EVENTS & JQUERY

Code 301

DOM EVENTS

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.

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`

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Events are the beating heart of any JavaScript application.

-Peter-Paul Koch, *quirksmode.org*

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);
```
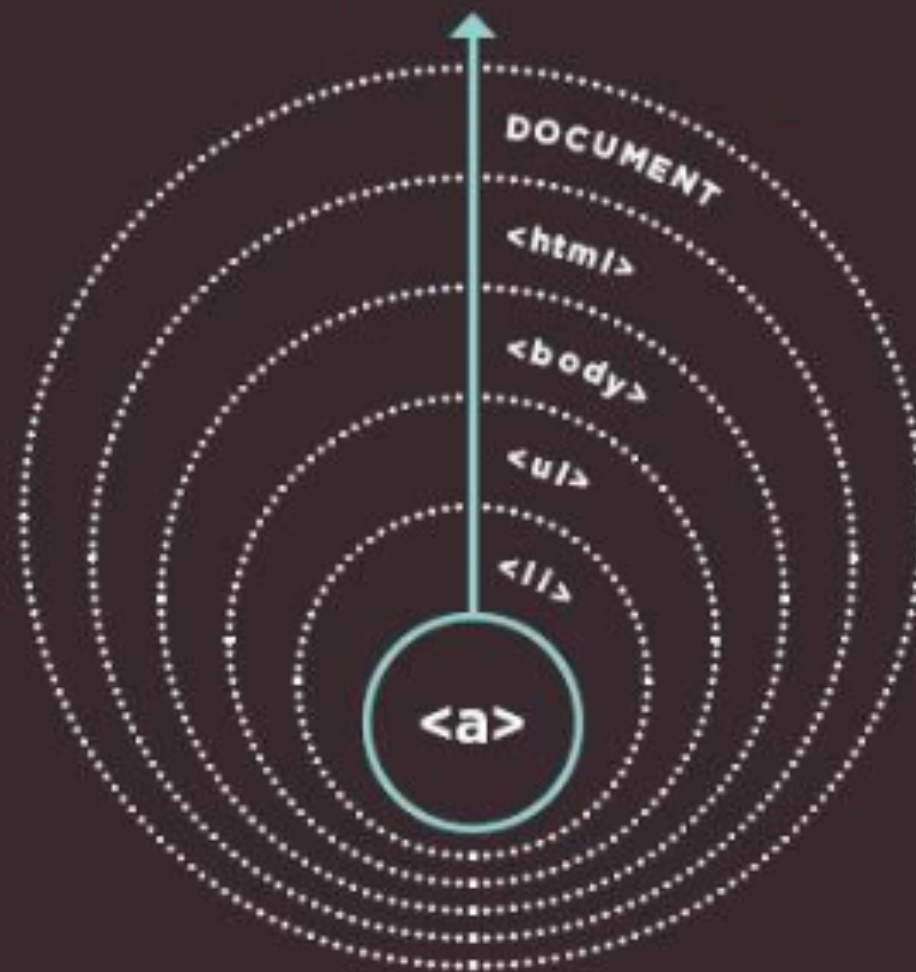
   ➤ Hello:

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

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

HTML elements nest inside other elements. If you hover or click on a link, you will also be hovering or clicking on its parent elements.
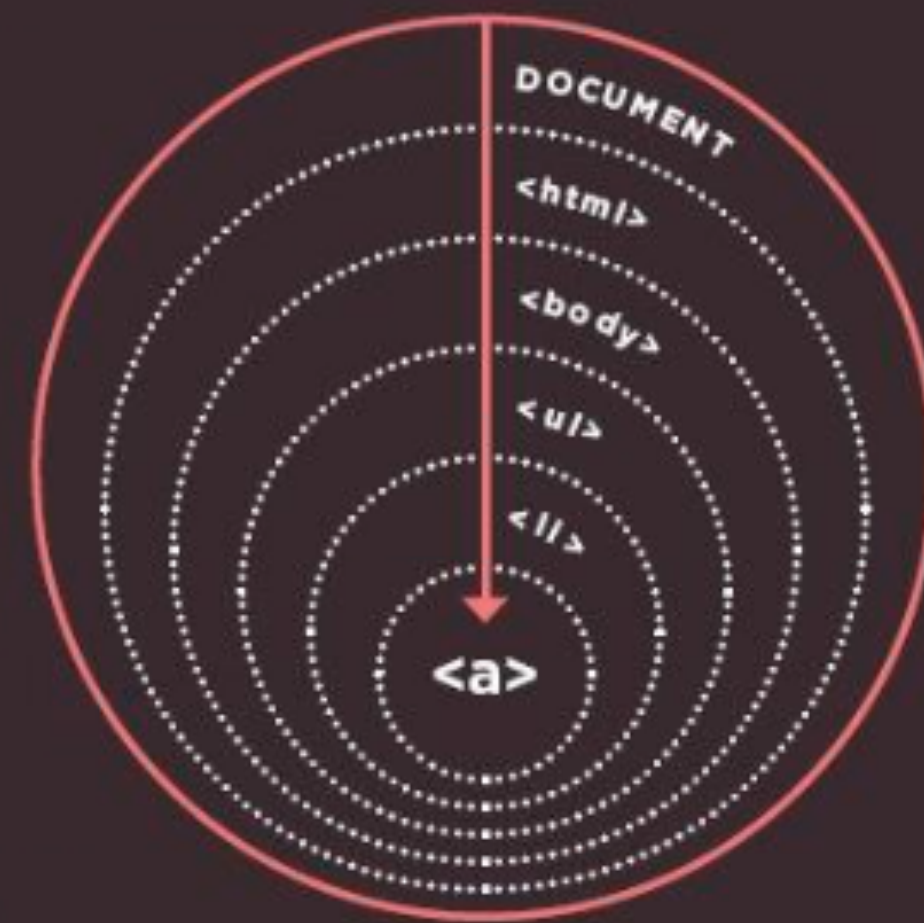
Imagine a list item contains a link. When you hover over the link or click on it, JavaScript can trigger events on the <a> element, and also any elements the <a> element sits inside.

Event handlers/listeners can be bound to the containing <l i>, <ul>, <body>, and <html> elements, plus the document object, and the window object. The order in which the events fire is known as **event flow**, and events flow in two directions.

DOCUMENT
<html>
<body>

<a>

DOCUMENT
<html>
<body>

<a>

EVENT BUBBLING

The event starts at the *most* specific node and **flows outwards** to the *least* specific one. This is the default type of event flow with very wide browser support.

EVENT CAPTURING

The event starts at the *least* specific node and **flows inwards** to the *most* specific one. This is not supported in Internet Explorer 8 and earlier.

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

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

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

RECAP

RECAP

➤ Web apps are powered by async callbacks

➤ All you need is `.on(...)`

➤ Have fun with effects!

➤ 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/