

# Introduction to Web Development

Code: COMP07009

Credit: 20 points

**Week 3**

Reference: <http://www.w3schools.com/html>

# Lists

- The most common HTML lists are ordered lists and unordered lists
- Similar to numbers/bullets features in other applications
- Defined using the ordered list `<ol>` and unordered list `<ul>` tags
- Each list item uses the list `<li>` tag
- There is also a definition list which is a list of items, with a description of each item
- Defined using different tags:
  - definition list `<dl>` tag
  - definition term `<dt>` tag
  - definition description `<dd>` tag

# Examples

## Ordered list

```
<ol>
<li>Point number one</li>
<li>Point number two</li>
<li>Point number three</li>
</ol>
```

- Output in browser

1. Point number one
2. Point number two
3. Point number three

## Unordered list

```
<ul>
<li>Bullet point</li>
<li>Another bullet point!</li>
<li>Yet another bullet point!</li>
</ul>
```

- Output in browser

- Bullet point
- Another bullet point!
- Yet another bullet point!

# Definition List

```
<dl>
<dt>A definition list</dt>
<dd>A list structure that allows you to
supply a term of heading to be defined in
more detail.</dd>
<dt>DL Tags</dt>
<dd>The DL tags enclose the whole list</dd>
<dt>DT Tags</dt>
<dd>The DT tags define each term or
heading</dd>
</dl>
```

- Output in Browser

```
A definition list
  A list structure that allows you to supply a term of heading to be defined in more detail.
DL Tags
  The DL tags enclose the whole list
DT Tags
  The DT tags define each term or heading
```

# Tables

- Should only be used to display tabular information and NOT for defining layout of the web page
- Defined using:
- Table tag `<table>` which encloses the whole table
- Table caption tag `<caption>` must be inserted immediately after the `<table>` tag and one can be used per table
- Table header tag `<th>` specifies header info
- Table row tag `<tr>` encloses the whole row
- Table data tag `<td>` encloses each cell within the row

# Example

```
<table border="1">
<caption>Tables</caption>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
</tr>
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>row 2, cell 2</td>
</tr>
</table>
```

Tables

Heading 1	Heading 2
row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

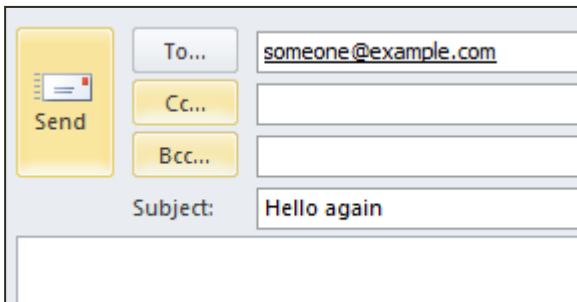
- The border attribute is required to show the borders of the table

# Email Link

- Defined within the anchor <a> tag inside the value of the href attribute

```
<p>  
This is an email link:  
<a href="mailto:someone@example.com?Subject=Hello%20again">  
Send Mail</a>  
</p>
```

- Automatically open the email program



The screenshot shows a typical email composition window. On the left is a yellow 'Send' button with an envelope icon. To its right are three stacked buttons: 'To...', 'Cc...', and 'Bcc...'. The 'To...' field contains the email address 'someone@example.com'. Below these is a 'Subject:' label followed by the text 'Hello again'. At the bottom is a large empty text area for the email body.

- Note:** Spaces between words should be replaced by %20 to ensure that the browser will display the text properly.

# Forms

- Allows user to select different types of input
- Can be processed client side or server side
- Contains different elements eg `<form> ..... </form>`
- Supports Global attributes which can be used on any HTML element
  - `id` specifies a unique id for an element
- Supports Event attributes which let events trigger actions in a browser
  - `onload` fires after the page is finished loading
  - `onclick` execute Javascript when a user clicks on an element



# Form tags

- form
- HTML form for user input
- textarea
- multi-line text input control
- input
- input control
- label
- label for an input element
- fieldset
- groups related items on a form
- legend
- caption for a fieldset element
- Select
- select list (drop down list)
- option
- option in a select list
- button
- push button

# Example

- Method attribute tells the browser how the form data will be submitted (get or post)
- Action attribute specifies where to send the form data when it is submitted

```
<h1>Please fill in the following form</h1>
<form method="post" action="form.asp">
...
input elements
...
</form>
```

# Input

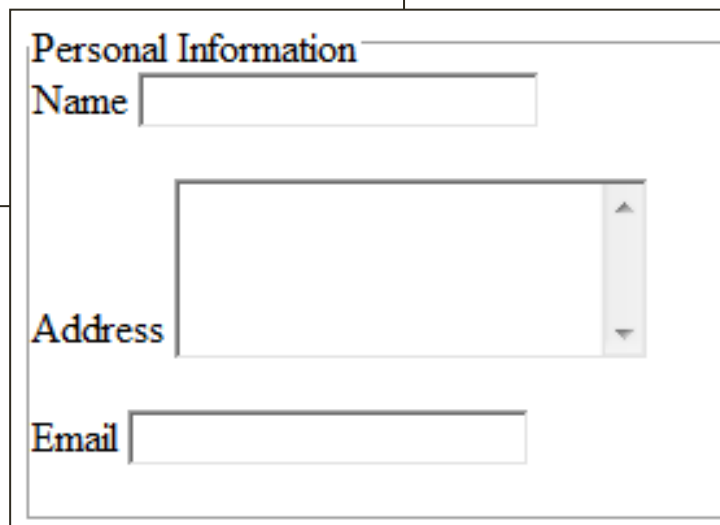
- Specifies an input field where the user can enter data
- `<input>` elements are used within a `<form>` element to set input controls
- The `<label>` element defines labels for `<input>` elements
- Many new attributes in HTML5 although varied support across browsers
- An input field can vary in many ways, depending on the type attribute

# Example

```
<fieldset>
<legend>Personal Information</legend>
<label for="name">Name</label>
<input type="text" name="name" id="name" />
<br /><br />
<label for="address">Address</label>
<textarea name="message" id="address" rows="4"
cols="20"></textarea><br />

<label for="email">Email</label>
<input type="email" name="email" id="email">
<br />
<br />
</fieldset>
....
```

- Value of for attribute in <label> tag must match value of name attribute for <input> tag



Personal Information

Name

Address

Email

# Type attribute for <type> tag

- Text
  - single line text field (default)
- Checkbox
  - can choose more than 1
- Radio button
  - can only choose one
- Password
  - characters are masked
- Button
  - push button
- File
  - browse button to locate file
- Submit
  - submits data
- Reset
  - resets all form values
- And more ...

# Checkbox

- Multiple options many be chosen

```
<h2>Course(s) of interest</h2>
<label for="computing">Computing</label>
<input type="checkbox" name="computing"
id="computing" />

<label for="compnet">Computer Networking</label>
<input type="checkbox" name="compnet"
id="compnet" />

<label for="it">Information Technology</label>
<input type="checkbox" name="it" id="it" />
```

## Course(s) of interest

Computing ☐ Computer Networking ☐ Information Technology ☐

# Radio button

- User can only select one of a limited number of choices
- Name must be same for each option

```
<h2>Year</h2>
<label for="one">One</label>
<input type="radio" name="year" id="one" />

<label for="two">Two</label>
<input type="radio" name="year" id="two" />
...
```

**Year**

One ☐ Two ☐ Three ☐ Four ☐

# Password

- Characters are masked

```
<label for="password">Password</label>  
<input type="password" name="password" id="password">
```



Password



# Select list (choose one)

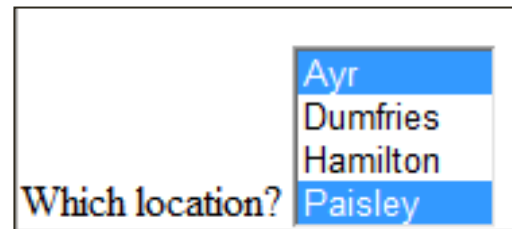
- Creates a list of options named “campus”
- First option selected
- In this example, it will be blank
- Only one value can be chosen

```
<h2>Campus</h2>
<label for="campus">Which location?</label>
<select name="campus" id="campus">
<option value=""></option>
<option value="ayr">Ayr</option>
<option value="dumfries">Dumfries</option>
<option value="hamilton">Hamilton</option>
<option value="paisley">Paisley</option>
</select>
```

# Select list (choose >1)

- Use the multiple attribute
- Allows more than one selection
- Make first selection, press CTRL key and make further selections

```
<label for="campus">Which location?</label>
<select name="campus" id="campus" multiple="multiple">
<option value="ayr">Ayr</option>
<option value="dumfries">Dumfries</option>
<option value="hamilton">Hamilton</option>
<option value="paisley">Paisley</option>
</select>
```



Which location?

- Ayr
- Dumfries
- Hamilton
- Paisley

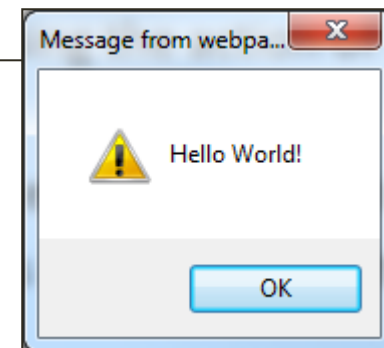
# Buttons

- type="submit"
- Submits form data using the action of the opening form tag
- type="reset"
- Clears the form data entered or selected
- type="button" makes it a clickable button



```
<input type="button" name="reset" value="Click me!"  
onclick="alert('Hello World!')"/>
```

- onclick executes Javascript code inside double quotes



# New input types

- HTML5 has many new types for better control and validation such as:
  - color
  - datetime
  - Email
  - range
  - search
  - url
  - Week
- However, support varies across browsers

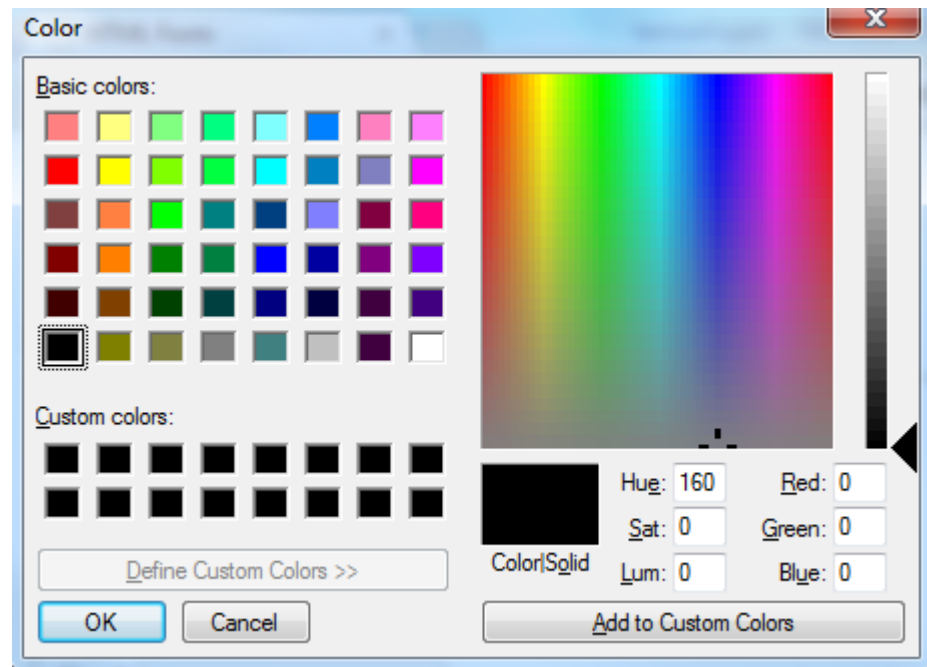
# Example

- Color type is used for user to select a color (note the spelling)

Select your favorite color:  
`<input type="color" name="favcolor">`

- Select default color to display color picker

Select your favorite color:



# Multimedia

- Movies / Animations / Sound
- Different multimedia formats
- File extension indicates format
- Until now, most multimedia files played through plug-ins (like flash)
- However, different browsers may use different plug-ins
- User may need to install various plug-ins to view multimedia content across browsers
- HTML5 now defines new native elements which provide a standard way to embed multimedia on a web page
- Converters can be used to change formats
- Good practice to store media files in separate folder

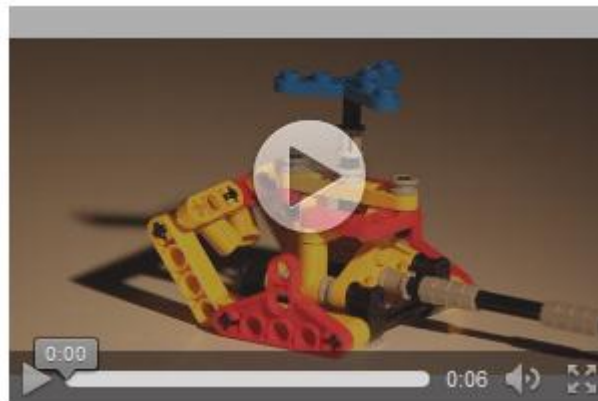
# Video

- <video>, <source> and <track> tags
- Control attribute adds video controls like play and pause
- Autoplay attribute will play the video automatically
- Text content should be inserted between the <video> and </video> tags for browsers that do not support the element
- Useful to include width and height attributes
- Allows multiple sources to be used
- Browser will use the first recognised format
- Currently, there are 3 major formats
  - MP4
  - WebM
  - Ogg
- Different level of support across browsers

# Example

- <http://www.808.dk/?code-html-5-video>

```
<video controls="controls" width="300" height="200">  
  <source src="video/gizmo.mp4" />  
  <source src="video/gizmo.webm" type="video/webm" />  
  <source src="video/gizmo.ogv" type="video/ogg" />  
  Your browser does not support HTML5 video.  
</video>
```





# Audio

- `<audio>` and `<source>` tags
- Also has a control attribute
- Text content should be inserted between the `<audio>` and `</audio>` tags for browsers that do not support the element
- Allows multiple sources to be used
- Browser will use the first recognised format
- Currently, there are 3 major formats
  - MP3
  - Wav
  - Ogg
- Different level of support across browsers

# Audio

```
<audio controls="controls">  
  <source src="audio/bad_to_the_bone.ogg" type="audio/ogg">  
  <source src="audio/bad_to_the_bone.mp3" type="audio/mpeg">  
</audio>
```

Your browser does not support the audio element.



# Upload a Web Site

# File Transfer Protocol

- Simplest way to exchange files between computers
- Transfer files and folders from local area to a server
- Server may or may not be in same location
- Web server used for this module is located at the Paisley campus
- Many ISPs can provide customers web space on a server
  - Upload web sites
  - Backup facility

# FTP

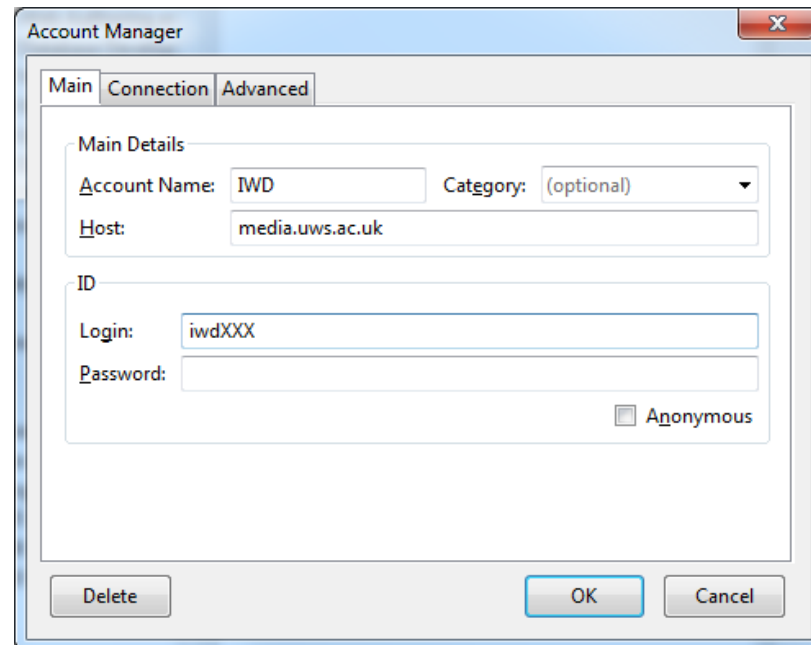
- FTP client built into most operating systems
  - Windows
- FTP client with graphical interfaces available
  - FTP Explorer, CuteFTP
- Web Authoring software/HTML editors
  - Dreamweaver
  - HTML-Kit
- Add-ons within browsers
  - FireFTP within Mozilla Firefox

# Before Upload

- Make sure that all files and folders are stored in one location
- Check that there is no reference to pen drives, disks etc
- Ideally all images should be stored in a subfolder called 'images'
- Your lecturer (within your campus) will give you a username and password to access an area of a UWS web server UWS for this module in class
- These details are unique to you and it is your responsibility not to give them to anyone else
- Remember, both assessments must be uploaded to your account to get marked

# Example in FireFTP

- Choose Create an account
- Account Name: iwd (your choice but make it relevant)
- Host: media.uws.ac.uk (address of the server for this module)
- Login: iwdXXX (replace XXX with you individual account no)
- Password: \*\*\*\*\*



The screenshot shows the 'Account Manager' dialog box with the 'Main' tab selected. The 'Main Details' section contains the following fields:

- Account Name:** IWD
- Category:** (optional) (dropdown menu)
- Host:** media.uws.ac.uk

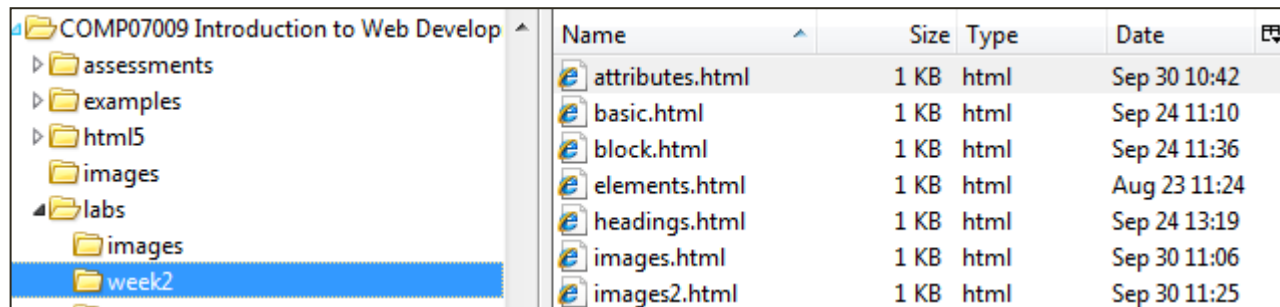
The 'ID' section contains the following fields:

- Login:** iwdXXX
- Password:** (empty field)
- ☐ Anonymous

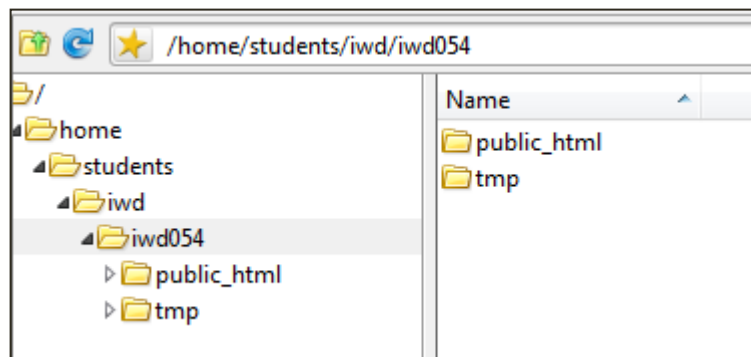
At the bottom of the dialog are three buttons: 'Delete', 'OK', and 'Cancel'.

# Screen Samples

- Local info



- Remote info



- Any web pages to be viewed with a browser must be put into the **public\_html** directory



# Remote Web Site

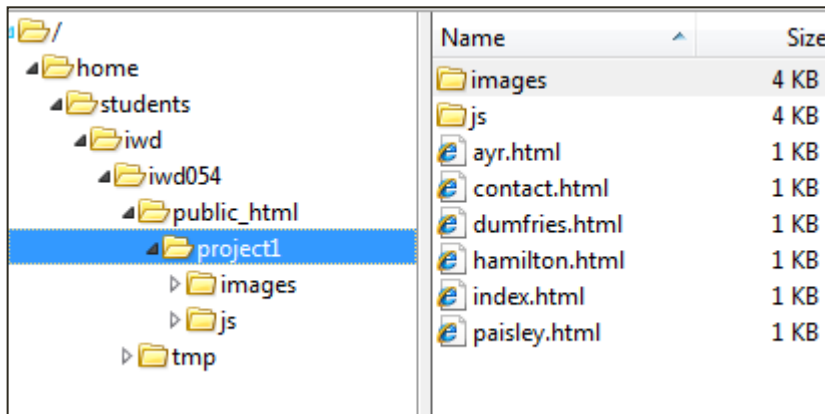
- Main page should be named index.html (or index.htm)
- If index file is stored directly inside iwdXXX account
- <http://media.uws.ac.uk/~iwdXXX/index.html>
- Browser will automatically display it after the url
- If <http://media.uws.ac.uk/~iwdXXX> is given
- You may also be prompted for username and password

# Multiple Web Sites

- Best to create a folder for different web sites locally AND upload folder onto the server
- Relevant index files inside each one
- <http://media.uws.ac.uk/~iwdXXX/project1/index.html>
- <http://media.uws.ac.uk/~iwdXXX/assessment1/index.html>
- Enter url <http://media.uws.ac.uk/~iwdXXX>
- Navigate to your index page
- Page will be displayed

# Example

- Project1 main folder
- Consists of an index page and other html pages
- Images folder
- js folder for any javascript files



- There may also be subfolders within Project1, depending on the number of web pages

# Web Site on Server

- Browse your site
- Try different browsers
- Check links works
- Check images are displayed
- Can you go back to the home page without using the Back button?
- If not, add a link so users can quickly go to the home page

# Assessments

- Assessments **must** be uploaded onto your media account using your own account details
- Only in exceptional circumstances should assessments be submitted on DVD to your lecturer at your campus
- This **MUST** be previously agreed with your lecturer

# Demonstration

- Your lecturer will demo
  - Connecting to the remote server
  - Uploading a web page (including images)
  - Previewing the web page remotely from the server
- You will be given your own media account details in class from staff at your campus
- Check that you can connect to the server with these details

# Lab – getting started

- Create a folder called lab3
- Create subfolders within lab3 for images, audio and video
- Download free images and save in the images folder
- Create an HTML file within lab3 and save as index.html
- Create additional HTML pages and save with appropriate names eg list.html, table.html
- Create your own data or copy and paste data from other sources
- Insert appropriate images into the html pages, specifying src, alt, width and height attributes
- View the source code

# Lab - forms

- Create another HTML page for a contact form
- Use the `<input>` element with the following type attributes:
  - text
  - checkbox
  - radio
  - button
  - password
  - image
- Use the form elements:
  - fieldset
  - label
  - textarea
  - button



# Lab - multimedia

- View the pages in different browsers as local files
- Check all pages are displayed, including images
- Download free audio and video files in different formats
- Research converters for different media formats
- Try converting some formats into other formats (pay particular attention to what Chrome and Firefox support)
- Incorporate some multimedia into the web pages

# Lab

- Create hyperlinks on the index page to navigate to other pages
- Create hyperlinks on these pages to navigate back to the index page as well as other pages
- Create an account to upload the files
- Upload the whole folder lab3 into your account on the media server
- Check that you can view all your web pages remotely from the server
- Eg <http://media.uws.ac.uk/iwd~XXX/lab3/index.html>
- Make changes and ensure the updated or new pages are uploaded onto the media server and view in browser
- Try out examples and quizzes w3schools.com