HTML and Web: Course overview

- Web page design with HTML (3 weeks)
- Website construction and management (1 week).

The course will enable you to design webpages and websites, and to set up and manage simple websites.





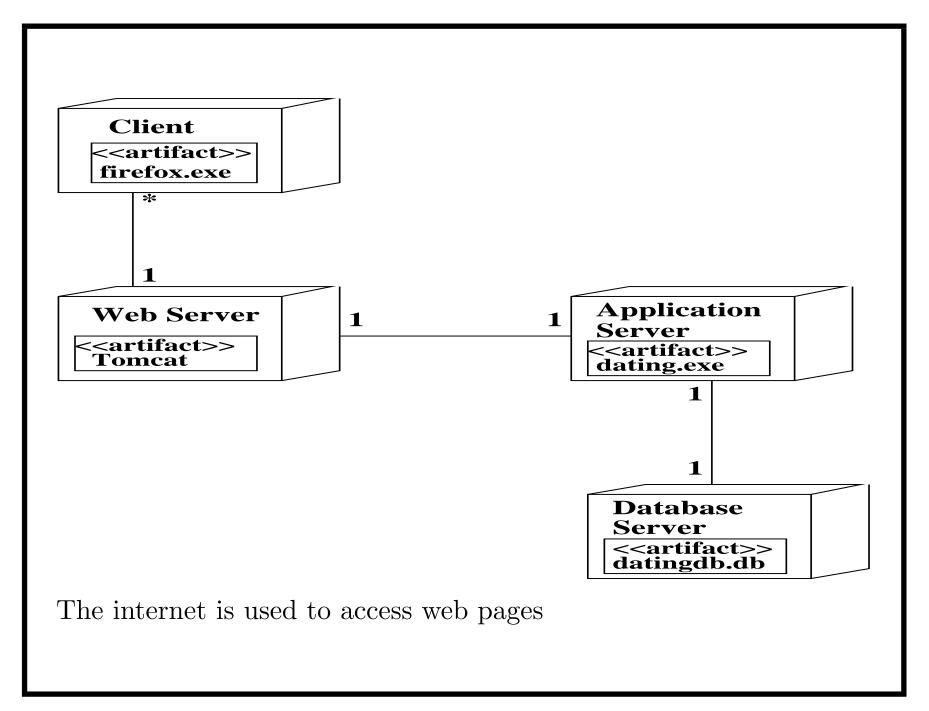


Part 1. Web page design with HTML

- The web pages you view in a browser are usually formatted using HTML (Hypertext Markup Language)
- HTML defines the text, images and structure of pages
- Knowing HTML will help you create useful + attractive webpages, and to manage websites.

Some example websites: Community organisations (friendsofcarnegielibrary.org.uk); businesses (ratrecordsuk.net).

Web pages may be accessed from any computer connected to internet, anywhere in world.



Internet, Web, HTML

- Internet: global network of connected computers/devices started in 1969
- Web: World-Wide Web (WWW) is all information/data on internet
- *HTML*: text containing links to other text/data across internet. Invented in 1989.

```
Web page design with HTML
example 1. html text file:
<html>
<head>
<title>Example of a web page</title>
</head>
<body>
<h1>Example of a web page</h1>
Some text. Text in <b>bold</b>.
Some text <i>in italic</i>. 
2nd paragraph. Some text
```

in <i>bold italic.</i>

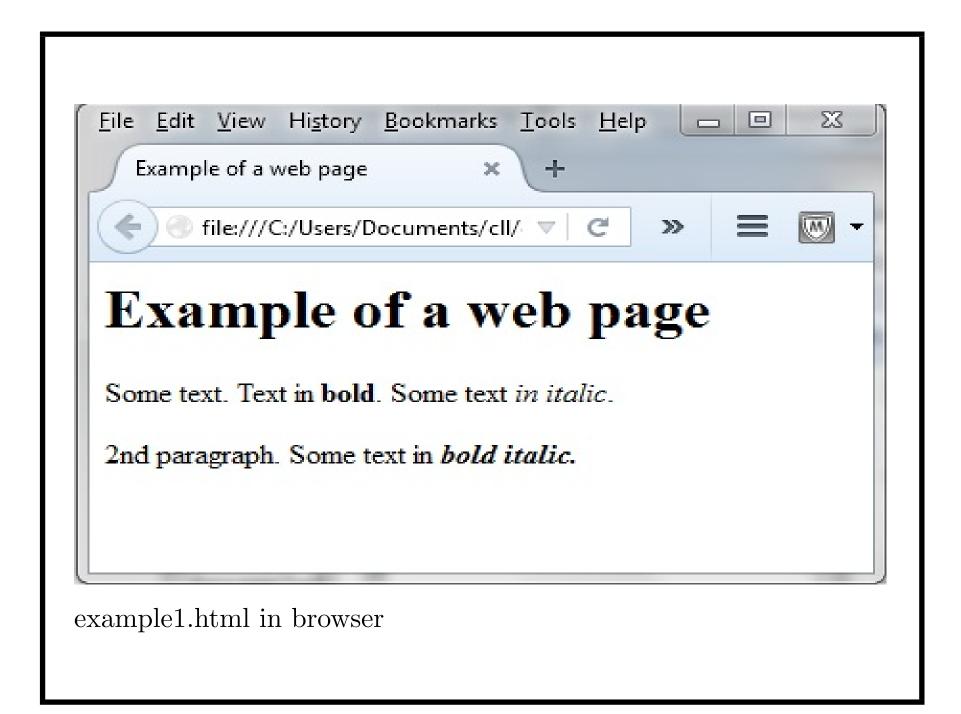
</body>

</html>

These files can be edited with WordPad, Notepad or other plain text editor.

View them in any browser – Firefox, Internet Explorer, Chrome, etc.

www.w3schools.com gives definitions + many examples of HTML. Also see the glossary.



HTML details

- <html> starts the document
- <head> starts the header section, containing a title (this is shown in browser tab):
 - <title>Example of a web page</title>
- </head> ends the header
- <body> starts the body, the main content of page.

HTML details

In the body:

<h1>Example of a web page</h1>

defines a main section header h1 (largest size – can have h2, h3 etc for subheadings).

Some text. Text in bold.

Some text <i>in italic</i>.

Defines text, with bold, italic display of parts. ends the paragraph.

2nd paragraph. Some text
in <i>bold italic.</i>

Shows how to have both bold and italic.

Finally, </body> ends the body, and </html> ends document.

HTML concepts

- HTML instructions written between < and > characters instructions control how page is displayed
- Pages always begin with < html > and end with < /html >
- Usually, a < tag > has a following < /tag > element
- < head > and < /head > contain header of the page, such as the title
- < body > and < /body > contain main content of the page.

Try opening example 1. html in Internet Explorer, Chrome and Firefox. Are there differences in its appearance?

```
Web page design with HTML - Colours
example 2.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
We sell all styles of LPs + 45s from
the 1950's onwards.
<h2>Subheading 1</h2>
Some text in first section.
```

<h2>Subheading 2</h2>

Some text in 2nd section.

<hr>>

Text below horizontal rule.

</body>

</html>

The body style="..." instruction sets page text and background colours. Smaller headings h2, h3, ..., h6 are also possible.

Try changing colours of the page in the text file, + reload it in browser. Look up possible colours in glossary/at www.w3schools.com.

We sell all styles of LPs + 45s from the 1950's onwards.

Subheading 1

Some text in first section.

Subheading 2

Some text in 2nd section.

Text below horizontal rule.

example2.html in browser

```
Web page design with HTML: Lists
example 3.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
We sell all styles of LPs + 45s from
the 1950's onwards.
Unordered list:<br>
<l
Pop
Rock
```

```
Easy listening
Classical
Ordered list:<br>
First item
Second item
Third item
</body>
</html>
```

We sell all styles of LPs + 45s from the 1950's onwards. Unordered list:

- Pop
- Rock
- Easy listening
- Classical

Ordered list:

- 1. First item
- 2. Second item
- 3. Third item

example3.html in browser

Lists

's a line break.

starts an unordered list, each list item started by ends the list.

By default, bullet points are used to display items – but squares, stars, etc could be used instead.

Ordered list started by $\langle o1 \rangle$, ended by $\langle /o1 \rangle$. Items appear with numbers 1, 2, 3, etc – again this format can be altered.

```
Web page design with HTML: Tables
example4.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
Table example:<br>
Record Price
Beatles 'Help' &#163 3.99
Sinatra 'My Way' &#163 1.99
Moby 'Play' &#163 2.99
```

```
More are available
</body>
</html>
&#163 is HTML code for pound sign.
 begins the table,  ends it.
 Header  is a column header.
 data  is data entry in table.
 ...  is a table row. Consists of header cells or data
cells.
Add another column Condition with values Good, Mint, Fair for
the 3 rows.
```

Table example:

Record Price

Beatles 'Help' £3.99

Sinatra 'My Way' £1.99

Moby 'Play' £2.99

More are available

example4.html in browser

```
Web page design with HTML: Tables
Tables can be given borders:
<ht.ml>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: lime; color: black">
<h1 style="font-family: fantasy">Vinyl Revival</h1>
Table with border and fixed
widths:<br>
Record
   Price
Beatles 'Help' &#163 3.99
```

```
Sinatra 'My Way' &#163 1.99Moby 'Play' &#163 2.99Ctr>More are available
```

</body>

</html>

The instruction Record sets width of this column to be 200 pixels.

Update your extended example with widths 200, 100 and 80 for the 3 columns. Center the final row text using

<center>text</center>



Improved table example in browser

```
Web page design with HTML: Tables
Table alignment to center text. Column widths specified as
percentages of table width instead of absolute values:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: lime; color: black">
<h1 style="font-family: fantasy">Vinyl Revival</h1>
Record
  Price
Beatles 'Help' &#163 3.99
Sinatra 'My Way' &#163 1.99
Moby 'Play' &#163 2.99
```

```
More are available

</body>
</html>
Table style text-align: center applies to all table data.
 means table width is 80% of browser window.
```

Record means column width is 60% of

table width.



```
Web page design with HTML: Images
example 5.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
Image example:<br>
<image src="record.jpg" width="100">
Animation example:<br>
<image src="records.gif">
Image with text:<br>
```

<image src="record.jpg" width="100"
style="float:left"> <h3>Pink Floyd 'Dark Side
of the Moon'</h3>
The classic rock LP from 1973.
Mint-quality vinyl with original
cover and insert. £ 15.99.

</body>

</html>

 inserts the image from file f.jpg
into web page, with width 50 pixels.

Try resizing the images to improve the layout.

Notice that animations may play faster/slower in different browsers.

height="100" can also be specified in image, and title="Spinning record" for text description.



example5.html in browser

Web page design with HTML: Images

- The images are in f.jpg, f.gif or f.png files
- *jpg* for photographs/high-quality images
- gif for logos, animations
- png format can be used for either purpose.

alt="Description" is used to give description of image, which can be read out by assistance software.

Colours can also be given by color="#AA9988" codes, red-green-blue coding with values 0 to 9, A, B, C, D, E, F. Higher values are lighter.

#FF0000 is pure red. #00FF00 is pure green, etc.

```
Web page design with HTML: Links
example6.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
We sell all styles of LPs + 45s from
the 1950's onwards.
For our current list of products, see
<a href="products.html">Products</a>
Links in a list:<br>
```

```
<a href="fifties.html">1950's</a>
<a href="sixties.html">1960's</a>
<a href="seventies.html">1970's</a>
<hr>
Email link:<br>
<a href="mailto:enquiries@vinylrevival.co.uk">Contact Us</a>
</body></html>
Links support navigation to one page to another, to another web
site, or to a mailing program.
Try writing products.html, fifties.html, etc.
```

We sell all styles of LPs + 45s from the 1950's onwards. For our current list of products, see Products

Links in a list:

- 1. 1950's
- 2. 1960's
- 3. 1970's

Email link:

Contact Us

example6.html in browser

Links

Key concept of WWW: navigation from one page to another following links within page.

Products appears in document as Products.html is loaded into browser.

Assumes *products.html* is in same directory as the page that refers to it. If not, can put complete URL:

<a href =

"http://www.vinylrevival.co.uk/products.html">Products

Mail link opens up a mailing program when clicked: Contact Us

```
Web page design with HTML: Forms
example 7. html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
We sell all styles of LPs + 45s from
the 1950's onwards.
<form method="post"</pre>
  action="http://localhost:8080/orders/Order.jsp">
Product: <input type="text" name="product"/><br>
```

```
Your name: <input type="text" name="name"/><br>
Address: <input type="text" name="address"/><br>
<input type="submit" value="Submit"/>
</form>
</body>
</html>
```

Forms are used to submit requests, to obtain information, etc – maybe even for electronic voting.

method is the way the form data is submitted (post for secure data, get otherwise).

action names the program which will process the data.

Try filling in data + submitting with get method.

Vinyl Revival

We sell all styles of LPs + 45s from the 1950's onwards.

Product:

Your name:

Address:

Submit

example7.html in browser

Web page design with HTML: Forms Forms are started with <form method="post"</pre> action="http://localhost:8080/..."> The action identifies a program that will process form data when submitted. Text fields are defined like this: Product: <input type="text" name="product"/>
 The Submit button and end of form is defined by:

<input type="submit" value="Submit"/>

</form>

```
Web page design with HTML: Forms
Tables can be used to give neat layout of forms.
example7table.html text file:
<html>
<head>
<title>Vinyl Revival</title>
</head>
<body style="background-color: silver; color: blue">
<h1>Vinyl Revival</h1>
We sell all styles of LPs + 45s from
the 1950's onwards.
<form method="post"</pre>
  action="http://localhost:8080/orders/Order.jsp">
```

```
Product:
  <input type="text" name="product"/>
Your name:
   <input type="text" name="name"/>
Address:
  <input type="text" name="address"/>

  <input type="submit" value="Submit"/>
</form>
</body></html>
Label of fields go in 1st column, field + button go in 2nd.
```

Vinyl Revival We sell all styles of LPs + 45s from the 1950's onwards. Product: Your name: Address: Submit Form with table layout

Other form elements

Lists of options to select from:

Selection lists/dropdown lists for user to select one option. Typical example: list of countries in online order form.

Other form elements

Radio buttons also permit one choice from a number of options:

```
<label for="media">Media:</label>
```

- <input type="radio" name="media"
 value="vinyl" checked>Vinyl

- <input type="radio" name="media"
 value="CD">CD

- <input type="radio" name="media"
 value="tape">Tape

Which is better; selection list or radio buttons?

Other form elements

Checkboxes: multiple choices from options:

```
<label for="subscribe">Subscribe for news of:</label>
```

- <input type="checkbox" name="subscribe"
 value="4050s">1940's/50's music

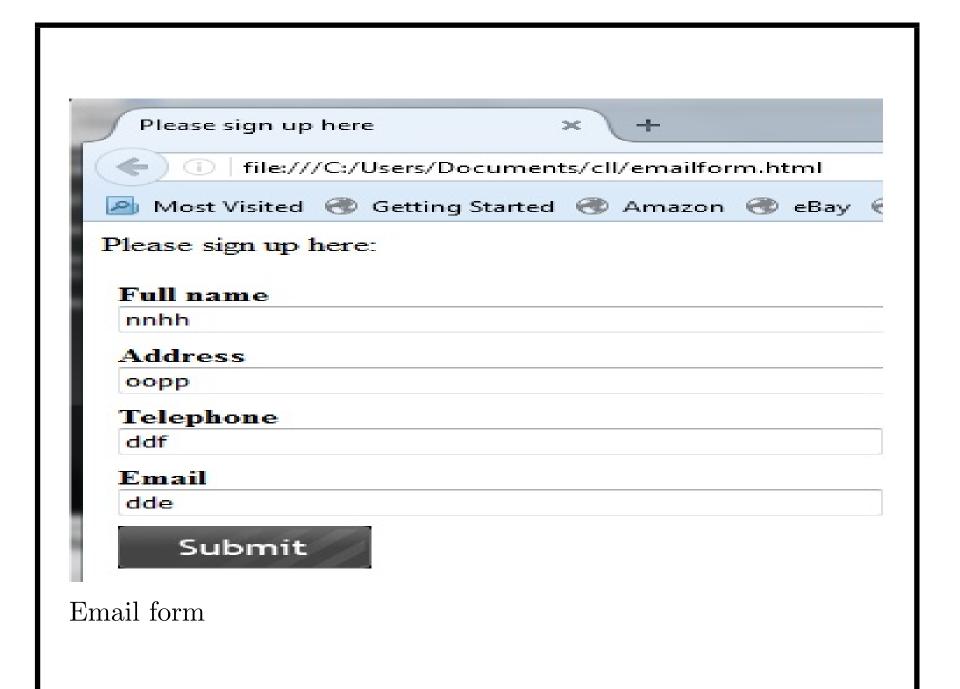
- <input type="checkbox" name="subscribe"
 value="6070s">1960's/70's music

- <input type="checkbox" name="subscribe"
 value="8090s">1980's/90's music

Vinyl Revival We sell all styles of LPs + 45s from the 1950's onwards. Make: Dolby Media: Vinyl O CD Tape Subscribe for news of: 1940's/50's music 1960's/70's music 1980's/90's music Product Your name: Address: Submit

Example form with options

```
Submitting forms by email
<form action="mailto:your.email@com?subject=Register"</pre>
 method="post">
Full name<br>
<input name="name" type="text" size="90">
Address<br>
<input name="address" type="text" size="90">
Phone<br>
<input name="phone" type="text" size="50">
Email<br>
<input name="email" type="text" size="50">
<input type="submit" value="Submit">
</form>
Action sends the data to email address.
```



```
Submitting forms by email
<form action="mailto:your.email@com?subject=Register"</pre>
 method="post" id="mailform">
Full name<br>
<input name="name" type="text" size="90">
Address<br>
<textarea name="address" rows="5" cols="90" form="mailform">
</textarea>
Phone<br>
<input name="phone" type="text" size="50">
Email<br>
<input name="email" type="text" size="50">
<input type="submit" value="Submit">
</form>
```

Forms

The address field uses a text area:

Address

<textarea name="address" rows="5" cols="90" form="mailform">

</textarea>

This has 5 rows and 90 character spaces in each row.



Summary of Part 1

- Writing web pages with HTML.
- Text formatting, colours, images, animations.
- Tables, forms, lists, links.







Part 2. Website construction and management

- Meta tags to promote pages and websites
- Style sheets for websites
- Setting up a website
- Website organisation and management.







Metatags

- HTML elements listed in < head > section of web page not shown in browser
- Can describe document: author, keywords, organisation + other properties of page
- Used by search engines when responding to searches, eg., via Google or Yahoo
- description attribute often used to give short description of page.

Style sheets

- In addition to *.html files we saw in Part 1, can write *.css files to apply a consistent style (colours, fonts, etc) to all pages of a website
- *.css files are called *style sheets*
- Style sheets consist of set of style rules, defining how specific HTML elements should be styled.

Style sheet example

Put border around all paragraphs, and make their text red (test.css):

p {border-style: solid; border-width: 2px; color: red}

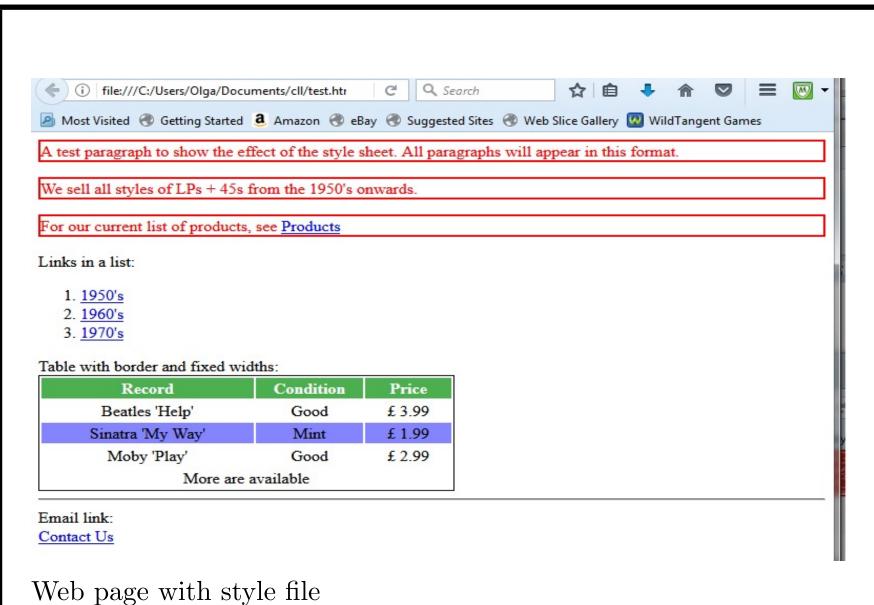
In the < head > part of a web page, include line:

<link rel="stylesheet" type="text/css" href="test.css" />

The definitions of test.css then apply to the web page.

```
Example file using .css and meta tags:
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<meta name="author" content="Nick Edwards">
<meta name="description" content="Vinyl Revival Website">
<meta name="keywords" content="Vinyl Revival, Records, Music, LPs, 45s, 78s">
<link rel="stylesheet" type="text/css" media="all" href="test.css">
</head>
<body>
A test paragraph to show the effect of the style sheet.
All paragraphs will appear in this format.
We sell all styles of LPs + 45s from
the 1950's onwards. 
For our current list of products, see
```

```
<a href="http://www.vinylrevival.co.uk/products.html">Products</a>
Links in a list:<br>
 <a href="fifties.html">1950's</a>
<a href="sixties.html">1960's</a>
<a href="seventies.html">1970's</a>
<hr>
Email link:<br>
<a href="mailto:enquiries@vinylrevival.co.uk">Contact Us</a>
</body>
</html>
```



web page with style me

```
More complex example:
p {border-style: solid; border-width: 2px; color: red}
table { border: 1px solid black; text-align: center }
tr:hover { background-color: #8585FF }
th {
    background-color: #4CAF50;
    color: white;
This center-aligns all table text, changes table row colour when
mouse hovers over it, and sets white on green colours for table
```

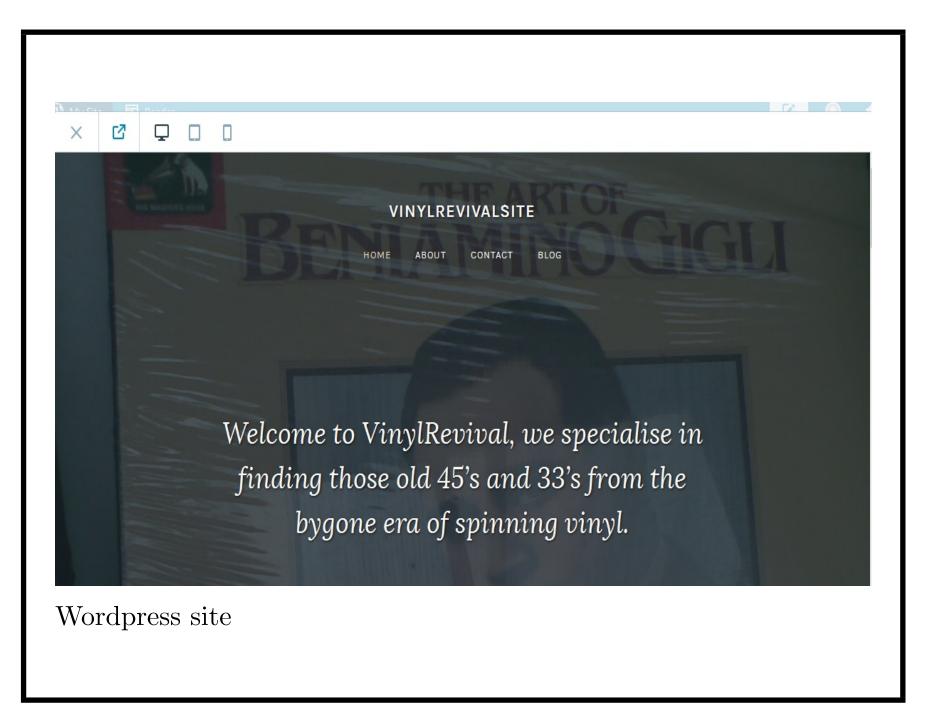
header.

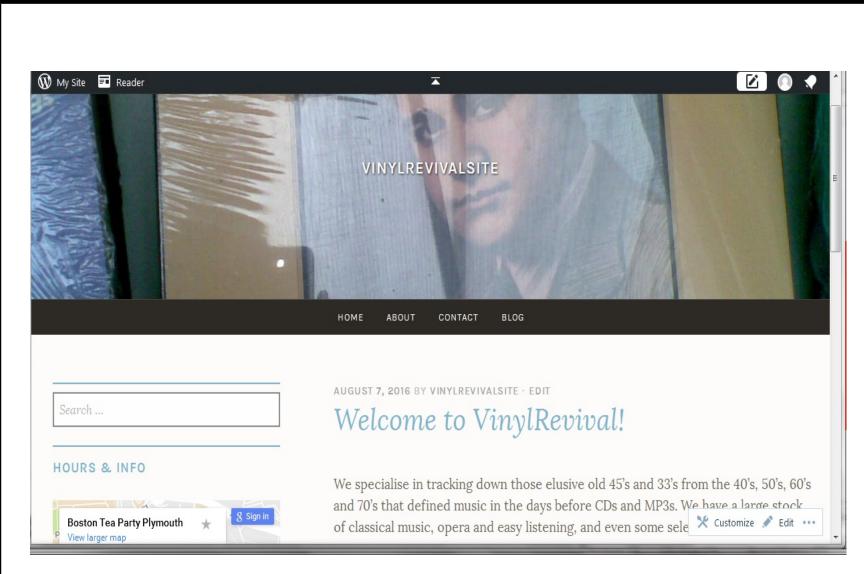
Setting up websites

Typically, either a web host provider has a pre-defined structure for your website, or allows you to freely define your own structure + pages.

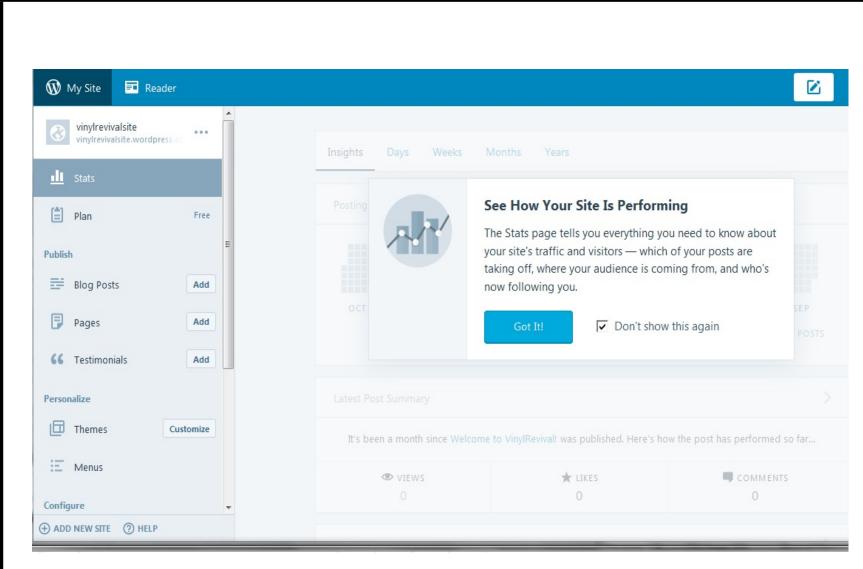
 $Template\ websites\ with\ WordPress$

- wordpress.com
- Free websites using templates for site and pages you edit details and content of pages
- Eg., vinylrevivalsite.wordpress.com
- Blog style may not be suitable for commercial sites.

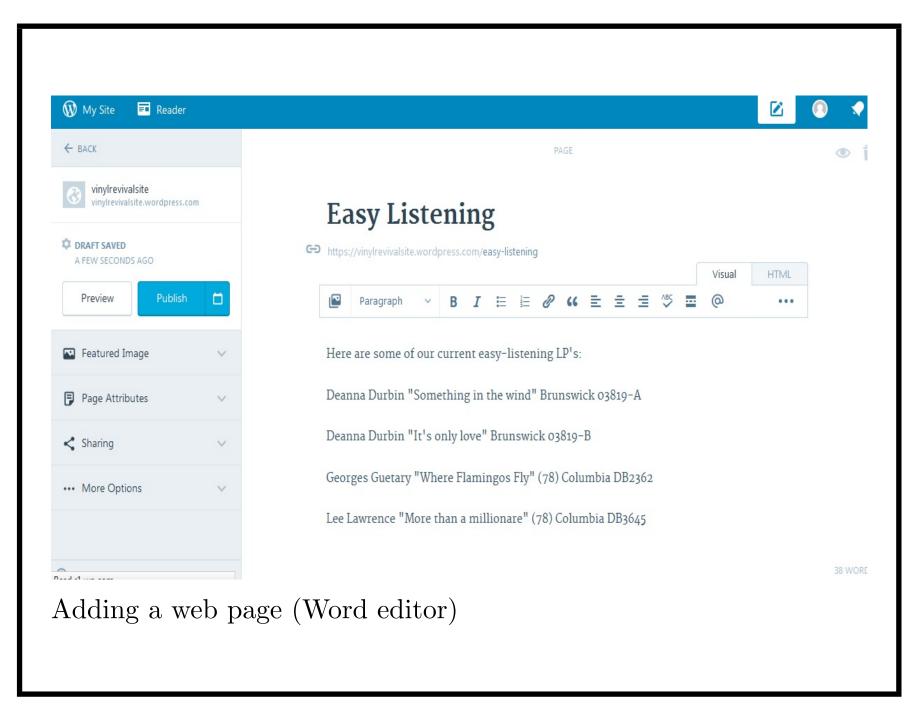


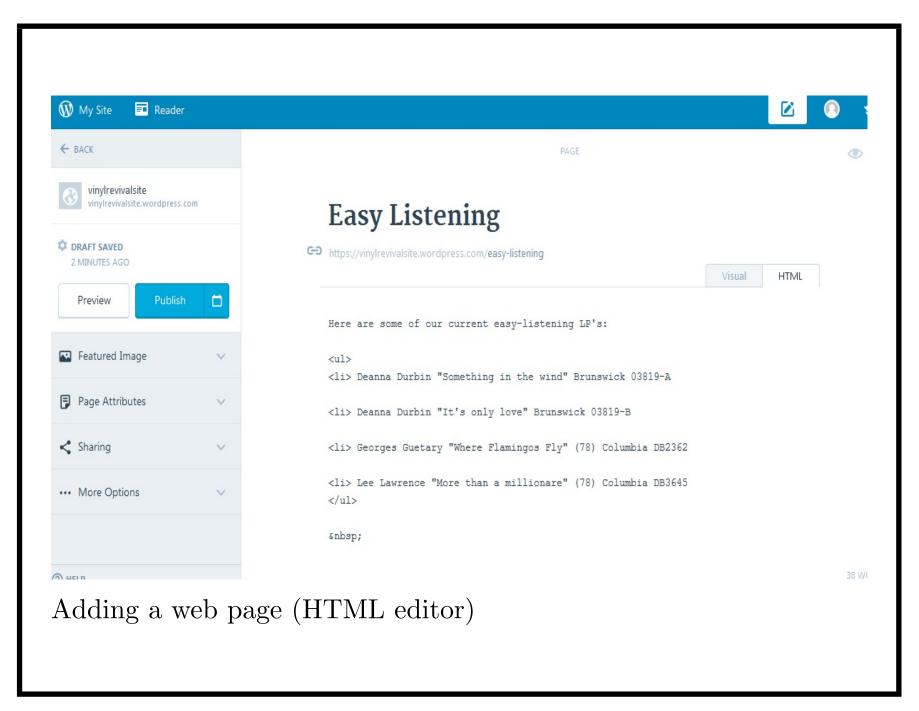


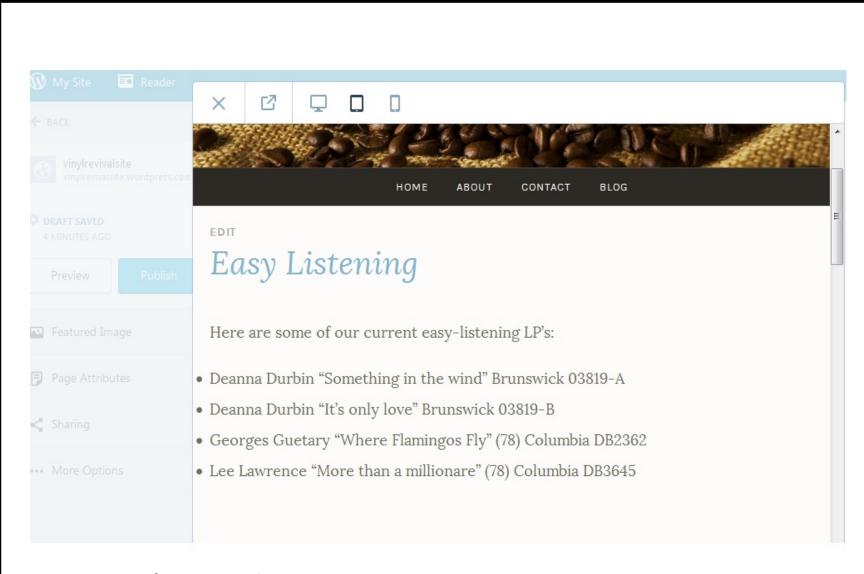
Wordpress editing



Wordpress site management. Pages add option \longrightarrow



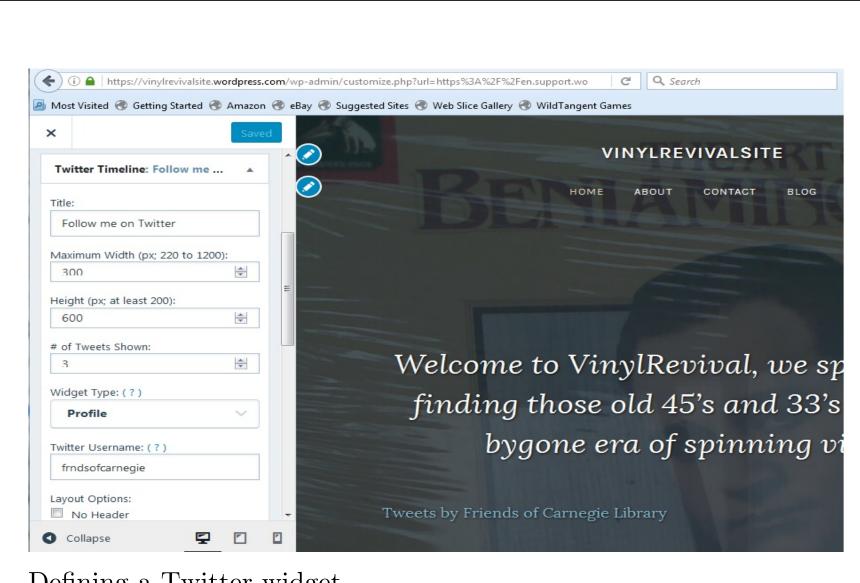




Preview of new web page

Simple websites with WordPress

- Images + other attributes of pages can be edited
- Pages can be linked from other pages Easy listening
- Widgets such as Twitter feeds can be added. (Customise; add widget; Twitter timeline).



Defining a Twitter widget

Customer-designed websites

- Web hosting company provides you with a directory where you can upload/edit HTML files, images, etc
- You need to design the structure of the site (which pages link to which, what are the menus, etc) and all page layout + content
- Suitable for more expert web developers, gives complete freedom for designs + style.

Should have consistent style of colour, layout, text, images, on every page. Stylesheets can ensure this.

Customer-designed websites

Some standard pages:

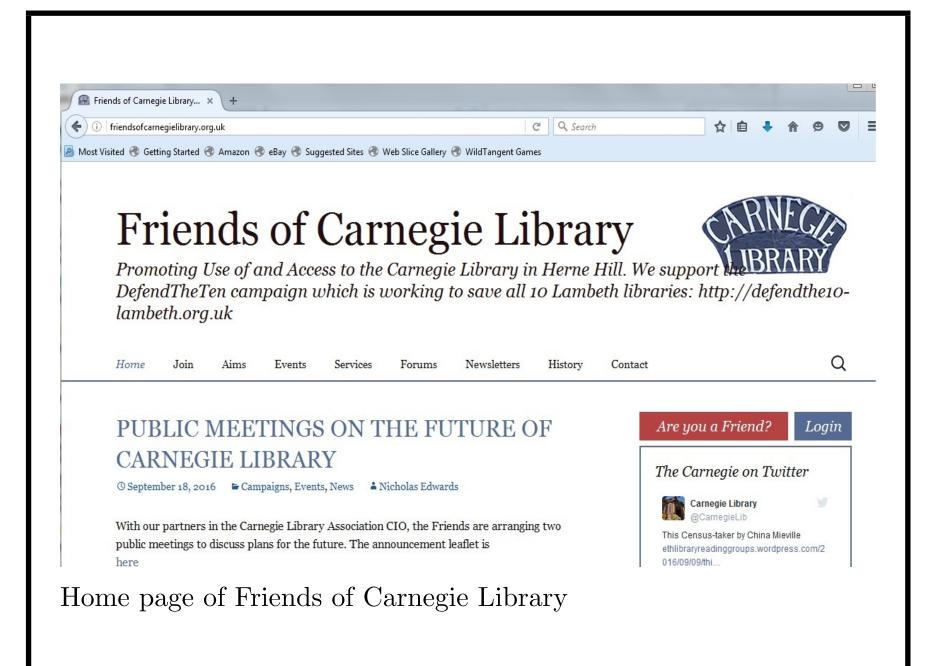
• index.html – the home page, introduces your organisation/company, has menu/links to rest of site. Twitter feed can go here.

Business sites can have product search prominently on this page (eg., amazon.com).

Member organisations could have *Join* button, *Donate* button, etc.

- news.html, events.html for community groups/organisations
- contacts.html details of how to contact the organisation; addresses, maps, etc.

Example: friendsofcarnegielibrary.org.uk



Summary

- The web host (wordpress, in our example) may provide page and website templates, which you can edit, customise + load with your own content
- Other hosts may only provide a directory into which you place your own HTML files. Navigation starts from index.html page.







Further resources

We hope you have enjoyed this course. The following are useful for further study:

- HTML reference: https://www.w3schools.com
- Course resources:

http://www.carnegielibraryassociation.org.uk/CLL.htm





