

Part 2

# THE HYPertext MARK-UP LANGUAGE (HTML)

# Text Elements

Level 1 heading

**<h1> Versions of HTML </h1>**

Level 2 heading

**<h2> HTML 1.0 </h2>**

**<p>**

The first version of HTML dates from 1991, and was developed by Tim Berners Lee. It was very different from the HTML we know today . . .

**</p>**

**<h2> HTML 2.0 </h2>**

paragraph

**<p>**

The second version of HTML, in 1996, was an attempt to standardize the language, which was being widely implemented by different vendors' web browsers . . .

**</p>**

# Line Breaks and Horizontal Rules

- Empty elements (no end tag)
- Line break tag

```
<br /> or <br>
```

- Horizontal rule tag

```
<hr /> or <hr>
```

# Citations and Block Quotes

- Have some semantics
  - Structure, not format
- The `<blockquote>` tag must contain other structural elements, not just text

```
<cite>Tim Berners Lee </cite> is quoted as saying
</p>
<blockquote>
  <p>
    If you use the original World Wide Web program, you never see a URL ...
  </p>
</blockquote>
```

# Idiomatic (Phrase) Elements

- Subscript and Superscript are useful for chemical and mathematical formulae

H<sub>2</sub>O

- to represent H<sub>2</sub>O (the chemical symbol for water)

E = mc<sup>2</sup>

- to represent E=mc<sup>2</sup> (Einstein's equation for relativity)

# HTML Character References

- For special characters
- Begin with a ‘&’ sign and end with a semicolon.

HTML character reference	Equivalent character	Meaning
&lt;	<	Less than
&gt;	>	Greater than
&quot;	"	Quotation mark
&amp;	&	Ampersand
&nbsp;	(a space)	Non-breaking space
&reg;	®	Registered trademark
&copy;	©	Copyright

# Attributes in HTML Tags

- Most HTML tags can have a number of attributes
- Elements are intended for the content of a document, whereas attributes tend to provide metadata
- Attributes are often presentational but they can also be used for some structural aspects

# Images

- Images can be added to a web page using the `<img>` tag (empty tag)

```

```

- The images themselves can be GIF, JPG or PNG
- The 'src' attribute is the image filename or URL
- The 'alt' attribute provides an alternative to the image
- The height and width may also be set

```

```



# Lists

- Lists can present items of information in an easy-to-read format
- These lists are easy to format in HTML, and they may even be nested (lists of lists) to produce an outline format
- Lists are also handy for creating an index or table of contents to a series of documents or chapters
- HTML lists come in various formats:
  - Unordered lists
  - Ordered lists
  - Definition lists

# Unordered and Ordered Lists

- The bullet list is called an unordered list (<ul> tag). List items are surrounded by <li> tags
- The ordered (numbered / lettered) list uses the <ol> and <li> tags

```
<ul>
  <li> a list item </li>
  <li> another list item </li>
  ...
</ul>
```

```
<ol>
  <li> the first list item </li>
  <li> the second list item </li>
  ...
</ol>
```

# Nested Lists

- The nested list must appear as part of a list item element (<li> tag)

```
<ul>
  <li> an item in the main list</li>
  <li> Here comes a nested list. . .
    <ol>
      <li> an item in the nested list</li>
      <li> another item in the nested list</li>
      . . .
    </ol>
  </li>
  <li> another item in the main list</li>
  . . .
</ul>
```

# Definition List

- Definition (glossary) lists using dl element
- Each item has 2 parts: a term (dt) element and a definition (dd) element

```
<dl>
  <dt>SGML</dt>
  <dd>Standard Generalised Mark-up Language</dd>
  <dt>HTML</dt>
  <dd>HyperText Mark-up Language</dd>
  <dt>XML</dt>
  <dd>eXtensible Mark-up Language</dd>
</dl>
```

# Tables

- A table consists of rows and columns, with optional column headings and a caption
  - Each part of the table is known as a cell

caption

headings →	Column heading	Column heading	Column heading	Column heading
rows →	data	data	data	data
	data	data	data	data
	data	data	data	data

# Table Tags

- A table is defined by `<table>...</table>` tags
  - Table caption: `<caption>...</caption>`
  - Table rows: `<tr>...</tr>`
  - Table headers: `<th>...</th>`
  - Table data: `<td>...</td>`
- There are also some other table elements not covered here

# Table Example

## Our Call Centres

<b>Territory</b>	<b>Location</b>	<b>Phone</b>	<b>Fax</b>
Americas	New York	0800 1425364	0800 1122334
EMEA	London	0800 1324536	0800 8444463
EMEA	Cape Town	0800 9009586	0800 9944474
APAC	Sydney	0800 1114445	0800 1114445

```
<table>
<tr>
  <th>Territory</th><th>Location</th><th>Phone</th><th>Fax</th>
</tr>
<tr>
  <td>Americas</td><td>New York</td><td>0800 1425364</td><td>0800 1122334</td>
</tr>
<tr>
  <td>EMEA</td><td>London</td><td>0800 1324536</td><td>0800 8444463</td>
</tr>
<tr>
  <td>EMEA</td><td>Cape Town</td><td>0800 9009586</td><td>0800 9944474</td>
</tr>
<tr>
  <td>APAC</td><td>Sydney</td><td>0800 1114445</td><td>0800 1114445</td>
</tr>
</table>
```

# Blank Cells (non-breaking spaces)

- To leave cells blank, we can simply replace the data in 'th' or 'td' elements with a non-breaking space (&nbsp;)

```
<tr>  
  <td>EMEA</td> <td>Cape Town</td> <td>0800 9009586</td> <td>&nbsp;</td>  
</tr>
```

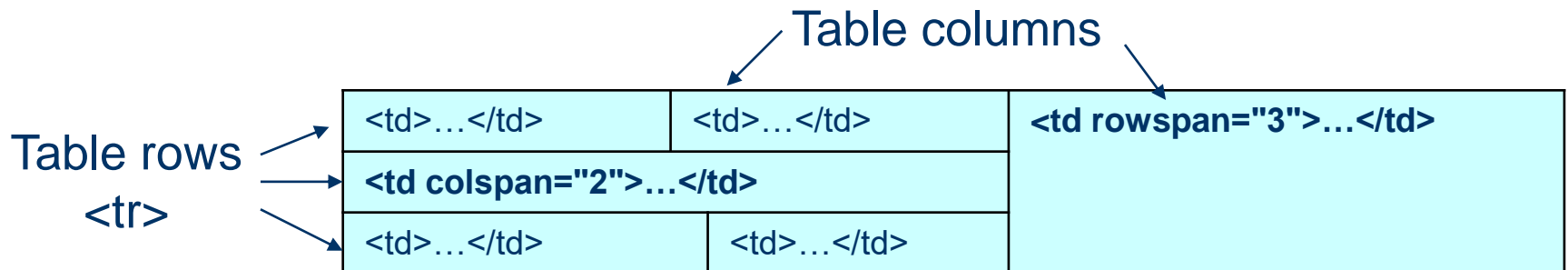
## Our Call Centres

<b>Territory</b>	<b>Location</b>	<b>Phone</b>	<b>Fax</b>
Americas	New York	0800 1425364	0800 1122334
EMEA	London	0800 1324536	0800 8444463
EMEA	Cape Town	0800 9009586	
APAC	Sydney	0800 1114445	0800 1114445



# Spanning Cells

- Cells may span several rows or columns
- ‘Table’ → ‘Modify’ → ‘Merge Cells’
  - Set by the “rowspan” and “colspan” attributes of the td elements.
    - e.g. `<td colspan="2">` means span 2 columns  
`<td rowspan="3">` means span 3 rows



# Spanning Example

## Our Call Centres

Territory	Location	Phone	Fax
Americas	New York	0800 1425364	0800 1122334
EMEA	London	0800 1324536	0800 8444463
	Cape Town	0800 9009586	
APAC	Sydney	0800 1114445	

Spanned rows

Spanned columns

# Links

- A link (hyperlink, web link), is a connection from one Web resource to another
- A link has two ends - called anchors - and a direction
- The link starts at the "source" anchor and points to the "destination" anchor, which may be any Web resource
  - (page, image, video, sound, program etc.)

# Using Anchors

- An anchor is defined with the `<a>` tag
- The href (Hypertext REFerence) attribute specifies the name of the resource to link to
- This may be a full URI

Click `<a href="http://www.webhomecover.com">here</a>` for a great insurance deal . . .

- Or, if the resource is in the same web application, just a local file name

`<a href="aboutus.htm">About us</a>`

# Destination Anchors

- Within a document we can define a destination anchor
- The 'id' attribute assigns a unique identifier to an anchor

```
<a id="terms">Terms and Conditions</a>
```

- We can link to this name by preceding it with a '#' in the source anchor

```
<a href="#terms">terms and conditions</a>
```

# Images as Link Anchors

- Images, as well as text, can be used as link anchors by nesting image elements inside an anchor elements, for example

```
<a href="home.html">  
    
</a>
```

- This is a useful technique for implementing the 'home page at top left' pattern

# E-mail Links

- Anchors can also be used for email links. To do this you simply use a 'mailto' value in the 'href' attribute, which takes this format:

```
<a href="mailto:help@webhomecover.com">Email the help desk</a>
```

- When 'Email the help desk' is clicked, the web browser may open your email client to compose a message