

Multimedia im Netz (Online Multimedia)

Wintersemester 2014/15

Übung 05 (Nebenfach)



Today's Agenda

- Flashback! 4th tutorial
- Introduction to JavaScript
- Assignment 4 - discussion

Flashback!

What do you remember from
last week's tutorial?

JavaScript

- JavaScript (JS) is a programming language
- JS code is **interpreted** by the web browser
- Code can be directly embedded into the HTML file

```
<script>
  /*
    this is where you put your code
  */
</script>
```

- Script file with the JS code can be imported

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

Hello World (I)

```
<!DOCTYPE html>
<html>
<head lang="en">
    <meta charset="UTF-8">
    <title>Hello World</title>
    <script>
        alert("Hello World");
    </script>
</head>
<body>
</body>
</html>
```

Debugging JavaScript

- Inside the script: `console.log("Hello World");`
- Modern browsers come with developer tools:
 - Firefox + Firebug
 - Chrome + JS-Console

The screenshot shows the Google Chrome Developer Tools interface with the 'Console' tab selected. The left pane displays the file structure and the content of the 'mi.js' file. The right pane contains several sections: 'Watch Expressions' (empty), 'Call Stack' (empty, labeled 'Not Paused'), 'Scope Variables' (empty, labeled 'Not Paused'), 'Breakpoints' (empty, labeled 'No Breakpoints'), 'DOM Breakpoints' (empty), and 'XHR Breakpoints' (empty). The code in 'mi.js' is as follows:

```
// Copyright (C) 2006 Richard Atterer
var evalOnLoadStr = "";
function evalOnLoad(/*string*/ e) { evalOnLoadStr = eval(e);
window.onload = function() { eval(evalOnLoadStr); }
//_
//_
// TJK_ToggleDL.js
// Copyright 2006 | Thierry Koblentz - www.TJKDesign.com
// TJK_ToggleDL() Version 1.5.5 (the CSS file has changed)
function TJK_doToggleDL(x){
    var zDD=document.getElementById('padabama').getEleme
    var zDT=document.getElementById('padabama').getEleme
    var content = document.getElementsByTagName('thesi
{}
```

Line 1, Column 1

Variables and Scopes

- Variables posses different scopes depending on where they have been declared.
- Declare variables:

```
var var1 = 10;  
var2 = 10;
```

Example: Scopes

```
<script>
    var var1 = 10;

    function fun1(){
        var var2 = 20;
        var3 = 30;
        var var1 = 40;
        alert("Var 1: " + var1);
    }

    alert("Var 1: " + var1);
    alert("Var 2: " + var2);
    alert("Var 3: " + var3);

    fun1();

    alert("Var 1: " + var1);
    alert("Var 2: " + var2);
    alert("Var 3: " + var3);

</script>
```

Example: For Loops, Arrays, Concatenation

```
<script>
    var fruits = new Array("Oranges", "Apples", "Pears");
    var output = "";
    for(var i=0; i<fruits.length; i++){
        output = output + fruits[i] + ", ";
    }

    alert("I like eating: " + output);
</script>
```

Example: Functions

```
<script>
    var fruits = new Array("Oranges", "Apples", "Pears");
    var output = "";

    for(var i=0; i<fruits.length; i++){
        output = output + fruits[i] + ", ";
    }

    iEat(output);

    function iEat(something){
        alert("I like eating: " + something);
    }
</script>
```

JavaScript and HTML

text

...

Farbe eingeben

button

Daten absenden

- **Mouse Events**
 - onclick
 - onmouseover
 - ...
- **Keyboard Events**
 - onkeypress
 - onkeyup
 - ...
- ...

Hello World (II)

```
<!DOCTYPE html>
<html>
<head lang="en">
    <meta charset="UTF-8">
    <title></title>
    <script>
        function sayHi(){
            alert("Hello World");
        }
    </script>

</head>
<body>
<input type="button" onclick="sayHi()" value="Say Hi!" />
</body>
</html>
```

Document Object Model (DOM)

- The DOM lets us reference every element and its content within an HTML document.
- The elements, their content and their structure is modifiable:
 - `document`: What is shown in the browser window.
 - `getElementById()`: Retrieves an element with a given ID
 - `getElementsByClassName()`: Retrieves all elements with given tag
 - `node.firstChild`: Return the first child node within another
 - `node.nodeValue`: Gets/Sets a node's value
- <http://de.selfhtml.org/javascript/index.htm>

Example: DOM Access (I)

```
<!DOCTYPE html>
<html>
<head lang="en">
    <meta charset="UTF-8">
    <title></title>
    <script>
        function sayHi() {
            var name = document.getElementById("username").value;
            if (name == "") {
                alert("Please enter your name!");
            } else {
                alert("Hello " + name + "!");
            }
        }
    </script>
</head>
<body>
<p>What's your name?</p>
<input type="text" id="username"/>
<input type="button" onclick="sayHi()" value="Say Hi!" />
</body>
</html>
```

Example: DOM Access (II)

```
<!DOCTYPE html>
<html>
<head lang="en">
    <meta charset="UTF-8">
    <title></title>
    <script>
        function sayHi() {
            var name = document.getElementById("username").value;
            if (name == "") {
                alert("Please enter your name!");
            } else {
                var output = document.getElementById("output");
                output.innerHTML = "<b>Hello " + name + "</b>";
            }
        }
    </script>
</head>
<body>
    <p>What's your name?</p>
    <input type="text" id="username"/>
    <input type="button" onclick="sayHi()" value="Say Hi!" />
    <div id="output"></div>
</body>
</html>
```

Assignment 5

- **Topic: JavaScript und HTML**
- Due in: 1 Week
- Due date: 17.11.2014 16:00h

Der Text

Hier steht ein Text. Der Text wird nach einem Begriff durchsucht. Wird ein Begriff gefunden, wird dieser hervorgehoben und in einem div angezeigt.

Der Suchbegriff

Die Ausgabe

Hier steht ein **Text**. Der **Text** wird nach einem Begriff durchsucht. Wird ein Begriff gefunden, wird dieser hervorgehoben und in einem div angezeigt. Ansonsten kommt der Hinweis, dass nichts gefunden wurde.

Thanks!
What are your questions?