IT350 Web and Internet Programming

SlideSet #11: Dynamic HTML
(some from Chapter 9, 11,12 &13 of book)

Functions Recap – What’s the output?

```
function fun1 (x) {
  x = x + 3;
  y = y + 4;
  document.writeln("<br/> FUN1: "+x+ "," +y);
}

function fun2 () {
  var y;
  x = x + 10;
  y = y + 20;
  document.writeln("<br/> FUN2: "+x+ "," +y);
}

x = 1;
y = 2;

document.writeln("<br/> MAIN #1: "+x+ "," +y);
fun1(x);
document.writeln("<br/> MAIN #2: "+x+ "," +y);
fun1(y);
document.writeln("<br/> MAIN #3: "+x+ "," +y);
fun2();
document.writeln("<br/> MAIN #4: "+x+ "," +y);
```
Functions and Arrays Recap – What’s the output? (Hint: assume JavaScript ignores any errors it finds)

```javascript
function changeMe1( z ) {
    z[0] = 75;
}
function changeMe2( a, b ) {
    a = b;
}
var array1 = [17, 21, 42];
var array2 = [14, 19];
var array3 = [7, 8, 9];
var x = 63;
changeMe1 (array1);
document.writeln("<br/> array1: ", array1);
changeMe1 (x);
document.writeln("<br/> x: ", x);

array1 = array2;
document.writeln("<br/> array1: ", array1);

changeMe2 (array1, array3);
document.writeln("<br/> array1: ", array1);
```

What can we do with DHTML?
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What techniques do we need?

• Find the HTML object we want to change
  
  var domLink = document.getElementById("linkToAnimal");

• Change the object’s:
  – HTML properties
    
    domLink.href = "cat.html";
  
  – CSS properties
    
    domLink.style.backgroundColor = "blue";
Cash Register Example

```javascript
var totalCents = 0;

function addMoney(extraCents) {
    totalCents += extraCents;

    var domTotal = document.getElementById("moneyTotal");
    domTotal.innerHTML = "$" + totalCents / 100;

    var domLabel = document.getElementById("moneyLabel");
    if ( (totalCents % 10) == 0)
       domLabel.style.color = "red";
    else
       domLabel.style.color = "blue";
}
```

```html
<!DOCTYPE html>
<html>
<head> <meta charset= "utf-8" />
<title>Bigger</title>
<script type = "text/javascript">
</script> </head>
<body>
<p>
Welcome to my page!
</p>
</body>
</html>
```

Exercise #1 – Change this code to make the <p> element have a large font when you move the mouse over it.

```
<!DOCTYPE html>
<html>
<head> <meta charset = "utf-8" />
<title>Bigger</title>
<script type = "text/javascript">
</script> 
</head>
<body>
<p> Welcome to my page! </p> 
</body>
</html>
```
Form Validation Example

```html
<script type="text/javascript">
  // Returns true if the number of steps is okay
  function checkAttending() {
    var number = document.getElementById("numAttend").value;
    if ( (number >= 1) && (number <= 100) )
      return true;
    else {
      window.alert("Please enter a value between 1 and 100.");
      return false;
    }
  }

  // Asks user to confirm submission, returns true if ok
  function confirmSubmit() {
    if (!checkAttending())
      return false;
    if (window.confirm("Do you want to submit?"))
      return true;
    else
      return false;
  }

</script>
</head>
<body>
<form method="get" onsubmit="return confirmSubmit()"
  action="http://www.usna.edu/Users/cs/adina/teaching/it350/tools/FormChecker/submit.cgi">
  <p>Last name: <input type="text" name="lastname"/>
  Number attending(1-100): 
  <input type="text" name="numAttend" id="numAttend" onblur="return checkAttending()"/>
  <input type="submit" value="Sign Up"/>
</form>
</body>
</html>
```

All Kinds of Events

- onblur
- onfocus
- onchange
- onclick
- onload (<body> only)
- onmousedown, onmouseup, onmouseout, onmouseover, onmousemove
- onselect (<input>, <textarea> only)
- onsubmit (<form> only)
- onunload (<body> only)
Exercise #2 – Modify so that clicking on the button changes target of `<a>` element to “dog.html”

```html
<!DOCTYPE html>
<html><head>
<meta charset = "utf-8" />
<title>Change Link</title>
<script type = "text/javascript">

</script>
</head>
<body>
<p><a href="cat.html">See some animals!</a></p>
<form>
<input type="button" value="Change animal" />
</form>
</body> </html>
```

Exercise #3 – Write a form to read in a password from the user in two boxes. When they submit the form, proceed only if the passwords are the same.