

Namespace LastAssets.LastVirtualKeyboard

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An item that will show up on the keyboard

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Represents a Vector2 pivot point used in UnityEngines UI RectTransform

Interface IVirtualKeyboardRaycastTarget

Namespace: [LastAssets.LastVirtualKeyboard](#)

Interface for what is raycastable by the virtualkeyboard. It only searches for this interface on hit objects.

```
public interface IVirtualKeyboardRaycastTarget
```

Methods

GetKey()

```
VirtualKey GetKey()
```

Returns

[VirtualKey](#).


Class VirtualKey

Namespace: [LastAssets.LastVirtualKeyboard](#)

Virtual keyboard key class, assigned when virtualkeyboardlayout creates the keyboard. Mostly used as an animation layer.

```
public class VirtualKey : MonoBehaviour, IVirtualKeyboardRaycastTarget
```

Inheritance

[object](#)  ← Object ← Component ← Behaviour ← MonoBehaviour ← VirtualKey

Implements

[IVirtualKeyboardRaycastTarget](#)

Extension Methods

[VirtualKeyboardUtilities.ApplyKeyPointersToChildren\(VirtualKey\)](#)

Fields

Character

The primary character of this key

```
public string Character
```

Field Value

[string](#) 

DisplaySecondaryKey

Whether not to display the primary and secondary key at the same time

```
public bool DisplaySecondaryKey
```

Field Value

[bool](#)

SecondaryCharacter

The secondary character for this key

```
public string SecondaryCharacter
```

Field Value

[string](#)

Methods

GetGridCoordinates()

Returns the grid coordinates relative to the keyboard layout

```
public Vector2 GetGridCoordinates()
```

Returns

Vector2

GetKey()

Returns the virtualkey object. Part of IVirtualKeyboardRaycastTarget implementation

```
public VirtualKey GetKey()
```

Returns

[VirtualKey](#)

Returns this virtual key

GetRectTransformPosition()

Returns the local position of this keys rect transform

```
public Vector2 GetRectTransformPosition()
```

Returns

Vector2

Initialize(VirtualKeyboardLayout, int, int)

Initializes the key and assigns all references. This is where layout reference is assigned and coordinates

```
public void Initialize(VirtualKeyboardLayout layout, int x, int y)
```

Parameters

layout [VirtualKeyboardLayout](#)

The layout this key belongs to

x [int](#)

The x coordinate of this key

y [int](#)

The y coordinate of this key

Press()

Performs the Press animation for this key

```
public void Press()
```

Select()

Perform the Select animation logic

```
public void Select()
```

ToggleSelected(bool)

Toggles this key on or off

```
public void ToggleSelected(bool toggledOn)
```

Parameters

toggledOn [bool](#)

On or Off

UnSelect()

Perform the Unselect animation logic

```
public void UnSelect()
```

UpdateShownKey(bool, bool)

Animates the shown key based on the state of capsLock and shift

```
public void UpdateShownKey(bool capsLockPressed, bool shiftPressed)
```

Parameters

capsLockPressed [bool](#)

Whether capslock is toggled

shiftPressed [bool](#)

Whether shift is toggled

Class VirtualKeyPointer

Namespace: [LastAssets.LastVirtualKeyboard](#)

Pointer class, useful for pointing any raycastable transform to a virtual key

```
public class VirtualKeyPointer : MonoBehaviour, IVirtualKeyboardRaycastTarget
```

Inheritance

[object](#)  ← Object ← Component ← Behaviour ← MonoBehaviour ← VirtualKeyPointer

Implements

[IVirtualKeyboardRaycastTarget](#)

Properties

Key

Sets the virtual key this object points to

```
public VirtualKey Key { set; }
```

Property Value

[VirtualKey](#)


Class VirtualKeyboard

Namespace: [LastAssets.LastVirtualKeyboard](#)

Main Virtual keyboard class, required for functionality

```
[RequireComponent(typeof(VirtualKeyboardLayout))]  
public class VirtualKeyboard : MonoBehaviour
```

Inheritance

[object](#)  ← Object ← Component ← Behaviour ← MonoBehaviour ← VirtualKeyboard

Fields

Layout

```
public VirtualKeyboardLayout Layout
```

Field Value

[VirtualKeyboardLayout](#)

RepeatInputTime

```
public float RepeatInputTime
```

Field Value

[float](#) 

Methods

CastForKeyWithPointerData(EventSystem, PointerEventData)

Returns a VirtualKey under the pointer data position. Returns null if no key was found.

```
public VirtualKey CastForKeyWithPointerData(EventSystem eventSystem,  
PointerEventData pointerData)
```

Parameters

eventSystem EventSystem

The referenced eventsystem to use

pointerData PointerEventData

The pointer data, make sure to set the position!

Returns

[VirtualKey](#).

DeselectFocusedKey()

If any key is currently selected, perform the unselect method on it

```
public void DeselectFocusedKey()
```

Hide()

Sets the object inactive

```
public void Hide()
```

IsOpen()

Returns true or false depending on if the object is active or inactive

```
public bool IsOpen()
```

Returns

OnCursorUpdated(EventSystem, PointerEventData)

Perform a cursor update, will cause hovering effect when over selected keys

```
public void OnCursorUpdated(EventSystem eventSystem, PointerEventData pointerData)
```

Parameters

eventSystem EventSystem

The event system to read from

pointerData PointerEventData

The data representing the simulated cursor. Make sure to assign its position!

OnNavigation(Vector2, bool)

Perform Up/Down/Left/Right movement relative to currently selected key

```
public void OnNavigation(Vector2 direction, bool performImmediately)
```

Parameters

direction Vector2

The Up/Down/Left/Right relative to the currently selected key

performImmediately [bool](#)

Whether not to perform the movement immediately

PlayHoveredSound()

Force play a snippet of the layouts Hovered sound

```
public void PlayHoveredSound()
```

PlaySelectedSound()

Force play a snippet of the layouts Selected sound

```
public void PlaySelectedSound()
```

PressKey(string)

Performs a press on the target string

```
public void PressKey(string toPress)
```

Parameters

toPress [string](#)[↗]

The string representing the key to press

ReadKey()

Reads the currently selected virtual key and returns the string the key represents

```
public string ReadKey()
```

Returns

[string](#)[↗]

Show()

Sets the object active

```
public void Show()
```

ToggleCapsLock()

State Toggle for CapsLock

```
public void ToggleCapsLock()
```

ToggleShift()

State Toggle for Shift

```
public void ToggleShift()
```


Class VirtualKeyboardLayout

Namespace: [LastAssets.LastVirtualKeyboard](#)

Layout component that creates and adjusts the virtual keyboard. This is a required component

```
[ExecuteInEditMode]  
[RequireComponent(typeof(RectTransform))]  
public class VirtualKeyboardLayout : MonoBehaviour
```

Inheritance

[object](#)  ← Object ← Component ← Behaviour ← MonoBehaviour ← VirtualKeyboardLayout

Fields

ForceRecreateKeyboard

Used to force the layout system to recreate the keyboard

```
[HideInInspector]  
public bool ForceRecreateKeyboard
```

Field Value

[bool](#) 

KeyInstances

```
[Header("Debugging")]  
public List<VirtualKey> KeyInstances
```

Field Value

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

Layout

```
[Header("Keyboard")]  
public VirtualKeyboardLayout.KeyboardLayout Layout
```

Field Value

[VirtualKeyboardLayout.KeyboardLayout](#)

Properties

RectTransform

A pointer to the rect transform of this transform object

```
public RectTransform RectTransform { get; }
```

Property Value

RectTransform

Methods

GetRandomKey()

Returns a random key, somewhere on the keyboard

```
public VirtualKey GetRandomKey()
```

Returns

[VirtualKey](#)

Move(VirtualKey, Vector2)

Performs a move in direction relative to inputted key.


```
public VirtualKey Move(VirtualKey referenceKey, Vector2 direction)
```

Parameters

referenceKey [VirtualKey](#)

The key to move from

direction Vector2

The direction to move to

Returns

[VirtualKey](#)

ToggleKeysOfType(bool, string)

Searches for keys that match the character, if they are found they are set to the toggle state

```
public void ToggleKeysOfType(bool isToggled, string character)
```

Parameters

isToggled [bool](#)

Whether its toggled on or not

character [string](#)

The character we want to search for

UpdateKeysWithState(bool, bool)

Updates the keys given the state of caps lock and shift

```
public void UpdateKeysWithState(bool capsLockPressed, bool shiftPressed)
```

Parameters

`capsLockPressed` [bool](#)

Is the keyboards capslock pressed

`shiftPressed` [bool](#)

Is the keyboards shift pressed

UpdateLayout()

Recreates the keyboard layout. High impact on performance, so call this only when necessary!

```
public void UpdateLayout()
```

Struct VirtualKeyboardLayout.AdditiveKeyIcon

Namespace: [LastAssets.LastVirtualKeyboard](#)

Additional information to be passed into the creation of a keyboarditem. Can be text or an image

[Serializable]

```
public struct VirtualKeyboardLayout.AdditiveKeyIcon
```

Fields

Icon

```
public Sprite Icon
```

Field Value

Sprite

KeyRoundedness

```
public float KeyRoundedness
```

Field Value

[float](#)

KeyTileMode

```
public Image.Type KeyTileMode
```

Field Value

Image.Type

LocalScale

```
public Vector3 LocalScale
```

Field Value

Vector3

PositionOffset

```
public Vector2 PositionOffset
```

Field Value

Vector2

UIAnchor

```
public VirtualKeyboardUtilities.UIAnchor UIAnchor
```

Field Value

[VirtualKeyboardUtilities.UIAnchor](#)

UseTextColor

```
public bool UseTextColor
```

Field Value

[bool](#) 

Struct VirtualKeyboardLayout.KeyboardItem

Namespace: [LastAssets.LastVirtualKeyboard](#)

An item that will show up on the keyboard

[Serializable]

```
public struct VirtualKeyboardLayout.KeyboardItem
```

Fields

AdditiveIcon

```
public VirtualKeyboardLayout.AdditiveKeyIcon AdditiveIcon
```

Field Value

[VirtualKeyboardLayout.AdditiveKeyIcon](#)

CellWidthMultiplier

```
public float CellWidthMultiplier
```

Field Value

[float](#)

DisplaySecondaryKey

```
public bool DisplaySecondaryKey
```

Field Value

[bool](#)

Key

`public string` Key

Field Value

[string](#)

SecondaryKey

`public string` SecondaryKey

Field Value

[string](#)

UseAdditiveIcon

`public bool` UseAdditiveIcon

Field Value

[bool](#)


Class VirtualKeyboardLayout.KeyboardLayout

Namespace: [LastAssets.LastVirtualKeyboard](#)

Main components to the keyboard, customization can be done here

```
[Serializable]  
public class VirtualKeyboardLayout.KeyboardLayout
```

Inheritance

[object](#)  ← VirtualKeyboardLayout.KeyboardLayout

Fields

AllRows

```
[Header("Customize the Keys!")]  
public List<VirtualKeyboardLayout.KeyboardRow> AllRows
```

Field Value

[List](#)  <[VirtualKeyboardLayout.KeyboardRow](#)>

AudioSource

```
[Header("Audio")]  
public AudioSource AudioSource
```

Field Value

AudioSource

BackgroundColor

```
[Header("Colors")]  
public Color BackgroundColor
```

Field Value

Color

ExternalPadding

```
public float ExternalPadding
```

Field Value

[float](#)

Font

```
[Header("Text")]  
public TMP_FontAsset Font
```

Field Value

TMP_FontAsset

FontStyle

```
public FontStyles FontStyle
```


Field Value

FontStyles

HighlightTransitionTime


```
public float HighlightTransitionTime
```

Field Value

[float](#)

HighlightedColor

```
public Color HighlightedColor
```

Field Value

Color

HoveredKeyClip

```
public AudioClip HoveredKeyClip
```

Field Value

AudioClip

KeyColor

```
public Color KeyColor
```

Field Value

Color

KeyFocusTransitionTime

```
[Header("Animation Timing")]  
public float KeyFocusTransitionTime
```

Field Value

[float](#) 

KeyImage

```
public Sprite KeyImage
```


Field Value

Sprite

KeyPadding

```
[Header("Padding")]  
public float KeyPadding
```

Field Value

[float](#) 

KeyRoundedness

```
public float KeyRoundedness
```

Field Value

[float](#) 

KeyTileMode

```
public Image.Type KeyTileMode
```

Field Value

Image.Type

KeyboardImage

```
[Header("Keyboard Styling")]  
public Sprite KeyboardImage
```

Field Value

Sprite

NavigationWrapAroundHorizontal

```
[Header("Navigation Wrapping")]  
public bool NavigationWrapAroundHorizontal
```

Field Value

[bool](#)

NavigationWrapAroundVertical

```
public bool NavigationWrapAroundVertical
```


Field Value

[bool](#)

PressAnimationTime

```
public float PressAnimationTime
```

Field Value

[float](#)

PressColor

```
public Color PressColor
```

Field Value

Color

SecondaryTextColor

```
public Color SecondaryTextColor
```

Field Value

Color

SelectedKeyClip

```
public AudioClip SelectedKeyClip
```

Field Value

AudioClip

StackedTextScale

```
public float StackedTextScale
```

Field Value

[float](#)

TextColor

```
public Color TextColor
```

Field Value

Color

TextScale

```
public float TextScale
```

Field Value

[float](#)

ToggledButtonColor

```
public Color ToggledButtonColor
```

Field Value

Color

Class VirtualKeyboardLayout.KeyboardRow


Namespace: [LastAssets.LastVirtualKeyboard](#)

Keyboard row, holds a list of KeyboardItems that get aligned horizontally

[Serializable]

```
public class VirtualKeyboardLayout.KeyboardRow
```

Inheritance

[object](#)  ← VirtualKeyboardLayout.KeyboardRow

Fields

Keys

```
public List<VirtualKeyboardLayout.KeyboardItem> Keys
```

Field Value

[List](#)  <[VirtualKeyboardLayout.KeyboardItem](#)>

Struct VirtualKeyboardLayout.VirtualHotkey

Namespace: [LastAssets.LastVirtualKeyboard](#)

Binds an inputsystem action to a key result

[Serializable]

```
public struct VirtualKeyboardLayout.VirtualHotkey
```

Fields

ActionToBind

```
public InputActionReference ActionToBind
```

Field Value

InputActionReference

Key

```
public string Key
```

Field Value

[string](#) 


Class VirtualKeyboardUtilities

Namespace: [LastAssets.LastVirtualKeyboard](#)

VirtualKeyboard Utility class

```
public static class VirtualKeyboardUtilities
```

Inheritance

[object](#)  ← VirtualKeyboardUtilities

Methods

ApplyKeyPointersToChildren(VirtualKey)

Applies the VirtualKey component to every child of the target

```
public static void ApplyKeyPointersToChildren(this VirtualKey target)
```

Parameters

target [VirtualKey](#)

TranslateUIAnchorToPivot(UIAnchor)

Converts the enum UIAnchor to a Vector2 pivot point used in the unity UI system

```
public static Vector2 TranslateUIAnchorToPivot(VirtualKeyboardUtilities.UIAnchor anchor)
```

Parameters

anchor [VirtualKeyboardUtilities.UIAnchor](#)

Returns

Vector2

Enum VirtualKeyboardUtilities.UIAnchor

Namespace: [LastAssets.LastVirtualKeyboard](#)

Represents a Vector2 pivot point used in UnityEngines UI RectTransform

```
public enum VirtualKeyboardUtilities.UIAnchor
```

Fields

```
LowerCenter = 7
```

```
LowerLeft = 6
```

```
LowerRight = 8
```

```
MiddleCenter = 4
```

```
MiddleLeft = 3
```

```
MiddleRight = 5
```

```
UpperCenter = 1
```

```
UpperLeft = 0
```

```
UpperRight = 2
```

Namespace LastAssets.LastVirtualKeyboard.

Examples

Classes

[EXAMPLE InputBinding](#)

Example class for connecting Unity's new input system to the keyboard


Class EXAMPLE_InputBinding

Namespace: [LastAssets.LastVirtualKeyboard.Examples](#)

Example class for connecting Unity's new input system to the keyboard

```
public class EXAMPLE_InputBinding : MonoBehaviour
```

Inheritance

[object](#)  ← Object ← Component ← Behaviour ← MonoBehaviour ← EXAMPLE_InputBinding

Fields

EventSystemRef

Reference to a unity eventsystem reference

```
public EventSystem EventSystemRef
```

Field Value

EventSystem

InputModule

Input system generated input class

```
public InputSystem_VirtualKeyboard InputModule
```

Field Value

[InputSystem_VirtualKeyboard](#)

InputSystemUIRef

Reference to unity's InputSystemUIRef

```
public InputSystemUIInputModule InputSystemUIRef
```

Field Value

InputSystemUIInputModule

VirtualKeyboardRef

Reference to the virtual keyboard

```
public VirtualKeyboard VirtualKeyboardRef
```

Field Value

[VirtualKeyboard](#)