

Webpage Behavior

Programming concepts using JavaScript

Progressive enhancement

- Structure
 - Technology: HTML
 - Focus on content and the concept of the document
- Presentation
 - Technology: CSS
 - Focus on appearance and layout
- Behavior
 - JavaScript
 - Focus on interaction and usability

What is JavaScript?

- JavaScript is NOT Java
- *Object-oriented computer programming language commonly used to create **interactive effects within web browsers***
- Netscape
 - ECMAScript (European Computer Manufacturers Association)
 - Mocha → LiveScript → JavaScript
 - Webpages with JavaScript: DHTML (*dynamic* HTML)
- Collaboration
 - Netscape and Sun Microsystems: license agreement → JavaScript
 - Java = popular!
- JavaScript → all major web browsers

JavaScript - how used...

- JavaScript
 - Front-end interactions
 - Web applications (programming, back-end)
- Interpreted by the client software
 - Downloaded along with the HTML, CSS and images
 - Runs in the client
 - Limited by the capabilities of the client

Where is JavaScript?

JavaScript statements can be coded on a Web page using three different techniques

- Link JavaScript code from an EXTERNAL file

```
<script src="js/scripts.js"></script>
```

- INTERNAL : Place JavaScript code between script tags

```
<script>  
    alert("Hello World!");  
</script>
```

- Place JavaScript code as part of an EVENT attached to an HTML element (i.e. click)

```
<div onclick="alert('Hello World!');">  
    Click Me!  
</div>
```

Programming Concepts

Syntax for variables and functions - most C -based languages
(including JavaScript)

Variables in JavaScript

- A variable is a placeholder for information.
- The variable is stored in the computer's memory (RAM).

- `var userName;`

← declaration

- `userName = "Karen";`

← assignment

- `document.write(userName);`

← Call to the write() method,
passing the variable as the argument

Functions in JavaScript

A function is a block of one or more JavaScript statements with a specific purpose, which can be run when needed.

```
function function_name() {  
    /* JavaScript statements */  
  
}
```


Arrays in JavaScript

- Options go in an "array"

```
{  
  property: value,  
  property: value,  
  property: value,  
  property: value  
}
```

- Notice that commas go after each option, but not after the last option

Events

When things happen

JavaScript and Events

- Events:
 - actions taken by the Web page visitor
 - a special type of method to which an element can respond
 - clicking (onclick)
 - placing the mouse on an element (onmouseover)
 - removing the mouse from an element (onmouseout)
 - loading the page (onload)
 - unloading the page (onunload)
 - clicking into a form element (onfocus)
 - leaving a form element (onblur)
 - many more (http://www.w3schools.com/jsref/dom_obj_event.asp)

JavaScript Popup Boxes

JavaScript has three kinds of popup boxes: **alert**, **confirm**, **prompt**

- An **alert** is used to give the user information
User must click "OK" to proceed.
- A **confirm** is used to verify something.
User will have to click either "OK" or "Cancel" to proceed
("OK" returns *true*, "Cancel" returns *false*)
- A **prompt** is used to gather information from the user.
User will have to click either "OK" or "Cancel" to proceed
("OK" returns the inputted value, "Cancel" returns *null*)