Modern and Mobile Front-End Web Design 1- DGMD E-20

Week 8: Intro to JavaScript and jQuery

Professor Jen Kramer

Agenda

- **What is JavaScript? What is jQuery?**

- **Select something with jQuery**

- **Filter something with jQuery**

- **Make the page do something with jQuery**

What is JavaScript?

- **JavaScript is a scripting language responsible for many cool effects on web pages.**
  - ◆ Scripting language: A language that does not need to be compiled to run
  - ◆ Cool effects: Image fade in/fade out, animation effects, things appearing and disappearing, etc.
  - ◆ JavaScript is the only programming language that runs in the browser
  - ◆ JavaScript can be run client-side or server-side

JavaScript History

- **Invented as a language in 10 days, May 1995, by Brendan Eich (Mozilla)**

- **Named after Java – no other relationship**

- **Early days: lots of browser incompatibilities**

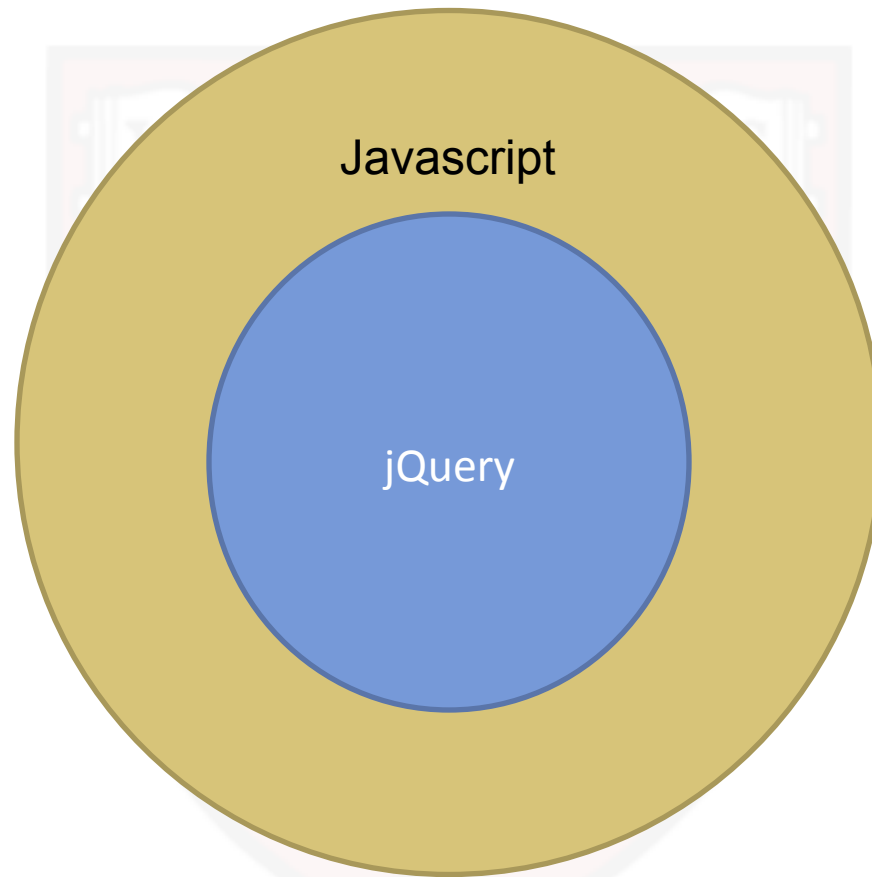- **2005: AJAX coined, launches libraries like jQuery**

https://www.w3.org/community/webed/wiki/A_Short_History_of_JavaScript

What is jQuery?

- **jQuery is a popular open source JavaScript library, developed in Boston, and used around the world.**

  - ◆ Open source: Ability to access and change the source code as desired, including writing something new with it.

  - ◆ Library: A set of commands that are commonly required, grouped together into something you can download and incorporate into your web page.

JavaScript vs jQuery

JavaScript

```javascript
function showHide( elements, show ) {
	var elem, display,
			values = [],
			index = 0,
			length = elements.length;
	for ( ; index < length; index++ ) {
			elem = elements[ index ];
			if ( !elem.style ) {
					continue;
			}
			values[ index ] = jQuery._data( elem, "olddisplay" );
			if ( show ) {
							// Reset the inline display of this element to learn if it is
							// being hidden by cascaded rules or not
							if ( !values[ index ] && elem.style.display === "none" ) {
											elem.style.display = "";
							}

							// Set elements which have been overridden with display: none
							// in a stylesheet to whatever the default browser style is
							// for such an element
							if ( elem.style.display === "" && isHidden( elem ) ) {
											values[ index ] = jQuery._data( elem, "olddisplay", css_defaultDisplay(elem.nodeName) );
							}
			} else {
							display = curCSS( elem, "display" );

							if ( !values[ index ] && display !== "none" ) {
											jQuery._data( elem, "olddisplay", display );
							}
			}
	}
	// Set the display of most of the elements in a second loop
	// to avoid the constant reflow
	for ( index = 0; index < length; index++ ) {
							elem = elements[ index ];
							if ( !elem.style ) {
											continue;
							}
							if ( !show || elem.style.display === "none" || elem.style.display === "" ) {
											elem.style.display = show ? values[ index ] || "" : "none";
							}
	}

	return elements;
}
```

jQuery

```
$('.warning').show();
$('.warning').hide();
```

JavaScript and jQuery work the same way

1. **Wait for an action to occur (page load, click, mouse over, mouse out, etc). When that action occurs...**

2. **Select something.**

3. **Filter it (optional).**

4. **Do something to it.**

Example:

When the button is clicked (1), select the even (3) paragraphs with a class of warning (2). Fade it out to nothing in 2 seconds (4).

Select something… the DOM

- **DOM: Document Object Model**
  - ◆ Think about how tags are nested within an HTML document.
  - ◆ Chrome Developer Tools can show this
- **jQuery: Selection occurs via a CSS selector.**

Filter it

- **Select just the even numbered paragraphs**

$('p:even').action

- **Select the first link in the list**

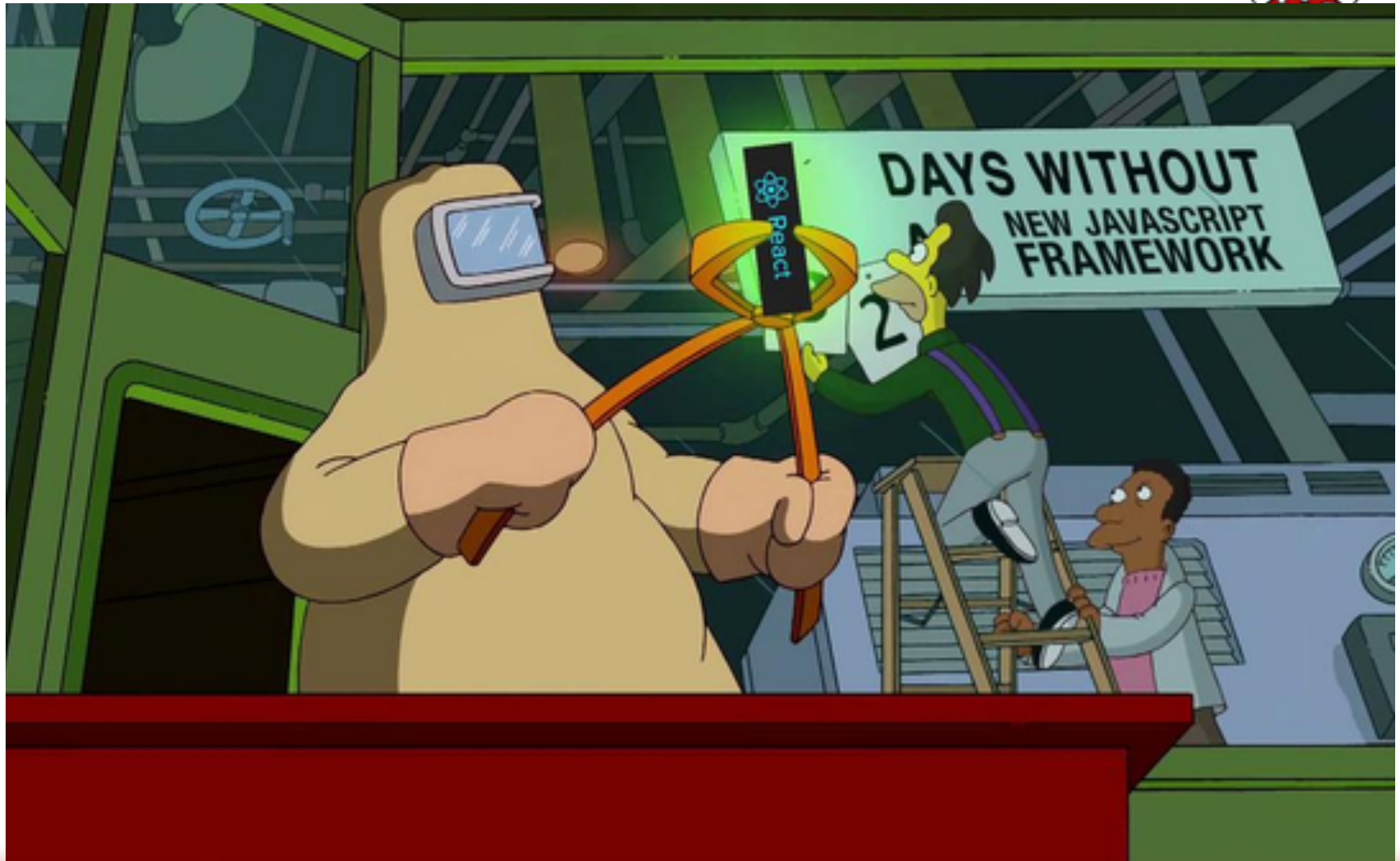**$('ul li a:first').action**

Do something to it

- **Even paragraphs are hidden**

$('p:even').hide();

- **The first link fades into view in 1 second**

$('ul li a:first').fadeIn(1000);

What is jQuery?

jQuery and the future

- **jQuery is still everywhere in 2016**

- **JavaScript is exploding in all directions**
  - Front-end frameworks: ReactJS, Angular, Polymer, Ember, D3
  - Back-end frameworks: NodeJS
  - Full-stack: Meteor, Socket
  - CMS: Keystone (based on Node)

- **https://hackernoon.com/how-it-feels-to-learn-javascript-in-2016-d3a717dd577f#.j8hdxu17e** ,