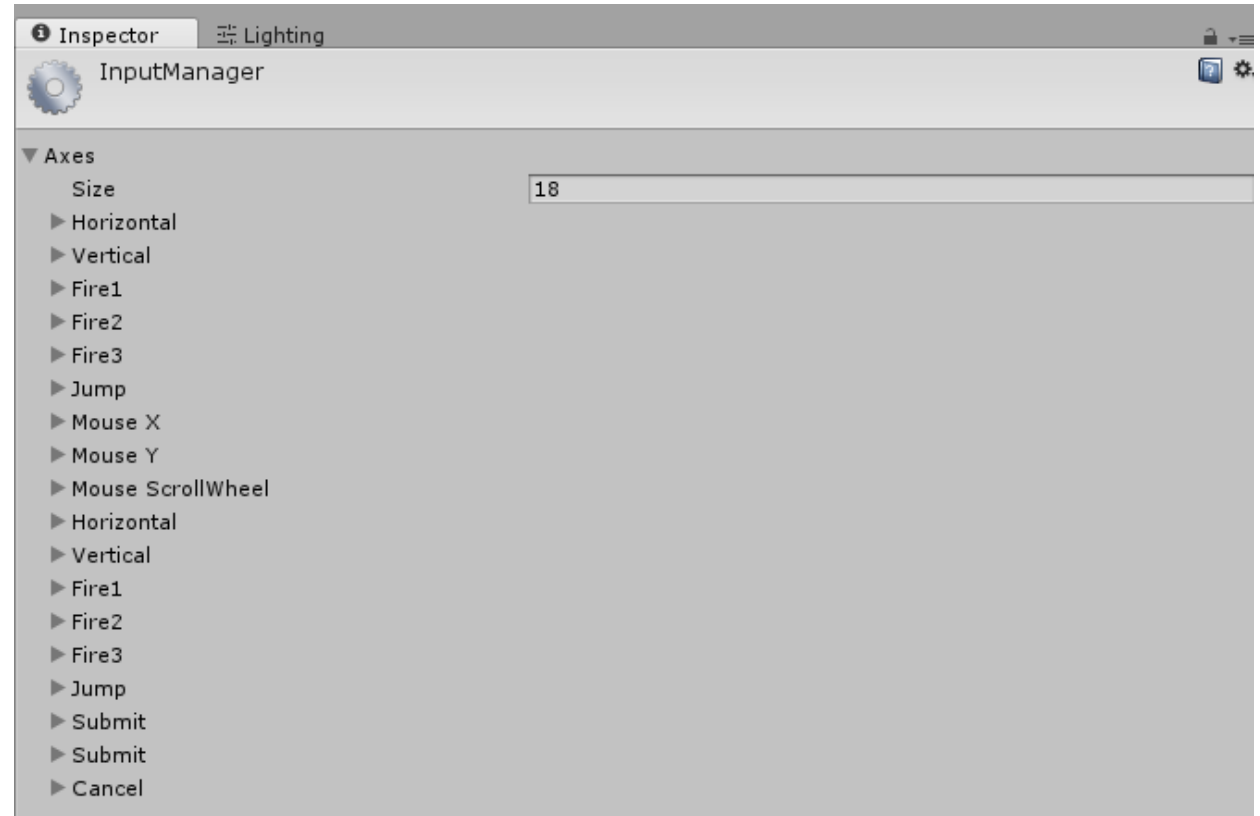
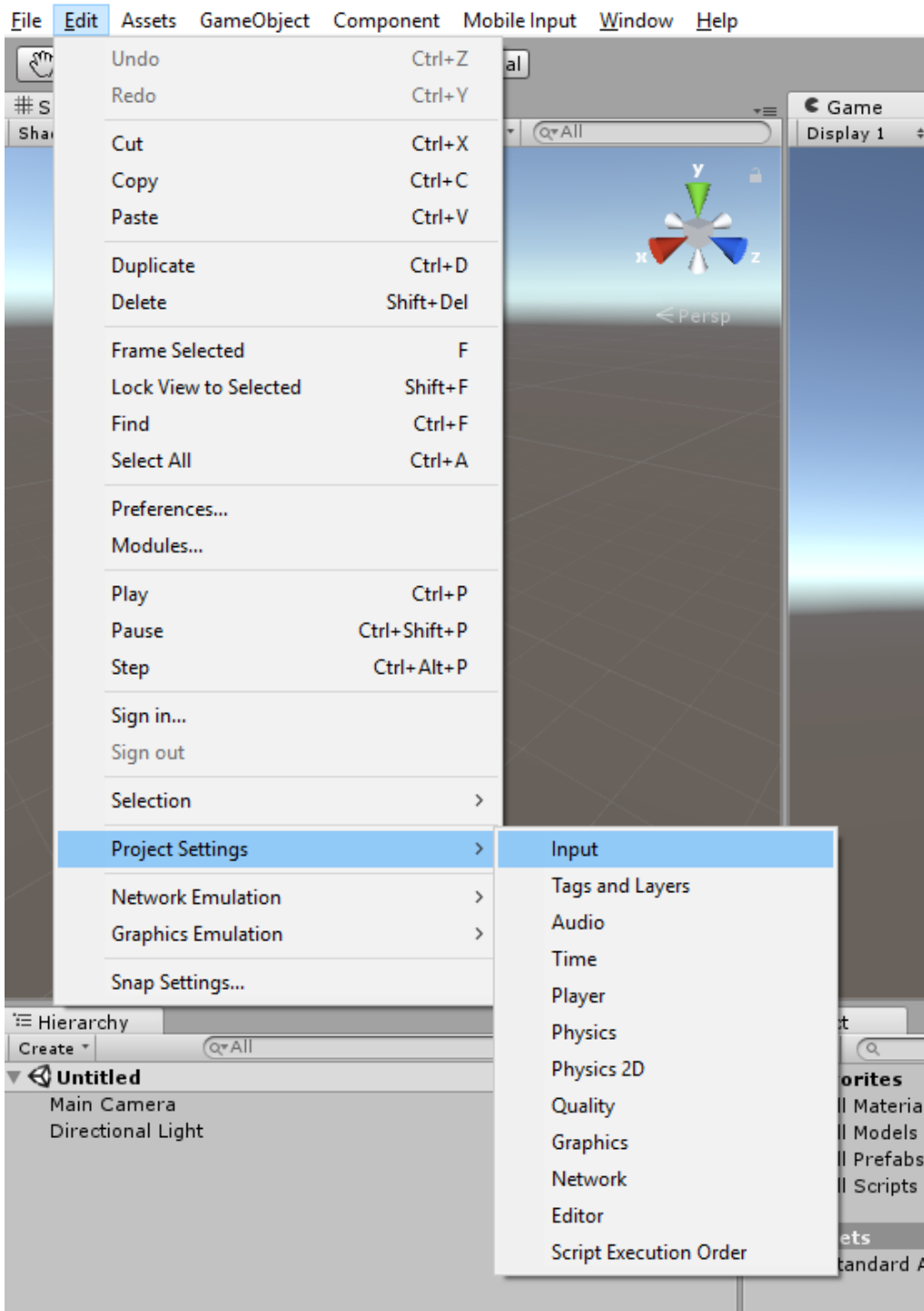


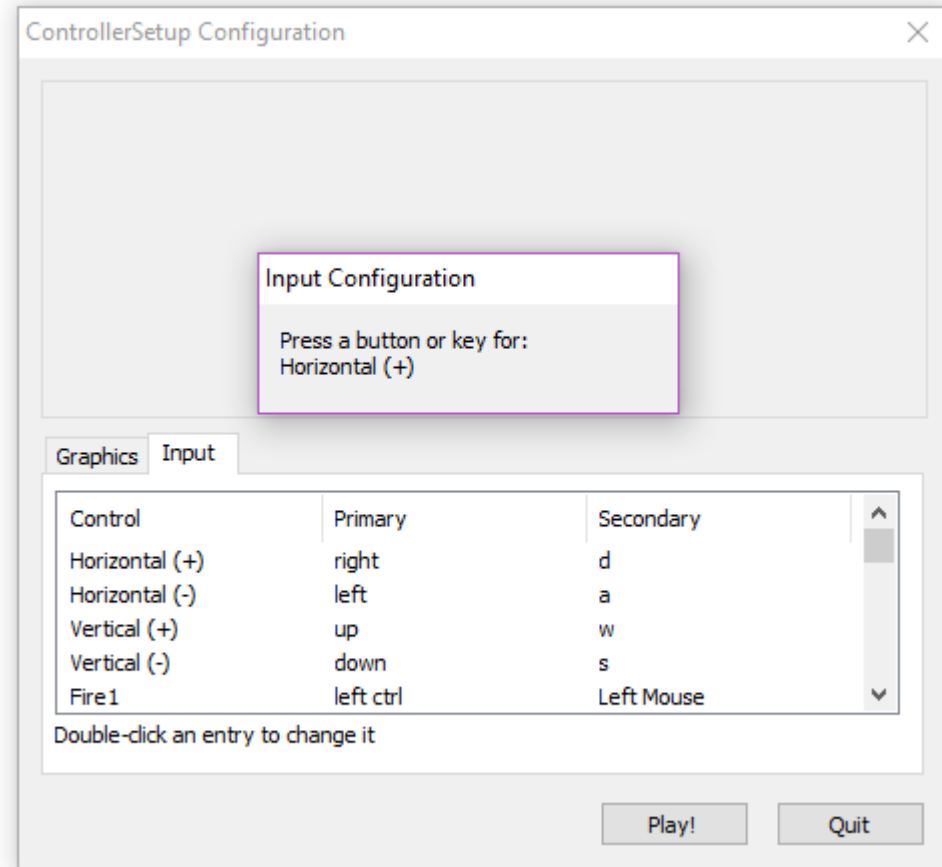
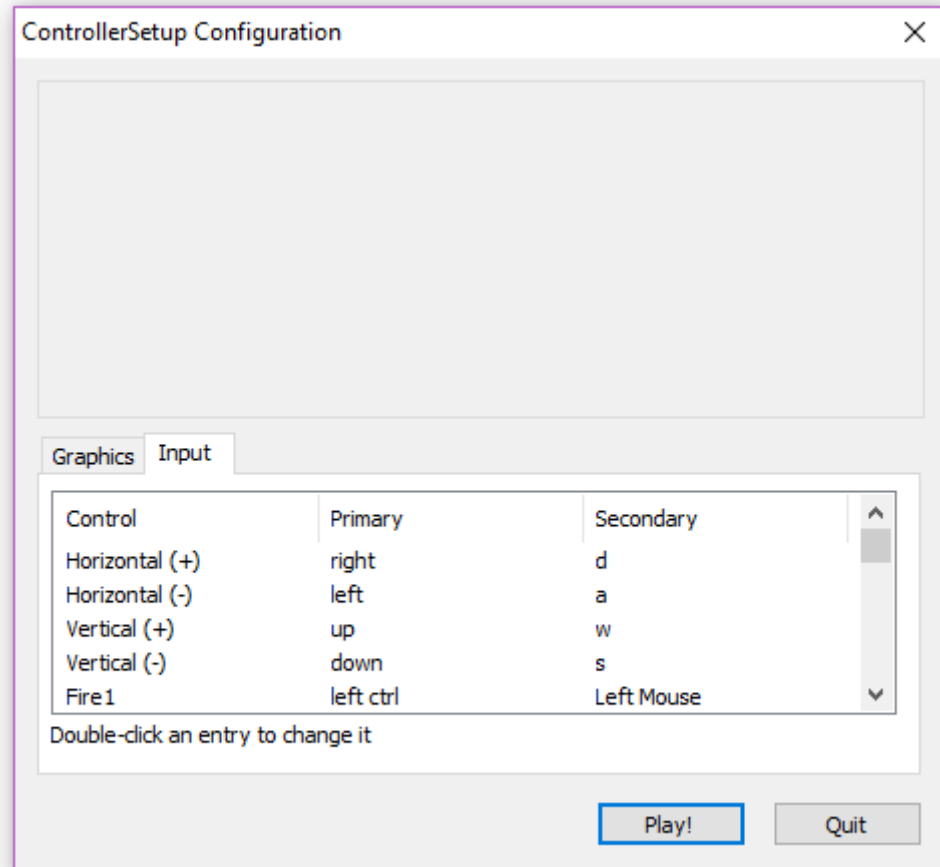
Input Manager

Input Manager

- The input manager allows for customizable controls
- Each control is either:
 - A joystick "axis" (analog stick, d-pad, trigger)
 - A mouse movement (x or y)
 - A button (mouse, key, joystick)



Player Configuration





Default Controls

Virtual Axes

From scripts, all virtual axes are accessed by their name.

Every project has the following default input axes when it's created:

- **Horizontal** and **Vertical** are mapped to w, a, s, d and the arrow keys.
- **Fire1**, **Fire2**, **Fire3** are mapped to Control, Option (Alt), and Command, respectively.
- **Mouse X** and **Mouse Y** are mapped to the delta of mouse movement.
- **Window Shake X** and **Window Shake Y** is mapped to the movement of the window.



Example

▼ Axes

- Size 21
- ▶ Horizontal
- ▶ Vertical
- ▶ Fire1
- ▶ Fire2
- ▶ Fire3
- ▼ Jump

Jump

Name Jump

Descriptive Name

Descriptive Negative Name

Negative Button

Positive Button space

Alt Negative Button

Alt Positive Button joystick button 0

Gravity 1000

Dead 0.001

Sensitivity 1000

Snap ☐

Invert ☐

Type Key or Mouse Button

Axis X axis

Joy Num Get Motion from all Joysticks



Axis Settings

Property:	Function:
Axes	Contains all the defined input axes for the current project: Size is the number of different input axes in this project, Element 0, 1, ... are the particular axes to modify.
Name	The string that refers to the axis in the game launcher and through scripting.
Descriptive Name	A detailed definition of the Positive Button function that is displayed in the game launcher.
Descriptive Negative Name	A detailed definition of the Negative Button function that is displayed in the game launcher.
Negative Button	The button that will send a negative value to the axis.
Positive Button	The button that will send a positive value to the axis.
Alt Negative Button	The secondary button that will send a negative value to the axis.
Alt Positive Button	The secondary button that will send a positive value to the axis.
Gravity	How fast will the input recenter. Only used when the Type is key / mouse button .
Dead	Any positive or negative values that are less than this number will register as zero. Useful for joysticks.
Sensitivity	For keyboard input, a larger value will result in faster response time. A lower value will be more smooth. For Mouse delta the value will scale the actual mouse delta.
Snap	If enabled, the axis value will be immediately reset to zero after it receives opposite inputs. Only used when the Type is key / mouse button .
Invert	If enabled, the positive buttons will send negative values to the axis, and vice versa.
Type	Use Key / Mouse Button for any kind of buttons, Mouse Movement for mouse delta and scrollwheels, Joystick Axis for analog joystick axes and Window Movement for when the user shakes the window.
Axis	Axis of input from the device (joystick, mouse, gamepad, etc.)
Joy Num	Which joystick should be used. By default this is set to retrieve the input from all joysticks. This is only used for input axes and not buttons.

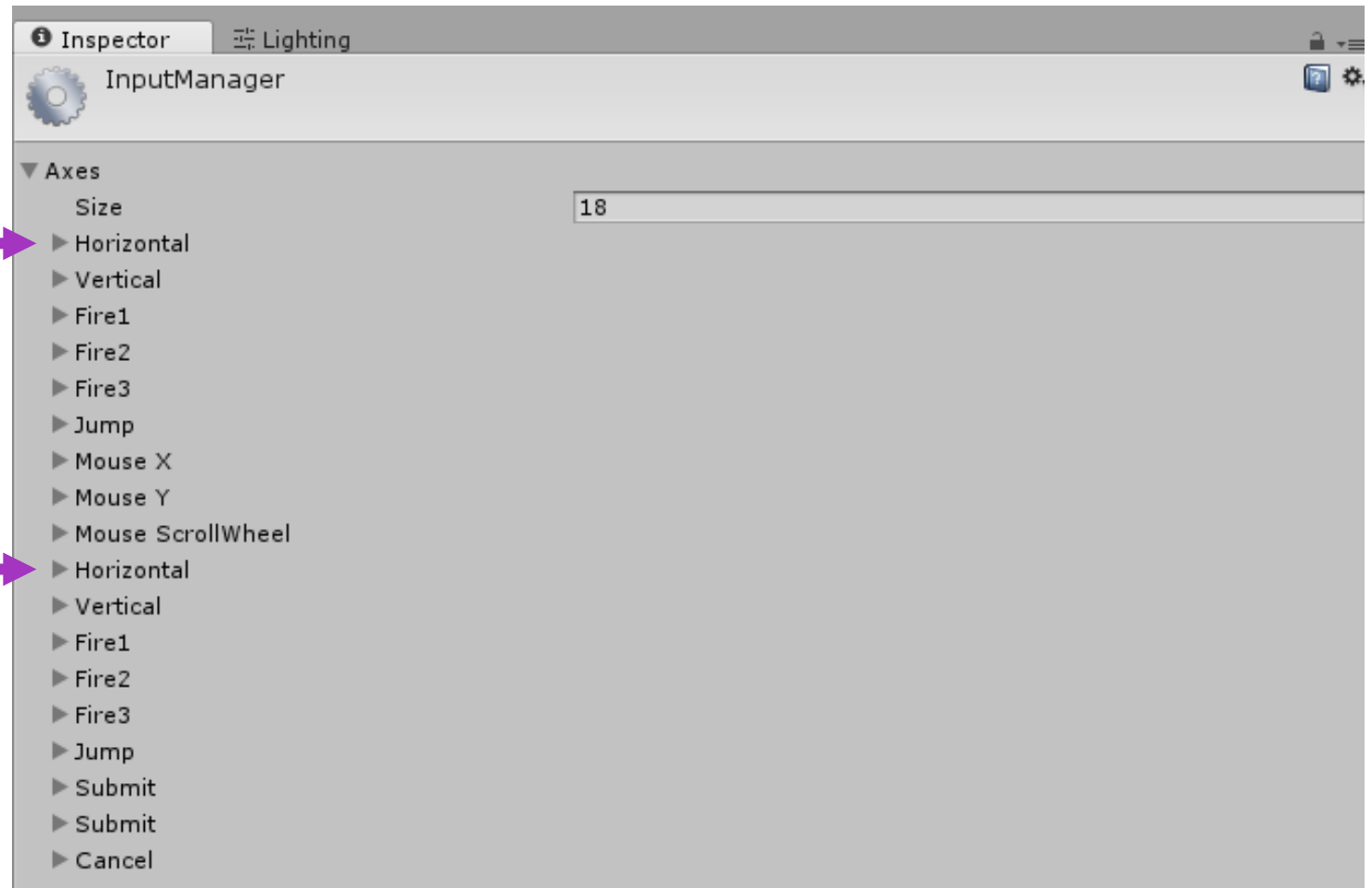
<https://docs.unity3d.com/Manual/class-InputManager.html>

Duplicates for Alternate Controls

Left/Right Arrows



Joystick X Axis



Scripting with Inputs



Using an Axis

Using Input Axes from Scripts

You can query the current state from a script like this:

```
value = Input.GetAxis ("Horizontal");
```

An axis has a value between -1 and 1. The neutral position is 0. This is the case for joystick input and keyboard input.

However, Mouse Delta and Window Shake Delta are how much the mouse or window moved during the last frame. This means it can be larger than 1 or smaller than -1 when the user moves the mouse quickly.

It is possible to create multiple axes with the same name. When getting the input axis, the axis with the largest absolute value will be returned. This makes it possible to assign more than one input device to one axis name. For example, create one axis for keyboard input and one axis for joystick input with the same name. If the user is using the joystick, input will come from the joystick, otherwise input will come from the keyboard. This way you don't have to consider where the input comes from when writing scripts.



Using a Button

Keys

The names of keys follow this convention:

- Normal keys: "a", "b", "c" ...
- Number keys: "1", "2", "3", ...
- Arrow keys: "up", "down", "left", "right"
- Keypad keys: "[1]", "[2]", "[3]", "[+]", "[equals]"
- Modifier keys: "right shift", "left shift", "right ctrl", "left ctrl", "right alt", "left alt", "right cmd", "left cmd"
- Mouse Buttons: "mouse 0", "mouse 1", "mouse 2", ...
- ➔ • Joystick Buttons (from any joystick): "joystick button 0", "joystick button 1", "joystick button 2", ...
- Joystick Buttons (from a specific joystick): "joystick 1 button 0", "joystick 1 button 1", "joystick 2 button 0", ...
- Special keys: "backspace", "tab", "return", "escape", "space", "delete", "enter", "insert", "home", "end", "page up", "page down"
- Function keys: "f1", "f2", "f3", ...

GetButton

Returns true while the virtual button identified by buttonName is held down.

GetButtonDown

Returns true during the frame the user pressed down the virtual button identified by buttonName.

GetButtonUp

Returns true the first frame the user releases the virtual button identified by buttonName.

Controller Setup

Controller & Input Manager

- In Unity, the controls are either:
 - Axis (analog stick, d-pad, trigger)
 - Button

Type: Axis
Name: "Horizontal"
Dead zone: 0.19
Sensitivity: 1
Invert: false
Use joystick 1



Type: Button
Name: "Interact"
Sensitivity: 1000
Use joystick 1

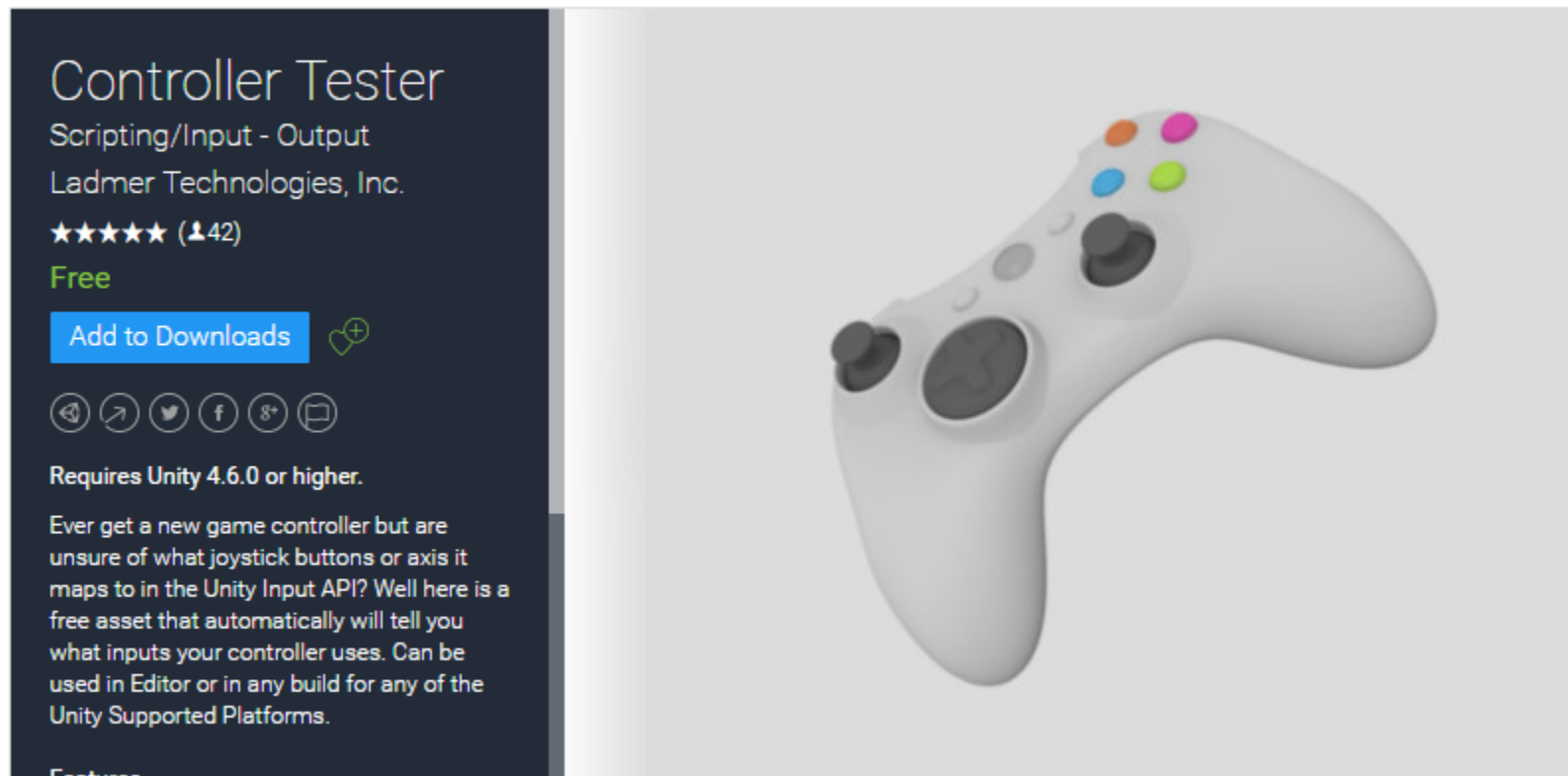


Macs and Xbox360

- Xbox isn't natively supported by OSX
- Third-party drivers
 - Download the latest .dmg from [here](#)
 - More info: [here](#)

Controller Testing

- “[Controller Tester](#)” on Asset Store
- Demo scene that interactively lets you test which axes/buttons are which



Controller Prefabs

- Import ModifiedControllers package
 - Horizontal & Vertical – moving
 - Mouse X & Mouse Y – looking around
 - Jump
 - Run
- Import FlyController package
 - Mouse X & Mouse Y – looking around



Horizontal	Name	Horizontal
	Descriptive Name	Left/Right Movement on Controller
	Descriptive Negative Name	
	Negative Button	
	Positive Button	
	Alt Negative Button	
	Alt Positive Button	
	Gravity	0
	Dead	0.19
	Sensitivity	1
	Snap	<input type="checkbox"/>
	Invert	<input type="checkbox"/>
	Type	Joystick Axis
	Axis	X axis
	Joy Num	Get Motion from all Joysticks
Vertical	Name	Vertical
	Descriptive Name	Forward/Backward Movement on Controller
	Descriptive Negative Name	
	Negative Button	
	Positive Button	
	Alt Negative Button	
	Alt Positive Button	
	Gravity	0
	Dead	0.19
	Sensitivity	1
	Snap	<input type="checkbox"/>
	Invert	<input checked="" type="checkbox"/>
	Type	Joystick Axis
	Axis	Y axis
	Joy Num	Get Motion from all Joysticks

▼ Mouse X

Name	Mouse X
Descriptive Name	
Descriptive Negative Name	
Negative Button	
Positive Button	
Alt Negative Button	
Alt Positive Button	
Gravity	0
Dead	0.3
Sensitivity	2
Snap	<input type="checkbox"/>
Invert	<input type="checkbox"/>
Type	Joystick Axis ▾
Axis	4th axis (Joysticks) ▾
Joy Num	Get Motion from all Joysticks ▾

▼ Mouse Y

Name	Mouse Y
Descriptive Name	
Descriptive Negative Name	
Negative Button	
Positive Button	
Alt Negative Button	
Alt Positive Button	
Gravity	0
Dead	0.3
Sensitivity	2
Snap	<input type="checkbox"/>
Invert	<input checked="" type="checkbox"/>
Type	Joystick Axis ▾
Axis	5th axis (Joysticks) ▾
Joy Num	Get Motion from all Joysticks ▾



▼ Run	
Name	Run
Descriptive Name	Run on Controller and Keyboard
Descriptive Negative Name	
Negative Button	
Positive Button	joystick button 8
Alt Negative Button	
Alt Positive Button	left shift
Gravity	1000
Dead	0.001
Sensitivity	1000
Snap	<input type="checkbox"/>
Invert	<input type="checkbox"/>
Type	Key or Mouse Button ▾
Axis	X axis ▾
Joy Num	Get Motion from all Joysticks ▾

▼ Jump

Name	Jump
Descriptive Name	
Descriptive Negative Name	
Negative Button	
Positive Button	space
Alt Negative Button	
Alt Positive Button	joystick button 0
Gravity	1000
Dead	0.001
Sensitivity	1000
Snap	<input type="checkbox"/>
Invert	<input type="checkbox"/>
Type	Key or Mouse Button ▾
Axis	X axis ▾
Joy Num	Get Motion from all Joysticks ▾

A Better Solution

Controller Mapping Assets

- Mapping the controller axes/buttons is a pain
- [Rewired](#) (\$45) and [InControl](#) (\$35) do the work for you
- They make working with mixtures of controllers (xbox + ps4 + WiiU + etc.) pretty close to plug-and-play.