COMPT519 Web Programming
Lecture 4: HTML (HTLM5 Elements: Part 2)
Handouts

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Contents

1 HTML Elements for the Body
   Text-level Elements
   Images
   Figures
   Tables

2 Further Reading
Text-level Elements

- A **strong-element** represents strong importance, seriousness, or urgency for its content.
  Can be used in a heading, caption, or paragraph to distinguish the most important parts.
  
  `<strong>Beware of the dog</strong>`

- A **b-element** highlights its content without marking it as important.
  
  Your `<b>CV</b> should contain the following sections ...`

- An **em-element** represents stress emphasis on its content.
  
  `<em>Cats</em> are cute animals i.e. Cats, not dogs, are cute`
Text-level elements

- A code-element represents a fragment of computer code

```html
The <code>begin</code> keyword indicates the start of a block
```

- The pre-element represents a block of preformatted text (structure in the block is represented by typographic conventions instead of elements)

```html
<pre><code class="language-java">
if (i > 0) {
    i := 1;
}
</code></pre>
```

- The var-element represents a (mathematical) variable, constant, or function

- The sup-element represents a superscript and the sub-element represents a subscript

```html
<x sub><var>i</var></sub> = <y sup><var>j</var></sup>
```
Images

The void element `<img>` allows to include images into an HTML document

```html
<img src="URL" alt="descr" ... />
```

Attributes include

- **src** specifies the URL / file name of the image
  (browsers can typically deal with JPEG, GIF and PNG images)
- **alt** gives an alternative description that will be shown if the image cannot be displayed
- **title** title of the image
- **width** the reserved width to which the image should be scaled in pixels
- **height** the reserved height to which the image should be scaled in pixels
- **style** can be used as an alternative to `height` / `width`
- **srcset** responsive images, see https://developer.mozilla.org/en-US/docs/Learn/HTML/Multimedia_and_embedding/Responsive_images
Images

```html
<img src="/images/ashton_detail.jpg" title="Ashton Building"
alt="The Ashton Building at the University of Liverpool"
width="100">

<!-- Image "ashton_detail.jpg" scaled to 100px,
string "Ashton Building" will be shown if the pointer hovers over
the image,
string "The Ashton Building at the University of Liverpool" will
be shown if image download has been disabled in the browser
-->

<a href="index.html"><img src="home.png" alt="Home"></a>

<!-- A hyperlink containing an image. Clicking on the image will take
the user to "index.html"
-->
Images

• For all images in a HTML document, ownership/copyright plus licensing terms should be indicated in one of the following ways:
  
  • A copyright notice / attribution below the image
    
    "Edinburgh City" by A. N. Other /
    <a href="https://cc.org/licenses/by/2.0/">CC BY 2.0</a>

  • A copyright notice in the title attribute of the image
    
    title="Image of a castle. 
    &copy; Freeimages/A. N. Other 2019"

  • A copyright notice in the footer of the page
    
    All images &copy; A. Student, 2019, 
    unless otherwise indicated.

• Images that you are not allowed to copy should neither be copied nor embedded via an img element
Figures

- The **figure-element** represents an image, table, code that
  - is self-contained
  - is referenced from the main text of the document, and
  - can be moved within the document without affecting the document’s meaning
- The **figcaption-element** represents a caption or legend for the figure in which it is included

```html
<figure>
  <img src="warming.png" alt="A diagram showing that world temperature has increased significantly since 1900">
  <figcaption>Fig 1. World Temperature since 1900.</figcaption>
</figure>
```

Figure 1 shows that two-thirds of warming has occurred since 1975.

```html
<figure>
  <pre><code>
  function sort { ... }
  </code></pre>
  <figcaption>Fig 2. Heap sort</figcaption>
</figure>
```

The heap sort algorithm shown in Figure 2...
Tables

- Tables are a common way of displaying data.
- The content of tables is divided into rows (horizontal) and columns (vertical).
- Each column typically has a header, one column, typically the left-most one, also has particular significance.
- The whole table typically has a title given by a caption.
- Lines are often used to make rows and columns more easily distinguishable.

<table>
<thead>
<tr>
<th></th>
<th>COMP516</th>
<th>COMP517</th>
<th>COMP518</th>
<th>COMP519</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>66.0</td>
<td>66.3</td>
<td>73.0</td>
<td>71.9</td>
</tr>
<tr>
<td>2016-17</td>
<td>66.5</td>
<td>75.9</td>
<td>70.9</td>
<td>75.9</td>
</tr>
<tr>
<td>2017-18</td>
<td>66.2</td>
<td>69.6</td>
<td>70.9</td>
<td>66.4</td>
</tr>
<tr>
<td>2018-19</td>
<td>79.2</td>
<td>73.3</td>
<td>66.7</td>
<td>66.4</td>
</tr>
</tbody>
</table>

Average marks on 1st Semester CSMS Modules
Tables

A *table-element* represents a whole table, including the caption, consisting of:

- a *caption-element* (optional)
- zero or more *colgroup-elements*
- a *thead-element* (optional)
- zero or more *tbody-elements* or one or more *tr-elements*
- a *tfoot-element* (optional)
## Tables

```html
<table>
  <caption>Average marks on 1st Semester CSMS Modules</caption>
  <thead>
    <tr>
      <th></th>
      <th>COMP516</th>
      <th>COMP517</th>
      <th>COMP518</th>
      <th>COMP519</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <th>2015-16</th>
      <td>66.0</td>
      <td>66.3</td>
      <td>73.0</td>
      <td>71.9</td>
    </tr>
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      <th>2016-17</th>
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      <td>75.9</td>
      <td>70.9</td>
      <td>75.9</td>
    </tr>
    <tr>
      <th>2017-18</th>
      <td>66.2</td>
      <td>69.6</td>
      <td>70.9</td>
      <td>66.4</td>
    </tr>
    <tr>
      <th>2018-19</th>
      <td>79.2</td>
      <td>73.3</td>
      <td>66.7</td>
      <td>66.4</td>
    </tr>
  </tbody>
</table>

Note: There are no lines between columns and rows
Cell content is left-aligned
### Tables

<table>
<thead>
<tr>
<th>Year</th>
<th>COMP516</th>
<th>COMP517</th>
<th>COMP518</th>
<th>COMP519</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>66.0</td>
<td>66.3</td>
<td>73.0</td>
<td>71.9</td>
</tr>
<tr>
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</tbody>
</table>

Note: There are no lines between columns and rows
Cell content is left-aligned

http://cgi.csc.liv.ac.uk/~ullrich/COMP519/examples/tables.html
Table and Cell Attributes

- **table-elements** have a **border** attribute
  Value can be "" or "1"
  (browsers typically draw a border around table cells for both)

- **td-** and **th-elements** have attributes **rowspan** and **colspan** that specify how many rows and columns a cell spans

```html
<table border="1">
  <thead>
    <tr><th>Column 1</th><th>Column 2</th><th>Column 3</th></tr>
  </thead>
  <tbody>
    <tr><td>one (1)</td><td>two (2)</td><td>three (3)</td></tr>
    <tr><td rowspan="2">four (1)</td><td colspan="2">five (2+3)</td></tr>
    <tr><td>six (2)</td><td>seven (3)</td></tr>
  </tbody>
</table>
```
Table and Cell Attributes

```html
<table border="1">
  <thead>
    <tr>
      <th>Column 1</th>
      <th>Column 2</th>
      <th>Column 3</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>one (1)</td>
      <td>two (2)</td>
      <td>three (3)</td>
    </tr>
    <tr>
      <td rowspan="2">four (1)</td>
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    </tr>
    <tr>
      <td>six (2)</td>
      <td>seven (3)</td>
    </tr>
  </tbody>
</table>
```

http://cgi.csc.liv.ac.uk/~ullrich/COMP519/examples/tables.html
Revision and Further Reading

Read

- Chapter 7: Adding Images
- Chapter 8: Table Markup

of

E-book https://library.liv.ac.uk/record=b5647021