Softwareentwicklung in der Geoinformatik Praxis

HTML

Web Programming Basics

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04 May 2011
Overview

- Organisational
- HTML
Organisational :::: Dates

- Wed, 16 March 2011 09.00-12.00  →  HS 3.004
- Wed, 06 April 2011 09.00-12.00  →  HS 3.004
- Wed, 13 April 2011 09.00-12.00  →  HS 3.004
- Wed, 04 May 2011 09.00-12.00  →  HS 3.004
- Wed, 18 May 2011 09.00-12.00  →  HS 3.004
- Wed, 01 June 2011 09.00-12.00  →  HS 3.004
- Wed, 22 June 2011 09.00-12.00  →  HS 3.004

- Fri, 15 July 2011  End-term Assignment Due Date
HTML
HTML

- **Hyper Text Markup Language**

- Text-based (XML) markup language for structuring texts, images and hyperlinks in documents ➔ description of web sites

- Tag-based structure

  ➔ Rendering of a web site in a browser on the basis of this structure
HTML ::: Tags

- Tags are characterised by angle brackets (\(<, >\))
- Tags appear in "pairs":
  \(<p> </p>\)

⇒ Start-tag and end-tag
HTML :: Element Syntax

- Start-tag (opening tag) and end-tag (closing tag)
- Element contents: everything between start-tag and end-tag
- Empty elements without content possible: `<br/>`
- Elements can have attributes
HTML :: Basic Structure

- Page element structure

```html
<html>
  <head>
    <title>title</title>
    ...
  </head>
  <body>
    ...
  </body>
</html>
```
HTML :: Styles and Cascading Style Sheets

- **Style:** uniform formatting of HTML elements
- Can be seen as alternative to descriptive attributes

→ `<img src="temp.jpg" width="1024px" height="228px" />`

→ `<img src="temp.jpg" style="width:1024px;height:228px" />`
HTML ::: Styles and Cascading Style Sheets

- **CSS**: Cascading Style Sheets
- Creation of classes for pre-defined formatting of elements
- Stored in a separate .css file
- Usage:

```html
<head>
  <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```
HTML :: CSS Example

- CSS structure

```html
body
{
  background-color:#d0e4fe;
}

h1
{
  color:orange;
  text-align:center;
}

p
{
  font-family:"Times New Roman";
  font-size:20px;
}
```
Introduction to Eclipse

- Create a new project
- “unit4”
HTML ::: Exercise

- Create an HTML file “HelloWorld.html” that displays the following text:
  - Hello World!
  - Use a <p>-Element for displaying text

⇒ Tutorial: http://www.w3schools.com/html

⇒ Element reference: http://de.selfhtml.org
HTML ::: Exercise

- Create an HTML file “unit4.html” that displays the following table:

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
</tr>
<tr>
<td>PHP</td>
<td>Scripting</td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
</tr>
</tbody>
</table>
HTML ::: Exercise

- Link each of the programming languages to the according Wikipedia pages (URL link):

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
</tr>
<tr>
<td>Python</td>
<td>Scripting</td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
</tr>
</tbody>
</table>
**HTML :::: Exercise**

- Add a column to the table containing the logo for each language (logo height: 50 pixels):

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
<th>Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
<td><img src="image" alt="Java Logo" /></td>
</tr>
<tr>
<td>Python</td>
<td>Scripting</td>
<td><img src="image" alt="Python Logo" /></td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
<td><img src="image" alt="HTML Logo" /></td>
</tr>
</tbody>
</table>
**HTML :::: Exercise**

- Link the images to the according Wikipedia pages (click on image opens page):

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
<th>Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
<td><img src="image" alt="Java" /></td>
</tr>
<tr>
<td>Python</td>
<td>Scripting</td>
<td><img src="image" alt="Python" /></td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
<td><img src="image" alt="HTML" /></td>
</tr>
</tbody>
</table>
HTML ::= Exercise

- Create a Cascading Style Sheet `unit4.css`, which changes the colour of the links to dark red and visited links to dark blue:

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
<th>Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
<td><img src="https://example.com/java.png" alt="Java Logo" /></td>
</tr>
<tr>
<td>Python</td>
<td>Scripting</td>
<td><img src="https://example.com/python.png" alt="Python Logo" /></td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
<td><img src="https://example.com/html.png" alt="HTML Logo" /></td>
</tr>
</tbody>
</table>
HTML ::: Exercise

- In the CSS, set the table border colour to dark green and its width to 10px:

<table>
<thead>
<tr>
<th>Language</th>
<th>Type</th>
<th>Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>Object-oriented programming</td>
<td><img src="image" alt="Java Logo" /></td>
</tr>
<tr>
<td>Python</td>
<td>Scripting</td>
<td><img src="image" alt="Python Logo" /></td>
</tr>
<tr>
<td>HTML</td>
<td>Markup</td>
<td><img src="image" alt="HTML Logo" /></td>
</tr>
</tbody>
</table>
HTML :::: Exercise

- Add a map using the Google Maps API (JavaScript) below the table:
HTML ::: Exercise

- Add a marker to the map using the HTML5 GeoLocation API:

- Sample: [http://diveintohtml5.org](http://diveintohtml5.org)
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