

4.4 The internet

The internet is a worldwide collection of networks which allows a subscriber to send and receive emails, chat (using text or voice) or browse the world wide web.


The **world wide web (WWW or web)** is the part of the internet which the user can access by way of a **web browser** (e.g. Microsoft Internet Explorer). A web browser is software that allows the user to display and interact with pages and files from the web.

Websites

The web is made up of millions of these **websites** (e.g. www.hoddereducation.com) and millions of **web pages** (e.g. Hodder Education front page, shown in Figure 4.6). Web pages are documents on a computer screen which may consist of text, pictures, sounds, animation or video (i.e. multimedia). A website consists of many of these pages linked together.



Figure 4.6 Example of a web page

The website shows these **hyperlinks** to allow users to **navigate** between web pages. These hyperlinks are often shown as **blue underlined text** or sometimes a small hand appears  under a picture or under some text indicating the link to another page or website. The user clicks on these hyperlinks using a mouse (or other pointing device) to move to another page.

Web browsers use uniform resource locations (URLs) to retrieve files. URLs are a standard way of locating a resource on the internet; they are usually a set of four numbers, e.g. 194.106.220.19. However, as this can be difficult to remember, an alphanumeric form is usually used which has the format:

protocol://site address/path/filename

where:

- **protocol** is usually http
- **site address** consists of: host computer name, domain name, domain type and (very often) the country code:
 - **computer name** is usually www
 - **domain name** is the name of the website
 - **domain type** is commonly one of the following: .com, .org, .co, .net, .gov
 - examples of **country code** include .uk, .us, .de, .cy
- **path** is the web page
- **filename** is the item on the webpage.

Thus, a full URL could be <http://www.urlexamples.co.cy/pages/example1>

Accessing the internet

An ISP is a company that provides users with access to the internet, usually for a fee. When a user registers with an ISP, an account is set up and they are given **login** details, which include a **username** and a **password**. The user connects to the internet via the user account which also allows the provider to monitor usage. Most ISPs also provide an **email** account (see Figure 4.7 for an example of an email page).

Emails are an electronic way of sending documents (etc.) from one computer to another. They allow **attachments**, which can be word-processed documents, spreadsheets, data files, music files, movie files, etc. An email address contains two parts:

example1@yahoo.co.uk OR example2@yahoo.com

The first part is the user name e.g. **example1** or **example2** and the second part is **@** followed by host name e.g. **@yahoo.co.uk** or **@yahoo.com**. Emails are discussed in more depth in Chapter 9.

There are three common ways of accessing the internet offered by service providers:

- dial-up internet access
- cable internet access
- digital subscriber line (DSL) (broadband) internet access.

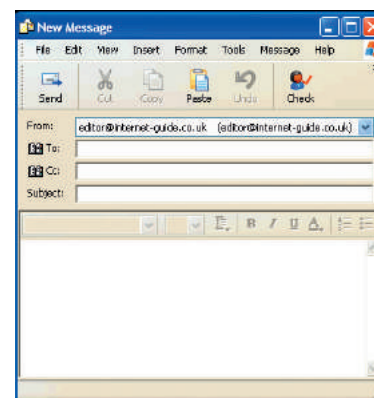


Figure 4.7 Example of an email page

These were discussed in Section 4.3 as part of modems and are summarised in Table 4.1.

Type of access	Description
Dial-up internet access (dial-up modem)	This is the slowest type of connection (about 60 kbps). The user connects to the internet via the telephone line by dialling one of the numbers supplied by the ISP. They are therefore not on all the time; ISP contracts are usually for a number of hours per month of internet access time and additional charges are incurred if this is exceeded. A big disadvantage is that the telephone line is tied up while a dial up modem is in operation.
Cable internet access (cable modem)	Local cable television operators give a user access to the internet through their own cable networks using a cable network modem.
Internet access via DSL (broadband modem)	The fastest download speeds can be obtained by using DSL broadband connections (at least 11,000 kbps). This is often offered with wireless interface which requires an AP and a router. ISPs usually have a download/upload limit (e.g. 20 Gbyte of data) as part of the contract. This is not a problem unless the user is often downloading music or movie files which can quickly use up the memory allocation. Broadband has the advantage of always being on, since it doesn't tie up the telephone line. The fast transfer rate allows systems such as voice over IP (VOIP) and online chat rooms to be used effectively.

Table 4.1 Methods of accessing the internet

4.5 Intranets

Many companies use an **intranet** as well as the internet. The simple definition of an intranet is 'a computer network based on internet technology that is designed to meet the internal needs for sharing information within a single organisation/company'. There are number of reasons for doing this.

- It is safer since there is less chance of external hacking or viruses.
- It is possible to prevent employees from accessing unwanted websites.
- Companies can ensure that the information available is specific to their needs.
- It is easier to send out *sensitive* messages that will remain only within the company.

It is now worth comparing the internet with intranets:

- The term 'internet' comes from the phrase *international network*.
- The term 'intranet' comes from the phrase *internal restricted access network*.
- An intranet is used to give local information relevant to the company whereas the internet covers topics of global interest.
- It is possible to block out certain internet sites using an intranet. This is much more difficult to do from the internet.
- An intranet requires password entry and can only be accessed from agreed points, whereas the internet can be accessed from anywhere provided the user has an ISP account.