Computer Science S-75
Building Dynamic Websites

Harvard Summer School

https://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

- A re-introduction to JavaScript
  http://developer.mozilla.org/en/docs/A_re-introduction_to_JavaScript

JavaScript

```
<script>


    . . .


</script>
```

JavaScript

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

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

Arrays

```
var a = [];

a[0] = 'foo';
a[1] = 'bar';
a[2] = 'baz';
```

Arrays

```
var a = [];

a.push('foo');
a.push('bar');
a.push('baz');
```

focus()

```
<script>

    // 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();
    }

</script>
```

Validation

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 = {};

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

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';
    }
}
```

Libraries

- Bootstrap
  http://twitter.github.com/bootstrap/javascript.html
- Dojo
  http://dojotoolkit.org/
- Ext JS
  http://extjs.com/
- jQuery
  http://jquery.com/
- MooTools
  http://mootools.net/
- YUI
  http://developer.yahoo.com/yui/
- ...

Static Code Analysis

http://www.jslint.com/

Compressors

- JSMin
  http://javascript.crockford.com/jsmin.html

- packer
  http://dean.edwards.name/packer/

- ShrinkSafe
  http://shrinksafe.dojotoolkit.org/

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