<JsonData.Object>](#)

Returns

[JsonData.Object](#)

## Parse(TextReader, bool)

Reads the TextReader, starting at the given index, and attempts to parse it as a JsonData.Object. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.Object Parse(TextReader reader, bool mustReadAll)
```

Parameters

reader [TextReader](#)

mustReadAll [bool](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

Returns

[JsonData.Object](#)

## Parse(string)

Attempts to parse the string into a [JsonData.Object](#).

```
public static JsonData.Object Parse(string str)
```

Parameters

str [string](#)

Returns

[JsonData.Object](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a [JsonData.Object](#). If successful, the index will be moved to the closing curly bracket.

```
public static JsonData.Object Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.Object](#)

## ParseMaybeNull(string)

Attempts to parse the string into a JSON object, with the potential to parse it into `JsonData.Null`.

```
public static JsonData ParseMaybeNull(string str)
```

Parameters

`str` [string](#)

Returns

[JsonData](#)

## ParseMaybeNull(string, ref int)

Attempts to parse the string into a JSON object, with the potential to parse it into `JsonData.Null`. If successful, moves the index to the last parsed character.

```
public static JsonData ParseMaybeNull(string str, ref int index)
```

Parameters

`str` [string](#)

`index` [int](#)

Returns

[JsonData](#)

## Prepend(params Object[])

Returns a JSON object with the first objects's entries, then the second objects's entries, etc., then this object's entries.

```
public JsonData.Object Prepend(params JsonData.Object[] jsonObjs)
```

Parameters

jsonObjs [Object\[\]](#)

Returns

[JsonData.Object](#)

## Prepend(IEnumerable<Object>)

Returns a JSON object with the first objects's entries, then the second objects's entries, etc., then this object's entries.

```
public JsonData.Object Prepend(IEnumerable<JsonData.Object> jsonObjs)
```

Parameters

jsonObjs [IEnumerable<JsonData.Object>](#)

Returns

[JsonData.Object](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

pretty [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#) ↗

# Class jsonData.String

Namespace: [PAC.Json](#)

Represents a non-null string in JSON data.

```
public class jsonData.String : jsonData
```

## Inheritance

[object](#) ← jsonData.String

## Implements

[jsonData](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### String(string)

```
public String(string value)
```

## Parameters

value [string](#)

## Properties

### value

```
public string value { get; set; }
```

## Property Value

## Methods

### MaybeNull(string)

Creates a new `JsonData.String` with the given value, unless value is null in which case it returns `JsonData.Null`. Useful since `JsonData.String` cannot hold null strings.

```
public static JsonData MaybeNull(string value)
```

#### Parameters

`value` [string ↗](#)

#### Returns

[JsonData](#)

### Parse(TextReader, bool)

Reads the `TextReader`, starting at the given index, and attempts to parse it as a `JsonData.String`. If successful, the last read character will be the last character of the parsed JSON.

```
public static JsonData.String Parse(TextReader reader, bool mustReadAll)
```

#### Parameters

`reader` [TextReader ↗](#)

`mustReadAll` [bool ↗](#)

If true, it will check that all the data in the reader was used when parsing. Setting this to false is useful for parsing JSON data inside a list or object.

#### Returns

## Parse(string)

Attempts to parse the string into a JsonData.String.

```
public static JsonData.String Parse(string str)
```

Parameters

str [string](#)

Returns

[JsonData.String](#)

## Parse(string, ref int)

Reads the string, starting at the given index, and attempts to parse the string as a JsonData.String. If successful, the index will be moved to the closing quotation mark.

```
public static JsonData.String Parse(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData.String](#)

## ParseMaybeNull(string)

Attempts to parse the string into a JSON string, with the potential to parse it into JsonData.Null.

```
public static JsonData ParseMaybeNull(string str)
```

Parameters

str [string](#)

Returns

[JsonData](#)

## ParseMaybeNull(string, ref int)

Attempts to parse the string into a JSON string, with the potential to parse it into JsonData.Null. If successful, moves the index to the last parsed character.

```
public static JsonData ParseMaybeNull(string str, ref int index)
```

Parameters

str [string](#)

index [int](#)

Returns

[JsonData](#)

## ToJsonObject(bool)

Converts it into a string in JSON format.

```
public string ToJsonObject(bool pretty)
```

Parameters

pretty [bool](#)

If true, puts the string into pretty form - e.g. with indentations.

Returns

[string](#)

## Operators

### implicit operator string(String)

```
public static implicit operator string(JsonData.String jsonString)
```

Parameters

jsonString [JsonData.String](#)

Returns

[string](#)

### implicit operator String(string)

```
public static implicit operator JsonData.String(string value)
```

Parameters

value [string](#)

Returns

[JsonData.String](#)

# Namespace PAC.KeyboardShortcuts

## Classes

### [CustomKeyCode](#)

A class to supersede Unity's KeyCode enum to allow keycodes to refer to multiple keys - e.g. Shift instead of separated into LeftShift and RightShift.

### [CustomKeyCode.JsonConverter](#)

Custom JSON converter for CustomKeyCode.

### [KeyboardShortcut](#)

A class to represent a single keyboard shortcut.

### [KeyboardShortcut.JsonConverter](#)

Custom JSON converter for KeyboardShortcut.

### [KeyboardShortcutOptionsManager](#)

Handles the window where you can view / change keyboard shortcuts.

### [KeyboardShortcuts](#)

A class for storing, loading and accessing keyboard shortcuts for defined actions.

# Class CustomKeyCode

Namespace: [PAC.KeyboardShortcuts](#)

A class to supersede Unity's KeyCode enum to allow keycodes to refer to multiple keys - e.g. Shift instead of separated into LeftShift and RightShift.

```
public class CustomKeyCode : IEnumerable
```

## Inheritance

[object](#) ← CustomKeyCode

## Implements

[IEnumerable](#)

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

# Fields

## Alt

```
public static readonly CustomKeyCode Alt
```

### Field Value

[CustomKeyCode](#)

## Ctrl

```
public static readonly CustomKeyCode Ctrl
```

### Field Value

[CustomKeyCode](#)

## GreaterThan

```
public static readonly CustomKeyCode GreaterThan
```

Field Value

[CustomKeyCode](#)

## LessThan

```
public static readonly CustomKeyCode LessThan
```

Field Value

[CustomKeyCode](#)

## Minus

```
public static readonly CustomKeyCode Minus
```

Field Value

[CustomKeyCode](#)

## Plus

```
public static readonly CustomKeyCode Plus
```

Field Value

[CustomKeyCode](#)

# Shift

```
public static readonly CustomKeyCode Shift
```

Field Value

[CustomKeyCode](#)

\_0

The keycode for 0.

```
public static readonly CustomKeyCode _0
```

Field Value

[CustomKeyCode](#)

\_1

The keycode for 1.

```
public static readonly CustomKeyCode _1
```

Field Value

[CustomKeyCode](#)

\_2

The keycode for 2.

```
public static readonly CustomKeyCode _2
```

Field Value

## [CustomKeyCode](#)

\_3

The keycode for 3.

```
public static readonly CustomKeyCode _3
```

Field Value

## [CustomKeyCode](#)

\_4

The keycode for 4.

```
public static readonly CustomKeyCode _4
```

Field Value

## [CustomKeyCode](#)

\_5

The keycode for 5.

```
public static readonly CustomKeyCode _5
```

Field Value

## [CustomKeyCode](#)

\_6

The keycode for 6.

```
public static readonly CustomKeyCode _6
```

Field Value

[CustomKeyCode](#)

\_7

The keycode for 7.

```
public static readonly CustomKeyCode _7
```

Field Value

[CustomKeyCode](#)

\_8

The keycode for 8.

```
public static readonly CustomKeyCode _8
```

Field Value

[CustomKeyCode](#)

\_9

The keycode for 9.

```
public static readonly CustomKeyCode _9
```

Field Value

[CustomKeyCode](#)

# allKeyCodes

All Unity KeyCodes and all combined keycodes.

```
public static readonly CustomKeyCode[] allKeyCodes
```

Field Value

[CustomKeyCode\[\]](#)

# alphabet

The keycodes A-Z.

```
public static readonly CustomKeyCode[] alphabet
```

Field Value

[CustomKeyCode\[\]](#)

# combinedKeyCodes

All the defined keycodes that combine multiple Unity KeyCodes.

```
public static readonly CustomKeyCode[] combinedKeyCodes
```

Field Value

[CustomKeyCode\[\]](#)

# digits

The keycodes 0-9.

```
public static readonly CustomKeyCode[] digits
```

## Field Value

[CustomKeyCode\[\]](#)

## Properties

### displayName

What will be returned from `ToString()`.

```
public string displayName { get; }
```

### Property Value

[string](#)

### keyCodes

The Unity KeyCodes comprising this keycode.

```
public List<KeyCode> keyCodes { get; }
```

### Property Value

[List](#)<KeyCode>

## Methods

### Contains(KeyCode)

Returns true if the Unity KeyCode forms part of this CustomKeyCode.

```
public bool Contains(KeyCode keyCode)
```

## Parameters

`keyCode` KeyCode

Returns

[bool](#)

## Equals(object)

Determines whether the specified object is equal to the current object.

```
public override bool Equals(object obj)
```

Parameters

`obj` [object](#)

The object to compare with the current object.

Returns

[bool](#)

[true](#) if the specified object is equal to the current object; otherwise, [false](#).

## FromString(string)

Converts a string into the keycode with that display name. Returns null if there isn't one.

```
public static CustomKeyCode FromString(string displayName)
```

Parameters

`displayName` [string](#)

Returns

[CustomKeyCode](#)

## GetEnumerator()

Returns an enumerator that iterates through a collection.

```
public IEnumator GetEnumerator()
```

Returns

[IEnumator](#)

An [IEnumator](#) object that can be used to iterate through the collection.

## GetHashCode()

Serves as the default hash function.

```
public override int GetHashCode()
```

Returns

[int](#)

A hash code for the current object.

## GetKey()

Returns true while this key is being held down.

```
public bool GetKey()
```

Returns

[bool](#)

## GetKeyDown()

Returns true the frame this key is pressed.

```
public bool GetKeyDown()
```

Returns

bool ↗

## GetKeyUp()

Returns true the frame this key is released.

```
public bool GetKeyUp()
```

Returns

bool ↗

## ToString()

Returns a string that represents the current object.

```
public override string ToString()
```

Returns

string ↗

A string that represents the current object.

## Operators

### operator ==(CustomKeyCode, CustomKeyCode)

```
public static bool operator ==(CustomKeyCode keyCode1, CustomKeyCode keyCode2)
```

Parameters

keyCode1 [CustomKeyCode](#)

keyCode2 [CustomKeyCode](#)

Returns

[bool](#)

## implicit operator CustomKeyCode(KeyCode)

```
public static implicit operator CustomKeyCode(KeyCode keyCode)
```

Parameters

keyCode KeyCode

Returns

[CustomKeyCode](#)

## operator !=(CustomKeyCode, CustomKeyCode)

```
public static bool operator !=(CustomKeyCode keyCode1, CustomKeyCode keyCode2)
```

Parameters

keyCode1 [CustomKeyCode](#)

keyCode2 [CustomKeyCode](#)

Returns

[bool](#)

# Class CustomKeyCode.JsonConverter

Namespace: [PAC.KeyboardShortcuts](#)

Custom JSON converter for CustomKeyCode.

```
public class CustomKeyCode.JsonConverter :  
JsonConversion.JsonConverter<CustomKeyCode, JsonData.String>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<CustomKeyCode, JsonData.String>](#) ←  
CustomKeyCode.JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<CustomKeyCode, JsonData.String>.ToJson\(CustomKeyCode\)](#),  
,

[JsonConversion.JsonConverter<CustomKeyCode, JsonData.String>.FromJson\(JsonData.String\)](#),  
[JsonConversion.JsonConverter<CustomKeyCode, JsonData.String>.FromJson\(JsonData\)](#),  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### FromJson(String)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override CustomKeyCode FromJson(JsonData.String jsonData)
```

## Parameters

jsonData [JsonData.String](#)

Returns

[CustomKeyCode](#)

## ToJson(CustomKeyCode)

Attempts to convert the C# object into JSON data.

```
public override JsonData.String ToJson(CustomKeyCode keyCode)
```

Parameters

keyCode [CustomKeyCode](#)

Returns

[JsonData.String](#)

# Class KeyboardShortcut

Namespace: [PAC.KeyboardShortcuts](#)

A class to represent a single keyboard shortcut.

```
public class KeyboardShortcut
```

## Inheritance

[object](#) ← KeyboardShortcut

## Inherited Members

[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#)

## Constructors

### KeyboardShortcut(params CustomKeyCode[])

Creates a shortcut from the given keycodes. Sorts the keycodes into the order they would be read.

```
public KeyboardShortcut(params CustomKeyCode[] keyCodes)
```

## Parameters

keyCodes [CustomKeyCode\[\]](#)

## Properties

### None

The empty keyboard shortcut - i.e. no keycodes.

```
public static KeyboardShortcut None { get; }
```

Property Value

[KeyboardShortcut](#)

## keyCodes

The keycodes in this shortcut, kept in the order they would be read.

```
public List<CustomKeyCode> keyCodes { get; }
```

Property Value

[List](#) <CustomKeyCode>

## Methods

### Add(CustomKeyCode)

Adds the keycode to the shortcut. Returns false if it was already in the shortcut; otherwise returns true.

```
public bool Add(CustomKeyCode keyCode)
```

Parameters

keyCode [CustomKeyCode](#)

Returns

[bool](#)

### Contains(CustomKeyCode)

Returns true if the keycode is in the shortcut.

```
public bool Contains(CustomKeyCode keyCode)
```

Parameters

`keyCode` [CustomKeyCode](#)

Returns

[bool](#)

## Equals(object)

Determines whether the specified object is equal to the current object.

```
public override bool Equals(object obj)
```

Parameters

`obj` [object](#)

The object to compare with the current object.

Returns

[bool](#)

[true](#) if the specified object is equal to the current object; otherwise, [false](#).

## GetHashCode()

Serves as the default hash function.

```
public override int GetHashCode()
```

Returns

[int](#)

A hash code for the current object.

## GetKeys()

Returns true while all keys are being held down.

```
public bool GetKeys()
```

Returns

[bool](#)

## GetKeysDown()

Returns true the frame the final key is pressed.

```
public bool GetKeysDown()
```

Returns

[bool](#)

## GetKeysUp()

Returns true the frame (any key of) this shortcut is released.

```
public bool GetKeysUp()
```

Returns

[bool](#)

## Remove(CustomKeyCode)

Removes the keycode from the shortcut. Returns false if the keycode already wasn't in the shortcut; otherwise returns true.

```
public bool Remove(CustomKeyCode keyCode)
```

Parameters

`keyCode` [CustomKeyCode](#)

Returns

[bool](#)

## ToArray()

Returns an array of the keycodes in this shortcut, in the order they would be read.

`public CustomKeyCode[] ToArray()`

Returns

[CustomKeyCode\[\]](#)

## ToString()

Returns a string that represents the current object.

`public override string ToString()`

Returns

[string](#)

A string that represents the current object.

## Operators

### operator ==(KeyboardShortcut, KeyboardShortcut)

Checks if the shortcuts have the same set of keycodes.

```
public static bool operator ==(KeyboardShortcut shortcut1,  
KeyboardShortcut shortcut2)
```

Parameters

shortcut1 [KeyboardShortcut](#)

shortcut2 [KeyboardShortcut](#)

Returns

[bool](#)

## operator !=(KeyboardShortcut, KeyboardShortcut)

Checks if the shortcuts do not have the same set of keycodes.

```
public static bool operator !=(KeyboardShortcut shortcut1,  
KeyboardShortcut shortcut2)
```

Parameters

shortcut1 [KeyboardShortcut](#)

shortcut2 [KeyboardShortcut](#)

Returns

[bool](#)

# Class KeyboardShortcut.JsonConverter

Namespace: [PAC.KeyboardShortcuts](#)

Custom JSON converter for KeyboardShortcut.

```
public class KeyboardShortcut.JsonConverter :  
JsonConversion.JsonConverter<KeyboardShortcut, JsonData.List>
```

## Inheritance

```
object ↪ ← JsonConversion.JsonConverter<KeyboardShortcut, JsonData.List> ←  
KeyboardShortcut.JsonConverter
```

## Inherited Members

```
JsonConversion.JsonConverter<KeyboardShortcut, JsonData.List>.ToJson(KeyboardShortcut),  
,  
JsonConversion.JsonConverter<KeyboardShortcut, JsonData.List>.FromJson(JsonData.List),  
JsonConversion.JsonConverter<KeyboardShortcut, JsonData.List>.FromJson(JsonData),  
object.Equals(object) ↪ , object.Equals(object, object) ↪ , object.GetHashCode() ↪ ,  
object.GetType() ↪ , object.MemberwiseClone() ↪ , object.ReferenceEquals(object, object) ↪ ,  
object.ToString() ↪
```

## Methods

### FromJson(List)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override KeyboardShortcut FromJson(JsonData.List jsonData)
```

## Parameters

jsonData [JsonData.List](#)

Returns

[KeyboardShortcut](#)

## ToJson(KeyboardShortcut)

Attempts to convert the C# object into JSON data.

```
public override JsonData.List ToJson(KeyboardShortcut keyboardShortcut)
```

Parameters

keyboardShortcut [KeyboardShortcut](#)

Returns

[JsonData.List](#)

# Class KeyboardShortcutOptionsManager

Namespace: [PAC.KeyboardShortcuts](#)

Handles the window where you can view / change keyboard shortcuts.

```
public class KeyboardShortcutOptionsManager : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← KeyboardShortcutOptionsManager

# Class KeyboardShortcuts

Namespace: [PAC.KeyboardShortcuts](#)

A class for storing, loading and accessing keyboard shortcuts for defined actions.

```
public class KeyboardShortcuts : MonoBehaviour
```

## Inheritance

[object](#) ← KeyboardShortcuts

## Properties

### shortcuts

A key is an action name. A value is a list of the keyboard shortcuts for that action.

```
public static Dictionary<string, List<KeyboardShortcut>> shortcuts { get; }
```

## Property Value

[Dictionary](#)<[string](#), [List](#)<[KeyboardShortcut](#)>>

## Methods

### AddShortcut(string, params CustomKeyCode[])

Combines the given keycodes into a single shortcut and adds it for the given action.

```
public static void AddShortcut(string actionName, params CustomKeyCode[] keyCodes)
```

## Parameters

actionName [string](#)

keyCodes [CustomKeyCode](#)[]

## AddShortcut(string, KeyboardShortcut)

Adds the given shortcut for the given action.

```
public static void AddShortcut(string actionName, KeyboardShortcut shortcut)
```

Parameters

actionName [string](#)

shortcut [KeyboardShortcut](#)

## ClearShortcutsFor(string)

Removes all shortcuts for the action.

```
public static void ClearShortcutsFor(string actionName)
```

Parameters

actionName [string](#)

## ContainsKey(string)

Returns true if the action is defined for having keyboard shortcuts.

```
public static bool ContainsKey(string actionName)
```

Parameters

actionName [string](#)

Returns

[bool](#)

## ContainsShortcutFor(string)

Returns true if the action has a shortcut.

```
public static bool ContainsShortcutFor(string actionPerformed)
```

Parameters

actionName [string](#)

Returns

[bool](#)

## GetShortcutsFor(string)

Returns all shortcuts for the action.

```
public static List<KeyboardShortcut> GetShortcutsFor(string actionPerformed)
```

Parameters

actionName [string](#)

Returns

[List](#)<[KeyboardShortcut](#)>

## LoadShortcuts()

Loads saved shortcuts from the disk.

```
public static void LoadShortcuts()
```

## SaveShortcuts()

Saves the current assignment of each shortcut to the disk.

```
public static void SaveShortcuts()
```

## SetShortcut(string, KeyboardShortcut)

Removes any existing shortcuts for the action then adds the given shortcut.

```
public static void SetShortcut(string actionName, KeyboardShortcut shortcut)
```

### Parameters

actionName [string](#)

shortcut [KeyboardShortcut](#)

# Namespace PAC.Layers

## Classes

### [Layer](#)

An abstract class to define what each type of layer must have.

### [Layer.JsonConverter](#)

### [LayerManager](#)

### [LayerTile](#)

### [NormalLayer](#)

A class to represent a normal layer - one that can be drawn on as a regular image.

### [NormalLayer.JsonConverter](#)

### [TileLayer](#)

A class to represent a tile layer - one for placing and editing tiles.

### [TileLayer.JsonConverter](#)

## Enums

### [AnimFrameRefMode](#)

### [LayerType](#)

# Enum AnimFrameRefMode

Namespace: [PAC.Layers](#)

```
public enum AnimFrameRefMode
```

## Fields

MostRecentKeyFrame = 1

NewKeyFrame = 0

# Class Layer

Namespace: [PAC.Layers](#)

An abstract class to define what each type of layer must have.

```
public abstract class Layer
```

## Inheritance

[object](#) ↗ ← Layer

## Derived

[NormalLayer](#), [TileLayer](#)

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ ,  
[object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗ ,  
[object.ToString\(\)](#) ↗

## Constructors

### Layer(Layer)

```
public Layer(Layer layer)
```

#### Parameters

layer [Layer](#)

### Layer(string, Texture2D)

```
public Layer(string name, Texture2D texture)
```

#### Parameters

name [string](#) ↗

```
texture Texture2D
```

## Fields

### \_blendMode

```
protected BlendMode _blendMode
```

#### Field Value

[BlendMode](#)

### \_visible

```
protected bool _visible
```

#### Field Value

[bool](#)

### onPixelsChanged

Called when the SetPixel() or SetPixels() has been called. Passes the array of pixels changed and the frames it was called on.

```
protected UnityEvent<IntVector2[], int[]> onPixelsChanged
```

#### Field Value

[UnityEvent<IntVector2\[\], int\[\]>](#)

## Properties

### this[int]

Returns the texture of the most recent key frame before or at the frame index. Same as GetTexture(frame).

```
public AnimationKeyFrame this[int frame] { get; }
```

## Parameters

frame [int](#)

## Property Value

[AnimationKeyFrame](#)

## blendMode

```
public BlendMode blendMode { get; set; }
```

## Property Value

[BlendMode](#)

## height

```
public int height { get; protected set; }
```

## Property Value

[int](#)

## keyFrameIndices

The frame indices of the key frames in the animation, in order.

```
public int[] keyFrameIndices { get; }
```

Property Value

[int](#)[]

## keyFrameTextures

The textures of the key frames in the animation, in order.

```
public Texture2D[] keyFrameTextures { get; }
```

Property Value

Texture2D[]

## keyFrames

The key frames of the animation, in order.

```
public List<AnimationKeyFrame> keyFrames { get; protected set; }
```

Property Value

[List](#)<[AnimationKeyFrame](#)>

## layerType

```
public abstract LayerType layerType { get; }
```

Property Value

[LayerType](#)

## locked

```
public bool locked { get; set; }
```

Property Value

[bool](#)

**name**

```
public string name { get; set; }
```

Property Value

[string](#)

**opacity**

```
public float opacity { get; set; }
```

Property Value

[float](#)

**rect**

```
public IntRect rect { get; }
```

Property Value

[IntRect](#)

**visible**

```
public bool visible { get; set; }
```

Property Value

[bool](#)

width

```
public int width { get; protected set; }
```

Property Value

[int](#)

## Methods

### AddKeyFrame(AnimationKeyFrame)

Adds the given key frame. Returns true if it replaces an existing key frame, and false otherwise.

```
protected bool AddKeyFrame(AnimationKeyFrame keyFrame)
```

Parameters

keyFrame [AnimationKeyFrame](#)

Returns

[bool](#)

### AddKeyFrame(int)

Adds a key frame at frame frame. The texture will be that of the most recent key frame. Returns true if it replaces an existing key frame, and false otherwise.

```
protected bool AddKeyFrame(int frame)
```

Parameters

frame [int](#)

Returns

[bool](#)

## AddKeyFrame(int, Texture2D)

Adds a key frame with the given texture at frame frame. Returns true if it replaces an existing key frame, and false otherwise.

```
protected bool AddKeyFrame(int frame, Texture2D texture)
```

Parameters

frame [int](#)

texture [Texture2D](#)

Returns

[bool](#)

## ClearFrames()

Deletes all key frames.

```
public abstract void ClearFrames()
```

## DeepCopy()

Creates a deep copy of the Layer.

```
public abstract Layer DeepCopy()
```

Returns

[Layer](#)

## DeleteKeyFrame(AnimationKeyFrame)

Deletes the given key frame, if it's in the animation, in which case it returns true. Otherwise it returns false.

```
public bool DeleteKeyFrame(AnimationKeyFrame keyFrame)
```

Parameters

keyFrame [AnimationKeyFrame](#)

Returns

[bool](#)

## DeleteKeyFrame(int)

```
public AnimationKeyFrame DeleteKeyFrame(int keyFrame)
```

Parameters

keyFrame [int](#)

Returns

[AnimationKeyFrame](#)

## DeleteKeyFrameNoEvent(int)

Deletes the key frame at the given frame index, if there is one, in which case it returns that key frame. Otherwise it returns null.

```
protected abstract AnimationKeyFrame DeleteKeyFrameNoEvent(int keyframe)
```

Parameters

keyframe [int](#)

Returns

[AnimationKeyFrame](#)

## DeleteMostRecentKeyFrame(int)

Deletes the most recent key frame before or at the given frame index and returns that key frame.

```
public AnimationKeyFrame DeleteMostRecentKeyFrame(int frame)
```

Parameters

frame [int](#)

Returns

[AnimationKeyFrame](#)

## Extend(int, int, int, int)

Extends the dimensions of the layer in each direction by the given amounts.

```
public void Extend(int left, int right, int up, int down)
```

Parameters

left [int](#)

right [int](#)

up [int](#)

down [int](#)

## ExtendNoEvent(int, int, int, int)

Extends the dimensions of the layer in each direction by the given amounts, but does not invoke the onPixelsChanged event.

```
protected abstract void ExtendNoEvent(int left, int right, int up, int down)
```

### Parameters

left [int](#)

right [int](#)

up [int](#)

down [int](#)

## Flip(FlipDirection)

Flips the layer.

```
public void Flip(FlipDirection direction)
```

### Parameters

direction [FlipDirection](#)

## FlipNoEvent(FlipDirection)

Flips the layer, but does not invoke the onPixelsChanged event.

```
protected abstract void FlipNoEvent(FlipDirection direction)
```

Parameters

direction [FlipDirection](#)

## GetJsonConverterSet(SemanticVersion)

```
public static JsonConversion.JsonConverterSet GetJsonConverterSet(SemanticVersion  
fromJsonFileFormatVersion)
```

Parameters

fromJsonFileFormatVersion [SemanticVersion](#)

Returns

[JsonConversion.JsonConverterSet](#)

## GetKeyFrame(int)

Returns the most recent key frame before or at the frame index - i.e. the key frame the animation will play at the frame index.

```
public AnimationKeyFrame GetKeyFrame(int frame)
```

Parameters

frame [int](#)

Returns

[AnimationKeyFrame](#)

## GetPixel(IntVector2, int, bool)

Gets the colour of the pixel.

```
public abstract Color GetPixel(IntVector2 pixel, int frame, bool useLayerOpacity = true)
```

Parameters

pixel [IntVector2](#)

frame [int](#)

useLayerOpacity [bool](#)

Returns

Color

## GetPixel(int, int, int, bool)

Gets the colour of the pixel (x, y).

```
public Color GetPixel(int x, int y, int frame, bool useLayerOpacity = true)
```

Parameters

x [int](#)

y [int](#)

frame [int](#)

useLayerOpacity [bool](#)

Returns

Color

## HasKeyFrameAt(int)

Returns whether or not there is a key frame at the given frame index.

```
public bool HasKeyFrameAt(int frame)
```

Parameters

frame [int](#)

Returns

[bool](#)

## IsBlank()

Returns true if and only if all pixels are completely transparent.

```
public bool IsBlank()
```

Returns

[bool](#)

## Rotate(RotationAngle)

Rotates the layer. Rotation is clockwise.

```
public void Rotate(RotationAngle angle)
```

Parameters

angle [RotationAngle](#)

## RotateNoEvent(RotationAngle)

Rotates the layer, but does not invoke the onPixelsChanged event. Rotation is clockwise.

```
protected abstract void RotateNoEvent(RotationAngle angle)
```

Parameters

angle [RotationAngle](#)

## Scale(int, int)

Resizes the dimensions of the file by the scale factor.

```
public void Scale(int newWidth, int newHeight)
```

Parameters

newWidth [int](#)

newHeight [int](#)

## Scale(float)

Resizes the dimensions of the file by the scale factor.

```
public void Scale(float scaleFactor)
```

Parameters

scaleFactor [float](#)

## Scale(float, float)

Resizes the dimensions of the file by the scale factors.

```
public void Scale(float xScaleFactor, float yScaleFactor)
```

Parameters

xScaleFactor [float](#)

yScaleFactor [float](#)

## ScaleNoEvent(int, int)

Resizes the dimensions to the new width and height, but does not invoke the onPixelsChanged event.

```
protected abstract void ScaleNoEvent(int newWidth, int newHeight)
```

### Parameters

newWidth [int](#)

newHeight [int](#)

## ScaleNoEvent(float, float)

Resizes the dimensions of the file by the scale factors, but does not invoke the onPixelsChanged event.

```
protected abstract void ScaleNoEvent(float xScaleFactor, float yScaleFactor)
```

### Parameters

xScaleFactor [float](#)

yScaleFactor [float](#)

## SetPixel(IntVector2, int, Color, AnimFrameRefMode)

Sets the colour of the pixel. Throws an error if the pixel is outside the layer.

```
public IntVector2[] SetPixel(IntVector2 pixel, int frame, Color colour,  
AnimFrameRefMode frameRefMode)
```

## Parameters

pixel [IntVector2](#)

frame [int](#)

colour Color

frameRefMode [AnimFrameRefMode](#)

## Returns

[IntVector2\[\]](#)

## SetPixel(int, int, int, Color, AnimFrameRefMode)

Sets the colour of the pixel (x, y). Throws an error if the pixel is outside the layer.

```
public IntVector2[] SetPixel(int x, int y, int frame, Color colour,  
AnimFrameRefMode frameRefMode)
```

## Parameters

x [int](#)

y [int](#)

frame [int](#)

colour Color

frameRefMode [AnimFrameRefMode](#)

## Returns

[IntVector2\[\]](#)

## SetPixels(IntVector2[], int, Color, AnimFrameRefMode)

Sets the colour of the pixels. Throws an error if a pixel is outside the layer.

```
public IntVector2[] SetPixels(IntVector2[] pixels, int frame, Color colour,  
AnimFrameRefMode frameRefMode)
```

## Parameters

pixels [IntVector2\[\]](#)

frame [int](#)

colour [Color](#)

frameRefMode [AnimFrameRefMode](#)

## Returns

[IntVector2\[\]](#)

## SetPixelsNoEvent(IntVector2[], int, Color, AnimFrameRefMode)

Sets the colour of the pixels. You do not need to check the pixels are in the layer as this check is done in Layer.SetPixels(), which is the only way this method is called.

```
protected abstract IntVector2[] SetPixelsNoEvent(IntVector2[] pixels, int frame,  
Color colour, AnimFrameRefMode frameRefMode)
```

## Parameters

pixels [IntVector2\[\]](#)

frame [int](#)

colour [Color](#)

frameRefMode [AnimFrameRefMode](#)

## Returns

[IntVector2\[\]](#)

## SubscribeToOnBlendModeChanged(UnityAction)

```
public void SubscribeToOnBlendModeChanged(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToOnKeyFrameAdded(UnityAction<int>)

```
public void SubscribeToOnKeyFrameAdded(UnityAction<int> call)
```

Parameters

`call` UnityAction<[int](#)>

## SubscribeToOnKeyFrameRemoved(UnityAction<int>)

```
public void SubscribeToOnKeyFrameRemoved(UnityAction<int> call)
```

Parameters

`call` UnityAction<[int](#)>

## SubscribeToOnPixelsChanged(UnityAction<IntVector2[], int[]>)

```
public void SubscribeToOnPixelsChanged(UnityAction<IntVector2[], int[]> call)
```

Parameters

`call` UnityAction<[IntVector2](#)[], [int](#)>

## SubscribeToOnVisibilityChanged(UnityAction)

```
public void SubscribeToOnVisibilityChanged(UnityAction call)
```

### Parameters

**call** UnityAction

# Class Layer.JsonConverter

Namespace: [PAC.Layers](#)

```
public class Layer.JsonConverter : JsonConversion.JsonConverter<Layer,  
JsonData.Object>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<Layer, jsonData.Object>](#) ← [Layer.JsonConverter](#)

## Inherited Members

[JsonConversion.JsonConverter<Layer, jsonData.Object>.ToJson\(Layer\)](#) ,  
[JsonConversion.JsonConverter<Layer, jsonData.Object>.FromJson\(jsonData.Object\)](#) ,  
[JsonConversion.JsonConverter<Layer, jsonData.Object>.FromJson\(jsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### JsonConverter(SemanticVersion)

```
public JsonConverter(SemanticVersion fromJsonFileVersion)
```

## Parameters

[fromJsonFileVersion](#) [SemanticVersion](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload FromJSON(JsonDataType jsonData).

```
public override Layer FromJson(JsonData.Object jsonData)
```

Parameters

[jsonData JsonData.Object](#)

Returns

[Layer](#)

## ToJson(Layer)

This currently can't be used since `JsonConversion.ToJson()` only works on concrete types, but `Layer` is abstract so you cannot have an object without concrete type `Layer`.

```
public override JsonData.Object ToJson(Layer obj)
```

Parameters

[obj Layer](#)

Returns

[JsonData.Object](#)

Exceptions

[NotImplementedException](#)

# Class LayerManager

Namespace: [PAC.Layers](#)

```
public class LayerManager : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← LayerManager

## Fields

### layerTypeSprite

```
public Sprite layerTypeSprite
```

Field Value

Sprite

### tileLayerTypeSprite

```
public Sprite tileLayerTypeSprite
```

Field Value

Sprite

## Properties

### selectedLayer

The last layer that was selected.

```
public Layer selectedLayer { get; }
```

Property Value

[Layer](#)

## selectedLayerIndex

The index of the last layer that was selected.

```
public int selectedLayerIndex { get; }
```

Property Value

[int](#)

## selectedLayerIndices

The indices of all selected layers, in increasing order.

```
public int[] selectedLayerIndices { get; }
```

Property Value

[int](#)[]

## selectedLayers

The selected layers, in order (highest layer first etc).

```
public Layer[] selectedLayers { get; }
```

Property Value

[Layer](#)[]

## Methods

## AddLayer()

```
public void AddLayer()
```

## AddLayer(Texture2D)

```
public void AddLayer(Texture2D texture)
```

### Parameters

texture Texture2D

## AddTileLayer()

```
public void AddTileLayer()
```

## DuplicateSelectedLayers()

```
public void DuplicateSelectedLayers()
```

## FlattenSelectedLayers()

```
public void FlattenSelectedLayers()
```

## HideAllBut(Layer)

```
public void HideAllBut(Layer layer)
```

### Parameters

layer [Layer](#)

## MoveSelectedLayersDown()

```
public void MoveSelectedLayersDown()
```

## MoveSelectedLayersUp()

```
public void MoveSelectedLayersUp()
```

## OnFileSwitched()

```
public void OnFileSwitched()
```

## OnLayersChanged()

```
public void OnLayersChanged()
```

## RemoveSelectedLayers()

```
public void RemoveSelectedLayers()
```

## SetLayerBlendMode(int, BlendMode)

```
public void SetLayerBlendMode(int layerIndex, BlendMode blendMode)
```

### Parameters

layerIndex [int](#)

`blendMode` [BlendMode](#)

## SetLayerName(int, string)

```
public void SetLayerName(int layerIndex, string layerName)
```

### Parameters

`layerIndex` [int](#)

`layerName` [string](#)

## SetLayerOpacity(int, float)

```
public void SetLayerOpacity(int layerIndex, float opacity)
```

### Parameters

`layerIndex` [int](#)

`opacity` [float](#)

## SubscribeToLayerChange(UnityAction)

```
public void SubscribeToLayerChange(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToVisibilityChange(UnityAction)

```
public void SubscribeToVisibilityChange(UnityAction call)
```

Parameters

**call** UnityAction

## WorldYCoordOfLayerTile(int)

```
public float WorldYCoordOfLayerTile(int layerTileIndex)
```

Parameters

**layerTileIndex** [int](#)

Returns

[float](#)

# Class LayerTile

Namespace: [PAC.Layers](#)

```
public class LayerTile : MonoBehaviour
```

## Inheritance

[object](#) ← LayerTile

## Properties

### layer

```
public Layer layer { get; }
```

Property Value

[Layer](#)

### selected

```
public bool selected { get; }
```

Property Value

[bool](#)

### tileToggle

```
public UIToggleButton tileToggle { get; }
```

Property Value

## [UIToggleButton](#)

### Methods

#### SetLayer(Layer)

```
public void SetLayer(Layer layer)
```

##### Parameters

`layer` [Layer](#)

#### SubscribeToLockChange(UnityAction)

```
public void SubscribeToLockChange(UnityAction call)
```

##### Parameters

`call` UnityAction

#### SubscribeToNameChange(UnityAction)

```
public void SubscribeToNameChange(UnityAction call)
```

##### Parameters

`call` UnityAction

#### SubscribeToRightClick(UnityAction)

```
public void SubscribeToRightClick(UnityAction call)
```

##### Parameters

`call` UnityAction

## SubscribeToVisibilityChange(UnityAction)

```
public void SubscribeToVisibilityChange(UnityAction call)
```

### Parameters

`call` UnityAction

# Enum LayerType

Namespace: [PAC.Layers](#)

```
public enum LayerType
```

## Fields

Normal = 0

Tile = 1

# Class NormalLayer

Namespace: [PAC.Layers](#)

A class to represent a normal layer - one that can be drawn on as a regular image.

```
public class NormalLayer : Layer
```

## Inheritance

[object](#) ← [Layer](#) ← NormalLayer

## Inherited Members

[Layer.name](#) , [Layer.width](#) , [Layer.height](#) , [Layer.rect](#) , [Layer.\\_visible](#) , [Layer.visible](#) ,  
[Layer.locked](#) , [Layer.opacity](#) , [Layer.\\_blendMode](#) , [Layer.blendMode](#) , [Layer.keyFrames](#) ,  
[Layer.keyFrameIndices](#) , [Layer.keyFrameTextures](#) , [Layer.onPixelsChanged](#) ,  
[Layer.SetPixel\(int, int, int, Color, AnimFrameRefMode\)](#) ,  
[Layer.SetPixel\(IntVector2, int, Color, AnimFrameRefMode\)](#) ,  
[Layer.SetPixels\(IntVector2\[\], int, Color, AnimFrameRefMode\)](#) ,  
[Layer.GetPixel\(int, int, int, bool\)](#) , [Layer.IsBlank\(\)](#) , [Layer.Flip\(FlipDirection\)](#) ,  
[Layer.Rotate\(RotationAngle\)](#) , [Layer.Extend\(int, int, int, int\)](#) , [Layer.Scale\(float\)](#) ,  
[Layer.Scale\(float, float\)](#) , [Layer.Scale\(int, int\)](#) , [Layer.this\[int\]](#) , [Layer.GetKeyFrame\(int\)](#) ,  
[Layer.HasKeyFrameAt\(int\)](#) , [Layer.AddKeyFrame\(int\)](#) , [Layer.AddKeyFrame\(int, Texture2D\)](#) ,  
[Layer.AddKeyFrame\(AnimationKeyFrame\)](#) , [Layer.DeleteMostRecentKeyFrame\(int\)](#) ,  
[Layer.DeleteKeyFrame\(int\)](#) , [Layer.DeleteKeyFrame\(AnimationKeyFrame\)](#) ,  
[Layer.SubscribeToOnPixelsChanged\(UnityAction<IntVector2\[\], int\[\]>\)](#) ,  
[Layer.SubscribeToOnVisibilityChanged\(UnityAction\)](#) ,  
[Layer.SubscribeToOnBlendModeChanged\(UnityAction\)](#) ,  
[Layer.SubscribeToOnKeyFrameAdded\(UnityAction<int>\)](#) ,  
[Layer.SubscribeToOnKeyFrameRemoved\(UnityAction<int>\)](#) ,  
[Layer.GetJsonConverterSet\(SemanticVersion\)](#) , [object.Equals\(object\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,  
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Constructors

### NormalLayer(NormalLayer)

Creates a deep copy of the NormalLayer.

```
public NormalLayer(NormalLayer layer)
```

Parameters

layer [NormalLayer](#)

## NormalLayer(int, int)

```
public NormalLayer(int width, int height)
```

Parameters

width [int](#)

height [int](#)

## NormalLayer(string, int, int)

```
public NormalLayer(string name, int width, int height)
```

Parameters

name [string](#)

width [int](#)

height [int](#)

## NormalLayer(string, Texture2D)

```
public NormalLayer(string name, Texture2D texture)
```

Parameters

name [string](#)

```
texture Texture2D
```

## NormalLayer(Texture2D)

```
public NormalLayer(Texture2D texture)
```

### Parameters

```
texture Texture2D
```

## Properties

### layerType

```
public override LayerType layerType { get; }
```

### Property Value

[LayerType](#)

## Methods

### ClearFrames()

Deletes all key frames.

```
public override void ClearFrames()
```

### DeepCopy()

Creates a deep copy of the Layer.

```
public override Layer DeepCopy()
```

Returns

[Layer](#)

## DeleteKeyFrameNoEvent(int)

Deletes the key frame at the given frame index, if there is one, in which case it returns that key frame. Otherwise it returns null.

```
protected override AnimationKeyFrame DeleteKeyFrameNoEvent(int keyframe)
```

Parameters

keyframe [int](#)

Returns

[AnimationKeyFrame](#)

## ExtendNoEvent(int, int, int, int)

Extends the dimensions of the layer in each direction by the given amounts, but does not invoke the onPixelsChanged event.

```
protected override void ExtendNoEvent(int left, int right, int up, int down)
```

Parameters

left [int](#)

right [int](#)

up [int](#)

down [int](#)

## Flip(int, FlipDirection, AnimFrameRefMode)

Flips the given frame of the layer.

```
public void Flip(int frame, FlipDirection direction, AnimFrameRefMode frameRefMode)
```

Parameters

frame [int](#)

direction [FlipDirection](#)

frameRefMode [AnimFrameRefMode](#)

## FlipNoEvent(FlipDirection)

Flips the layer, but does not invoke the onPixelsChanged event.

```
protected override void FlipNoEvent(FlipDirection direction)
```

Parameters

direction [FlipDirection](#)

## GetPixel(IntVector2, int, bool)

Gets the colour of the pixel.

```
public override Color GetPixel(IntVector2 pixel, int frame, bool useLayerOpacity = true)
```

Parameters

pixel [IntVector2](#)

frame [int](#)

useLayerOpacity [bool](#)

Returns

## Offset(IntVector2)

Offsets the texture of every frame. (Moves the texture so the bottom-left corner is at the coordinates 'offset').

```
public void Offset(IntVector2 offset)
```

### Parameters

offset [IntVector2](#)

## Offset(int, IntVector2, AnimFrameRefMode)

Offsets the texture at the given frame. (Moves the texture so the bottom-left corner is at the coordinates 'offset').

```
public void Offset(int frame, IntVector2 offset, AnimFrameRefMode frameRefMode)
```

### Parameters

frame [int](#)

offset [IntVector2](#)

frameRefMode [AnimFrameRefMode](#)

## OverlayTexture(int, Texture2D, IntVector2, AnimFrameRefMode)

Overlays the texture onto the given frame, placing the bottom-left corner at the coordinates 'offset' (which don't have to be within the image). Uses Normal blend mode.

```
public void OverlayTexture(int frame, Texture2D overlayTex, IntVector2 offset, AnimFrameRefMode frameRefMode)
```

## Parameters

frame [int](#)

overlayTex Texture2D

offset [IntVector2](#)

frameRefMode [AnimFrameRefMode](#)

## OverlayTexture(int, Texture2D, AnimFrameRefMode)

Overlays the texture onto the given frame. Uses Normal blend mode.

```
public void OverlayTexture(int frame, Texture2D overlayTex,  
AnimFrameRefMode frameRefMode)
```

## Parameters

frame [int](#)

overlayTex Texture2D

frameRefMode [AnimFrameRefMode](#)

## OverlayTexture(Texture2D)

Overlays the texture onto every frame. Uses Normal blend mode.

```
public void OverlayTexture(Texture2D overlayTex)
```

## Parameters

overlayTex Texture2D

## OverlayTexture(Texture2D, IntVector2)

Overlays the texture onto every frame, placing the bottom-left corner at the coordinates 'offset' (which don't have to be within the image). Uses Normal blend mode.

```
public void OverlayTexture(Texture2D overlayTex, IntVector2 offset)
```

## Parameters

overlayTex Texture2D

offset [IntVector2](#)

## Rotate(int, RotationAngle, AnimFrameRefMode)

Rotates the given frame of the layer. Rotation is clockwise.

```
public void Rotate(int frame, RotationAngle angle, AnimFrameRefMode frameRefMode)
```

## Parameters

frame [int](#)

angle [RotationAngle](#)

frameRefMode [AnimFrameRefMode](#)

## RotateNoEvent(RotationAngle)

Rotates the layer, but does not invoke the onPixelsChanged event. Rotation is clockwise.

```
protected override void RotateNoEvent(RotationAngle angle)
```

## Parameters

angle [RotationAngle](#)

## ScaleNoEvent(int, int)

Resizes the dimensions to the new width and height, but does not invoke the onPixelsChanged event.

```
protected override void ScaleNoEvent(int newWidth, int newHeight)
```

## Parameters

`newWidth` [int](#)

`newHeight` [int](#)

## ScaleNoEvent(float, float)

Resizes the dimensions of the file by the scale factors, but does not invoke the onPixelsChanged event.

```
protected override void ScaleNoEvent(float xScaleFactor, float yScaleFactor)
```

## Parameters

`xScaleFactor` [float](#)

`yScaleFactor` [float](#)

## SetPixelsNoEvent(IntVector2[], int, Color, AnimFrameRefMode)

Sets the colour of the pixels. You do not need to check the pixels are in the layer as this check is done in Layer.SetPixels(), which is the only way this method is called.

```
protected override IntVector2[] SetPixelsNoEvent(IntVector2[] pixels, int frame, Color colour, AnimFrameRefMode frameRefMode)
```

## Parameters

`pixels` [IntVector2](#)[]

`frame` [int](#)

`colour` Color

`frameRefMode` [AnimFrameRefMode](#)

Returns

[IntVector2\[\]](#)

## SetTexture(int, Texture2D, AnimFrameRefMode)

Sets the texture at the given frame.

```
public void SetTexture(int frame, Texture2D texture, AnimFrameRefMode frameRefMode)
```

Parameters

`frame` [int](#)

`texture` Texture2D

`frameRefMode` [AnimFrameRefMode](#)

# Class NormalLayer.JsonConverter

Namespace: [PAC.Layers](#)

```
public class NormalLayer.JsonConverter : JsonConversion.JsonConverter<NormalLayer,  
JsonData.Object>
```

## Inheritance

[object](#) ← [JsonConversion.JsonConverter<NormalLayer, jsonData.Object>](#) ←  
NormalLayer.JsonConverter

## Inherited Members

[JsonConversion.JsonConverter<NormalLayer, jsonData.Object>.ToJson\(NormalLayer\)](#) ,  
[JsonConversion.JsonConverter<NormalLayer, jsonData.Object>.FromJson\(JsonData.Object\)](#) ,  
[JsonConversion.JsonConverter<NormalLayer, jsonData.Object>.FromJson\(JsonData\)](#) ,  
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### JsonConverter(SemanticVersion)

```
public JsonConverter(SemanticVersion fromJsonFileVersion)
```

## Parameters

[fromJsonFileVersion](#) [SemanticVersion](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload

FromJSON(JsonDataType jsonData).

```
public override NormalLayer FromJson(JsonData.Object jsonData)
```

Parameters

jsonData [JsonData.Object](#)

Returns

[NormalLayer](#)

## ToJson(NormalLayer)

Attempts to convert the C# object into JSON data.

```
public override JsonData.Object ToJson(NormalLayer layer)
```

Parameters

layer [NormalLayer](#)

Returns

[JsonData.Object](#)

# Class TileLayer

Namespace: [PAC.Layers](#)

A class to represent a tile layer - one for placing and editing tileset tiles.

```
public class TileLayer : Layer
```

## Inheritance

[object](#) ↴ ← [Layer](#) ← TileLayer

## Inherited Members

[Layer.name](#) , [Layer.width](#) , [Layer.height](#) , [Layer.rect](#) , [Layer.\\_visible](#) , [Layer.visible](#) ,  
[Layer.locked](#) , [Layer.opacity](#) , [Layer.\\_blendMode](#) , [Layer.blendMode](#) , [Layer.keyFrames](#) ,  
[Layer.keyFrameIndices](#) , [Layer.keyFrameTextures](#) , [Layer.onPixelsChanged](#) ,  
[Layer.SetPixel\(int, int, int, Color, AnimFrameRefMode\)](#) ,  
[Layer.SetPixel\(IntVector2, int, Color, AnimFrameRefMode\)](#) ,  
[Layer.SetPixels\(IntVector2\[\], int, Color, AnimFrameRefMode\)](#) ,  
[Layer.GetPixel\(int, int, int, bool\)](#) , [Layer.IsBlank\(\)](#) , [Layer.Flip\(FlipDirection\)](#) ,  
[Layer.Rotate\(RotationAngle\)](#) , [Layer.Extend\(int, int, int, int\)](#) , [Layer.Scale\(float\)](#) ,  
[Layer.Scale\(float, float\)](#) , [Layer.Scale\(int, int\)](#) , [Layer.this\[int\]](#) , [Layer.GetKeyFrame\(int\)](#) ,  
[Layer.HasKeyFrameAt\(int\)](#) , [Layer.AddKeyFrame\(int\)](#) , [Layer.AddKeyFrame\(int, Texture2D\)](#) ,  
[Layer.AddKeyFrame\(AnimationKeyFrame\)](#) , [Layer.DeleteMostRecentKeyFrame\(int\)](#) ,  
[Layer.DeleteKeyFrame\(int\)](#) , [Layer.DeleteKeyFrame\(AnimationKeyFrame\)](#) ,  
[Layer.SubscribeToOnPixelsChanged\(UnityAction<IntVector2\[\], int\[\]>\)](#) ,  
[Layer.SubscribeToOnVisibilityChanged\(UnityAction\)](#) ,  
[Layer.SubscribeToOnBlendModeChanged\(UnityAction\)](#) ,  
[Layer.SubscribeToOnKeyFrameAdded\(UnityAction<int>\)](#) ,  
[Layer.SubscribeToOnKeyFrameRemoved\(UnityAction<int>\)](#) ,  
[Layer.GetJsonConverterSet\(SemanticVersion\)](#) , [object.Equals\(object\)](#) ↴ ,  
[object.Equals\(object, object\)](#) ↴ , [object.GetHashCode\(\)](#) ↴ , [object.GetType\(\)](#) ↴ ,  
[object.MemberwiseClone\(\)](#) ↴ , [object.ReferenceEquals\(object, object\)](#) ↴ , [object.ToString\(\)](#) ↴

## Constructors

### TileLayer(TileLayer)

Creates a deep copy of the TileLayer.

```
public TileLayer(TileLayer layer)
```

Parameters

layer [TileLayer](#)

## TileLayer(string, int, int)

```
public TileLayer(string name, int width, int height)
```

Parameters

name [string](#)

width [int](#)

height [int](#)

## Properties

### layerType

```
public override LayerType layerType { get; }
```

Property Value

[LayerType](#)

### tiles

The tiles on this layer.

```
public List<Tile> tiles { get; }
```

Property Value

## Methods

### AddTile(Tile)

Adds the tile to the layer.

```
public void AddTile(Tile tile)
```

#### Parameters

tile [Tile](#)

### ClearFrames()

Deletes all key frames.

```
public override void ClearFrames()
```

### ClearTiles()

Removes all tiles.

```
public void ClearTiles()
```

### ContainsTile(Tile)

Returns true if the tile appears on this layer.

```
public bool ContainsTile(Tile tile)
```

#### Parameters

[tile](#) [Tile](#)

Returns

[bool](#) ↗

## DeepCopy()

Creates a deep copy of the Layer.

```
public override Layer DeepCopy()
```

Returns

[Layer](#)

## DeleteKeyFrameNoEvent(int)

Deletes the key frame at the given frame index, if there is one, in which case it returns that key frame. Otherwise it returns null.

```
protected override AnimationKeyFrame DeleteKeyFrameNoEvent(int keyframe)
```

Parameters

[keyframe](#) [int](#) ↗

Returns

[AnimationKeyFrame](#)

## ExtendNoEvent(int, int, int, int)

Extends the dimensions of the layer in each direction by the given amounts, but does not invoke the onPixelsChanged event.

```
protected override void ExtendNoEvent(int left, int right, int up, int down)
```

## Parameters

left [int](#)

right [int](#)

up [int](#)

down [int](#)

## FlipNoEvent(FlipDirection)

Flips the layer, but does not invoke the onPixelsChanged event.

```
protected override void FlipNoEvent(FlipDirection direction)
```

## Parameters

direction [FlipDirection](#)

## GetLinkedPixels(IntVector2)

Get the pixels that are linked to the given pixel due to multiple tiles having the same file - i.e. they point to the same pixel within the tiles' file.

```
public IntVector2[] GetLinkedPixels(IntVector2 pixel)
```

## Parameters

pixel [IntVector2](#)

## Returns

[IntVector2\[\]](#)

## GetLinkedPixels(IntVector2[])

Get the pixels that are linked to the given pixels due to multiple tiles having the same file - i.e. they point to the same pixels within the tiles' file.

```
public IntVector2[] GetLinkedPixels(IntVector2[] pixels)
```

Parameters

`pixels` [IntVector2\[\]](#)

Returns

[IntVector2\[\]](#)

## GetPixel(IntVector2, int, bool)

Gets the colour of the pixel.

```
public override Color GetPixel(IntVector2 pixel, int frame, bool useLayerOpacity = true)
```

Parameters

`pixel` [IntVector2](#)

`frame` [int](#)

`useLayerOpacity` [bool](#)

Returns

Color

## PixelToTile(IntVector2)

Gets the tile that the pixel lands in, or null if there isn't one.

```
public Tile PixelToTile(IntVector2 pixel)
```

Parameters

`pixel` [IntVector2](#)

Returns

[Tile](#)

## PixelToTile(int, int)

Gets the tile that the pixel (x, y) lands in, or null if there isn't one.

```
public Tile PixelToTile(int x, int y)
```

Parameters

`x` [int](#)

`y` [int](#)

Returns

[Tile](#)

## RemoveTile(Tile)

Removes the tile from the layer. Throws an error if the tile is not in the layer.

```
public void RemoveTile(Tile tile)
```

Parameters

`tile` [Tile](#)

## RerenderKeyFrame(int)

Rerenders the keyframe.

```
public void RerenderKeyFrame(int frame)
```

Parameters

frame [int](#)

## RerenderKeyFrame(int, IntRect)

Rerenders the section of the keyframe within the given rect.

```
public void RerenderKeyFrame(int frame, IntRect rect)
```

Parameters

frame [int](#)

rect [IntRect](#)

## RerenderKeyFrame(int, IntVector2[])

Rerenders the given pixels of the keyframe.

```
public void RerenderKeyFrame(int frame, IntVector2[] pixels)
```

Parameters

frame [int](#)

pixels [IntVector2\[\]](#)

## RerenderKeyFrames()

Rerenders all keyframes.

```
public void RerenderKeyFrames()
```

## RerenderKeyFrames(IntRect)

Rerenders the section of every keyframe within the given rect.

```
public void RerenderKeyFrames(IntRect rect)
```

### Parameters

rect [IntRect](#)

## RerenderKeyFrames(IntVector2[])

Rerenders the given pixels of every keyframe.

```
public void RerenderKeyFrames(IntVector2[] pixels)
```

### Parameters

pixels [IntVector2](#)[]

## RerenderKeyFrames(int[])

Rerenders the given keyframes.

```
public void RerenderKeyFrames(int[] keyFrames)
```

### Parameters

keyFrames [int](#)[]

## RerenderKeyFrames(int[], IntRect)

Rerenders the section of the given keyframes within the given rect.

```
public void RerenderKeyFrames(int[] keyFrames, IntRect rect)
```

## Parameters

keyFrames [int\[\]](#)

rect [IntRect](#)

## RerenderKeyFrames(int[], IntVector2[])

Rerenders the given pixels of the given keyframes.

```
public void RerenderKeyFrames(int[] keyFrames, IntVector2[] pixels)
```

## Parameters

keyFrames [int\[\]](#)

pixels [IntVector2\[\]](#)

## RotateNoEvent(RotationAngle)

Rotates the layer, but does not invoke the onPixelsChanged event. Rotation is clockwise.

```
protected override void RotateNoEvent(RotationAngle angle)
```

## Parameters

angle [RotationAngle](#)

## ScaleNoEvent(int, int)

Resizes the dimensions to the new width and height, but does not invoke the onPixelsChanged event.

```
protected override void ScaleNoEvent(int newWidth, int newHeight)
```

## Parameters

`newWidth` [int](#)

`newHeight` [int](#)

## ScaleNoEvent(float, float)

Resizes the dimensions of the file by the scale factors, but does not invoke the `onPixelsChanged` event.

```
protected override void ScaleNoEvent(float xScaleFactor, float yScaleFactor)
```

## Parameters

`xScaleFactor` [float](#)

`yScaleFactor` [float](#)

## SetPixelsNoEvent(IntVector2[], int, Color, AnimFrameRefMode)

Sets the colour of the pixels. You do not need to check the pixels are in the layer as this check is done in `Layer.SetPixels()`, which is the only way this method is called.

```
protected override IntVector2[] SetPixelsNoEvent(IntVector2[] pixels, int frame, Color colour, AnimFrameRefMode frameRefMode)
```

## Parameters

`pixels` [IntVector2](#)[]

`frame` [int](#)

`colour` `Color`

`frameRefMode` [AnimFrameRefMode](#)

Returns

[IntVector2\[\]](#)

# Class TileLayer.JsonConverter

Namespace: [PAC.Layers](#)

```
public class TileLayer.JsonConverter : JsonConversion.JsonConverter<TileLayer,  
JsonData.Object>
```

## Inheritance

```
object ↪ JsonConversion.JsonConverter<TileLayer, jsonData.Object> ↪  
TileLayer.JsonConverter
```

## Inherited Members

```
JsonConversion.JsonConverter<TileLayer, jsonData.Object>.ToJson\(TileLayer\) ,  
JsonConversion.JsonConverter<TileLayer, jsonData.Object>.FromJson\(jsonData.Object\) ,  
JsonConversion.JsonConverter<TileLayer, jsonData.Object>.FromJson\(jsonData\) ,  
object.Equals\(object\) , object.Equals\(object, object\) , object.GetHashCode\(\) ,  
object.GetType\(\) , object.MemberwiseClone\(\) , object.ReferenceEquals\(object, object\) ,  
object.ToString\(\)
```

## Constructors

### JsonConverter(SemanticVersion)

```
public JsonConverter(SemanticVersion fromJsonFileVersion)
```

## Parameters

fromJsonFileVersion [SemanticVersion](#)

## Methods

### FromJson(Object)

Attempts to convert the JSON data into a C# object of the given type.

NOTE: JsonConverter has a default implementation for an overload FromJson(JsonData jsonData) that ensures it is of type JsonDataType before calling the specific overload

FromJSON(JsonDataType jsonData).

```
public override TileLayer FromJson(JsonData.Object jsonData)
```

Parameters

jsonData [JsonData.Object](#)

Returns

[TileLayer](#)

## ToJson(TileLayer)

Attempts to convert the C# object into JSON data.

```
public override JsonData.Object ToJson(TileLayer layer)
```

Parameters

layer [TileLayer](#)

Returns

[JsonData.Object](#)

# Namespace PAC.Screen

## Classes

[MaximiseWindow](#)

[ScreenInfo](#)

# Class MaximiseWindow

Namespace: [PAC.Screen](#)

```
public class MaximiseWindow : MonoBehaviour
```

## Inheritance

[object](#) ← MaximiseWindow

## Methods

### ShowWindowAsync(int, int)

```
public static extern bool ShowWindowAsync(int hWnd, int nCmdShow)
```

## Parameters

hWnd [int](#)

nCmdShow [int](#)

## Returns

[bool](#)

# Class ScreenInfo

Namespace: [PAC.Screen](#)

```
public static class ScreenInfo
```

## Inheritance

[object](#) ← ScreenInfo

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Properties

### screenWorldHeight

Returns the height of the screen in world coords.

```
public static float screenWorldHeight { get; }
```

Property Value

[float](#)

### screenWorldWidth

Returns the width of the screen in world coords.

```
public static float screenWorldWidth { get; }
```

Property Value

[float](#)

# Methods

## GetScreenPixelColour(IntVector2)

Returns the colour of the screen pixel at the given coords. Best results when called after end of frame, using 'yield return new WaitForEndOfFrame()'.

```
public static Color GetScreenPixelColour(IntVector2 coords)
```

### Parameters

coords [IntVector2](#)

### Returns

Color

## GetScreenPixelColour(int, int)

Returns the colour of the screen pixel at coords (x, y). Best results when called after end of frame, using 'yield return new WaitForEndOfFrame()'.

```
public static Color GetScreenPixelColour(int x, int y)
```

### Parameters

x [int](#)

y [int](#)

### Returns

Color

# Namespace PAC.Serialization

## Classes

[LayerSerializationSurrogate](#)

[Texture2DSerializationSurrogate](#)

# Class LayerSerializationSurrogate

Namespace: [PAC.Serialization](#)

```
[Obsolete]  
public class LayerSerializationSurrogate : ISerializationSurrogate
```

## Inheritance

[object](#) ← LayerSerializationSurrogate

## Implements

[ISerializationSurrogate](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### GetObjectData(object, SerializationInfo, StreamingContext)

Populates the provided [SerializationInfo](#) with the data needed to serialize the object.

```
public void GetObjectData(object obj, SerializationInfo info,  
StreamingContext context)
```

## Parameters

**obj** [object](#)

The object to serialize.

**info** [SerializationInfo](#)

The [SerializationInfo](#) to populate with data.

**context** [StreamingContext](#)

The destination (see [StreamingContext](#)) for this serialization.

## Exceptions

### [SecurityException](#)

The caller does not have the required permission.

## SetObjectData(object, SerializationInfo, StreamingContext, ISurrogateSelector)

Populates the object using the information in the [SerializationInfo](#).

```
public object SetObjectData(object obj, SerializationInfo info, StreamingContext context, ISurrogateSelector selector)
```

## Parameters

### obj [object](#)

The object to populate.

### info [SerializationInfo](#)

The information to populate the object.

### context [StreamingContext](#)

The source from which the object is deserialized.

### selector [ISurrogateSelector](#)

The surrogate selector where the search for a compatible surrogate begins.

## Returns

### [object](#)

The populated deserialized object.

## Exceptions

## [SecurityException](#)

The caller does not have the required permission.

# Class Texture2DSerializationSurrogate

Namespace: [PAC.Serialization](#)

```
[Obsolete]
public class Texture2DSerializationSurrogate : ISerializationSurrogate
```

## Inheritance

[object](#) ← Texture2DSerializationSurrogate

## Implements

[ISerializationSurrogate](#)

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### GetObjectData(object, SerializationInfo, StreamingContext)

Populates the provided [SerializationInfo](#) with the data needed to serialize the object.

```
public void GetObjectData(object obj, SerializationInfo info,
StreamingContext context)
```

## Parameters

**obj** [object](#)

The object to serialize.

**info** [SerializationInfo](#)

The [SerializationInfo](#) to populate with data.

**context** [StreamingContext](#)

The destination (see [StreamingContext](#)) for this serialization.

## Exceptions

### [SecurityException](#)

The caller does not have the required permission.

## SetObjectData(object, SerializationInfo, StreamingContext, ISurrogateSelector)

Populates the object using the information in the [SerializationInfo](#).

```
public object SetObjectData(object obj, SerializationInfo info, StreamingContext context, ISurrogateSelector selector)
```

## Parameters

### obj [object](#)

The object to populate.

### info [SerializationInfo](#)

The information to populate the object.

### context [StreamingContext](#)

The source from which the object is deserialized.

### selector [ISurrogateSelector](#)

The surrogate selector where the search for a compatible surrogate begins.

## Returns

### [object](#)

The populated deserialized object.

## Exceptions

## [SecurityException](#)

The caller does not have the required permission.

# Namespace PAC.Shaders

## Classes

[HueSaturationBoxShader](#)

[LightnessSliderShader](#)

[Outline](#)

[RainbowOutline](#)

# Class HueSaturationBoxShader

Namespace: [PAC.Shaders](#)

```
public class HueSaturationBoxShader : MonoBehaviour
```

## Inheritance

[object](#) ← HueSaturationBoxShader

## Fields

### hueSaturationBoxMaterial

```
public Material hueSaturationBoxMaterial
```

#### Field Value

Material

# Class LightnessSliderShader

Namespace: [PAC.Shaders](#)

```
public class LightnessSliderShader : MonoBehaviour
```

## Inheritance

[object](#) ← LightnessSliderShader

## Fields

### lightnessSliderMaterial

```
public Material lightnessSliderMaterial
```

#### Field Value

Material

# Class Outline

Namespace: [PAC.Shaders](#)

```
public class Outline : MonoBehaviour
```

## Inheritance

[object](#) ← Outline

## Fields

### outlineMaterial

```
public Material outlineMaterial
```

#### Field Value

Material

## Properties

### colour

```
public Color colour { get; set; }
```

#### Property Value

Color

### keepExistingTexture

```
public bool keepExistingTexture { get; set; }
```

Property Value

[bool](#) ↗

## outlineEnabled

```
public bool outlineEnabled { get; set; }
```

Property Value

[bool](#) ↗

## thickness

```
public float thickness { get; set; }
```

Property Value

[float](#) ↗

# Class RainbowOutline

Namespace: [PAC.Shaders](#)

```
public class RainbowOutline : MonoBehaviour
```

## Inheritance

[object](#) ← RainbowOutline

## Fields

### rainbowOutlineMaterial

```
public Material rainbowOutlineMaterial
```

#### Field Value

Material

## Properties

### keepExistingTexture

```
public bool keepExistingTexture { get; set; }
```

#### Property Value

[bool](#)

### outlineEnabled

```
public bool outlineEnabled { get; set; }
```

Property Value

[bool](#) ↗

**thickness**

```
public float thickness { get; set; }
```

Property Value

[float](#) ↗

# Namespace PAC.Themes

## Classes

[Theme](#)

[ThemeManager](#)

[UITheme](#)

## Enums

[ThemeObjectType](#)

# Class Theme

Namespace: [PAC.Themes](#)

```
public class Theme : ScriptableObject
```

## Inheritance

[object](#) ← Theme

## Fields

### backgroundColour

```
public Color backgroundColour
```

Field Value

Color

### buttonColour

```
public Color buttonColour
```

Field Value

Color

### buttonHoverColour

```
public Color buttonHoverColour
```

Field Value

Color

## buttonPressedColour

```
public Color buttonPressedColour
```

Field Value

Color

## layerTileHoverTint

```
public Color layerTileHoverTint
```

Field Value

Color

## layerTileOffColour

```
public Color layerTileOffColour
```

Field Value

Color

## layerTileOnColour

```
public Color layerTileOnColour
```

Field Value

Color

## layerTilePressedColour

```
public Color layerTilePressedColour
```

Field Value

Color

## panelColour

```
public Color panelColour
```

Field Value

Color

## scaleColour

```
public Color scaleColour
```

Field Value

Color

## scaleHoverColour

```
public Color scaleHoverColour
```

Field Value

Color

## scalePressedColour

```
public Color scalePressedColour
```

Field Value

Color

## scrollbarBackgroundColour

```
public Color scrollbarBackgroundColour
```

Field Value

Color

## scrollbarBackgroundHoverColour

```
public Color scrollbarBackgroundHoverColour
```

Field Value

Color

## scrollbarBackgroundPressedColour

```
public Color scrollbarBackgroundPressedColour
```

Field Value

Color

## scrollbarHandleColour

```
public Color scrollbarHandleColour
```

Field Value

Color

## scrollbarHandleHoverColour

```
public Color scrollbarHandleHoverColour
```

Field Value

Color

## scrollbarHandlePressedColour

```
public Color scrollbarHandlePressedColour
```

Field Value

Color

## shadowColour

```
public Color shadowColour
```

Field Value

Color

## subPanelColour

```
public Color subPanelColour
```

Field Value

Color

## textboxColour

```
public Color textboxColour
```

Field Value

Color

## textboxHoverColour

```
public Color textboxHoverColour
```

Field Value

Color

## textboxPressedColour

```
public Color textboxPressedColour
```

Field Value

Color

## textboxSelectedColour

```
public Color textboxSelectedColour
```

Field Value

Color

## themeName

```
public string themeName
```

Field Value

[string](#)

## toggleButtonHoverTint

```
public Color toggleButtonHoverTint
```

Field Value

Color

## toggleButtonOffColour

```
public Color toggleButtonOffColour
```

Field Value

Color

## toggleButtonOnColour

```
public Color toggleButtonOnColour
```

Field Value

Color

## toggleButtonPressedColour

```
public Color toggleButtonPressedColour
```

Field Value

Color

## Methods

### SubscribeToOnChanged(UnityAction)

```
public void SubscribeToOnChanged(UnityAction call)
```

Parameters

**call** UnityAction

# Class ThemeManager

Namespace: [PAC.Themes](#)

```
public class ThemeManager : MonoBehaviour
```

## Inheritance

[object](#) ← ThemeManager

## Properties

currentTheme

```
public Theme currentTheme { get; }
```

Property Value

[Theme](#)

themes

```
public List<Theme> themes { get; }
```

Property Value

[List](#) <[Theme](#)>

## Methods

SetTheme(Theme)

```
public void SetTheme(Theme theme)
```

Parameters

theme [Theme](#)

## SetTheme(string)

```
public void SetTheme(string themeName)
```

Parameters

themeName [string](#)

## SubscribeToThemeChanged(UnityAction)

```
public void SubscribeToThemeChanged(UnityAction call)
```

Parameters

call [UnityAction](#)

# Enum ThemeObjectType

Namespace: [PAC.Themes](#)

```
public enum ThemeObjectType
```

## Fields

Background = 1

None = 0

Panel = 2

RadioButton = 5

Shadow = 4

SubPanel = 3

# Class UITheme

Namespace: [PAC.Themes](#)

```
public class UITheme : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UITheme

# Namespace PAC.Tilesets

## Classes

[Tile](#)

[TileOutlineManager](#)

[Tilesset](#)

[TilessetManager](#)

# Class Tile

Namespace: [PAC.Tilesets](#)

```
public class Tile
```

## Inheritance

[object](#) ← Tile

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

**Tile(File, IntVector2, TileLayer[])**

```
public Tile(File file, IntVector2 bottomLeft, TileLayer[] linkedTileLayers)
```

## Parameters

**file** [File](#)

**bottomLeft** [IntVector2](#)

**linkedTileLayers** [TileLayer\[\]](#)

The tile layers that the tile is on that are associated with each of the layers in the tile's file. Given in the same order as the layers in the tile's file.

## Properties

**bottomLeft**

```
public IntVector2 bottomLeft { get; set; }
```

Property Value

[IntVector2](#)

## bottomRight

```
public IntVector2 bottomRight { get; set; }
```

Property Value

[IntVector2](#)

## centre

```
public Vector2 centre { get; }
```

Property Value

[Vector2](#)

## file

```
public File file { get; }
```

Property Value

[File](#)

## height

```
public int height { get; }
```

Property Value

[int](#)

## rect

```
public IntRect rect { get; }
```

Property Value

[IntRect](#)

## tileLayersAppearsOn

```
public TileLayer[] tileLayersAppearsOn { get; }
```

Property Value

[TileLayer\[\]](#)

## topLeft

```
public IntVector2 topLeft { get; set; }
```

Property Value

[IntVector2](#)

## topRight

```
public IntVector2 topRight { get; set; }
```

Property Value

[IntVector2](#)

## width

```
public int width { get; }
```

### Property Value

[int](#)

## Methods

### LayerInTileToTileLayer(Layer)

Takes in the layer (that must be in the tile's file) and returns the tile layer (that the tile is on) that the layer is associated with.

```
public TileLayer LayerInTileToTileLayer(Layer layer)
```

### Parameters

[layer](#) [Layer](#)

### Returns

[TileLayer](#)

### SubscribeToOnMoved(UnityAction<IntRect>)

```
public void SubscribeToOnMoved(UnityAction<IntRect> call)
```

### Parameters

[call](#) [UnityAction<IntRect>](#)

### TileLayerToLayerInTile(TileLayer)

Takes in the tile layer (that this tile must be on) and returns the layer it is associated with in the tile's file.

```
public Layer TileLayerToLayerInTile(TileLayer tileLayer)
```

Parameters

tileLayer [TileLayer](#)

Returns

[Layer](#)

# Class TileOutlineManager

Namespace: [PAC.Tilesets](#)

```
public class TileOutlineManager : MonoBehaviour
```

## Inheritance

[object](#) ← TileOutlineManager

## Methods

### HideShowTileOutline(Tile, bool)

```
public void HideShowTileOutline(Tile tile, bool show)
```

#### Parameters

tile [Tile](#)

show [bool](#)

### HideTileOutline(Tile)

```
public void HideTileOutline(Tile tile)
```

#### Parameters

tile [Tile](#)

### RefreshTileOutlines()

```
public void RefreshTileOutlines()
```

## ShowTileOutline(Tile)

```
public void ShowTileOutline(Tile tile)
```

### Parameters

tile [Tile](#)

# Class Tileset

Namespace: [PAC.Tilesets](#)

```
public class Tileset
```

## Inheritance

[object](#) ← Tileset

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Tileset(string)

```
public Tileset(string name)
```

#### Parameters

name [string](#)

### Tileset(string, List<File>)

```
public Tileset(string name, List<File> tiles)
```

#### Parameters

name [string](#)

tiles [List](#)<File>

# Properties

## Count

```
public int Count { get; }
```

## Property Value

[int](#)

## tilesetName

```
public string tilesetName { get; }
```

## Property Value

[string](#)

# Methods

## AddTile(File)

```
public void AddTile(File tile)
```

## Parameters

[tile](#) [File](#)

## RemoveTile(File)

```
public bool RemoveTile(File tile)
```

## Parameters

[tile](#) [File](#)

Returns

[bool](#) ↗

# Class TilesetManager

Namespace: [PAC.Tilesets](#)

```
public class TilesetManager : MonoBehaviour
```

## Inheritance

[object](#) ↗ ← TilesetManager

## Methods

### SubscribeToOnTileIconSelected(UnityAction<File>)

```
public void SubscribeToOnTileIconSelected(UnityAction<File> call)
```

## Parameters

call UnityAction<[File](#)>

# Namespace PAC.UI

## Classes

[DialogBoxManager](#)

[UIButton](#)

[UICollapser](#)

[UIColourField](#)

[UIColourFieldGroup](#)

[UIColourPicker](#)

[UIDropdown](#)

[UIDropdownChoice](#)

[UIElement](#)

[UIGridPacker](#)

[UIKeyboardShortcut](#)

[UIManager](#)

[UIModalWindow](#)

[UINumberField](#)

[UIScale](#)

[UIScrollView](#)

[UITabManager](#)

[UITextbox](#)

[UITileIcon](#)

[UIToggleButton](#)

[UIToggleGroup](#)

[UIToolButton](#)

[UITooltip](#)

[UIViewport](#)

## Enums

[CollapsedState](#)

[DropdownCloseMode](#)

[DropdownDirection](#)

[GridAlignment](#)

[ScrollDirection](#)

[UIAnchorPoint](#)

[UIElementDeselectMode](#)

[UIElementSelectMode](#)

[UITextboxAnchorPoint](#)

[ViewportSide](#)

# Enum CollapsedState

Namespace: [PAC.UI](#)

```
public enum CollapsedState
```

## Fields

Collapsed = 1

Uncollapsed = 0

# Class DialogBoxManager

Namespace: [PAC.UI](#)

```
public class DialogBoxManager : MonoBehaviour
```

## Inheritance

[object](#) ← DialogBoxManager

## Methods

### CloseBrushSettingsWindow()

```
public void CloseBrushSettingsWindow()
```

### CloseDialogBox(GameObject)

```
public void CloseDialogBox(GameObject dialogBox)
```

#### Parameters

**dialogBox** GameObject

### CloseDialogBox(GameObject, Action)

```
public void CloseDialogBox(GameObject dialogBox, Action onComplete)
```

#### Parameters

**dialogBox** GameObject

**onComplete** [Action](#)

## CloseExtendCropWindow()

```
public void CloseExtendCropWindow()
```

## CloseGridWindow()

```
public void CloseGridWindow()
```

## CloseImportPACWindow()

```
public void CloseImportPACWindow()
```

## CloseKeyboardShortcutsWindow()

```
public void CloseKeyboardShortcutsWindow()
```

## CloseLayerPropertiesWindow()

```
public void CloseLayerPropertiesWindow()
```

## CloseModalWindow(UIModalWindow)

```
public void CloseModalWindow(UIModalWindow modalWindow)
```

### Parameters

modalWindow [UIModalWindow](#)

## CloseNewFileWindow()

```
public void CloseNewFileWindow()
```

## CloseOutlineWindow()

```
public void CloseOutlineWindow()
```

## CloseReplaceColourWindow()

```
public void CloseReplaceColourWindow()
```

## CloseScaleWindow()

```
public void CloseScaleWindow()
```

## ConfirmExtendCropWindow()

```
public void ConfirmExtendCropWindow()
```

## ConfirmGridWindow()

```
public void ConfirmGridWindow()
```

## ConfirmImportPACWindow()

```
public void ConfirmImportPACWindow()
```

## ConfirmNewFileWindow()

```
public void ConfirmNewFileDialog()
```

## ConfirmOutlineWindow()

```
public void ConfirmOutlineWindow()
```

## ConfirmReplaceColourWindow()

```
public void ConfirmReplaceColourWindow()
```

## ConfirmScaleWindow()

```
public void ConfirmScaleWindow()
```

## OpenBrushSettingsWindow()

```
public void OpenBrushSettingsWindow()
```

## OpenDialogBox(GameObject)

```
public void OpenDialogBox(GameObject dialogBox)
```

### Parameters

dialogBox GameObject

## OpenExtendCropWindow()

```
public void OpenExtendCropWindow()
```

## OpenGridWindow()

```
public void OpenGridWindow()
```

## OpenImportPACWindow(File)

```
public void OpenImportPACWindow(File file)
```

### Parameters

file [File](#)

## OpenKeyboardShortcutsWindow()

```
public void OpenKeyboardShortcutsWindow()
```

## OpenLayerPropertiesWindow(int)

```
public void OpenLayerPropertiesWindow(int layerIndex)
```

### Parameters

layerIndex [int](#)

## OpenModalWindow()

```
public UIModalWindow OpenModalWindow()
```

Returns

[UIModalWindow](#)

## OpenModalWindow(string, string)

```
public UIModalWindow OpenModalWindow(string title, string message)
```

Parameters

**title** [string](#)

**message** [string](#)

Returns

[UIModalWindow](#)

## OpenModalWindow(string, string, string[], UnityAction[])

```
public UIModalWindow OpenModalWindow(string title, string message, string[]
buttonTexts, UnityAction[] buttonOnClicks)
```

Parameters

**title** [string](#)

**message** [string](#)

**buttonTexts** [string](#)[]

**buttonOnClicks** UnityAction[]

Returns

[UIModalWindow](#)

## OpenNewFileWindow()

```
public void OpenNewFileWindow()
```

## OpenOutlineWindow()

```
public void OpenOutlineWindow()
```

## OpenReplaceColourWindow()

```
public void OpenReplaceColourWindow()
```

## OpenScaleWindow()

```
public void OpenScaleWindow()
```

## OpenUnsavedChangesWindow(int)

```
public void OpenUnsavedChangesWindow(int fileIndex)
```

### Parameters

fileIndex [int](#)

## SetNewFileHeight(int)

```
public void SetNewFileHeight(int height)
```

### Parameters

height [int](#)

## SetNewFileWidth(int)

```
public void SetNewFileWidth(int width)
```

### Parameters

width [int](#)

## UnsavedChangesNo()

```
public void UnsavedChangesNo()
```

## UnsavedChangesYes()

```
public void UnsavedChangesYes()
```

## UpdateBrushSettingsShape()

```
public void UpdateBrushSettingsShape()
```

## UpdateImportPACPreview()

```
public void UpdateImportPACPreview()
```

# Enum DropdownCloseMode

Namespace: [PAC.UI](#)

```
public enum DropdownCloseMode
```

## Fields

ClickOff = 0

MouseOff = 1

# Enum DropdownDirection

Namespace: [PAC.UI](#)

```
public enum DropdownDirection
```

## Fields

down = -1

up = 1

# Enum GridAlignment

Namespace: [PAC.UI](#)

```
public enum GridAlignment
```

## Fields

Centre = 0

Left = -1

Right = 1

# Enum ScrollDirection

Namespace: [PAC.UI](#)

```
public enum ScrollDirection
```

## Fields

Horizontal = 1

Vertical = 0

# Enum UIAnchorPoint

Namespace: [PAC.UI](#)

```
public enum UIAnchorPoint
```

## Fields

bottomCentre = 7

bottomLeft = 6

bottomRight = 8

centre = 4

leftCentre = 3

rightCentre = 5

topCentre = 1

topLeft = 0

topRight = 2

# Class UIButton

Namespace: [PAC.UI](#)

```
public class UIButton : MonoBehaviour
```

## Inheritance

[Object](#) ← UIButton

## Fields

### backgroundColour

```
public Color backgroundColour
```

Field Value

Color

### backgroundHoverColour

```
public Color backgroundHoverColour
```

Field Value

Color

### backgroundPressedColour

```
public Color backgroundPressedColour
```

Field Value

## Properties

### height

```
public float height { get; set; }
```

#### Property Value

[float](#)

### hoverImage

```
public Sprite hoverImage { get; }
```

#### Property Value

Sprite

### image

```
public Sprite image { get; }
```

#### Property Value

Sprite

### isPressed

```
public bool isPressed { get; }
```

#### Property Value

[bool](#)

## pressedImage

```
public Sprite pressedImage { get; }
```

Property Value

Sprite

## width

```
public float width { get; set; }
```

Property Value

[float](#)

## Methods

### Press()

```
public void Press()
```

### RightClick()

```
public void RightClick()
```

## SetImages(Sprite, Sprite, Sprite)

```
public void SetImages(Sprite image, Sprite hoverImage, Sprite pressedImage)
```

Parameters

`image` Sprite

`hoverImage` Sprite

`pressedImage` Sprite

## SetSortingLayer(string)

```
public void SetSortingLayer(string sortingLayer)
```

Parameters

`sortingLayer` [string](#)

## SetSortingLayer(string, int)

```
public void SetSortingLayer(string sortingLayer, int sortingOrder)
```

Parameters

`sortingLayer` [string](#)

`sortingOrder` [int](#)

## SetSortingOrder(int)

```
public void SetSortingOrder(int sortingOrder)
```

Parameters

`sortingOrder` [int](#)

## SetText(string)

```
public void SetText(string text)
```

Parameters

text [string](#)

## SubscribeToClick(UnityAction)

```
public void SubscribeToClick(UnityAction call)
```

Parameters

call [UnityAction](#)

## SubscribeToHover(UnityAction)

```
public void SubscribeToHover(UnityAction call)
```

Parameters

call [UnityAction](#)

## SubscribeToIdle(UnityAction)

```
public void SubscribeToIdle(UnityAction call)
```

Parameters

call [UnityAction](#)

## SubscribeToLeftClick(UnityAction)

```
public void SubscribeToLeftClick(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToRightClick(UnityAction)

```
public void SubscribeToRightClick(UnityAction call)
```

Parameters

`call` UnityAction

## UpdateDisplay()

```
public void UpdateDisplay()
```

# Class UICollapser

Namespace: [PAC.UI](#)

```
public class UICollapser : MonoBehaviour
```

## Inheritance

[Object](#) ↗ UICollapser

## Methods

### Collapse()

```
public void Collapse()
```

### SetCollapsed(CollapsedState)

```
public void SetCollapsed(CollapsedState collapsedState)
```

#### Parameters

collapsedState [CollapsedState](#)

### Uncollapse()

```
public void Uncollapse()
```

# Class UIColourField

Namespace: [PAC.UI](#)

```
public class UIColourField : MonoBehaviour
```

## Inheritance

[object](#) ← UIColourField

## Properties

### colour

```
public Color colour { get; }
```

Property Value

Color

### colourPickerOpen

```
public bool colourPickerOpen { get; }
```

Property Value

[bool](#)

### outlineThickness

```
public float outlineThickness { get; }
```

Property Value

## Methods

### CloseColourPicker()

```
public void CloseColourPicker()
```

### OpenColourPicker()

```
public void OpenColourPicker()
```

### SetColour(Color)

```
public void SetColour(Color colour)
```

#### Parameters

`colour` Color

### SubscribeToColourChange(UnityAction)

```
public void SubscribeToColourChange(UnityAction call)
```

#### Parameters

`call` UnityAction

### SubscribeToColourPickerClose(UnityAction)

```
public void SubscribeToColourPickerClose(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToColourPickerOpen(UnityAction)

```
public void SubscribeToColourPickerOpen(UnityAction call)
```

Parameters

`call` UnityAction

# Class UIColourFieldGroup

Namespace: [PAC.UI](#)

```
public class UIColourFieldGroup : MonoBehaviour
```

## Inheritance

[object](#) ← UIColourFieldGroup

## Properties

### Count

```
public int Count { get; }
```

### Property Value

[int](#)

### colourFields

```
public List<UIColourField> colourFields { get; }
```

### Property Value

[List](#) <[UIColourField](#)>

### currentOpenColourField

```
public UIColourField currentOpenColourField { get; }
```

### Property Value

## [UIColourField](#)

# Methods

## Add(UIColourField)

```
public bool Add(UIColourField colourField)
```

### Parameters

colourField [UIColourField](#)

### Returns

[bool](#) ↗

## Clear()

```
public void Clear()
```

## Contains(UIColourField)

```
public bool Contains(UIColourField colourField)
```

### Parameters

colourField [UIColourField](#)

### Returns

[bool](#) ↗

## DestroyColourFields()

```
public void DestroyColourFields()
```

## Opened(UIColourField)

```
public void Opened(UIColourField openedColourField)
```

### Parameters

openedColourField [UIColourField](#)

## Remove(UIColourField)

```
public bool Remove(UIColourField colourField)
```

### Parameters

colourField [UIColourField](#)

### Returns

[bool](#) ↗

## SubscribeToColourFieldOpen(UnityAction)

```
public void SubscribeToColourFieldOpen(UnityAction call)
```

### Parameters

call UnityAction

# Class UIColourPicker

Namespace: [PAC.UI](#)

```
public class UIColourPicker : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIColourPicker

## Fields

### colourPreview

```
public ColourPreview colourPreview
```

## Field Value

[ColourPreview](#)

## Properties

### colour

```
public Color colour { get; }
```

## Property Value

Color

## Methods

### Close()

```
public void Close()
```

## SelectDeselectEyeDropper()

```
public void SelectDeselectEyeDropper()
```

## SetColour(Color)

```
public void SetColour(Color colour)
```

### Parameters

`colour` Color

## SubscribeToClose(UnityAction)

```
public void SubscribeToClose(UnityAction call)
```

### Parameters

`call` UnityAction

## SubscribeToColourChange(UnityAction)

```
public void SubscribeToColourChange(UnityAction call)
```

### Parameters

`call` UnityAction

## UpdateColour(Color)

```
public void UpdateColour(Color colour)
```

## Parameters

colour Color

# Class UIDropdown

Namespace: [PAC.UI](#)

```
public class UIDropdown : MonoBehaviour
```

## Inheritance

[object](#) ← UIDropdown

## Fields

### openingButton

```
public GameObject openingButton
```

#### Field Value

GameObject

### parentDropdown

```
public UIDropdown parentDropdown
```

#### Field Value

[UIDropdown](#)

## Properties

### isRootDropdown

```
public bool isRootDropdown { get; }
```

Property Value

[bool](#) ↗

open

```
public bool open { get; }
```

Property Value

[bool](#) ↗

rootDropdown

```
public UIDropdown rootDropdown { get; }
```

Property Value

[UIDropdown](#)

Methods

Close()

```
public void Close()
```

CloseRoot()

Closes the highest-level dropdown containing this one.

```
public void CloseRoot()
```

## FullyOpen()

Opens this dropdown and all child dropdowns, and all their child dropdowns, etc.

```
public void FullyOpen()
```

## Initialise()

```
public void Initialise()
```

## MouseOff()

```
public bool MouseOff()
```

Returns

[bool](#)

## Open()

```
public void Open()
```

## SetOpen(bool)

```
public void SetOpen(bool open)
```

Parameters

open [bool](#)

## SetOpenEditor(bool)

```
public void SetOpenEditor(bool open)
```

## Parameters

open [bool](#)

## ToggleOpen()

```
public void ToggleOpen()
```

# Class UIDropdownChoice

Namespace: [PAC.UI](#)

```
public class UIDropdownChoice : MonoBehaviour
```

## Inheritance

[object](#) ← UIDropdownChoice

## Fields

### direction

```
public DropdownDirection direction
```

#### Field Value

[DropdownDirection](#)

### options

```
public List<string> options
```

#### Field Value

[List](#) <[string](#)>

### selectedOptionIndex

```
public int selectedOptionIndex
```

#### Field Value

[int](#)

## Properties

### selectedOption

```
public string selectedOption { get; }
```

Property Value

[string](#)

## Methods

### Select(string)

```
public bool Select(string option)
```

Parameters

option [string](#)

Returns

[bool](#)

### SetUpDropdown()

```
public void SetUpDropdown()
```

### SubscribeToOptionChanged(UnityAction)

```
public void SubscribeToOptionChanged(UnityAction call)
```

## Parameters

**call** UnityAction

# Class UIElement

Namespace: [PAC.UI](#)

```
public class UIElement : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIElement

## Fields

### viewport

```
public UIViewport viewport
```

## Field Value

[UIViewport](#)

## Properties

### elementName

```
public string elementName { get; }
```

## Property Value

[string](#) ↗

# Enum UIElementDeselectMode

Namespace: [PAC.UI](#)

```
public enum UIElementDeselectMode
```

## Fields

Manual = 0

OnInputTargetUntargeted = 1

# Enum UIElementSelectMode

Namespace: [PAC.UI](#)

```
public enum UIElementSelectMode
```

## Fields

Manual = 0

OnInputTargetTargeted = 1

# Class UIGridPacker

Namespace: [PAC.UI](#)

```
public class UIGridPacker : MonoBehaviour
```

## Inheritance

[object](#) ↪ UIGridPacker

## Methods

### Rewritten Repack()

```
public void Repack()
```

# Class UIKeyboardShortcut

Namespace: [PAC.UI](#)

```
public class UIKeyboardShortcut : MonoBehaviour
```

## Inheritance

[Object](#) ← UIKeyboardShortcut

## Fields

### actionName

```
public string actionName
```

## Field Value

[string](#)

## Properties

### shortcut

```
public KeyboardShortcut shortcut { get; set; }
```

## Property Value

[KeyboardShortcut](#)

## Methods

### SubscribeToOnShortcutSet(UnityAction<KeyboardShortc ut>)

```
public void SubscribeToOnShortcutSet(UnityAction<KeyboardShortcut> call)
```

## Parameters

call UnityAction<[KeyboardShortcut](#)>

# Class UIManager

Namespace: [PAC.UI](#)

```
public class UIManager : MonoBehaviour
```

## Inheritance

[Object](#) ↗ UIManager

## Properties

### selectedUIElement

```
public UIElement selectedUIElement { get; }
```

Property Value

[UIElement](#)

## Methods

### CanTargetInputTarget(InputTarget)

```
public bool CanTargetInputTarget(InputTarget inputTarget)
```

Parameters

inputTarget [InputTarget](#)

Returns

[bool](#) ↗

### TryTarget(UIElement)

```
public bool TryTarget(UIElement uiElement)
```

Parameters

uiElement [UIElement](#)

Returns

[bool](#)

## TryUntarget(UIElement)

```
public bool TryUntarget(UIElement uiElement)
```

Parameters

uiElement [UIElement](#)

Returns

[bool](#)

# Class UIModalWindow

Namespace: [PAC.UI](#)

```
public class UIModalWindow : MonoBehaviour
```

## Inheritance

[object](#) ← UIModalWindow

## Methods

### AddButton(string, UnityAction)

```
public UIModalWindow AddButton(string text, UnityAction onClick)
```

#### Parameters

text [string](#)

onClick [UnityAction](#)

#### Returns

[UIModalWindow](#)

### AddCloseButton(string)

```
public UIModalWindow AddCloseButton(string text)
```

#### Parameters

text [string](#)

#### Returns

[UIModalWindow](#)

## Close()

```
public void Close()
```

## SetMessage(string)

```
public UIModalWindow SetMessage(string message)
```

### Parameters

message [string](#)

### Returns

[UIModalWindow](#)

## SetTitle(string)

```
public UIModalWindow SetTitle(string title)
```

### Parameters

title [string](#)

### Returns

[UIModalWindow](#)

# Class UINumberField

Namespace: [PAC.UI](#)

```
public class UINumberField : MonoBehaviour
```

## Inheritance

[object](#) ← UINumberField

## Properties

### max

```
public float max { get; set; }
```

Property Value

[float](#)

### min

```
public float min { get; set; }
```

Property Value

[float](#)

### value

```
public float value { get; set; }
```

Property Value

[float](#)

## Methods

### AddNumOfIncrements(int)

```
public void AddNumOfIncrements(int numofIncrements)
```

#### Parameters

`numofIncrements` [int](#)

### Decrement()

```
public void Decrement()
```

### Increment()

```
public void Increment()
```

### SubscribeToValueChanged(UnityAction)

```
public void SubscribeToValueChanged(UnityAction call)
```

#### Parameters

`call` UnityAction

# Class UIScale

Namespace: [PAC.UI](#)

```
public class UIScale : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIScale

## Fields

### backgroundColour

```
public Color backgroundColour
```

Field Value

Color

### backgroundHoverColour

```
public Color backgroundHoverColour
```

Field Value

Color

### backgroundPressedColour

```
public Color backgroundPressedColour
```

Field Value

Color

## height

```
public float height
```

Field Value

[float](#)

## width

```
public float width
```

Field Value

[float](#)

## Properties

### decimalPlaces

```
public int decimalPlaces { get; }
```

Property Value

[int](#)

### value

```
public float value { get; }
```

Property Value

[float](#)

## Methods

### SetValue(float)

```
public bool SetValue(float value)
```

#### Parameters

[value](#) [float](#)

#### Returns

[bool](#)

### SetValueNoNotify(float)

```
public bool SetValueNoNotify(float value)
```

#### Parameters

[value](#) [float](#)

#### Returns

[bool](#)

### SubscribeToValueChange(UnityAction)

```
public void SubscribeToValueChange(UnityAction call)
```

#### Parameters

[call](#) UnityAction

## UpdateDisplay()

```
public void UpdateDisplay()
```

# Class UIScrollbar

Namespace: [PAC.UI](#)

```
public class UIScrollbar : MonoBehaviour
```

## Inheritance

[Object](#) ← UIScrollbar

## Fields

### backgroundColour

```
public Color backgroundColour
```

Field Value

Color

### backgroundHoverColour

```
public Color backgroundHoverColour
```

Field Value

Color

### backgroundPressedColour

```
public Color backgroundPressedColour
```

Field Value

Color

## handleColour

```
public Color handleColour
```

Field Value

Color

## handleHoverColour

```
public Color handleHoverColour
```

Field Value

Color

## handlePressedColour

```
public Color handlePressedColour
```

Field Value

Color

## height

```
public float height
```

Field Value

[float](#)

## width

```
public float width
```

### Field Value

[float](#)

## Properties

### scrollAmount

```
public float scrollAmount { get; set; }
```

### Property Value

[float](#)

## Methods

### GetScrollAmount()

```
public float GetScrollAmount()
```

### Returns

[float](#)

### SetScrollAmount(float)

```
public void SetScrollAmount(float scrollAmount)
```

### Parameters

scrollAmount [float ↗](#)

## UpdateDisplay()

```
public void UpdateDisplay()
```

# Class UITabManager

Namespace: [PAC.UI](#)

```
public class UITabManager : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UITabManager

## Methods

### AddTab(GameObject)

```
public void AddTab(GameObject tab)
```

#### Parameters

tab GameObject

### SelectTab(int)

```
public void SelectTab(int tabIndex)
```

#### Parameters

tabIndex [int](#) ↗

### SelectTabEditor(int)

```
public void SelectTabEditor(int tabIndex)
```

#### Parameters

tabIndex [int ↗](#)

# Class UITextbox

Namespace: [PAC.UI](#)

```
public class UITextbox : MonoBehaviour
```

## Inheritance

[Object](#) ← UITextbox

## Fields

### allowLetters

```
public bool allowLetters
```

Field Value

[bool](#)

### allowNumbers

```
public bool allowNumbers
```

Field Value

[bool](#)

### allowPunctuation

```
public bool allowPunctuation
```

Field Value

[bool](#)

## allowSpaces

`public bool allowSpaces`

Field Value

[bool](#)

## anchorPoint

`public UITextboxAnchorPoint anchorPoint`

Field Value

[UITextboxAnchorPoint](#)

## backgroundColour

`public Color backgroundColour`

Field Value

Color

## backgroundHoverColour

`public Color backgroundHoverColour`

Field Value

Color

## backgroundPressedColour

```
public Color backgroundPressedColour
```

Field Value

Color

## backgroundSelectedColour

```
public Color backgroundSelectedColour
```

Field Value

Color

## height

```
public float height
```

Field Value

[float](#)

## width

```
public float width
```

Field Value

[float](#)

## Properties

## prefix

```
public string prefix { get; }
```

Property Value

[string](#)

## suffix

```
public string suffix { get; }
```

Property Value

[string](#)

## text

```
public string text { get; }
```

Property Value

[string](#)

## Methods

### SetPrefix(string)

```
public void SetPrefix(string prefix)
```

Parameters

prefix [string](#)

## SetSuffix(string)

```
public void SetSuffix(string suffix)
```

Parameters

suffix [string](#)

## SetText(string)

```
public void SetText(string text)
```

Parameters

text [string](#)

## SubscribeToFinishEvent(UnityAction)

```
public void SubscribeToFinishEvent(UnityAction call)
```

Parameters

call UnityAction

## SubscribeToInputEvent(UnityAction)

```
public void SubscribeToInputEvent(UnityAction call)
```

Parameters

call UnityAction

## UpdateAnchor()

```
public void UpdateAnchor()
```

## UpdateDisplay()

```
public void UpdateDisplay()
```

# Enum UITextboxAnchorPoint

Namespace: [PAC.UI](#)

```
public enum UITextboxAnchorPoint
```

## Fields

Centre = 4

Left = 3

Right = 5

# Class UITileIcon

Namespace: [PAC.UI](#)

```
public class UITileIcon : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UITileIcon

## Properties

### file

```
public File file { get; }
```

Property Value

[File](#)

### height

```
public float height { get; }
```

Property Value

[float](#) ↗

### width

```
public float width { get; }
```

Property Value

## Methods

### SetFile(File)

```
public void SetFile(File file)
```

#### Parameters

`file File`

### SubscribeToOnClick(UnityAction)

```
public void SubscribeToOnClick(UnityAction call)
```

#### Parameters

`call UnityAction`

### SubscribeToOnLeftClick(UnityAction)

```
public void SubscribeToOnLeftClick(UnityAction call)
```

#### Parameters

`call UnityAction`

### SubscribeToOnRightClick(UnityAction)

```
public void SubscribeToOnRightClick(UnityAction call)
```

#### Parameters

call UnityAction

# Class UIToggleButton

Namespace: [PAC.UI](#)

```
public class UIToggleButton : MonoBehaviour
```

## Inheritance

[object](#) ← UIToggleButton

## Fields

### height

```
public float height
```

#### Field Value

[float](#)

### hoverBackgroundTint

```
public Color hoverBackgroundTint
```

#### Field Value

Color

### width

```
public float width
```

#### Field Value

[float](#)

## Properties

### hoverImage

```
public Sprite hoverImage { get; }
```

#### Property Value

Sprite

### inToggleGroup

```
public bool inToggleGroup { get; }
```

#### Property Value

[bool](#)

### offBackgroundColour

```
public Color offBackgroundColour { get; set; }
```

#### Property Value

Color

### offImage

```
public Sprite offImage { get; }
```

#### Property Value

Sprite

on

```
public bool on { get; }
```

Property Value

[bool](#)

onBackgroundColour

```
public Color onBackgroundColour { get; set; }
```

Property Value

Color

onImage

```
public Sprite onImage { get; }
```

Property Value

Sprite

pressedBackgroundColour

```
public Color pressedBackgroundColour { get; set; }
```

Property Value

Color

## pressedImage

```
public Sprite pressedImage { get; }
```

### Property Value

Sprite

## toggleGroup

```
public UIToggleGroup toggleGroup { get; }
```

### Property Value

[UIToggleGroup](#)

## toggleName

```
public string toggleName { get; set; }
```

### Property Value

[string](#) ↗

## Methods

### JoinToggleGroup(UIToggleGroup)

```
public void JoinToggleGroup(UIToggleGroup toggleGroup)
```

### Parameters

toggleGroup [UIToggleGroup](#)

## LeaveToggleGroup()

```
public void LeaveToggleGroup()
```

## Press()

```
public void Press()
```

## RightClick()

```
public void RightClick()
```

## SetImages(Sprite, Sprite, Sprite, Sprite)

```
public void SetImages(Sprite offImage, Sprite onImage, Sprite hoverImage,  
Sprite pressedImage)
```

### Parameters

`offImage` Sprite

`onImage` Sprite

`hoverImage` Sprite

`pressedImage` Sprite

## SetOnOff(bool)

```
public void SetOnOff(bool on)
```

### Parameters

on [bool](#)

## SetText(string)

```
public void SetText(string text)
```

### Parameters

text [string](#)

## SetTextAlignment(TextAnchor)

```
public void SetTextAlignment(TextAnchor textAlignment)
```

### Parameters

textAlignment [TextAnchor](#)

## SubscribeToHover(UnityAction)

```
public void SubscribeToHover(UnityAction call)
```

### Parameters

call [UnityAction](#)

## SubscribeToLeftClick(UnityAction)

```
public void SubscribeToLeftClick(UnityAction call)
```

### Parameters

call [UnityAction](#)

## SubscribeToRightClick(UnityAction)

```
public void SubscribeToRightClick(UnityAction call)
```

### Parameters

**call** UnityAction

## SubscribeToTurnOff(UnityAction)

```
public void SubscribeToTurnOff(UnityAction call)
```

### Parameters

**call** UnityAction

## SubscribeToTurnOn(UnityAction)

```
public void SubscribeToTurnOn(UnityAction call)
```

### Parameters

**call** UnityAction

## UpdateDisplay()

```
public void UpdateDisplay()
```

# Class UIToggleGroup

Namespace: [PAC.UI](#)

```
public class UIToggleGroup : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIToggleGroup

## Properties

### Count

```
public int Count { get; }
```

#### Property Value

[int](#) ↗

### canSelectMultiple

```
public bool canSelectMultiple { get; }
```

#### Property Value

[bool](#) ↗

### canSelectNone

```
public bool canSelectNone { get; }
```

#### Property Value

[bool](#) ↴

## currentToggle

```
public UIToggleButton currentToggle { get; }
```

Property Value

[UIToggleButton](#)

## currentToggleIndex

```
public int currentToggleIndex { get; }
```

Property Value

[int](#) ↴

## hasSelectedToggle

```
public bool hasSelectedToggle { get; }
```

Property Value

[bool](#) ↴

## selectedIndices

```
public int[] selectedIndices { get; }
```

Property Value

[int](#) ↴[]

## selectedToggles

```
public UIToggleButton[] selectedToggles { get; }
```

Property Value

[UIToggleButton\[\]](#)

## swapClickAndCtrlClick

```
public bool swapClickAndCtrlClick { get; }
```

Property Value

[bool](#)

## toggles

```
public List<UIToggleButton> toggles { get; }
```

Property Value

[List](#)<[UIToggleButton](#)>

## Methods

### Add(UIToggleButton)

```
public bool Add(UIToggleButton toggle)
```

Parameters

toggle [UIToggleButton](#)

Returns

[bool](#)

## Clear()

`public void Clear()`

## Contains(UIToggleButton)

`public bool Contains(UIToggleButton toggle)`

Parameters

`toggle` [UIToggleButton](#)

Returns

[bool](#)

## CtrlPress(UIToggleButton)

`public bool CtrlPress(UIToggleButton toggle)`

Parameters

`toggle` [UIToggleButton](#)

Returns

[bool](#)

## CtrlPress(int)

```
public bool CtrlPress(int index)
```

Parameters

index [int](#)

Returns

[bool](#)

## DestroyToggles()

```
public void DestroyToggles()
```

## Press(UIToggleButton)

```
public bool Press(UIToggleButton toggle)
```

Parameters

toggle [UIToggleButton](#)

Returns

[bool](#)

## Press(int)

```
public bool Press(int index)
```

Parameters

index [int](#)

Returns

[bool](#)

## PressForceEvent(UIToggleButton)

```
public bool PressForceEvent(UIToggleButton toggle)
```

Parameters

[toggle](#) [UIToggleButton](#)

Returns

[bool](#)

## PressForceEvent(int)

```
public bool PressForceEvent(int index)
```

Parameters

[index](#) [int](#)

Returns

[bool](#)

## PressOrCtrlPress(UIToggleButton, bool)

```
public bool PressOrCtrlPress(UIToggleButton toggle, bool ctrlclick)
```

Parameters

[toggle](#) [UIToggleButton](#)

`ctrlClick` [bool](#)

Returns

[bool](#)

## Remove(UIToggleButton)

```
public bool Remove(UIToggleButton toggle)
```

Parameters

`toggle` [UIToggleButton](#)

Returns

[bool](#)

## SubscribeToSelectedToggleChange(UnityAction)

```
public void SubscribeToSelectedToggleChange(UnityAction call)
```

Parameters

`call` UnityAction

# Class UIToolButton

Namespace: [PAC.UI](#)

```
public class UIToolButton : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIToolButton

## Properties

### buttons

```
public UIButton[] buttons { get; }
```

Property Value

[UIButton](#)[]

### currentButton

```
public UIButton currentButton { get; }
```

Property Value

[UIButton](#)

# Class UITooltip

Namespace: [PAC.UI](#)

```
public class UITooltip : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UITooltip

## Fields

### padding

```
public Vector2 padding
```

## Field Value

Vector2

## Properties

### globalHeight

```
public float globalHeight { get; }
```

## Property Value

[float](#) ↗

### globalWidth

```
public float globalWidth { get; }
```

Property Value

[float](#) ↴

## localHeight

```
public float localHeight { get; }
```

Property Value

[float](#) ↴

## localWidth

```
public float localwidth { get; }
```

Property Value

[float](#) ↴

## text

```
public string text { get; set; }
```

Property Value

[string](#) ↴

## Methods

### Awake()

```
public void Awake()
```

## GoesOffBottomOfScreen()

```
public bool GoesOffBottomOfScreen()
```

Returns

[bool](#)

## GoesOffLeftOfScreen()

```
public bool GoesOffLeftOfScreen()
```

Returns

[bool](#)

## GoesOffRightOfScreen()

```
public bool GoesOffRightOfScreen()
```

Returns

[bool](#)

## GoesOffScreen()

```
public bool GoesOffScreen()
```

Returns

[bool](#)

## GoesOffTopOfScreen()

```
public bool GoesOffTopOfScreen()
```

Returns

bool ↗

## SetText(string)

```
public void SetText(string text)
```

Parameters

text string ↗

# Class UIViewport

Namespace: [PAC.UI](#)

```
public class UIViewport : MonoBehaviour
```

## Inheritance

[Object](#) ↗ ← UIViewport

## Fields

### boundScrollToContents

```
public bool boundScrollToContents
```

Field Value

[bool](#) ↗

### maxScrollAmount

```
public float maxScrollAmount
```

Field Value

[float](#) ↗

### maxScrollEnabled

```
public bool maxScrollEnabled
```

Field Value

[bool](#)

## minScrollAmount

```
public float minScrollAmount
```

Field Value

[float](#)

## minScrollEnabled

```
public bool minScrollEnabled
```

Field Value

[bool](#)

## scrollDirection

```
public ScrollDirection scrollDirection
```

Field Value

[ScrollDirection](#)

## Properties

### collider

```
public BoxCollider2D collider { get; }
```

Property Value

## defaultScrollSide

```
public ViewportSide defaultScrollSide { get; }
```

Property Value

[ViewportSide](#)

## rectTransform

```
public RectTransform rectTransform { get; }
```

Property Value

RectTransform

## scrollAmount

```
public float scrollAmount { get; }
```

Property Value

[float](#)

## scrollingArea

```
public Transform scrollingArea { get; }
```

Property Value

Transform

# Methods

## AddScrollAmount(float)

```
public void AddScrollAmount(float scrollAmount)
```

### Parameters

scrollAmount [float](#)

## GetScrollMinMaxX()

Get the min and max x value of the space that the objects in this viewport's scroll area occupy. (Scaled to the scale of the viewport object.)

```
public Vector2 GetScrollMinMaxX()
```

### Returns

Vector2

(min x, max x)

## GetScrollMinMaxY()

Get the min and max y value of the space that the objects in this viewport's scroll area occupy. (Scaled to the scale of the viewport object.)

```
public Vector2 GetScrollMinMaxY()
```

### Returns

Vector2

(min y, max y)

## RefreshViewport()

```
public void RefreshViewport()
```

## SetScrollAmount(float)

```
public void SetScrollAmount(float scrollAmount)
```

### Parameters

scrollAmount [float](#)

## SubscribeToRefresh(UnityAction)

```
public void SubscribeToRefresh(UnityAction call)
```

### Parameters

call UnityAction

# Enum ViewportSide

Namespace: [PAC.UI](#)

```
public enum ViewportSide
```

## Fields

Centre = 0

Negative = -1

Positive = 1

# Namespace PAC.UndoRedo

## Classes

[UndoRedoManager](#)

[UndoRedoState](#)

## Enums

[UndoRedoAction](#)

# Enum UndoRedoAction

Namespace: [PAC.UndoRedo](#)

```
public enum UndoRedoAction
```

## Fields

Draw = 1

None = -1

ReorderLayers = 2

Undefined = 0

# Class UndoRedoManager

Namespace: [PAC.UndoRedo](#)

```
public class UndoRedoManager : MonoBehaviour
```

## Inheritance

[object](#) ← UndoRedoManager

## Methods

### AddUndoState(UndoRedoState, int)

```
public void AddUndoState(UndoRedoState undoState, int fileIndex)
```

#### Parameters

undoState [UndoRedoState](#)

fileIndex [int](#)

### SubscribeToRedo(UnityAction)

```
public void SubscribeToRedo(UnityAction call)
```

#### Parameters

call UnityAction

### SubscribeToUndo(UnityAction)

```
public void SubscribeToUndo(UnityAction call)
```

Parameters

`call` UnityAction

## SubscribeToUndoOrRedo(UnityAction)

```
public void SubscribeToUndoOrRedo(UnityAction call)
```

Parameters

`call` UnityAction

# Class UndoRedoState

Namespace: [PAC.UndoRedo](#)

```
public class UndoRedoState
```

## Inheritance

[object](#) ← UndoRedoState

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### UndoRedoState(UndoRedoAction, Layer, int)

```
public UndoRedoState(UndoRedoAction action, Layer layer, int layerIndex)
```

#### Parameters

action [UndoRedoAction](#)

layer [Layer](#)

layerIndex [int](#)

### UndoRedoState(UndoRedoAction, Layer[], int[])

```
public UndoRedoState(UndoRedoAction action, Layer[] affectedLayers,  
int[] affectedLayersIndices)
```

#### Parameters

action [UndoRedoAction](#)

`affectedLayers` [Layer\[\]](#)

`affectedLayersIndices` [int\[\]](#)[]

## Properties

### action

```
public UndoRedoAction action { get; }
```

Property Value

[UndoRedoAction](#)

### affectedLayers

```
public Layer[] affectedLayers { get; }
```

Property Value

[Layer\[\]](#)

### affectedLayersIndices

```
public int[] affectedLayersIndices { get; }
```

Property Value

[int\[\]](#)[]