The Internet and World Wide Web

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The internet and the World Wide Web

The **internet** is the physical network of computers all over the world. The **World Wide Web** is a virtual network of websites connected by hyperlinks (or "links"). Websites are stored on servers on the Internet. The World Wide Web (WWW) is part of the internet.

A **server** is a computer that serves other computers. The servers store the web pages. When someone accesses a webpage, your computer is acting as a client. A client runs software such as web **browsers** and it communicates with the server to get the web page it requires.

The World Wide Web was created in 1989 by Tim Berners-Lee, a software engineer. Before then, computers could communicate over the Internet, but there were no webpages.

HTML

HTML stands for **Hypertext Mark-up Language**. The backbone of the World Wide Web is made of HTML files, HTML files are formatted documents that can contain links, as well as images and other media. Web browsers read HTML files and display them. In addition to HTML, it's common for websites to use technologies like **CSS** (**Cascading Style Sheets**) and **JavaScript**. HTML5 is the latest iteration of the HTML language.

HTML describes the structure of a page. You need to use the most appropriate element to mark-up the section of a page. For example:

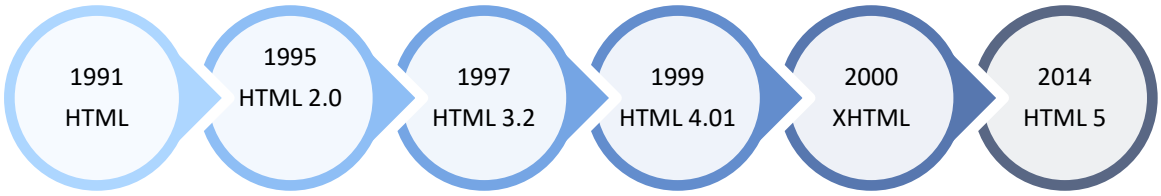
```
<p> some text </p>
```

The above code marks-up a paragraph. Although elements come with a default appearance (styling) the appearance can be changed with CSS (Cascading Stylesheets). JavaScript can be used to add interaction.

HTML is written in the form of HTML **elements** consisting of **tags** enclosed in angle brackets (e.g. <html>). HTML tags most commonly come in pairs like <h1> and </h1>, although some tags, known as empty or void elements, are unpaired, for example <img>. The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, tags, comments and other types of text-based content.

A brief history of HTML

The web development industry has evolved significantly in a relatively short time. Along the way, web mark-up has evolved. We are up to HTML5.



URL

The URL (Uniform Resource Locator), also known as the web address, tells the browser where to find the page. To find a page people either type in the URL, click on a link that contains a URL or search using a search engine.

Example of a URL: http://infotech.hornsby.tafensw.edu.au/ViewTimetable.aspx

How do I become a good web designer/developer?

Like everything you learn it **takes time and lots of practice**. These notes will provide you with examples and explanations. The notes will then provide some "practice" exercises. During class you may find you don't have time for the practice exercises, and this then becomes HOME WORK. You cannot hope to learn and remember HTML and CSS by just trying out one example. You will need to practice the function/skill several times. Some people type faster or learn better by taking their time. It doesn't matter as long as for each activity you:

- Understand the concept/skill *(if not ask for help!)*
- Successfully recreate the activity
- Try the additional practice exercises *(in class or outside of class).*

What do you need to create a web page?

A text editor – any will do as long as you can save your file as .html

I recommend using sublime text it is free to download and use and works on both windows and mac OS. You can download and install it from here: http://www.sublimetext.com/3

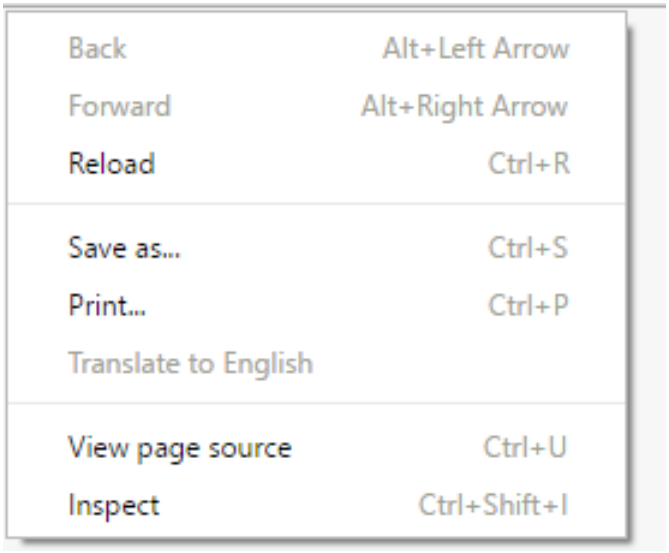
Browsers

To view a web page, we need to use a browser. A browser is a software application that requests and displays web pages.

A web page is made up of HTML (Hypertext Mark-up Language) along with most likely some CSS (Cascading Style Sheets), optionally some JavaScript and other files like images, movies and sound files. The browser receives all of this from the server and displays the web page.

Activity 1. Looking at the source code

Go to a web site and view the page source. Using chrome, you can right click on the page and select "View Page Source"



How do you create a web page?

Web designers create web pages by creating the HTML and the CSS files.

Activity 2. Creating your first HTML page

Create a TAFE folder

On your memory stick create a folder called "**TAFE**"

Create a start folder

Inside the TAFE folder create a folder called "**start**"

Create a folder to store this lessons exercises

Create a new folder inside the start folder and give the folder the name: "**firstExercises**"

Open your text editor, I recommend using visual studio code or sublime text.

In either text editor select "File" -> "Open Folder"

Open the folder you just created (firsExercises).

Create a new file by selecting "File" -> "New File"

Now select "File" -> "Save As"

Save it as **example1.html**

Make sure you save it with a .html extension otherwise it will not open properly in a browser.

Type in the following code:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Example 1</title>
5 </head>
```

```
<body>

<h1>My first web page</h1>
<p>This is my first web page</p>
</body>
</html>
```

Save the file by selecting CTRL S or select “File” -> “safe”

Go back to windows/file explorer you should see your new file in the folder with a .html extension and a browser icon. Double click on the file to open it in the default browser. You should see:

Do I need a server?

To **test** your pages with a .html extension in a browser **you don’t need a server**. If you want other people to see your pages, you will need to find a server to store your files. The server is called a web host. There are a wide range of web hosts available varying in cost depending on the requirements of the website. Later in the course when you write PHP code you will need a web server.

Activity 3. Viewing the source code

In the browser right click on the page and select “View” -> “Page source”

You will notice it contains the code you typed in.

What did we just do?

You created an HTML file and opened it in the browser, the browser reads the HTML and displays the page according to the browser style sheet.

Exercises

1. Working efficiently is really important when you are working in an IT environment. You do not want to be wasting time finding files. For this activity close down all the software programs you have open. Eject your memory stick. Time yourself on how long it takes for you to plug your memory stick in to the computer and open the exercise we created today.
    - How long did it take for you to open the file in your text editor?
    - How long did it take for you to open the file in your browser?

Compare with other people in the class.