



Computer Science E-75

Building Dynamic Websites

Harvard Extension School
<http://cs75.net/>

Lecture 5: JavaScript

David J. Malan
malan@post.harvard.edu

Project 1

CODE

3 x correctness: poor (1) fair (2) good (3) better (4) best (5)
2 x design: poor (1) fair (2) good (3) better (4) best (5)
1 x style: poor (1) fair (2) good (3) better (4) best (5)

CONFIGURATION

1 x correctness: fair (1) good (2)

PROSE

1 x correctness: fair (1) good (2)

JavaScript

- Core JavaScript 1.5 Reference

http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference

- A re-introduction to JavaScript

http://developer.mozilla.org/en/docs/A_re-introduction_to_JavaScript

- JavaScript Reference

<http://www.w3schools.com/jsref/>

- JavaScript Tutorial

<http://www.w3schools.com/js/>

JavaScript

```
<script type="text/javascript">  
// <br/><br/>    . . .<br/><br/>// ]]&gt;<br/>&lt;/script&gt;</pre></div><div data-bbox="930 902 943 922" data-label="Page-Footer"><p>3</p></div>
```

JavaScript

```
<script language="Javascript1.5">
```

```
// <![CDATA[
```

```
. . .
```

```
// ]]>
```

```
</script>
```

JavaScript

```
<script src="file.js" type="text/javascript"></script>
```

noscript

```
<script type="text/javascript">  
  // <br/><br/>    document.write("hello, world");<br/><br/>  // ]]&gt;<br/>&lt;/script&gt;<br/><br/>&lt;noscript&gt;<br/>  goodbye, world<br/>&lt;/noscript&gt;</pre></div><div data-bbox="930 902 943 922" data-label="Page-Footer"><p>6</p></div>
```

Statements

- break
- const
- continue
- do ... while
- for
- for ... in
- for each ... in
- function
- if ... else
- return
- switch
- throw
- try ... catch
- var
- while
- with
- ...

http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference#Statements

focus()

```
<script type="text/javascript">
// 

    // put cursor in username field if empty
    if (document.forms.login.username.value == "")
    {
        document.forms.login.username.focus();
        document.forms.login.username.value = document.forms.login.username.value;
    }

    // else put cursor in password field
    else
    {
        document.forms.login.password.focus();
        document.forms.login.password.value = document.forms.login.password.value;
    }

// ]]&gt;</pre></div><div data-bbox="930 901 943 922" data-label="Page-Footer"><p>8</p></div>
```

Validation

Email:

Password:

Password (again):

I agree to the terms and conditions: ☐

Regular Expressions

- **Regex**

http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference:Global_Functions:RegExp

- **String**

http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference:Global_Functions:String

http://www.w3schools.com/jsref/jsref_obj_regexp.asp

Global Objects

- Array
- Boolean
- Date
- Function
- Math
- Number
- Object
- RegExp
- String
- ...

http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference#Global_Objects

Objects

```
var obj = new Object();  
var obj = {};
```

```
obj.key = value;  
obj["key"] = value;
```

```
var obj = { key: value };
```

Arrays

```
var a = new Array();
```

```
var a = [];
```

```
a[0] = "foo";
```

```
a[1] = "bar";
```

```
a[2] = "baz";
```

Arrays

```
var a = new Array();
```

```
var a = [];
```

```
a[a.length] = "foo";
```

```
a[a.length] = "bar";
```

```
a[a.length] = "baz";
```

OOP (Prototype-Based)

```
// constructor
function Foo()
{
    // property
    this.counter = 0;
}

// method
this.prototype.add = function(n) { this.counter += n; }
```


Event Handlers

- onblur
- onchange
- onclick
- onfocus
- onkeydown
- onkeyup
- onload
- onmousedown
- onmouseup
- onmouseout
- onmouseover
- onmouseup
- onresize
- onselect
- onsubmit
- ...

http://www.w3schools.com/jsref/jsref_events.asp

CSS Properties

- `className`
- `style`

<http://codepunk.hardwar.org.uk/css2js.htm>

blink

```
function blinker()  
{  
    var blinks = document.getElementsByName("blink");  
    for (var i = 0; i < blinks.length; i++)  
    {  
        if (blinks[i].style.visibility == "visible")  
            blinks[i].style.visibility = "hidden";  
        else  
            blinks[i].style.visibility = "visible";  
    }  
}
```

YUI Event Utility

```
YAHOO.util.Event.addListener(window, "load", function() {  
    window.setInterval("blinker()", 500);  
});
```

<http://developer.yahoo.com/yui/event/>

Frameworks

- Dojo
<http://dojotoolkit.org/>
- Prototype
<http://www.prototypejs.org/>
- script.aculo.us
<http://script.aculo.us/>
- YUI
<http://developer.yahoo.com/yui/>

YUI Library Utilities

- Animation Utility
- Drag and Drop Utility
- ImageLoader Utility
- ...

<http://developer.yahoo.com/yui/>

YUI Library Controls/Widgets

- AutoComplete
- Button
- Calendar
- Color Picker
- Container
- Menu
- Slider
- TabView
- TreeView
- ...

<http://developer.yahoo.com/yui/>



Quirks

<http://www.quirksmode.org/js/contents.html>



Static Code Analysis

<http://www.jshint.com/>

Debuggers

- FireBug

<https://addons.mozilla.org/en-US/firefox/addon/1843>

- JavaScript Debugger

<https://addons.mozilla.org/en-US/firefox/addon/216>

Compressors

- JSMIn
<http://javascript.crockford.com/jsmin.html>
- packer
<http://dean.edwards.name/packer/>
- ShrinkSafe
<http://dojotoolkit.org/docs/shrinksafe>
- YUI Compressor
<http://developer.yahoo.com/yui/compressor/>



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