



School of Computer Science

Web and Database Computing 2019

Lecture 3: Deeper with HTML

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seek LIGHT

More HTML elements

You can follow along in the lecture slides,
but also following the guide at <https://www.w3schools.com/html/>

Tables

Tables are used to display **Tabular data**.

- Defined using a **table** tag
- Tables are made up of rows, defined using **tr** tags
- Rows are made up of individual cells
- Individual cells can be defined as headings (**th**) or data (**td**)

HTML Result

[Edit in JSFiddle](#)

```
<table>
  <tr>
    <th>1st Column</th>
    <th>2nd Column</th>
  </tr>
  <tr>
    <td>Data</td>
    <td>More data</td>
  </tr>
</table>
```

https://jsfiddle.net/ian_knight_uofa/do7comue/3/

Merging cells

Cells can be defined to span more than one row or column

- Use **colspan** attribute to have a cell take up more space horizontally
- Use **rowspan** attribute to have a cell take up more space vertically

HTML Result

[Edit in JSFiddle](#)

```
<table>
  <tr>
    <th colspan=2>Header</th>
  </tr>
  <tr>
    <td rowspan=2>Data</td>
    <td>More data</td>
  </tr>
  <tr>
    <td>Even more data</td>
  </tr>
</table>
```

https://jsfiddle.net/ian_knight_uofa/qfcLdnx6/1/

Tables are used to display **Tabular data**

Not for layout



Forms

Forms allow for input and submission of user data.

- Defined using a form tag
- Inputs defined using **input**, **select**, **textarea** and **button** tags

HTML Result

[Edit in JSFiddle](#)

```
<form action="/page.php">
  Name:<br />
  <input type="text" name="firstname" value="Bob" />
  <br />
  Occupation:<br />
  <input type="text" name="lastname" value="Anthropologist" />
  <br /><br />
  <input type="submit" value="Submit" />
</form>
```

https://jsfiddle.net/ian_knight_uofa/wods5y14/2/

In more detail

Form attributes define what actions to taken and how to submit the form.

- We will talk about this more in the server section

HTML Result

[Edit in JSFiddle](#)

```
<form action="/page.php">
  Name:<br />
  <input type="text" name="firstname" value="Bob" />
  <br />
  Occupation:<br />
  <input type="text" name="lastname" value="Anthropologist" />
  <br /><br />
  <input type="submit" value="Submit" />
</form>
```

Inputs

Form inputs have:

name and **value**, which are used to access the input's data when processing the form.

type, which defines the way the input is displayed

- Possible types include:
 - **text** Displays a single line text box
 - **button** Displays a regular button
 - **password** Displays a single line text box whose characters are hidden
 - **submit** Displays a button that submits the form upon clicking
 - **file** Displays a file upload field
 - **checkbox** Displays a checkbox

You can view all the standard input types at

https://www.w3schools.com/html/html_form_input_types.asp

HTML Result

[Edit in JSFiddle](#)

```
<form action="/page.php">
  Name:<br />
  <input type="text" name="firstname" value="Bob" />
  <br />
  Occupation:<br />
  <input type="text" name="lastname" value="Anthropologist" />
  <br /><br />
  <input type="submit" value="Submit" />
</form>
```


Alternate form input elements

select tag

- A drop-down list
- Contains **option** tags for each entry in the dropdown
- Similar notation to `ul` and `ol`

textarea tag

- A multi-line input
- Body of the input is its value

HTML Result

[Edit in JSFiddle](#)

```
<select name="dropdown">
  <option value="1">Option 1</option>
  <option value="2" selected>Option 2</option>
</select>
<br />
<textarea name="message" rows="10" cols="30">
Multi-line input here
</textarea>
```

Generic Elements

Divs

Divisions are used as generic containers for other elements

Like this:

```
<div>  
  <p>Some text here</p>  
    
</div>
```

Generic Elements

Spans

Spans are used as generic containers for text

Like this:

```
<p>Some <span>text</span> here</p>
```

Key attributes

Introducing `id`, `class`, and `style`

id Attribute

The **id** attribute is a unique identifier that can be assigned to an individual element in a document.

- Must be unique within that document.
- An element can only have 1 id
- Can be used to link to a subsection of a page.
- Can be used in CSS or when selecting elements in code (more on this in weeks 2 & 3)

Like this:

```
<h1 id="first_heading">It's the first heading</h1>
```

HTML Result

[Edit in JSFiddle](#)

```
<a href="#hello">Go to Hello</a>

<p>
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Viva
</p>
<p>
Nulla mauris enim, aliquam a cursus at, tempus et ipsum. Inte
</p>
<p>
Donec consectetur ex sit amet arcu lacinia, quis lobortis tor
</p>

<h2 id="hello">Hello</h2>
```

class Attribute

The **class** attribute is a common identifier that can be assigned to group elements in a document.

- Can be used across different elements of different types.
- An element can have multiple classes.
- Can be used in CSS or when selecting elements in code (more on this in weeks 2 & 3)

Like this:

```
<p class="main bob">It's Bob's main paragraph</p>  
<p class="bob">A normal one of Bob's paragraphs</p>
```

style Attribute

The **style** attribute is used to change the appearance of an individual element in a document.

- Same syntax as CSS (more on this next week)

Like this:

```
<div style="background-color: grey;">
This div has a grey background
</div>
```

HTML Result

[Edit in JSFiddle](#)

```
<div style="background-color: skyblue;
          width: 100px;
          height: 200px;
          padding: 20px;
          text-align: center;">
  <p style="color: red;
          font-family: cursive;
          font-size: 2em;
          font-weight: bold;">
    Hello
  </p>
</div>
```

Special Characters

How to write <

Reserved Characters

Some charactes are reserved such as <

We can represent these characters using special notation like this:

```
&lt; or &#60;
```

Character	Entity Num	Entity Name	Description
"	"	"	quotation mark
'	'	'	apostrophe
&	&	&	ampersand
<	<	<	less-than
>	>	>	greater-than

Source: <https://www.html.am/reference/html-special-characters.cfm>

Special characters

Other special characters can be represented too.

See <https://www.html.am/reference/html-special-characters.cfm> for a basic list.

You can represent any Unicode character in this way like this snowman ☺ (⌘#9731;)

Validation and the Standard

```
<DIV>Q: HOW DO YOU ANNOY A WEB DEVELOPER?</SPAN>
```

HTML5 has a well defined specification.

- The purpose of the specification is to define how browsers should behave when rendering a web page.
- In theory, if two browsers are compliant, they will both render the same page to appear the same.
- You can view the latest standard at <https://html.spec.whatwg.org/>.

But what happens if your website doesn't meet the standard?

Undefined behavior



... Which leads to your website looking different on different platforms and browsers.

How to ensure your website is compliant?

Use the W3C Validator!



<http://validator.w3.org/>

W3C Validator

Reasons to validate:

1. Validation can help you debug your code.
2. Validation can help future-proof your work.
3. Validation eases maintenance.
4. If you don't validate your code, I will.

This week

Due:

- Ensure you've completed the tasks in the Course Outline section of MyUni
- Prac Exercise 1 will be released tonight.

Next lecture:

- **Monday is a public holiday**
- Wednesday we will looking at how to better style our websites using CSS

Further learning:

- Work through the HTML tutorial at <https://www.w3schools.com/html/>
- Try looking at the source for some of the webpages you use.
- If posting in the discussion forum, try posting in HTML.



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