

jQuery and Events

jQuery interactions with HTML

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AGENDA

- DOM Events
- jQuery Events
 - Events Demo
- jQuery Effects
 - Effects Demo

DOM EVENTS

Events

Events are certain actions performed either by the user or by the browser itself.

We can write code that runs when these “Events” happen.

DOM EVENTS

- When _____, do _____.
- When the user does something, run some code.
- When an event is fired, invoke a function.
- We register a callback function as an event handler
- It's a simple concept...with some radical implications
 - Out of order code execution
 - aka: "Asynchronous Callbacks"

THIS IS

JAVASCRIPT



DOM EVENTS: THERE ARE LOTS OF THEM...

checking	Event	Offline	The user agent is checking for an update, or attempting to download the cache manifest for the first time.
click	MouseEvent	DOM L3	A pointing device button has been pressed and released on an
close	Event	WebSocket	A WebSocket connection has been closed.
complete		IndexedDB	
complete	OfflineAudioCompletionEvent	Web Audio API The definition of 'OfflineAudioCompletionEvent' in that specification.	The rendering of an OfflineAudioContext is terminated.
compositionend	CompositionEvent	DOM L3	The composition of a passage of text has been completed or canceled.
compositionstart	CompositionEvent	DOM L3	The composition of a passage of text is prepared (similar to keydown for a keyboard input, but works with other inputs such as speech recognition).
compositionupdate	CompositionEvent	DOM L3	A character is added to a passage of text being composed.
contextmenu	MouseEvent	HTML5	The right button of the mouse is clicked (before the context menu is displayed).
copy	ClipboardEvent	Clipboard	The text selection has been added to the clipboard.
cut	ClipboardEvent	Clipboard	The text selection has been removed from the document and added to the clipboard.
dblclick	MouseEvent	DOM L3	A pointing device button is clicked twice on an element.
devicelight	DeviceLightEvent	Ambient Light Events	Fresh data is available from a light sensor.
devicemotion	DeviceMotionEvent	Device Orientation Events	Fresh data is available from a motion sensor.
deviceorientation	DeviceOrientationEvent	Device Orientation Events	Fresh data is available from an orientation sensor.
deviceproximity	DeviceProximityEvent	Proximity Events	Fresh data is available from a proximity sensor (indicates an approximated distance between the device and a nearby object).
dischargingtimechange	Event	Battery status	The dischargingTime attribute has been updated.

Shorthand versions of jQuery's Event Handler

Native Event Name	Shorthand Method
click	<code>.click()</code>
keydown	<code>.keydown()</code>
keypress	<code>.keypress()</code>
keyup	<code>.keyup()</code>
mouseover	<code>.mouseover()</code>
mouseout	<code>.mouseout()</code>
mouseenter	<code>.mouseenter()</code>
mouseleave	<code>.mouseleave()</code>
scroll	<code>.scroll()</code>
focus	<code>.focus()</code>
blur	<code>.blur()</code>
resize	<code>.resize()</code>

<https://api.jquery.com/category/events/>

DOM EVENTS: THE ONES WE MOST CARE ABOUT

- A selection of useful events (p 246-247):
 - Browser UI: `load`, `unload`, `resize`, `scroll`
 - Mouse: `click`, `dblclick`, `mouseover`, `mouseout`
 - Keyboard: `keyup`, `keydown`, `keypress`
 - Element focus: `focus`, `blur`
 - Form: `input`, `change`, `submit`

“

Events are the beating heart of any
JavaScript application.

-Peter-Paul Koch, quirksmode.org



LOVE

Adding Events Handlers

jQuery uses the `.on()` method to add Event Listeners

<http://api.jquery.com/on/>

There are shorthand version, which will check out in the next couple of slides.

EVENTS WITH JQUERY

➤ Browser event handling, jQuery style!

➤ Goodbye:

```
<a href="#" onclick="jumpHigh();">Jump!</a>
```

```
domEle.onclick = function() { height = prompt('How high?'); };
```

```
domEle.addEventListener('click', jumpHigh, true);
```

➤ Hello:

```
$el.on('click', jumpHigh);
```

➤ Let's take a look: <http://api.jquery.com/on/>

Example: Event Handler

VANILLA JS

```
document.getElementById('#example-1').addEventListener('click', function(){  
    alert('Clicked');  
});
```

JQUERY

```
$('#example-1').on('click', function() {  
    alert('Clicked');  
});
```

EVENTS WITH JQUERY

- What events should our blog respond to?
 - ‘As a reader, I want to click the "Read On" button so that I can see the entire article.’
 - ‘As an author, I want my articles filtered by name so that readers can find all my posts.’
 - ‘As the creator, I want the About nav to act as a tab, so my story is revealed FAST.’
- DEMO: Your Blog, as it will be after today’s user stories are implemented

DEMO #1

EVENTS & JQUERY

- JavaScript can respond to hundreds of events
- You can get a “handle” on them with jQuery
- The `.on()` method is your go-to method for attaching event handlers
- Delegation can reduce the number of handlers you need to attach
- Delegation can capture events for elements not in the page when the handler is registered
- Events bubble from the in-most outward

Event Handler: .change()

The change event is sent to an element when its value changes.

This event is limited to `<input>` elements, `<textarea>` boxes and `<select>` elements.

For select boxes, checkboxes, and radio buttons, the event is fired immediately when the user makes a selection with the mouse, but for the other element types the event is deferred until the element loses focus.

DEMO #2

Event Object

When an event related to the DOM is fired, all of the relevant information is gathered and stored on an object called event.

This object contains basic information such as the element that caused the event, the type of event that occurred, and any other data that may be relevant to the particular event.

i.e. position of mouse, or key pressed

Event Object

Like an object, it has methods that we can use:

event.type

Describes the nature of the event.

event.preventDefault()

If this method is called, the default action of the event will not be triggered.

event.currentTarget

The current DOM element within the event bubbling phase.

event.target

The DOM element that initiated the event.

<https://api.jquery.com/category/events/event-object/>

Event Object - Bubbling & Capturing

Event bubbling and capturing are two ways of event propagation in the HTML DOM API.

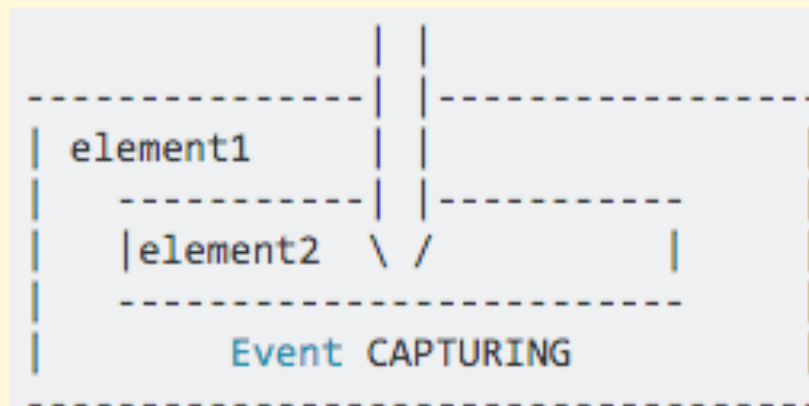
When an event occurs in an element inside another element, and both elements have registered a handle for that event.

The event propagation mode determines in which order the elements receive the event.

Event Object - Bubbling & Capturing

Event capturing

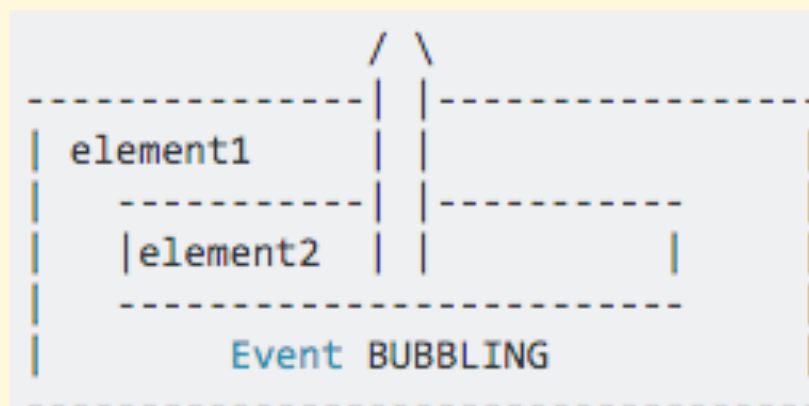
When you use event capturing



the event handler of element1 fires first, the event handler of element2 fires last.

Event bubbling

When you use event bubbling



the event handler of element2 fires first, the event handler of element1 fires last.

event.target()

event.target

The DOM element that initiated the event.

Returns the DOM element associated with the event.

event.preventDefault()

event.preventDefault()

If this method is called, the default action of the event will not be triggered.

Cancels the event if it is cancelable, without stopping further propagation of the event.

DEMO #3

JQUERY EFFECTS

JQUERY EFFECTS

- Make your DOM elements come alive!
- jQuery handles the iteration of small changes
- Supports different styles of “easing”
- Provide smoother user interaction
- Create delightful experiences

JQUERY EFFECTS

- How is this useful?
 - Zoom images
 - Transition photos in a slider
 - Animate sorting
 - Build your own customized tooltips

DEMO #4

RECAP

RECAP

- Web apps are powered by async callbacks
- All you need is `.on(...)`
- Have fun with effects!

RESOURCES AND ATTRIBUTION

- <http://cdn.meme.am/instances/59585988.jpg>
- <http://electric-hearts-war.tumblr.com/post/120346550789>
- Effects demos: <http://www.webdesignerdepot.com/2010/07/20-demos-showing-advanced-jquery-effects/>

Thank you!

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Code Fellows

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