



# Computer Science S-75

## Building Dynamic Websites

Harvard Summer School  
<http://www.cs75.net/>

### Lecture 6: JavaScript

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# JavaScript

- Core JavaScript 1.5 Reference  
[http://developer.mozilla.org/en/docs/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](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">  
// <![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>4</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](http://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference#Statements)

# 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";
```



# focus()

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

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

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

// ]]&gt;</pre></div><div data-bbox="930 903 943 923" data-label="Page-Footer"><p>8</p></div>
```

# Validation

Email:

Password:

Password (again):

I agree to the terms and conditions: ☐

# Regular Expressions

- **RegExp**

[http://developer.mozilla.org/en/docs/Core\\_JavaScript\\_1.5\\_Reference:Global\\_Functions:RegExp](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://developer.mozilla.org/en/docs/Core_JavaScript_1.5_Reference:Global_Functions:String)

[http://www.w3schools.com/jsref/jsref\\_obj\\_regexp.asp](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](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 };
```

# 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](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/>

# Libraries

- Dojo  
<http://dojotoolkit.org/>
- Ext JS  
<http://extjs.com/>
- jQuery  
<http://jquery.com/>
- MooTools  
<http://mootools.net/>
- Prototype  
<http://www.prototypejs.org/>
- script.aculo.us  
<http://script.aculo.us/>
- YUI  
<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/firebug/>

- JavaScript Debugger

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

# 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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