



Directed Navigation

Version: 1.2.0

Document version: 1.0

IEVO

OVERVIEW

uGUI Directed Navigation for Unity is a tool which provides extended UI navigation options to control how keyboard/gamepad navigate through UI elements. It has improved automatic mode, multiple extended modes and also provides the ability to control navigation in four directions separately (Left, Right, Up, Down).

From usage point of view it is a component, which is added to any GameObject which has component inherited from Selectable - Button, Toggle, Slider etc.

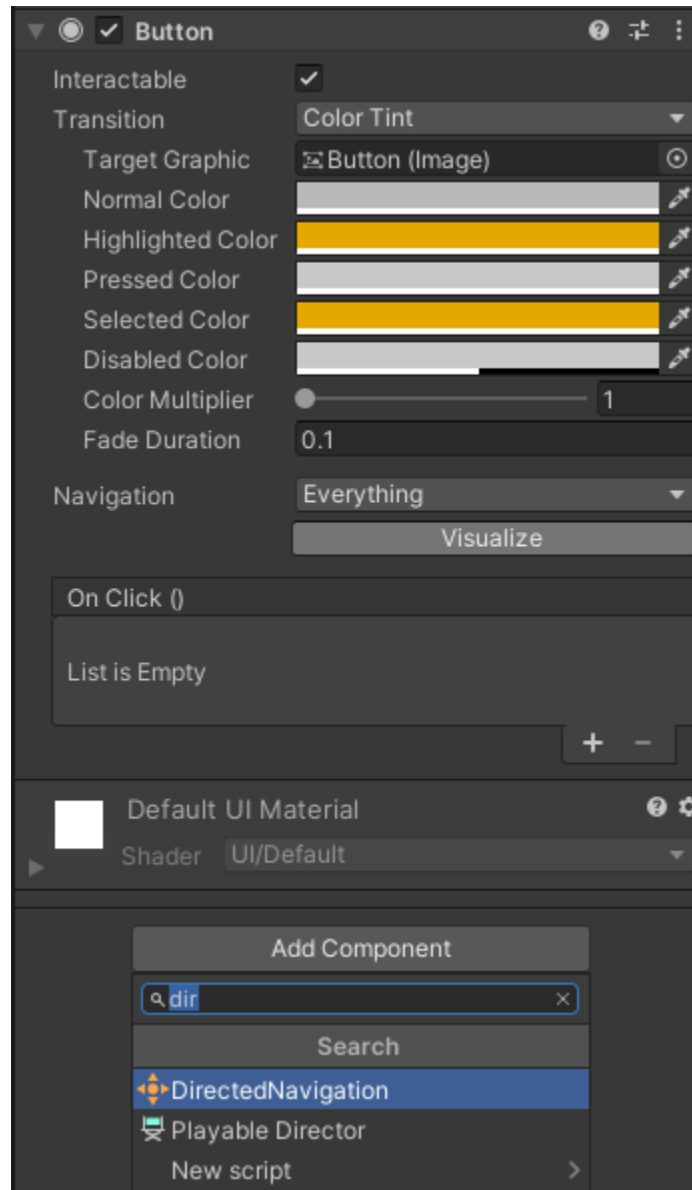
SPECIFICATIONS

Pure C#. As a result, support any platform.

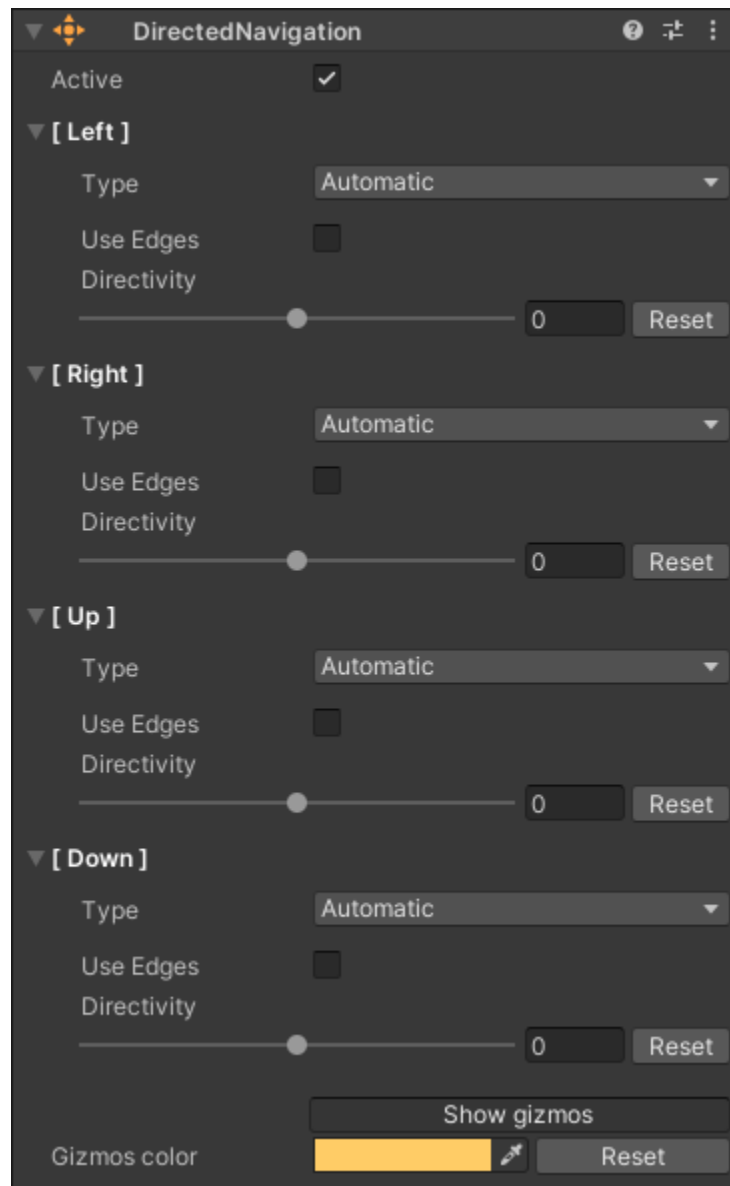
Compatible with Unity 2019.4 and above.

GET STARTED

To enable **uGUI Directed Navigation** for the Selectable (or a class inherited from it) add a component **DirectedNavigation** to GameObject.



Just added component look like listed below.



Property **Active** can be used for activation/deactivation of the **DirectedNavigation**. This property also can be changed in runtime through API.

Each direction (Left, Right, Up, Down) of navigation can be controlled separately, it can be switched to different modes or disabled.

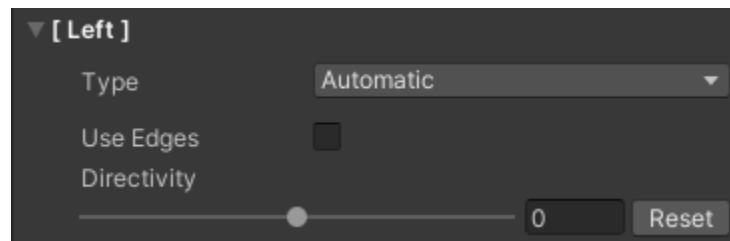
Button **Show gizmos** enable/disable gizmos. You can choose the color of gizmos in color picker **Gizmos color**, according to your project needs.

Important: Gizmos can be disabled if in the Selectable (Button etc.) component is switched off the **Visualize** button, this option has higher priority than button **Show gizmos**.

MODES

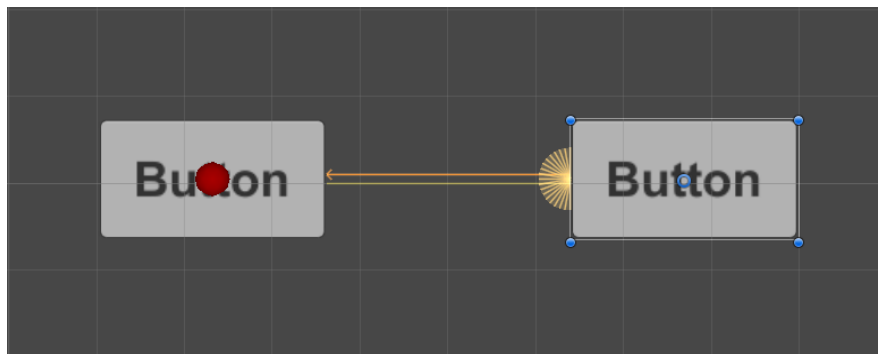
Automatic

This navigation mode is similar to the Automatic of Selectable component, but has an improved algorithm of work, and also provides options to adjust it.

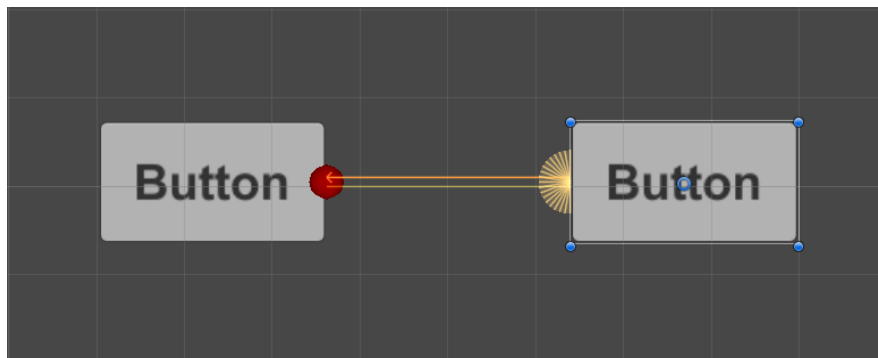


Use Edges option is define which part of searched objects will be used, center or edges. Schematically it looks like listed below.

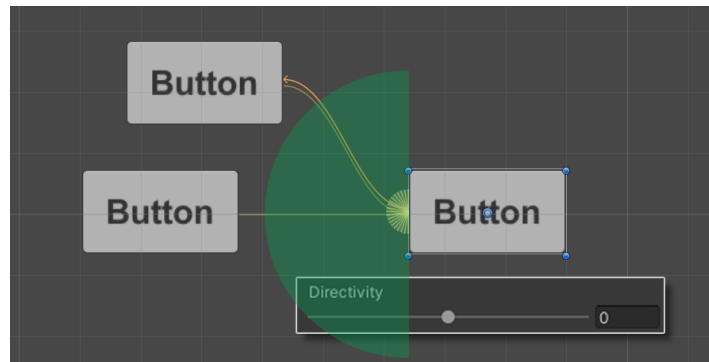
Use Edges disabled:



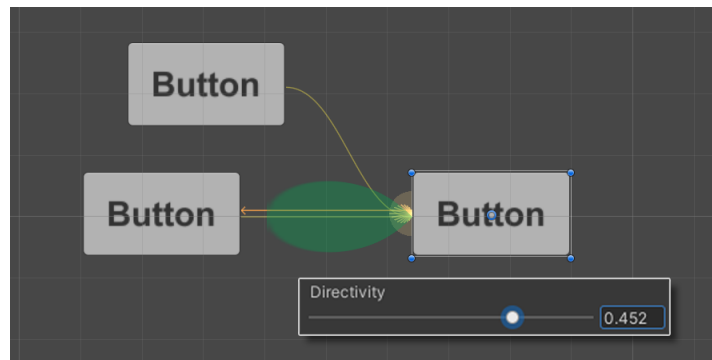
Use Edges enabled:



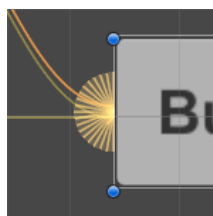
Directivity property. By default, the search for elements in the current direction is carried out in a sector of 180 degrees. All objects have the same priority and the closest object will be selected for the navigation. With the **Directivity** property we can control the priority of getting objects depending from the angle to the current direction. We can visualize it like listed below. Green sector displays priority.



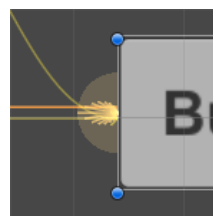
If we increase the **Directivity**, this will lower the priority of objects that are located with a deviation from the current direction. We can visualize it like this.



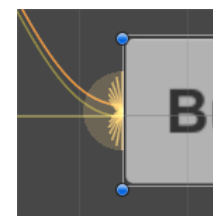
The current state of **Directivity** shows gizmos.



Directivity: 0



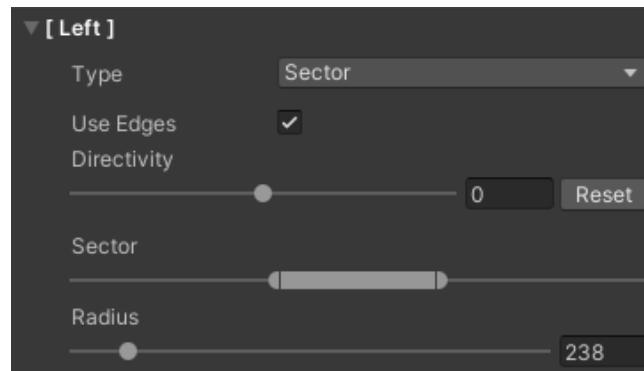
Directivity: 0.5



Directivity: -0.5

Sector

For situations where the selection of an element to transition should be constrained by a radius or an angle.



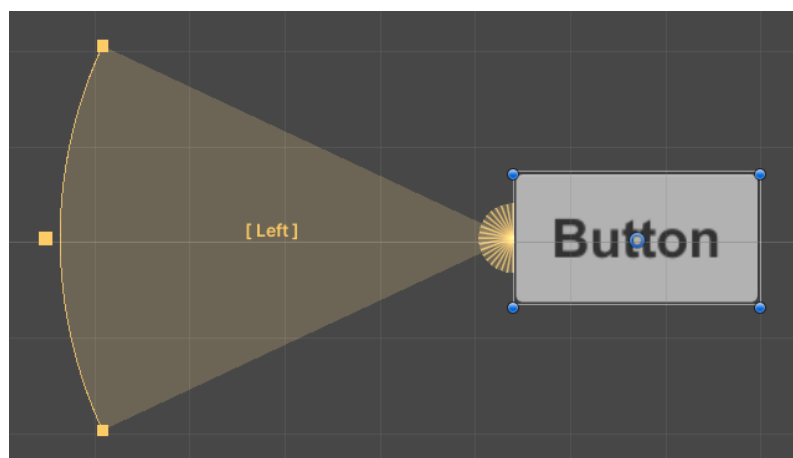
Use Edges option is define which part of searched objects will be used, center or edges. For more information look at this [topic](#).

Directivity controls the priority of getting objects depending from the angle to the current direction. For more information look at this [topic](#).

Sector option defines a sector, start angle, end angle, and direction.

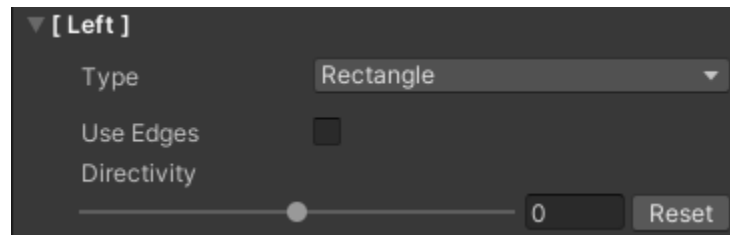
Distance option defines a radius of the sector.

Sector params can be also changed with gizmos. Just drug square elements on the edge of the sector.



Rectangle

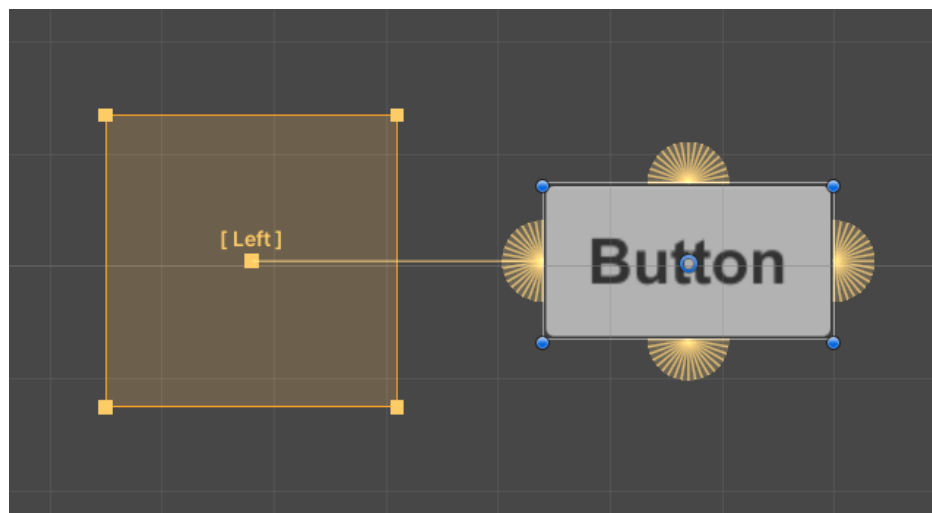
Restricts the element's search area to a rectangle. All UI elements outside the rectangle will be ignored.



Use Edges option is define which part of searched objects will be used, center or edges. For more information look at this [topic](#).

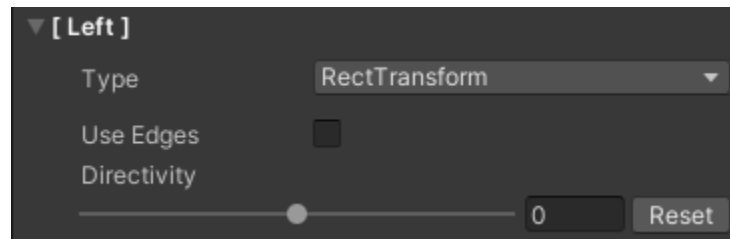
Directivity controls the priority of getting objects depending from the angle to the current direction. For more information look at this [topic](#).

To change the size and position of the rectangle use gizmos. Just drag the square elements on the edge of the rectangle or in the center.



RectTransform

Restricts the element's search area to a bounds of the 'RectTransform' component. All UI elements outside the bounds will be ignored.

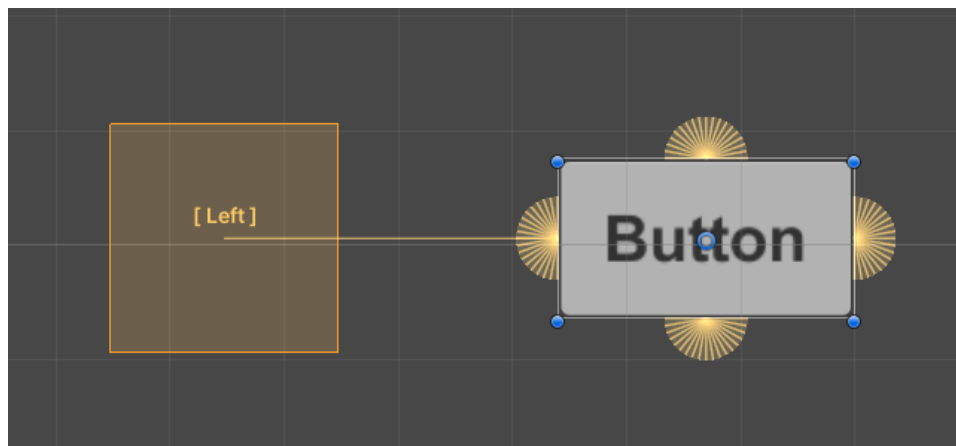


Use Edges option is define which part of searched objects will be used, center or edges. For more information look at this [topic](#).

Directivity controls the priority of getting objects depending from the angle to the current direction. For more information look at this [topic](#).

Area is a RectTransform component which will be used.

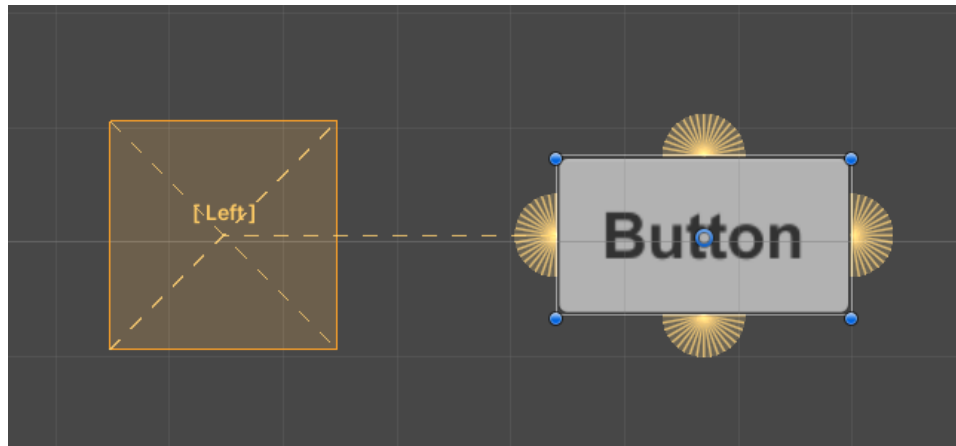
In the Scene it looks like this.



RectTransform can be assigned or changed at runtime.

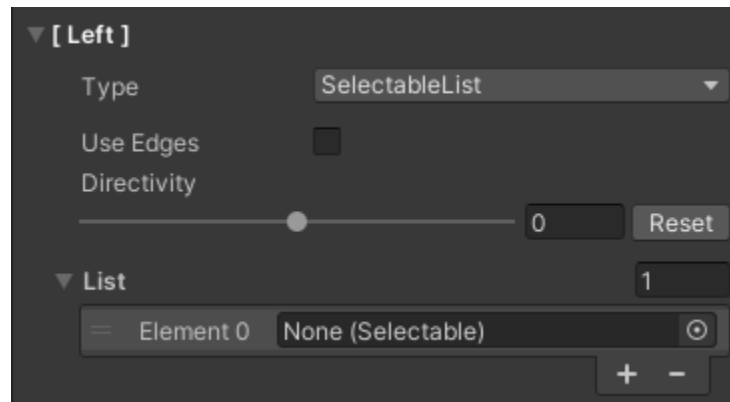
If RectTransform will be disabled behavior in this direction will be similar to **Disabled** mode. No navigation in this direction.

In Scene view disabled RectTransform will be marked with dotted lines.



SelectableList

The selection of an element for the transition is carried out not from the entire scene, but from a list defined by the developer.

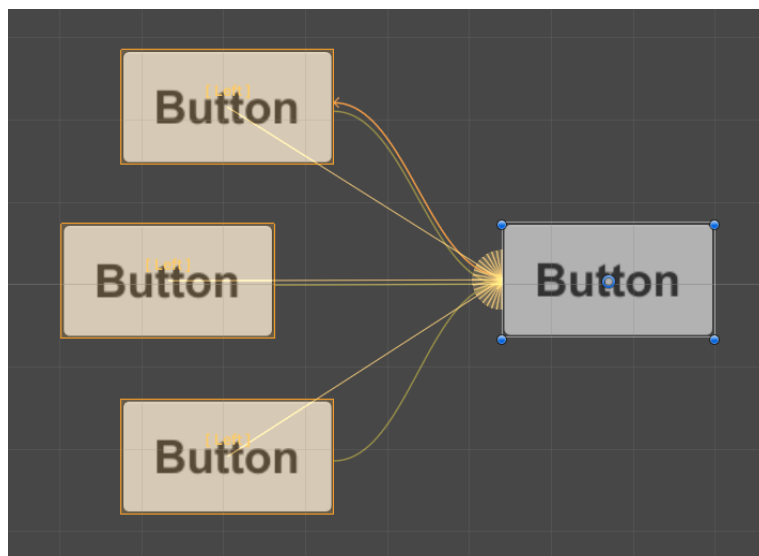


Use Edges option is define which part of searched objects will be used, center or edges. For more information look at this [topic](#).

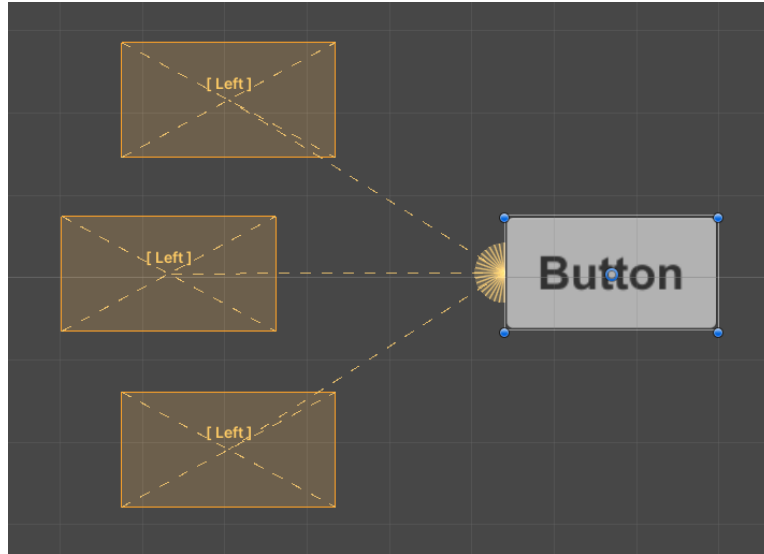
Directivity controls the priority of getting objects depending from the angle to the current direction. For more information look at this [topic](#).

List is a list of Selectables.

In the Scene it looks like this.



If some of the objects from the list will be disabled these objects will be ignored during selection of objects to navigate. Also in Scene view these objects will be marked with dotted lines.



Disabled

No navigation in this direction.

API

DirectedNavigation

Main component. Inherits interface [IMoveHandler](#).

Properties

- **Active** [Type: bool, Default value: true]
Enable/Disable UI navigation handling.
- **ConfigLeft** [Type: [Config](#)]
Configuration for the Left side.
- **ConfigRight** [Type: [Config](#)]
Configuration for the Right side.
- **ConfigUp** [Type: [Config](#)]
Configuration for the Up side.
- **ConfigDown** [Type: [Config](#)]
Configuration for the Down side.

Config

Contains configuration for the side.

Properties

- **Type** [Type: [DirectedNavigationType.Value](#), Default value: [DirectedNavigationType.Value.Automatic](#)]
Type of DirectedNavigation.
- **UseEdges** [Type: bool]
Define which part of searched objects will be used, center or edges.

- **Directivity** [Type: float, Default: 0, Range: (-12) - 12]

For more information see [Automatic](#).

- **Sector** [Type: [Config.SectorConfig](#)]

Configuration for the Sector mode.

- **Rectangle** [Type: [Config.RectangleConfig](#)]

Configuration for the Rectangle mode.

- **RectTransform** [Type: [Config.RectTransformConfig](#)]

Configuration for the RectTransform mode.

- **SelectableList** [Type: [Config.SelectableListConfig](#)]

Configuration for the SelectableList mode.

Config.SectorConfig

Contains configuration of [Sector](#) mode.

Properties

- **MinAngle** [Type: float, Default: -25f, Range: MinAngleLimit - MaxAngle]

Left angle of the sector.

- **MinAngleLimit** [Type: float, Readonly, Value: -90f]

MinAngle limit.

- **MaxAngle** [Type: float, Default: 25f, Range: MinAngle - MaxAngleLimit]

Right angle of the sector.

- **MaxAngleLimit** [Type: float, Readonly, Value: 90f]

MaxAngle limit.

- **Radius** [Type: float, Default: 500f]

Radius of the sector.

Config.RectangleConfig

Contains configuration of [Rectangle](#) mode.

Properties

- **Verts** [Type: Vector3[], Length: 4]
Vertices of the rectangle. Coordinates in local space.

Config.RectTransformConfig

Contains configuration of [RectTransform](#) mode.

Properties

- **RectTransform** [Type: RectTransform, Default: null]
Contains a link on the RectTransform component, bounds of which restricts the element's search area.

Config.SelectableListConfig

Contains configuration of [SelectableList](#) mode.

Properties

- **SelectableList** [Type: Selectable[]]
List of Selectables from which will be selected element for navigation.

DirectedNavigationType.Value [Enum:int]

Modes of DirectedNavigation.

- **Disabled**
[Navigation disabled.](#)
- **Automatic**
[Automatic navigation.](#)
- **Sector**
[Sector mode.](#)
- **Rectangle**
[Rectangle mode.](#)
- **RectTransform**
[RectTransform mode.](#)
- **SelectableList**
[SelectableList mode.](#)

CONTACTS

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