Impossible Odds - Mouse Events **Documentation**

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Impossible Odds - Mouse Events

In some types of games, the mouse cursor plays a vital part in controlling the game's mechanics. The Unity game engine provides a simple but bare interface of working with certain mouse events. The Impossible Odds Mouse Events tool provides a robust way in dealing with clicking and dragging events in your game.

Single and double clicking,

This tool offers you the following features:

- Dragging and drag completion,
- Events and callbacks for these operations, and
- Tracking over several mouse buttons at once.
- **Quick Setup**

Attach the MouseEventMonitor script to a game object in your scene, and set which mouse buttons it should monitor. Additionally, adjust the time it takes to distinguish between single clicks and multi-clicks of

a mouse button. When your game is running, you can listen for each of the following events:

 onSingleClick: when a single click is registered. onDoubleClick: when a double click is registered.

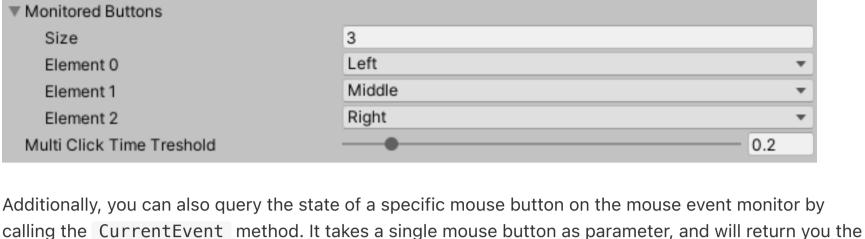
- onDragOngoing: when the mouse pointer is being dragged while one of the mouse buttons is
- being held down.
- onDragCompleted: when the drag operation has ended. onEvent: called right after when any of the above events are called.

specific mouse button by calling the StopMonitoring method.

Each of these events contain a MouseButtonEvent parameter, which contains all information about the event such as which mouse button it pertains to, whether it's a click or drag event, the click count, the

relevant mouse position(s) and any additional key modifiers that were active.

/ Mouse Event Monitor (Script) **0** ₽ : 0 Script # MouseEventMonitor



Advanced

Apart from which mouse buttons it should monitor, you can also adjust the time treshold for registering

The main point of entry is the MouseEventMonitor script. It requires to be placed on a game object in your scene and will monitor the mouse inputs you set it up to be: left, right and/or middle mouse buttons.

current state of that button.

multi-clicks (double click). Unity does not allow to transparently distinguish between single click and double click without always invoking the single click event. This multi-click time treshold is the time limit it will delay a single click event while listening in for a secondary click or other event. You can listen for events of the registered mouse buttons as well as querying the current state of a particular button using the CurrentEvent method. When a new mouse button requires monitoring, you can add it using the StartMonitoring method. Conversely, you can also stop monitoring events for a

This script primarily works using Unity's OnGUI method, which is called at the end of update cycle for each input event that occurred during that frame. The state of a mouse button is only cleared the first call to this method of that frame. This means that the full state of the tracked mouse buttons remains valid for the full followup frame, which is a more robust way of working that keeping and clearing state in Update

or LateUpdate. Internally, the event monitor employs a MouseButtonStateTracker object per mouse button that's registered for monitoring. It's basically a small state machine which keeps track of what's happening with a particular mouse button. When it changes state, it will let interested parties know, e.g. the mouse event monitor.

dispatch a move command. It's also subscribed to events related to dragging the mouse for showing a selection box.

private void Start()

Code Example

public class MouseEventsDemo : MonoBehaviour [SerializeField] private MouseEventMonitor monitor = null;

MouseEventMonitor . In its Update it will check for click events to perform a single target selection or

The following code example is a showcase of a naive target and selection system using the

```
monitor.onDragOngoing += OnDragging;
           monitor.onDragCompleted += OnDragComplete;
       }
       private void Update()
           MouseButtonEvent mouseEvent = monitor.CurrentEvent(MouseButton.Left);
           if (mouseEvent.IsSingleClick)
               if (Physics.Raycast(Camera.main.ScreenPointToRay(mouseEvent.MousePosition), out R
   aycastHit hit))
               {
                   // Select single target.
           else if (mouseEvent.IsDoubleClick)
               // Move selected objects to target position.
           }
       }
       private void OnDragging(MouseButtonEvent mouseEvent)
       {
           // Show box selection on screen.
           Rect screenRect = new Rect(mouseEvent.DragStartPosition, mouseEvent.DragDelta);
       }
       private void OnDragComplete(MouseButtonEvent mouseEvent)
           Rect screenRect = new Rect(mouseEvent.DragStartPosition, mouseEvent.DragDelta);
           if (mouseEvent.Modifiers == EventModifiers.Shift)
               // Expand the current selection with the targets in the selection box.
           }
           else
               // Set the current selection to the target objects in the selection box.
           }
       }
   }
Demo
The package comes with a demo scene that shows the real-time state of the left, right and middle mouse
buttons. This allows you to test the behaviour and events of this package.
  互 Mouse Events
  This scene demonstrates the monitoring of mouse events. The mouse event monitor script will keep
  track of the state of each mouse button and send out an event when its state changes to something
  useful to interact with. The current state of a mouse button can also be requested on demand.
```

It supports listening for single and double clicks as well as drag manouvres along with the active button modifiers, e.g. Alt, Ctrl, Shift, etc.

Middle - Idle

Right - Idle

Mouse button states

Unity Version

Developed and tested on Unity 2019.4 LTS.

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Left - click (double click) - Modifiers: Shift

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