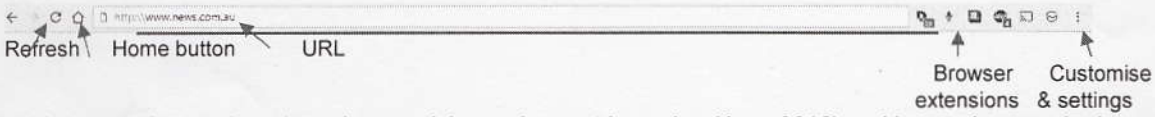
Anatomy of a Webpage



In previous newsletters there have been articles on Internet browsing (June 2016) and how to browse the internet anomalously (April 2016). In this article, I'll look at the structure of a web page.

The above web bar taken using Google Chrome is an example of a typical webpage. In this case www.news.com.au.

On the left side, there is a **back or forward arrow** to either return to a previous page or to advance to a page you have looked at but want to see again.

Next is a **refresh button** to reload the page if there is a problem.

Then the **home button**. Every browser has a home page. You can use that browsers default home or select a specific page to open when you log into that browser. A specific home page is selected via the settings on each browser. The back or forward arrow will be "greyed out" when in the home page.

A Uniform Resource Locator (URL), otherwise known as the web address, is a reference to a web resource that specifies its location on a computer network and a mechanism for retrieving it. A typical URL could have the form http://www.example.com/index.html, which indicates a protocol (http), a hostname (www.example.com), and a file name (index.html). A file name is not included in the above example but if I had clicked on a link on the page then an extension would be added. This extension is the file name.

HTTP means *HyperText Transfer Protocol.* HTTP is the underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands. For example, when you enter a URL in your browser, this actually sends a HTTP command to the Web server directing it to fetch and transmit the requested Web page.

If you see https, the session between the web server and the browser on the device you are using is encrypted. You can easily identify web servers that have https configured by looking at the Uniform Resource Locator (URL) in the web address bar of your browser. You should also see a lock icon on the bar.

World Wide Web (WWW) is an information space where documents and other web resources are identified by Uniform Resource Locators and can be accessed via the Internet.

HTML and JavaScript

Every webpage you look at is written in a language called *HTML* (hypertext markup language). *HTML* is the skeleton that gives every webpage structure. *HTML* is used to specify whether your web content should be recognized as a paragraph, list, heading, link, image, multimedia, form or one of many other available elements. The purpose of a web browser is to read HTML documents and display them.

While HTML markup language allows web developers to format content, JavaScript allows them to make the page dynamic. For example, HTML allows for making text bold, creating text boxes, and creating buttons, whereas JavaScript allows for changing text on the page, creating pop-up messages, and validating text in text boxes to make sure required fields have been filled. JavaScript makes web pages more dynamic by allowing users to interact with web pages, click on elements, and change the pages.

Browser Extensions are small programmes that can modify or enhance the functionality of a web browser. All browsers have extensions that can be downloaded from their sites. There are numerous examples and include ad blockers or programmes to block tracking, language translators and many, many more.

But note that browser extensions have access to everything done by the browser, and can-do things like inject ads into web pages, or make "background" requests to third-party sites. While web pages are constrained by the security model of the web browser, extensions are not. As a result, a malicious browser extension may take action against the interest of the user that installed it. Such browser extensions are a form of malware. Some software downloads may come with unwanted bundled programs that install browser extensions without a user's knowledge.

Browser settings. All browsers come with a number of settings that can be customised. There are far too many to list here but examples include setting home pages, adjust privacy, block cookies, delete browser history, set the search engine, add the home button, block pop-up boxes, allow/block Adobe Flash for video and many more. All the browsers have similar settings but differ in the way they display them making it difficult to describe simply.

Peter Day

Our New Address is:
Peter Day,
ESCC Secretary
5/194 Burraneer Bay Road
Caringbah NSW 2229 Phone: (02) 9527 4013