

## Lecture 6 More Advanced HTML

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### Overview

- Tables
- Forms
- (mention of frames)

### Tables

- A table is a matrix of cells
  - The cells can include almost any element
  - Some cells have row or column labels and some have data
- A table is specified as the content of a `<table>` tag
- Each row of a table is specified as the content of a `<tr>` tag
- The row headings are specified as the content of a `<th>` tag
- Each data cell of a row is specified as the content of a `<td>` tag

### Table Basic Formatting

- A `border` attribute in the `<table>` tag specifies a border between the cells
  - If `border` is set to "border", the browser's default width border is used
  - The `border` attribute can be set to a number, which will be the border width
    - E.g. `border = "4"`
  - Without the `border` attribute, the table will have no lines!
  - `border` attribute not supported in HTML5
- Tables are given titles with the `<caption>` tag, which can immediately follow `<table>`

### Table Example

```
<table border = "border">
<caption>Price of Fruit</caption>
  <tr>
    <th>Fruit</th>
    <th>Price</th>
  </tr>
  <tr>
    <td>Apple</td>
    <td>£0.20</td>
  </tr>
  <tr>
    <td>Orange</td>
    <td>£0.50</td>
  </tr>
</table>
```

<http://www.cs.nott.ac.uk/~bnk/WPS/table.html>

### rowspan and colspan attributes

- Table cells are sized to fit the data they contain
- You can create larger data cells by using these attributes:
  - `rowspan` – set in the `<th>` or `<td>` tag to specify that the cell must span some number of rows
  - `colspan` – set in the `<th>` or `<td>` tag to specify that the cell must span some number of columns

[http://www.cs.nott.ac.uk/~bnk/WPS/cell\\_span.html](http://www.cs.nott.ac.uk/~bnk/WPS/cell_span.html)

## align and valign attributes

- The `align` attribute controls the horizontal placement of the contents in a table cell
  - Values are left, right, and center
  - Default for labels is center, for data it is left
  - `align` is an attribute of `<tr>`, `<th>`, and `<td>`
- The `valign` attribute controls the vertical placement of the contents of a table cell
  - Values are top, bottom, and center (default)
  - `valign` is an attribute of `<th>` and `<td>`
- Both attributes are not supported in HTML5

[http://www.cs.nott.ac.uk/~bnk/WPS/cell\\_align.html](http://www.cs.nott.ac.uk/~bnk/WPS/cell_align.html)

## cellpadding and cellspacing attributes

- The `cellspacing` attribute of `<table>` is used to specify the distance between cells in a table
- The `cellpadding` attribute of `<table>` is used to specify the spacing between the content of a cell and the inner walls of the cell
- Both attributes are not supported in HTML5

```
<table cellspacing = "50">
  <tr>
    <td> Colorado is a state of ...
  </td>
    <td> South Dakota is somewhat...
  </td>
</tr>
</table> http://www.cs.nott.ac.uk/~bnk/WPS/cell\_pad.html
```

## Table Sections

- Tables naturally occur in two and sometimes three parts
- Header – `<thead>`
  - First section, contains header information such as column names
- Body – `<tbody>`
  - Table's primary data
  - If a document has multiple `tbody` elements, they are separated by thicker horizontal lines
- Footer – `<tfoot>`
  - E.g. for calculation results and footnotes

## Forms

- A form is the usual way information is communicated from a browser to a server
- HTML has tags to create a collection of objects that implement this information gathering
  - These objects are called *controls* or *widgets* (e.g., radio buttons and checkboxes)
- When the Submit button of a form is clicked, the form's values are sent to the server

## The `<form>` Tag

- All of the components (widgets) of a form are defined in the content of a `<form>` tag
- The only required attribute of `<form>` is `action`
  - specifies the URL of the application that is to be called when the Submit button is clicked
  - `action = "http://www.cs.nott.ac.uk/cgi-bin/survey.pl"`
  - if the form has no action, the value is set to the empty string (" ")
- The `method` attribute of `<form>` specifies one of the two possible techniques of transferring the form data to the server, `get` and `post`

## The `<input>` Tag

- Many controls are created with the `<input>` tag
- The `type` attribute of `<input>` specifies the kind of control being created
- **Text**
  - Creates a horizontal box for text input
  - Default size is 20 characters; it can be changed with the `size` attribute
  - If more characters are entered than will fit, the box is scrolled (shifted) left
  - `maxlength` – max number of characters
  - `<input type = "text" name = "Phone" size = "12" >`

## The <input> Tag

- **Password**
  - type = "password"
  - Only bullets or asterisks displayed by browser
- **Checkboxes** – to collect multiple choice input
  - Every checkbox requires a value attribute, which is the widget's value in the form data when the checkbox is 'checked'
  - A checkbox that is not 'checked' contributes no value to the form data
  - By default, no checkbox is initially 'checked'
  - To initialize a checkbox to 'checked', the checked attribute must be set to "checked"

<http://www.cs.nott.ac.uk/~bnk/WPS/checkbox.html>

## The <input> Tag

- **Radio Buttons** - collections of checkboxes in which only one button can be 'checked' at a time
  - Every button in a radio button group MUST have the same name
  - If no button in a radio button group is selected the browser often selects the first one

<http://www.cs.nott.ac.uk/~bnk/WPS/radio.html>

## The <select> Tag - Menu

- There are two kinds of menus
  - those that behave like checkboxes and
  - those that behave like radio buttons (the default)
  - Menus that behave like checkboxes are specified by including the multiple attribute, which must be set to "multiple"
- The name attribute of <select> is required

## The <select> Tag - Menu

- The size attribute of <select> can be included to specify the number of menu items to be displayed (the default is 1)
  - If size is set to > 1 or if multiple is specified, the menu is displayed as a scrolled list
- Each item of a menu is specified with an <option> tag
  - whose pure text content (no tags) is the value of the item
- An <option> tag can include the selected attribute, which when assigned "selected" specifies that the item is pre-selected

<http://www.cs.nott.ac.uk/~bnk/WPS/menu.html>

<http://www.cs.nott.ac.uk/~bnk/WPS/menu2.html>

## The <textarea> Tag

- Creates a multiline text area
- Usually include the rows and cols attributes to specify the size of the text area
- Default text can be included as the content of <textarea>
- Scrolling is implicit if the area is overfilled

<http://www.cs.nott.ac.uk/~bnk/WPS/textarea.html>

## Submit and Reset Buttons

- Both are created with <input>

```
<input type = "reset" value = "Reset Form">
<input type = "submit" value = "Submit Form">
```
- Reset clears all controls to their initial states
- Submit has two actions:
  1. Encode the data of the form
  2. Request that the server execute the server-resident program specified as the value of the action attribute of <form>
- A Submit button is required in every form

Complete form: <http://www.cs.nott.ac.uk/~bnk/WPS/popcorn.html>

## Frames

- Rectangular sections of the display window, each of which can display a different document
- Uses of frames
  - Navigation systems (table of contents)
  - Static title
  - Advertising
- Frames are not supported in XHTML5
- Use discouraged because they:
  - break the fundamental paradigm of the web
    - The page is the basic unit of the web represented by a URL
  - cause usability problems

## Framesets

- The `<frameset>` tag specifies the number of frames and their layout in the window
- `<frameset>` takes the place of `<body>`
  - Cannot have both!
- `<frameset>` must have either a `rows` attribute or a `cols` attribute, or both (usually the case)
  - The possible values for `rows` and `cols` are:
    - numbers – size in pixels
    - percentages – % of total browser window size
    - asterisks – remainder of window

## Frame tag

- The `<frame>` tag specifies the content of a frame
- The first `<frame>` tag in a `<frameset>` specifies the content of the first frame, etc.
  - Row-major order is used
  - Frame content is specified with the `src` attribute
  - Without a `src` attribute, the frame will be empty (such a frame CANNOT be filled later)
- If `<frameset>` has fewer `<frame>` tags than frames, the extra frames are empty

<http://www.cs.nott.ac.uk/~bnk/WPS/frames.html>

## Summary

- Tables
- Forms
- (Frames)