



## Advanced Online Media

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### AJAX Techniques

AJAX stands for Asynchronous Javascript and XML. It uses the standard concepts of HTML, CSS, Javascript and XML in creating dynamic Web applications. The main benefit is that it allows you to communicate with the server without having to refresh the entire Web page. See the W3Schools site for tutorials on all these topics <http://www.w3schools.com/default.asp>

### Javascript

You already know a good deal of HTML and CSS, so let's talk a bit about Javascript. Javascript is an object-oriented programming language that adds interactivity to HTML pages. It is embedded directly into the HTML of documents, and does not require a license to use it. It does not require any special software on the host, but does require browsers that support it. It is not the same as the Java Programming Language, although they are related. Javascript has a smaller set of codes and is easier for the average user to learn. Java is much more complex and allows the developer to create standalone applications, independent of HTML pages.

You can use Javascript to add variables, detect events (like MouseOver), validate data, detect browsers, and create cookies (retrieve info from a users computer).

### Simple Javascript Example

```
<html>
<body>
<script type="text/javascript">
<!--
document.write("Hello World!")
//-->
</script></body>
</html>
```

Scripts can be entered in the head or body of the document, depending on where you want to execute them. You can also reference an external Javascript page with scripts that can be accessed by multiple pages:

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

## Variables and If Statement Example

```
<script type="text/javascript">
var d = new Date()
var time = d.getHours()
if (time<10)
{
document.write("<b>Good morning</b>")
}
else if (time>10 && time<16)
{
document.write("<b>Good day</b>")
}
else
{
document.write("<b>Hello World!</b>")
}
</script>
```

More advanced logic can be handled with switch statements, and for and while loops.

## Using Functions

```
<html>
<head>
<script type="text/javascript">
function displaymessage()
{
alert("Hello World!")
}
</script>
</head>

<body>
<form>
<input type="button" value="Click me!"
onclick="displaymessage()" >
</form>
</body>
</html>
```

## Show Date and Time

```
<html>
<body>

<script type="text/javascript">

document.write(Date())

</script>

</body>
</html>
```

## Javascript for Size and Position of New Window

```
<a
href="filename.html"onclick="javascript:window.open('filename.html','Listin
gs','width=650,height=600,scrollbars=yes,resizable=yes,screenX=50,screen
Y=250,top=50,left=250'); return false ;" >Link Text</a>
```

## What is XML?

XML stands for Extensible Markup Language. It is similar to HTML and is used to describe, share, and store data. Tags are not predefined, however. You must define your own tags. RSS feeds are based on XML.

Like XHTML, XML elements must have a closing tag, are case sensitive, and must be properly nested.

## Element Names

- Names can contain letters, numbers, and other characters
- Names must not start with a number or punctuation character
- Names must not start with the letters xml (or XML, or Xml, etc)
- Names cannot contain spaces

## Some Sample XML

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<?xml-stylesheet type="text/css" href="cd_catalog.css"?>
<CATALOG>
  <CD>
    <TITLE>Empire Burlesque</TITLE>
    <ARTIST>Bob Dylan</ARTIST>
    <COUNTRY>USA</COUNTRY>
    <COMPANY>Columbia</COMPANY>
    <PRICE>10.90</PRICE>
```

```
<YEAR>1985</YEAR>
</CD>
<CD>
  <TITLE>Hide your heart</TITLE>
  <ARTIST>Bonnie Tyler</ARTIST>
  <COUNTRY>UK</COUNTRY>
  <COMPANY>CBS Records</COMPANY>
  <PRICE>9.90</PRICE>
  <YEAR>1988</YEAR>
</CD>
.
.
.
.
</CATALOG>
```

## **Pulling It All Together with AJAX**

With AJAX, your JavaScript can communicate directly with a server, using the JavaScript XMLHttpRequest object. With this object, your JavaScript can trade data with a web server, without reloading the page.

See the files below for an example using an xml page in php on the server.

### **Create a table and populate with data**

**xml.html** – html file that creates a button that will execute the javascript file

**ajax2.js** – the javascript file that includes the XMLHttpRequest and makes the request for the php file including the xml document

**xml.php** – php document containing xml

### **Create a simple calculator**

**index.html** – Creates a simple form for doing math functions. Calls the doMath function in ajax.js

**ajax.js** – Javascript file that makes the XMLHttpRequest and creates the doMath function

**backend.php** – php file that performs the calculations

### **Flash and XML**

Quiz application that loads questions from an XML file

**quiz\_tutor fla**

**quiz.xml**