Easy to Understand, Great Exercises, Unbelievable Value

Get Going with INTERNET

- User Friendly
- Simple Instructions
- Easy Exercises
- Clear Illustrations
- Setp-by-Step

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Get going with the Internet

Torben Kjær
Translated from the German by Linda L. Gaus
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Acrobat Reader: How to ...

F5/F6 open/closes bookmarks - **F4** open/closes thumbnails

In menu View you can set, how the file is displayed

CTRL+0 = Fit in Window, **CTRL+1** = Actual size, **CTRL+2** = Fit width

You can set **SINGLE PAGE**, **CONTINUOUS VIEW** or **CONTINUOUS FACING**

.. try them out and you will see the differences.

Navigation

ARROW LEFT/RIGHT: forward/backwards one page

ALT+ARROW LEFT/RIGHT: same as in a browser: forward/back

CTRL++ zooms in **AND CTRL +-** zooms out

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About this booklet

This is an introduction to the Internet. You can read it even though you may be a complete beginner, however, I assume that you feel comfortable using a computer. Although I am writing about a Windows PC, most of the material here will still be relevant if you have a Macintosh or another type of computer. The illustrations in the booklet are all from a PC running Windows 98.

Everything in the booklet was checked just before publication. But it is a fact that the Internet changes so rapidly that some things may already be out of date. You also have to remember that this booklet describes many different programs, which are often available in various versions, constantly updated. So you will sometimes find that what is written here does not exactly describe the program you are using. The examples use the Internet Explorer 4.0 browser, but nearly everything will work in the same way even though you may be using another program.

If you have any comments on the booklet, I would be very happy to hear from you. Maybe you have found a section difficult to understand, or you can suggest an improvement, or you have found something that is out of date.

My address is *torben@prestige.dk*.

You can reach the translator at *gaushaus@bellatlantic.net*.

Enjoy your reading!

Torben Kjær

Thanks to friends and family who read through the original manuscript and came to me with comments and suggestions before publication.

You should also read the *booklet Make the Most Out of the Internet*. It's a kind of tour of the best and most useful Web sites. In this booklet you'll learn more about how to use the World Wide Web, which can provide inspiration for a more fruitful use of the Internet.

A Quick Guide to the Internet

This page gives you a short introduction to what you can find in this booklet. If you are a total beginner to the Internet, I would suggest that you read the entire booklet from beginning to end. But if you have begun to find your way around, then you can see which sections you will get the most out of.

The Internet is a global computer network of thousands of other networks, all of which can communicate with each other. Computers that are directly connected to the Internet are called servers, and they all have a unique address, like *inet.uni2.dk* or *www.playboy.com*. Read more about the basics of the Internet on page 5 and about how Internet addresses are built up and what they mean on page11.

You can get onto the Internet from your home or work PC. Read how on page 14.

There are two ways to access the Internet. Either you are on a local network that is attached to the Internet, this could be at work or at your school or university. Or you dial into the Internet using a modem and an Internet Service Provider (ISP). To do this:

- Buy a **modem**. Read about modems on page 14.
- Choose an **ISP** (a company that sells access to the Internet) Read about ISPs on page 16.
- Set up your **Internet connection**. On page 17 you can read how you do this if you use Windows 95/98.

And when you have done these things, the fun begins. The **World Wide Web** (the web) is a vast number (billions) of pages containing text, pictures, film, and sounds. These pages contain cross references to each other, so they are connected together like a gigantic spider's web. You can read more about the web on page 9. A *web browser* is a program that you use to move around the web. Your **web browser** is the most important program you will use on the Internet, and can do nearly everything you need. Read how to use your web browser on page 19.

Once you know how to use your browser, then it is time to learn how to use the different search engines and web indexes so you can find pages about the subjects you are interested in.

Web indexes are easy to use directories of web sites, categorised in a way that makes it easy to find what you are looking for. Read about web indexes on page 34.

Search engines are huge databases of millions of web pages. You can search through these databases using search words, with the results presented as links to all the web pages that fulfil your search criteria. Page 27 shows you how to use search engines.

The Internet is much more than just the World Wide Web. It is also e-mail, newsgroups, and chat.

An **e-mail program** is a program that can be used to send and receive electronic mail. E-mail is just as useful as the web, and can be used for lots and lots of things. You can read all about e-mail programs and find some good e-mail tips from page 48 onwards.

A **newsreader** is a program used for reading and writing articles on **Usenet**. Usenet is a collection of thousands of what are called 'Newsgroups', which are actually more like discussion or debating clubs, each of which concentrates on a particular subject. Read about how to use newsgroups on page 55.

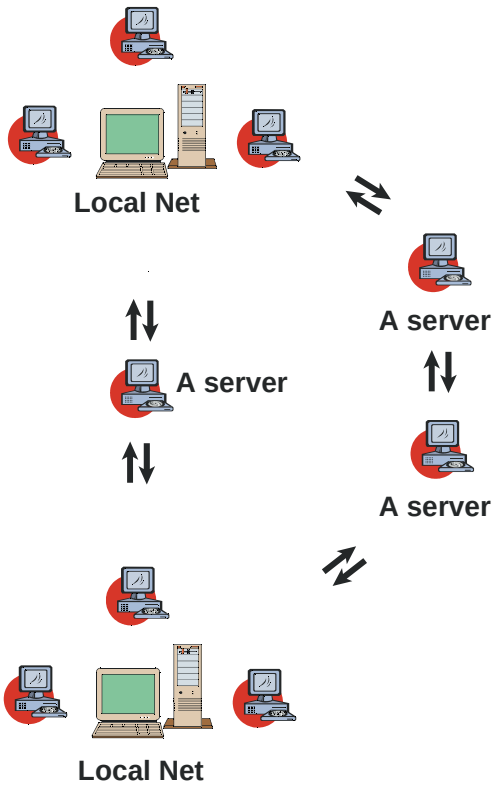
You can also talk (**chat**) with other Internet users. This can be done in huge, complicated, three dimensional worlds, or using simple text based programs. Read about chat on page 59.

But no matter how fascinating you find the Internet, don't forget that technology has both its up and down sides. Read some good advice, pause and think about what you and others are doing, and what they can find out about you, and form your own opinion on page 63.

And finally, on page 65, you can find a glossary with explanations of many of the technical terms you will encounter when you are learning about the Internet, together with a list of country codes, which are often part of e-mail and web page addresses.

What is the Internet?

The Internet is a global network of computers. There are many different types of computers on the Internet – PCs, Macintoshes, and others – and many of these computers are parts of smaller networks, which are also just as varied. The Internet is based upon a common language that allows all these computers to talk to each other.



Besides this common language, the Internet is actually no more than a huge collection of cables, computers and software. These computers are connected together in a continuous net. Most of the physical connections consist of optical cables or telephone lines that are either bought or leased from telephone companies. In some cases signals are transmitted via satellite links.

It is difficult to find the Internet in the physical world. Many of the connections are also used for other purposes, like ordinary voice telephone calls. And many of the computers are only attached to the Internet occasionally. The easiest way to understand the Internet is to use it.

The Internet is a decentralized network of computers or cables with no central connections being so important that if they are put out of action the entire net stops. Even if part of the net stops working, the rest can continue uninterrupted. All communications simply find a way around the damaged area.

You will often hear that the Internet is nothing more than anarchy. In one way this is correct, because there is no one institution that owns it, but in practice a few institutions do control certain aspects of it. The owners of each individual network, usually companies or Internet service providers, make decisions about their own networks. So no one can make rules or regulations for the entire Internet. But owners of individual networks can control their own part of the net. But this does not count for very much, as it is nearly impossible to check that these rules are obeyed.

Even though the Internet really became a mass medium in the middle of the ‘90s, its roots go back to the sixties. The initiative to set it up came from the American defense establishment, which started a research project with the aim of linking different types of computer together in a large network. The autumn of 1969 saw the first two computers on two American university campuses connected together. Slowly, more and more computers were attached to the network. At first there were few things the network could be used for. A file could be moved from one computer to another. As time went by, different ways of using the net were invented. In the ‘90s the use of the Internet has exploded. Now there are millions of computers connected to the Internet, and new ways of exploiting it are being found all the time.

Developments on the Internet go incredibly quickly. As soon as a new or improved program is produced, it can be distributed around the world on the net in a flash. So it is quite usual that within a few months of the release of a new program, it is in use by many millions of people. It has become normal practice that the even the best programs for using the Internet are free, or can be tried out for a period without payment, before the user has to pay for them.

A brief history of the Internet

At the beginning of the 1960s, an American researcher had already developed the theoretical basis for networking computers. Some years later, the Advanced Research Projects Agency, ARPA, a research institute of the American military, developed such a computer network. In October 1969, two computers in two scientific institutes in the U.S. were connected with one another.

After a few months, two more computers were connected to this network, which was called the ARPANet. In 1972 – when the network included 23 computers – electronic mail, or e-mail, was developed. At the end of the 1970s, the discussion groups called newsgroups came into existence.

Between the 1970s and 1983, the ARPANet was connected to further networks. The large new network that resulted from these connections was called the Internet since it connected several networks with one another. Also in this year, an address system was established that allowed computers on the Internet to have names rather than the numbers by which they had previously been identified.

Gradually, more and more countries connected to the Internet, and by 1988, more than 50,000 computers were connected to this network. Until this point, the Internet was used primarily by the academic world. In 1989, an Englishman invented web pages, that is, pages on the World Wide Web. In 1993, a graphical web browser was invented that allowed users to navigate easily from one place to another on the Internet. Thanks to this invention, more and more people outside of the academic world began to use the Internet – such as entrepreneurs the world over, who set up web sites and used electronic mail. At the beginning of the year 2000, there are more than 200 million Internet users, and on the web it's possible to find information of every kind, shopping opportunities, online games, old and new friends – or you can take advantage of investment and banking capabilities, hear music and radio programs, see TV programs and films, and much, much more.

What can the Internet be used for?

Today there is a tidal wave of programs for the Internet, which offer you innumerable ways of using it. So there is no 'right' way of using the Internet, but many different ways, depending on your interests and needs. However, no one can do without the two most important uses: e-mail and the World Wide Web. E-mail is electronic mail between users of the Internet. The World Wide Web is a huge collection of pages, all mutually interconnected with each other. These pages can contain text, pictures, films, sound and much more. Using the web is a bit like flipping through a huge book that has been written by millions of authors.

As well as these two, there are many other options. The Internet is home to many thousands of programs that users can fetch and use on their own computers. The Internet also allows users to talk to each other like an ordinary telephone, or by using written messages. And it also contains 'newsgroups' where users can discuss (in writing!) many different subjects.

Because of all these different uses, the Internet can be perceived in many ways. Some may see it as a huge library, in which they can wander around, others may think of it as an enormous notice board, which lets them exchange messages with the whole world. Or it can be seen as a huge hard disk, full of free programs and files. Or maybe it is an improvement on the postal service, or the biggest shopping center the world has ever seen!

Myths

There are many myths about the Internet. The biggest is that "the Internet is full of pornography, bomb making recipes and Nazi propaganda". Nothing could be further from the truth. By far the largest part of the Internet has nothing to do with pornography or propaganda, and, unless you are specifically looking for these things, you will not find them. There is no reason to stay away from the Internet for this reason. But remember that the Internet mirrors the interests of its users, and with over 100 million users spread around the world, it is obvious that you will find things that you disagree with, find boring, or a waste of time.

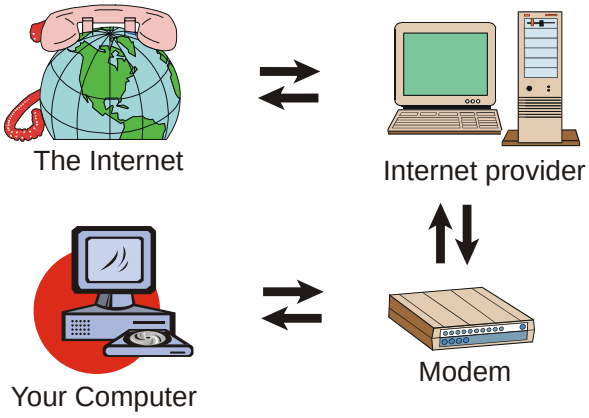
Another myth is that 'the Internet is owned by the USA'. It is correct that the Internet started in the USA, and that the American part of the Internet still dominates. But as a consequence of the decentralized nature of the Internet, it is impossible for any country to 'own' the Internet. It consists of many networks, each of which is owned by some country, company, or other organization. So America cannot make rules for use of the Internet outside the American part of it.

A third myth is that 'all information on the Internet is available to everybody'. This is far from the truth. There are masses of information that can only be retrieved if it is paid for, or if you have permission to see it for some other reason.

And luckily, it is also a myth that "Internet users are all socially maladjusted and sad computer freaks, with nothing better to do with their time." These days, men and women, old and young people are using the Internet.

How can I connect to the Internet?

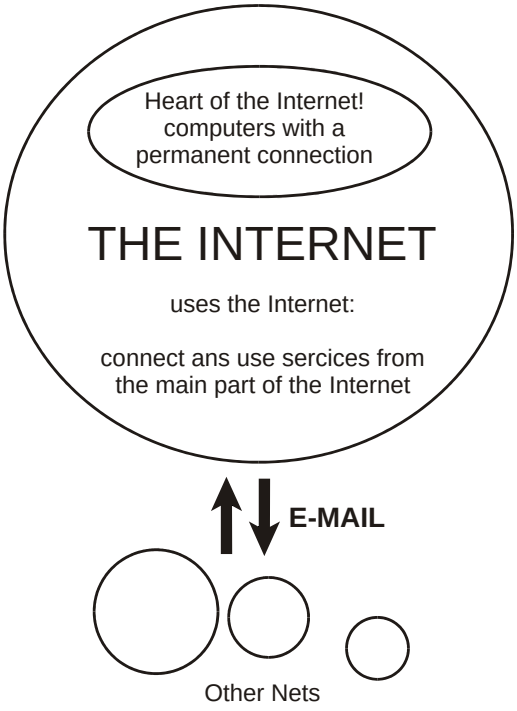
There are several different ways of being connected to the Internet. At its heart are the computers that offer some service or other to other Internet users. These computers are a permanent part of the Internet. They are connected to the net 24 hours a day, so they can always be used. These computers are called *servers* or *hosts* and are usually owned by companies or organizations. Servers can contain web pages, transport electronic mail, or carry out a number of other functions.



The majority of computers are not servers, but computers that are only connected to the Internet when the user wishes. These computers do not contain anything that other users can access. By far the largest number of private Internet users are in this group.

To use the Internet in this way, you need to attach a *modem* to your computer. A modem allows a computer to communicate with another computer using the telephone system. Via your modem you call your Internet service provider (ISP), which is a firm you have paid to give you a connection to the Internet. If an ordinary telephone does not give you a fast enough connection, there are many other options: ISDN, ADSL, cable modems that connect via cable TV, satellite connections or even a permanent Internet connection. All of these give much better and faster net access than is possible via an ordinary modem.

So there are many different ways to be 'on the Internet'. Some have a direct connection and offer various services to users, while others connect when they want to use it.



Nobody knows exactly how many people have access to the Internet, but estimates set the figure to be well over 100 million world-wide. Nearly every country in the world can access the Internet, and using a portable computer and satellite telephones, it is possible to access the net from just about anywhere on earth. It has now become normal for expeditions to Mount Everest to com-

municate with the rest of the world via the Internet.

Computers

All types of computer use the Internet: PCs, Macintoshes, UNIX machines, and many others. One of the best things about the Internet is exactly this, that it allows all these different types of computer to talk to each other. There is usually no great difference between being on the Internet using a PC or another type of computer, so this booklet will be of value for anyone who has an interest in the Internet.

Most types of data available on the Internet can be understood by all computers, no matter what type they are. So there is no problem in sending electronic mail between different types of computers, or seeing the same web pages on all types of machines.

Developments

Even though it has become much easier to be an Internet user over the last couple of years, you can still run into problems. Programs, standards, modems, and everything else change at such a speed that there are plenty of chances for something to go wrong!

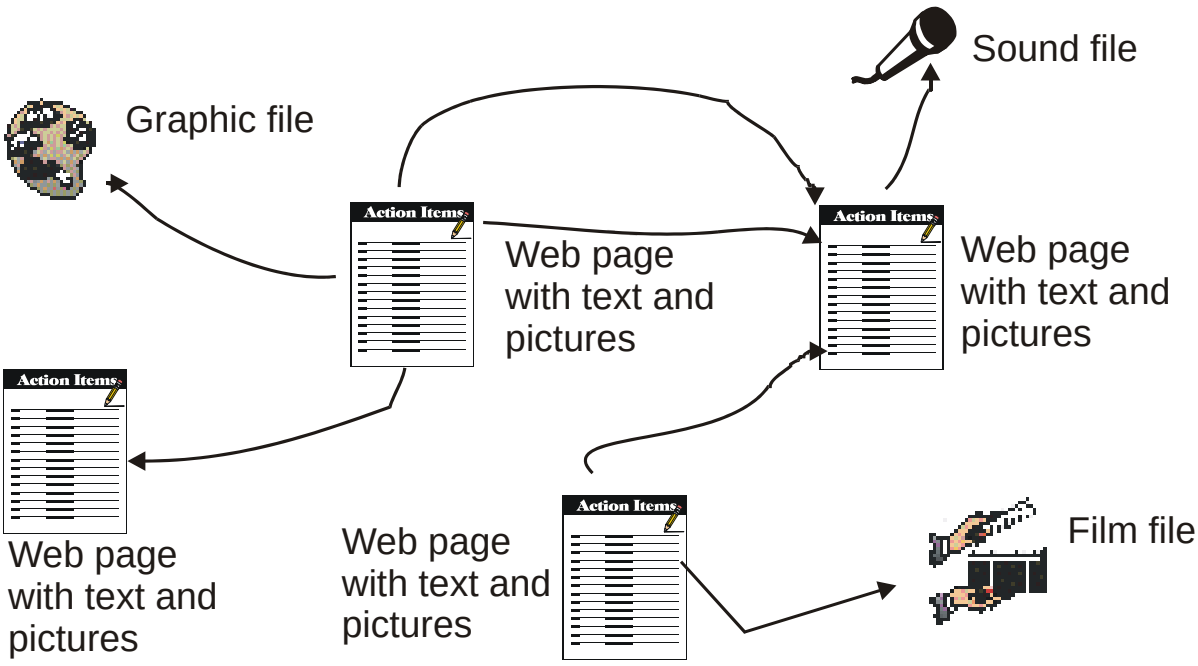
What is the World Wide Web?

The *World Wide Web* (usually known as '*the web*') is an enormous number of what are called *web pages*, which are spread around thousands of servers all over the Internet. These web pages mainly contain text and pictures, but they can also contain sounds, films, animations and programs that can interact with the user.

The special feature of web pages is that they can contain references to each other, which allow the user to jump from one page to another, even though the pages may be in completely different physical locations around the world.

When you follow such a reference - usually by clicking the mouse on the relevant place on the page - you jump to a new web page. This principle is called *hypertext*. References are called *links* or *Hyperlinks* because they link web pages together.

To be able to use the web, you need a program that can fetch web pages, display them, and allow you to move from one page to another. This type of program is called a *Web browser* or just a *browser* (as it allows you to browse the web). The Web browser must be installed on your own computer.



When you work with your browser, it feels as though you are moving around the world visiting web pages. In fact, it is not you going to the different web pages, but them coming to you. Your browser is making sure that the web pages you want to see are brought to your computer where they are displayed on your screen.

The two most used web browsers are *Netscape Navigator* and *Microsoft Internet Explorer*.

Web pages

There are more than 300 million web pages on the Internet that are distributed among hundreds of thousands of servers throughout the world. Some of these web pages are rarely changed, if at all, while others are updated continuously. Most web pages display the same content to all users, while others are altered for each situation or each user.

A web site is a connected collection of web pages, all belonging to one particular company, organization, or person. A web site always has an entrance page, presenting the site and working as a starting point for navigating around the pages on the site. This kind of entrance page is usually called a *home page*.

Home page is also used in another sense: to designate the first page that a browser shows when it starts up. This page, however, is more often, and properly, called the *start page*.

A web page does not look the same for every user. Its appearance depends upon:

- The user's computer. The size of their screen and the different options they have chosen can have a huge effect on the appearance of a web page. Colors and objects like buttons and text fields can appear different according to whether the computer is a PC or a Macintosh.
- The preferences chosen in the web browser. The user has a lot of control over how a web page should be shown. They can choose between different colors and fonts (letter styles), and specify that pictures should not be displayed. They can also alter the height and width of the browser window, forcing the web page to be displayed within these measurements.
- Web browser. The two most used browsers are Microsoft Internet Explorer and Netscape Navigator. There are certain differences between these two browsers, which mean that a web page does not appear the same in both. There can also be a huge difference between the appearance of a web page in a new and an old version of a browser.
- Web browser accessories. There are certain special accessories for browsers, called *plug-ins*, which allow the browser to display special types of file, which they otherwise could not show. There can be a huge difference between the appearance of a web page depending on which plug-ins the user has installed.

Web pages come from a web server

When you tell your web browser to display a page, it connects to the *web server* containing that particular page. A web server is a computer containing web pages and a program that administers users' access to them.

The browser asks the server for a particular page, and if the server has that page, it is sent from the server to the browser. In technical terms, the web browser *downloads* the web page. As the elements that make up the page (text, pictures and so on) arrive at the browser, it displays them. As soon as everything is collected, the connection to the server is broken. If the user wants to see another web page on the same server, the browser connects again. Several users can collect the same web page simultaneously without any problem.

All web pages have an address

To be able to see a particular web page, you have to be able to find it among the many millions of others spread around the Internet. This is done using a *Uniform Resource Locator* (always abbreviated as *URL*). As the name suggests, a URL is a standard way of describing the location of a particular resource (like the position of a web page). So a URL is an address. Here is an example of an address:

http://www.lego.com/gb/login.html

The first time you see a URL, it looks very confusing, but in fact it is built up very logically. It contains the abbreviation http followed by the name of the computer containing the web page, and then the name and location of the page.

http://	This is the name of the *protocol* used to send the information between the server and your computer. A protocol is a set of rules specifying how communication between computers should take place. Ordinary web pages are sent using *HyperText Transport Protocol*, so most URLs start with the abbreviation *http*. The name of the protocol is always followed by a colon and two slashes (//). As nearly all addresses start with *http://*, it is often left out when an address is given. It is unnecessary to include it when you type an address in most browsers.
www.lego.com	The address of a web server. Most computers that have permanent access to the Internet -- so this includes web servers - have an address consisting of a number of words, separated by full stops (called *dots*). In this case, the address of the computer is *www.lego.com*. See below for how the computer's address is built up.
/gb/	The position of the web page's folder (directory) on the server. Names of folders are separated by slashes (not back-slashes as in DOS). In this case, the web page is contained in a folder called *gb*. There is a difference between large and small letters.
login.html	The file name of the web page. The *.html* extension shows that it is just an ordinary web page. Most web pages have either a *.html* or *.htm*. extension. This stands for *HyperText Mark-up Language* and shows that the file is in that format. There is a difference between large and small letters, so `login.html` is NOT the same file as `Login.HTML`.

Computer addresses

Computers with a direct connection to the Internet have an address consisting of two or more words or abbreviations, separated by dots. In the URL shown above, the computer's address looks like this:

www.lego.com

Here are some more examples of addresses of computers:

www.dr.dk

imv.aau.dk

herx1.tat.physik.uni-tuebingen.de

www.cnn.com

home.netscape.com

www.	Addresses are read from left to right. The first part of the address is the name of the particular computer. As many computers on the Internet are part of the World Wide Web, it is very usual that they are called `www`, but there can also be other names, as shown in the examples above.
lego.	The next part of the name shows which organization owns or operates the computer. There is usually only one part, but sometimes there are several parts, separated by dots to localize the address still further.
com	The last part of an address is usually a country code., showing in which country the computer is. Here are some of the most common country codes: `dk` Denmark — `at` Austria `se` Sweden — `no` Norway `de` Germany — `nz` New Zealand `fr` France — `jp` Japan `fi` Finland — `uk` Great Britain `ca` Canada — `kr` Korea `au` Australia — `ch` Switzerland You might imagine that the country code for the USA was *us*. And in some cases it is, but in general another system is used in the USA. As the Internet was invented in the USA, they do not feel that they need a country code. Instead they use a number of three letter extensions showing what type of organisation each computer belongs to. `com` Commercial companies `edu` Educational institutions, like universities. `gov` The American government `mil` The American military `org` Non-profit organisations `net` Organisations engaged in the maintenance of the Internet. The *com* and *org* extensions are not limited to the USA, but can be used by anyone who can afford to pay for them. So these addresses can actually be anywhere in the world, even though the majority of them are American. There is also the extension `.int` specifying an international organisation.

Guessing an address

Even though web addresses can appear cryptic at first glance, in practice they are very easy to work out. First, they always start with http:// so there is no need to remember that. And by far the majority of American and international firms' addresses follow the following pattern:

`www.companyname.com`

So you can usually guess the address. IBM is found at `www.ibm.com`.
Coca-cola is at `www.cocacola.com`.
Lego is at `www.lego.com`.

In some cases, the www prefix is not necessary, as in `ibm.com`.

Web sites

A web site is a collection of pages centred around a particular subject, company, organisation, service or person. A web site can be many thousands of pages, or very few. The web pages are usually all located on one web server, and there is always a home page. This home page is usually some sort of welcome, perhaps containing a map of the entire web site together with buttons or links to navigate around the pages, and information on who owns the site. The home page is usually the page that is sent if you just type in the address of the web server without giving a file name.

Some examples of web sites include Microsoft at (`www.microsoft.com`), Buckingham palace (`www.royal.gov.uk`), and the web directory Yahoo (`www.yahoo.com`).

Special Country Codes

There are countries that have such practical country codes that they can sell them to interested parties for a tidy profit. In general, this applies to small, financially weak countries where the Internet is not used very much – but they have a country code that in English or another language has a particular meaning. This applies, for example, to the Tonga Islands, with their code *.to* – which allows the creation of addresses like `come.to` or `go.to` – or to the tiny country Nuie in the South Sea -- *.nu* is ideal for Scandinavian addresses like `www.pension.nu` since it means "now." If you see web a address like this, it probably doesn't apply to a web site in that country, but to a web site that was registered there because of the meaningful name. Further countries that are trying to make money by selling their country codes are Turkmenistan, with *.tm* – the abbreviation for trademark – and Tuvalu, also in the South Sea, with *.tv*.

How to get on the Internet

This section is for those readers who cannot access the Internet yet. Setting up a working Internet connection may seem very complicated, but it can be split up into a number of easy to understand steps.

1. You should have a suitable computer, then:
2. Choose a method of connecting to the Internet: a normal modem, ISBN, cable modem, or DSL.
3. Choose a suitable Internet service provider.
4. Set up you Internet access.

Here is each step explained more fully:

The Computer

Of course the first thing you need is a computer, like a PC or a Macintosh. In theory, you can access the Internet with other types of computer, but in practice doing so is likely to be problematic as it will probably be difficult to find the appropriate software.

Ideally you should have a graphical user interface on your computer. For the PC this usually means that you are using either Windows 95/98 or 2000. As with everything else, the bigger and faster your computer is the better, but you do not have to have the newest and smartest machine. As long as it is powerful enough to run Windows, you will enjoy yourself roaming around the Internet.

The connection to the Internet

You'll need a device that can connect your computer to the Internet. This can be a normal modem or a so-called ISDN modem – both of these devices use the normal telephone connection. But you could also use a so-called cable modem, which uses the TV cable network. Finally, there is the DSL technology – in this case the telephone connection is specially configured so that it offers you a particular and extremely fast connection to the Internet.

The normal modem

A modem is a device that allows your computer to use the telephone system. A modem is an absolute necessity because the signals from the computer need to be changed into a type that can be transported over telephone lines. A normal modem is also called an analog modem, in contrast to other types of modems that use digital technology, like the ISDN devices described below.

The connection with the Internet is activated when your computer calls the telephone number of your Internet provider. This is how your computer gets connected to the provider, which is immediately connected to the Internet.

While you're connected to the Internet, you can't use the telephone, since your modem is using the telephone line. Also, nobody will be able to call you.

Modems come with different speeds, measured in *BPS*. A slower modem means a larger telephone bill for the same result.

56.600 BPS modems are the fastest. If you are buying a modem today, this is what you should get. Also make sure that it is a V90 modem. There used to be two standards for 56.6 modems, K56Flex and X2. The new standard V90 is a combination of these two types – and it's now recognized internationally. You can get such a modem for relatively little money.

33.600 BPS modems and *28.800 BPS modems* are not such a good buy, but if you already have one, then you will find it fine to use. Modems at this speed are a little slower than a 56.600 BPS modem

*14.400 BPS-modem*s have not been sold for years, but maybe a friend who has upgraded has given you one. Sorry to say this, but the best thing you can do is throw it away. A 56.600 BPS modem will pay for itself in a matter of weeks in the form of a lower telephone bill.

There are two types of modem. An *internal* modem is an expansion card that is built into the computer. An *external* modem is a small box that sits next to your computer. Both types of modem have a cable to a plug that should be put into the telephone socket in your wall.

External modem

If you do not want to muck around inside your computer, then it is best to buy an external mo-

dem. These have the advantage of portability; you can move them to another computer if you want to.

The modem should be attached to your wall socket (the plug from your ordinary telephone can stay connected at the same time) and to the connection on the back of the computer that matches it (there should only be one).

A row of small lights on your modem keep you informed about what is happening with your connection. In fact, you will hardly ever need to see these, so your modem can be put under the table or behind your monitor.

Internal modem

An internal modem means fewer messy cables, but is more difficult to install. They are often a little cheaper than an external one. You will have to open your computer and plug the modem card into a free expansion socket. You only need connect one cable, the one from the modem to the telephone socket on the wall.

A normal modem has the advantage that it is cheap and can be used by everyone who has normal telephone service. Its disadvantage: it's slower than the modem types described below, and while you're using it, you can't use your telephone.

ISDN modem

An ISDN modem is a piece of equipment which, if you have an ISDN subscription, can be an alternative to an ordinary modem.

Using an ISDN modem and line gives you a much faster Internet connection, and most systems also give you two telephone connections, so you can still use your ordinary telephone to call out or receive calls while you are on the Internet.

ISDN modems are more expensive than ordinary modems, and an ISDN telephone line costs more than an ordinary (analogue) line.

Cable modems

More and more cable TV companies are offering Internet access via the cable that brings your TV signal into the house and a cable modem, which connects your PC to this cable. Your cable-TV signal has nothing to do with your telephone line, so you can call in and out while you are on the Internet. This type of connection is much faster than either ordinary or ISDN modems, and no more expensive to use, even though it may be expensive to set up. If the service is available in your area, it is well worth investigating it.

When you open your Internet connection, it runs from your computer into the cable modem and then over the cable network to the Internet provider, whose concern is the further connection to the Internet.

Often, it's the case that you won't have to buy the cable modem, but instead, you'll rent it as part of your Internet subscription with the cable network provider.

The advantages of a cable modem are its high speed and the fact that it leaves your telephone connection free. The disadvantage is that you must have a contract with a cable network provider; most of the time, there is a regional monopoly, so you'll only be able to find one provider.

There are also cable connections that only do the deed "halfway." Here, you get data over the cable from the Internet, but you must send your own data to the Internet using a normal modem. This solution is not nearly as good as a true cable solution, especially as it requires both normal and cable modems. Don't choose it unless you really need a fast Internet connection and you don't have any other choice.

ADSL-modem

DSL (*Digital Subscriber Line*) is a new type of Internet connection, which is much faster than either analog or ISDN. The DSL technology modifies the telephone connection so that it becomes a new kind of connection that can process telephone calls and fast Internet connections simultaneously. A DSL connection requires a special DSL modem.

Not everyone can use DSL. In general, only customers who don't live too far from the central telephone station can use it. It's unlikely, therefore, that you'll find DSL connections in rural areas.

There are different versions of DSL connections: ADSL (Asynchronous Digital Subscriber Line), SDSL, HDSL, etc. However, the details are not

so important – what's important is which products are available where you live. Sometimes, these technologies are called xDSL – the x signifies that you're talking about one of these many different technologies.

A DSL connection means a very fast connection from the Internet to your computer, but often, the connection from your computer to the net is somewhat slower. This is not so important as you might think, as most of the traffic is from the net to your computer.

In contrast to the other types of connections, a DSL connection is permanent. That is, you're on the net as soon as you turn your computer on – you don't have to dial up an access provider. There are no further telephone charges, but for that, the DSL subscription is quite expensive. It's also possible that there will be a charge for traffic over and above a certain limit – whatever goes over that limit must be paid for separately. So if you fetch many programs or a lot of film and music files from the Internet, your usage will probably drive up the subscription charge.

DSL has the advantages that whenever your computer is turned on, you're on the Internet, and you don't have to pay any telephone charges. The disadvantages are that it may not be offered where you live, and installation and subscription charges tend to be quite high.

Fixed (dedicated) Internet access.

The best Internet connection is a fixed or dedicated line. Instead of using the telephone or TV cable, you install a cable that connects you directly to the Internet. You never have to 'connect to the Internet'; as soon as you switch on your computer you are on. This is the type of Internet connection most businesses use. There are no charges per minute, nor any hassle with using the telephone at the same time.

If you forget about the price, there is no doubt that a dedicated line is better than any other alternative. Unfortunately, such lines are usually very expensive, both to set up and in monthly charges, so usually only commercial operations can afford them.

Individual users are better off with a DSL connection – if they can get one – since it offers nearly all of the advantages of a dedicated connection.

What should I choose?

For most people, the choice is simpler than it might seem from what you have just read. In practice, the majority of people can only choose between an ordinary, analog modem or ISDN. ISDN is better, but a little more expensive. If you surf the net a lot, ISDN is a good choice. The third alternative is a cable modem, and if this option is available in your area, then use it. It is may be slightly more expensive to set up than analog or ISDN, but it is much better to use.

At the time of writing a dedicated line is not a realistic alternative for individual users, but this could easily change, so keep your eye on the news.

Internet service provider

The next step is an Internet account with an Internet service provider (ISP). An Internet account is like your telephone account: you pay a firm to provide you with a connection to the Internet, just as you pay a telephone company to provide you with a telephone connection.

Today, there are many ISPs, which can vary significantly in price and quality.

If you're using a cable modem, you probably won't have a choice between various providers – in this case, the local cable company is the only possible provider. The question then is whether it's worth the price.

If you're using DSL, then your computer is permanently connected to the Internet – at least whenever it's turned on. Only a few providers offer this type of connection – so a price comparison shouldn't be too difficult. When making your decision, consider the subscription price, connection speed, and potential restrictions on data traffic.

If you're using a normal modem or ISDN, then you have many possibilities to choose from – beware, it's a jungle out there!

A number of ISPs are also telephone companies, and use their own lines for Internet access, so you use them instead of your usual telephone

company. In practice this means that you use a special number prefix in front of the number you call for your Internet access. You pay a special 'Internet' minute charge for use of the line, and get a bill from your ISP instead of the telephone company. This charge is usually lower than the price your ordinary telephone company would have charged you for the same amount of telephone usage.

Some ISPs offer you totally free Internet access. But then you *have* to use their lines to call up the Internet. This is actually an excellent way of doing things for some people. It costs you nothing to get going, you can change your ISP any time you like, and you have only paid for the time you have actually spent on the net.

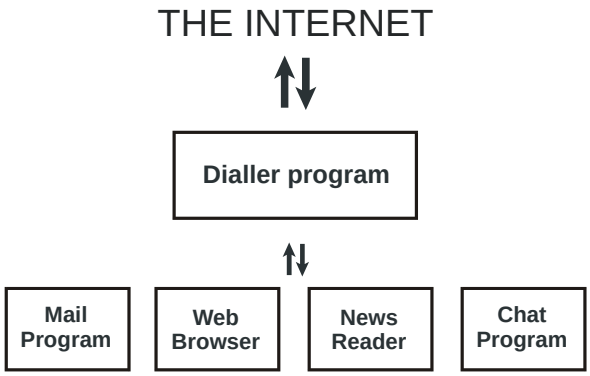
The price is not the only thing to be taken into consideration. It is also a good idea to see what your subscription includes. Does your ISP supply any programs? Is there a manual? Is there telephone support? If you do not already have a modem, it can be a good idea to buy a package that includes modem, Internet account and a program pack. And it is always a good idea to ask others about the experiences they have had with their ISP. Some have too few modems and a low capacity, making it difficult to connect to them, and slow to use the Internet when you eventually do get through.

Dialer programs and Internet programs

Internet programs are the programs you use when you are on the Internet, like your browser which you use to look at web pages, and your e-mail program which you use to read your e-mail.

If you have Windows 98, 95, or 2000, then you probably already have all the programs you need to get going. Your ISP may also give you a CD-ROM with some of the same programs. When you need other programs, you can find them yourself on the Internet, and download them to your own computer.

The dialer program is a program that calls up over the telephone lines and connects to your ISP. The program looks after all communications between you and the Internet, and sits like a layer between the net and the Internet programs you use while you are connected to the net.



In general, you set up your Internet connection by activating an installation program that came from your provider and entering some information from a letter that your provider sent you – which might well have come with the CD.

Manual Installation

If you didn't get such an installation program, you can perform the installation manually.

If the dialer program is to fulfil its task, you'll need some information from your ISP. Here's the information you'll need:

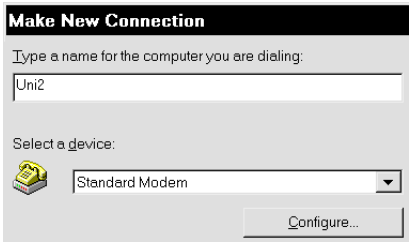
- Your ISP's telephone number; the number your dialer should ring to access the Internet.
- Your user name. This is the name used to identify you from all the other customers using the same ISP.
- Your password. A password is a code, not necessarily a word, which proves to your ISP that you really are the person you say you are. In fact it protects you more than anyone else, as it stops others from calling up and identifying themselves as you by giving your user name. So your password should be kept secret (but make sure you can remember it).

And that should be enough for now. All this information should be in a letter from your ISP. If it is not, call their support line and ask.
In some cases, you may find that you need a little more information from your ISP before your dialer will work, but we will come back to that later.

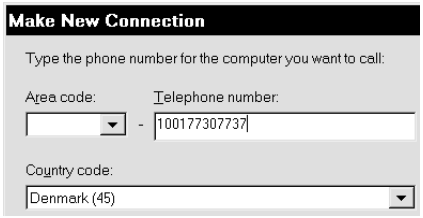
The first time you use the Internet, you will have to create a special file containing a few details

about your Internet connection. If you are running under Windows 95/98, here's what you do:

1. Double Click on the 'My Computer' icon on your desktop.
2. Double Click 'Dial up Networking' icon.
3. Double Click 'Make New Connection'.
4. Give your connection a name. Call it the name of your ISP.



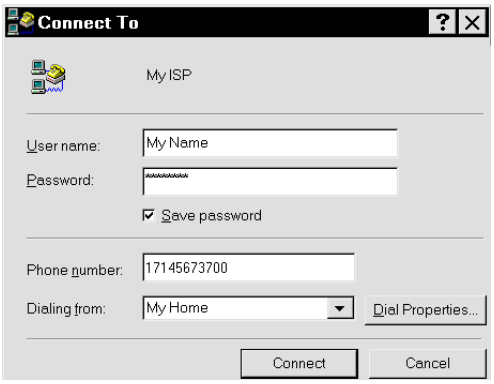
5. Enter the name of your ISP. If you use their special lines as well, don't forget to add any prefix in front of the telephone number. There is no need to use the 'area code' field, Windows is produced in the USA, and works best with European telephone numbers if you enter the entire number in one field.



6. Click **Next** and then **Finish**. That's it! Your Internet connection is now ready to use.

On the net

Now you are ready to get onto the Internet. Start your dialer program by double clicking on the icon. A dialog box appears where you should enter your user name and password:



Wait for 10-15 seconds and then you will see a message saying you are connected. You will probably have heard your modem dial out and talk to the ISP's computer with some particularly noisy whistling sounds. Don't worry, as soon as your connection is secure it all goes quiet. You will not need to use your dialer again this session.

Now that you are online, you can use your other Internet programs, like you web browser or mail program.

Some dialers start automatically when you activate another Internet program, like your e-mail program or browser. In other words, you do not have to start your dialer when you want to go onto the Internet, you just start the program you want to use. But if this is the case, you should always remember to disconnect from your ISP when you are finished. Remember that there is no problem in using several different Internet programs while you are connected.

While you are connected, you will be paying ordinary telephone charges to your telephone company or ISP. How much this is depends entirely on who your telephone company, or ISP, is.

But there are ways to save. Choose the cheapest telephone company available if you live in a country where there is a choice. Investigate all the different special offers and reductions available (often going under names like 'friends and family' or 'favorite numbers'). If you use the Internet a lot, a few cents a minute reduction can quickly save you a lot of money.

The Web browser

You need to use a web browser to be able to move around the web. There are many different web browsers, but the two most common are *Netscape Navigator* (referred to simply as Netscape) and *Microsoft Internet Explorer* (just called Internet Explorer, to differentiate it from Explorer, the file manager in Windows95). In this booklet, I am using Internet Explorer 4.0, and the illustrations come from that program.

If you use Netscape, there will be some differences in the menu names and other details, but in general things will be the same. I would suggest that you use the newest version, whichever browser you use.

Internet Explorer

At the time of writing, the newest version is called *Microsoft Internet Explorer 5.0* and it is available in most languages. (Note there is both an American English and international English version). You can choose from among several versions: one contains the browser alone, a standard version also includes an e-mail program, or there is a full version, which is bundled with a number of extra programs.

The Windows 95/98 version is not just a web browser – it changes the way you manage your files. I will not be writing about this function in this booklet, however.

Netscape

The latest version of Netscape is called *Netscape Navigator 4.0*, which has also been released in several different languages. The program is found in a full version (*Communicator*), which includes e-mail and several other programs. It can also be found as a simple browser (*Navigator*).

Even Communicator can now be used free by everyone.

Where to find your browser

You should get a web browser from your ISP when you open an account. One might also have been installed on your computer when you bought it. But if that was the case, it is probable that it was an older version, no matter which browser it was. You can start by using the browser you have, but when you have read the section on retrieving files from the net you can find the newest version from both developers at the following web addresses:

`www.netscape.com`

`www.microsoft.com/ie`

How to use your web browser

The purpose of a web browser is to display web pages and allow you to jump between them. There are no real differences between the way different web browsers work. Some have more options than others, but the general principles are the same. These principles are described on the next few pages.

The title bar shows the name of the web page you are on. (here Yahoo!)

The File menu is used to save the page to your own hard disk, print it out, etc.

1. The button bar, full of useful buttons which should be used regularly.

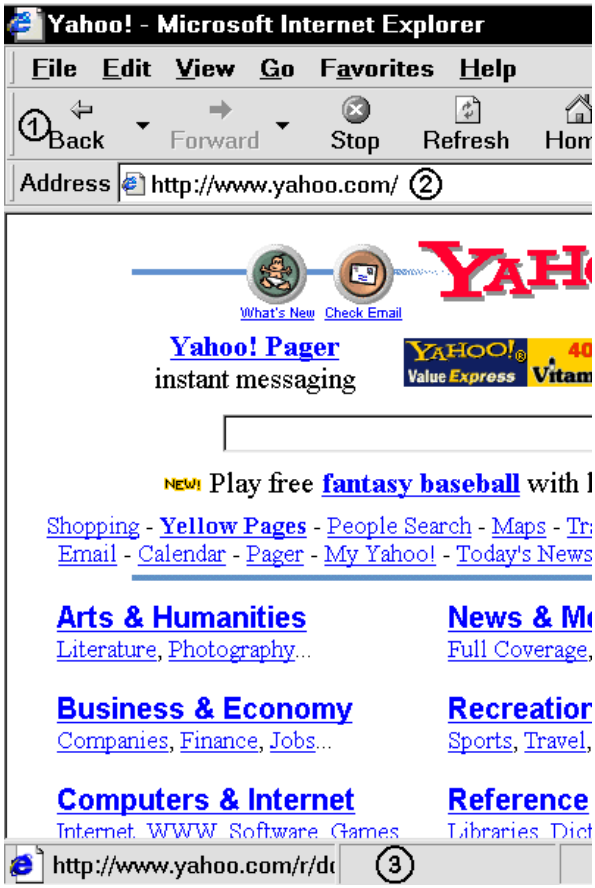
2. The address field displays the URL for the page you are on. You can see where you are, and often guess your way to more information. You can also type an address in this field and press Enter. Your browser will then download the page you have asked for.

(optional) A hyperlinks bar starts off containing a number of buttons to web pages which the browser developer 'recommends'. But these can be altered to point to pages you want, letting you jump to them with a single click.

The page itself is displayed in the big window (this illustration is of the popular web directory Yahoo). Web pages can contain text, graphics, films, sound, buttons, text fields and much more. The words which are hyperlinks are in blue and are underlined, and as you move your mouse over a link the pointer changes to a hand. A link poiting to a page which you have already seen will be in lilac, not blue. This simple change shows you where you have been.

The key symbol (not shown in the picture) shows the security status of the document. Most documents have a broken key symbol, showing that they are not especially secure.

3. The status line shows what the program is doing, whether it is looking for a server, downloading a web page and so on. When you point at a link using the mouse it displays the URL the link points to. You can see if the link is on the same web site or somewhere else in the world. The URL and name of the file can often suggest what the page is about.



The mouse lets you choose any link in a document and click on it. Most underlined words are links, but pictures can also be links. You can see this if the mouse pointer changes to a hand when moving over them.

6. The browser icon shows whether the browser is downloading a web page. When it is moving, a web page is being transported to your computer. When it is still, the browser is finished.

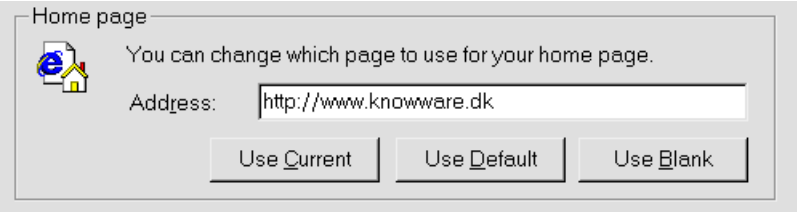
5. If the web page is larger than the window can display you can scroll up and down or to left and right. You can also change the window's size. The text in the web page will automatically adjuct itself to the window’s size.

Toolbar

The buttons on the toolbar are for regularly used functions. Those you will click on most are:

Your web browser remembers which web pages you have visited. A click on Back jumps back to the previous web page displayed. Even though you may have visited hundreds of web pages, your browser remembers all of them, so you can click all the way back to your start page, the very first page you opened when you started the session. Forward lets you jump forward again.

A click on Home takes you back to the system's *home page*, the web page the web browser started with. You can make your own choice of which page you want as a home page. Do this in Internet Explorer by opening the page you want, then clicking on *View*|*Internet options*|*General* and clicking on the *Use current* button.



A home page should be a good jumping off point for exploring the web. As a default, most browsers are set to a page chosen by your ISP or the company that produced the browser (Netscape or Microsoft). It will usually be an advantage for you to find another start page, either one that covers your interests, or a good web index (read about web indexes and search machines on page 27).

When you click on Reload, your web browser will download the current page again. You can use this function if the page has not been displayed correctly the first time. (maybe something went wrong during the download, or you pressed Stop before the page was completely downloaded.)

Stop is used to stop the browser downloading any more of a page. Maybe you have changed your mind about following that particular link, or it is downloading so slowly that you cannot be bothered to wait any longer. When you stop downloading, the browser displays everything it has managed to get. You can follow the links on that part of the page you have, even though it is not complete. You can also use Back instead of Stop, which will stop the download and return to the previous page simultaneously.

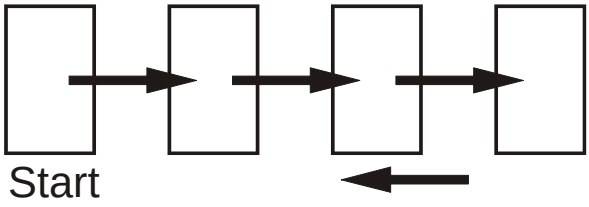
Status line

While your browser is busy downloading a web page, there is lots of activity in the status line at the bottom of the browser window. It is here that the browser tells you that it is finding the web server, then that it has found it and is connecting to it, and that it is downloading the web page you have requested. You do not need to keep an eye on what the browser is doing, but as you become more and more used to using your browser, you can use this information to work out where in the download process the browser is.

When you move the mouse pointer over a link on a web page, you can see what address it points to on the status line. This will show you if it is an internal link on the same web site, or a link to another web site.

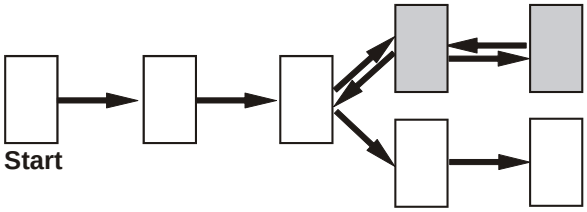
Your browser remembers where it's been

The browser remembers all the pages you have visited since you opened it. These web pages are like beads on a necklace, which you can work your way back along by pressing the Back button:



If you want to return to a web page a long way back in the chain, you do not have to use the Back button. Instead you can choose the *File* menu. This menu lists web pages in the order you visited them. You can return directly to one of these pages by clicking on the title. You can also return directly to your start page by clicking on the Home button.

But unfortunately, this list of web pages is incomplete. The browser only remembers the direct path from your current page to your start page. If you have used the Back button and then moved off in a different direction (by following a link or typing in a new address), then the pages you visited during your diversion will not be included on the *File* menu and you cannot return to them by using the Back button. The drawing illustrates two pages (marked in grey) that can no longer be reached using the *File* menu or the Back button, because the user has moved in another direction.



By default, your browser shows all links on a page in blue. If you have followed a link, the blue text will change to lilac, not only on the web page you came from, but on all web pages containing a link to that page. This is a quick way to see if you have already visited a page that a link is pointing to. The browser remembers the pages you have visited for a certain number of days, after which the text returns to blue. These are the default colors – but many web sites change them so that they match the web site design better.

When the browser is closed and re-opened, it starts afresh and you cannot use the Back or Forward buttons, or the *File* menu to visit pages you visited last time you used your browser. However, it still remembers the pages you have visited. You can see a list of all the pages you have visited over the last 20 days by clicking on the *History* button. This list shows every single page you have visited over this period, including those shown in grey in the drawing above.

The pages are sorted in the date order you last visited them, and you can go to any of them by double clicking on its entry in the list.

Your favorite pages

If you want to be sure that you can return to a web page after it has been deleted from the list of visited pages, you need to add it to your personal list of favorite pages. When this is done, your browser will remember the web page's address and title, so you can click your way to it at any time without having to remember its address. The web browser never deletes your list of favourite pages.

When you are at a web page you want to add to your favorites, choose the *Favorites* menu, and choose *Add to favorites*.

In the dialog box, choose '*No, only add page to Favorites*'. The title of the relevant web page will then be added to a menu that you can display by clicking on the Favorite button again. Click on the title of the web page to go to it.

The list can be edited by choosing *Favorites*|*Organize Favorites*: This lets you delete an entry, change its name, create folders containing web pages dealing with the same subject, etc. etc. Your most visited web pages should be put in the Quick links folder, which is already on your favorites menu. These favorites will then appear as buttons on the Quick links bar, so you can jump to these pages with a single click.

It is a good idea to use this option regularly while you are surfing around the web. 'Add to Favourites' every time you arrive at somewhere you might want to return to. Better to have too

many entries on this list than too few. You can always delete them again. When the list has become too long to manage, divide it up into folders.

Pictures

Pictures on a web page can be links, just like text. In some cases, the entire picture can be the link; in other cases, a picture can contain many different links.

If you want to save a picture on your own computer, right-click (Macintosh: Hold the mouse button down a couple of seconds), then choose SAVE PICTURE AS...

Animations

Web sites can contain so-called animations, that is, short cartoons or pictures that move. Such effects are often used in advertising, in order to make it stand out. Often this is irritating, so you can shut off the animations: choose TOOLS|INTERNET OPTIONS|ADVANCED and remove the checkmark next to PLAY ANIMATIONS. Now the animation will appear as a single picture, and most of the time you'll be missing absolutely nothing by doing this. If you find a web site with an animation that you'd like to see, go ahead and reactivate the animation feature; doing so doesn't take long at all.

Perhaps the most famous animation on the Internet is at `www.hampsterdance.com`.

Frames: Several web pages at once

On some web sites you will see that your screen is divided up into several sections (called *frames*), each of which can contain its own web page with its own scrollbar. Frames make it possible to produce more complicated web pages. For example, there can be a small window containing a contents page and a large window for displaying the web pages themselves.

By clicking on buttons in the contents page, you can move around several web pages in the large window, while the small contents window stays the same.

Pages that contain frames often look as follows: at the top, there will be a frame with the logo of the web site and an advertising banner. On the left, there will be a frame with a menu, and on the right, there will be a frame with the actual content.

Even though there may be several frames on screen, there is still only one address in the address field. If you add a frame-based page to your favorites list, it is not certain that exactly the web page you are displaying will be added. Instead, you can add the frame on its own by right-clicking within its frame and choosing Add to favorites -- though this means that the other frames will not be included.

If you print a page using frames, you should specify whether you want to print out the page as it appears on the screen, or if you want to print out each frame separately (this is only possible with some browsers).

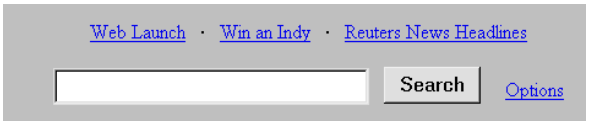
Java: Programs in a web page

Java is a programming language used to write small programs to be included in a web page. Yes, a web page can contain programs (called *applets)*, just like it can contain pictures and forms. Using Java, a web page can contain games, animations, it can let you draw pictures in it, or do many other things. The program is run by the web browser on your own computer.

You need to be a little patient, as it can take several seconds for a Java applet to start after a web page has been downloaded. Badly written applets can crash your computer, but the developers of Java maintain that it is impossible for them to contain viruses.

Forms

Some web pages contain what are called *Forms*. These contain text fields that can be filled out after clicking on them. You can press buttons, click on drop-down menus and so on, and so send information to a web server. In this way, a web page can be used for two-way communication. You can send your address, a comment about the web page, the number of your credit card, a search term, or a chess move. Depending on how the form has been set up, you can type text into fields, put checkmarks into check boxes, and make choices from a drop down menu. Here is a form from the Yahoo web index:



After filling in a form, you will usually need to press a button to send the information. Sometimes you can send the form simply by pressing your Enter key.

It is not the web page itself that receives your input, but a program on the web server containing the page. The program can react to your input and send a new page as an answer, which could be a page containing the results of your search.

Of course, it is only on your screen that the form is filled in. Even though others may have downloaded the same web page at the same time, they get an empty form!

If you send a form, you will normally be shown a warning. This is to tell you that anything you send *could* fall into the wrong hands. This is very rarely a problem, but if you send personal information or credit card details it is worth considering.

Right click

When you click with the right hand mouse button (on the Macintosh you should hold the mouse button down for about a second) on a web page, a small menu is displayed. Use this menu frequently, since it includes shortcuts to many useful commands, some of which can only be accessed with it.

Most of the menu items are only relevant if you click on a picture or a Hyperlink. Instead of jumping to a link, you can add it to your favorites list, for example. This is very practical if you find an interesting link but you do not have time to see what it contains because you are busy doing something else. This right-button menu also lets you save a picture to your hard disk.

Several windows simultaneously

If you choose *File|New|Window* a new browser window opens displaying your start page. This new window is totally independent of the other browser windows, so you can work in several windows simultaneously. You can read some text in one window, while you are downloading a slow-opening web page in another window.

There is no need to waste time waiting for a page if you can do something else while it comes down.

Only your own ability to maintain an overview sets a limit to the number of web sites you have open.

If you want to follow a link, you can do that in a new window by right-clicking and choosing OPEN LINK IN NEW WINDOW. Then you can follow the link and hold open – and continue to read – the page from which you just jumped.

Printing

You can print out a web page by choosing FILE|PRINT. A web page can easily cover many paper pages, and you cannot see how many before you start. If there are frames on the page, you can choose whether to print out all frames separately or just the screen picture as you see it on your screen.

Before printing, however, you should consider whether printing is really necessary. People who are new to the Internet may reflexively print out just about everything since they're so used to reading printed material. But often, printing is unnecessary – the web site will still be there the next time you click to it. Perhaps it has even been updated – so it's even more useful.

Indeed, in some circumstances it's best to print just one page: if you need a receipt for a purchase, for example, or a user name or other information that you'll need later on.

Saving a web page

It is possible to save the text of a web page on your own hard disk. Whether you will save only the text – or pictures and other elements too – is up to you

Many times it is more practical to add a bookmark so you can return to the page later or to put the page in your favorites list – this way, you can activate the page quickly when you want to see it again. But sometimes it is better to have a copy on your own computer; maybe the page contains a very long text that you would rather read offline, or it contains information that you want to refer to often without continually going onto the net.

A page is saved by choosing FILE|SAVE AS…

Give the file a name and choose whether to save it as an HTML file, or a text file. You should choose HTML if you want to save as much of its layout as possible.

Problems

From time to time, something goes wrong when you try to download a web page by following a link or typing an address in an address field. Here are some of the most common problems:

You cannot make a connection to the web server

Every time you ask your web browser to download a web page, you start a complicated process that can involve several different computers between your own and the web server. It is not always possible to make a connection on the first try and you just end up with an error message. The first time this happens you should not just accept it, but try again (by clicking on the link again or typing in the address a second time).

In many cases this is enough and you will connect the second time. If you have tried several times and still nothing happens, it could well be that the web site does not exist.

The web site cannot be found

You have either typed in an address that does not exist, or followed a link to a web server that does not exist (like `www.non-existant-server.com`). It can also be that you have made a mistake in the address – a single incorrect character is enough to stop your browser from finding the web site.

File not found

The computer can be found, but either the path or the file name is incorrect. Maybe you have made a mistake in the URL or have used large or small letters in the wrong places.

It is not certain, however, that the mistake is your fault. Maybe the web page has moved or changed its name. If the web page can still be found on the same server, you might be able to find it by removing parts of the URL until you find a page that can be used.

Let's assume that we're trying to find out something about the Danish Princess Alexandra – hopefully you speak Danish. If the incorrect URL is:
`www.kongehuset.dk/prinsesser/alex.html`, then start by typing:
`www.kongehuset.dk/prinsesser/`
in the address field. If this still does not give results, then try:
`www.kongehuset.dk`
and see if you can find the page you want from this first page.

The web page never downloads

It sometimes happens that the browser never manages to completely download a page. Even though the browser icon shows that there is activity, it appears to have frozen. Something or other has gone wrong and in all probability nothing will happen no matter how long you wait. Click on RELOAD to start again.

The web page is downloaded very slowly

The server could be overloaded because too many people are trying to access it at once. You will either have to accept the low speed or try again later.

New Web sites that are repeatedly mentioned in the media are often hard to access at the beginning because of the number of curious people whose browser requests are overloading the server in question.

Web pages containing many pictures take a long time to download. You can tell you browser not to download the pictures.

You can click on BACK or follow another link even though the page is not completely downloaded. This speeds up your surfing.

The best Web sites

The most-visited web sites on the Internet are sought out by millions of visitors daily. Naturally a list of such sites changes constantly, but a snapshot of such a list could look like this:

www.yahoo.com

Yahoo is a so-called portal, and as such, it is a good starting point if you're searching for information on the Internet. Most importantly, it provides an overview of the contents of web sites; however, you'll also find news, reference works, and much more. This site is one of the most visited web site in the world, with many millions of visitors each day. In any given month, more than 35 million curious people check out Yahoo, some daily.

www.aol.com

AOL (America Online) is the largest Internet provider in the USA – which is why many people use this site as a starting point for their expeditions on the net.

www.msn.com

MSN stands for *Microsoft Network*, the attempt by the software giant Microsoft to establish a web site with many and various offers for users of the Internet.

www.microsoft.com

Microsoft's own company web site.

www.geocities.com

Geocities offers free web sites for individual Internet users. Here you'll find a nearly overwhelming selection of web sites on all possible – and some impossible – topics, which is what makes this web site one of the most-visited places on the Internet.

www.netscape.com

Netscape produces Netscape Navigator, the browser of choice for many Internet users.

www.go.com

Go is a portal like Yahoo. It offers an index of web sites as well as a search function, shopping opportunities, and much more.

www.amazon.com

In the mid-1990s, Amazon opened as an Internet bookstore. Today, you can also shop for music, videos, toys, and other things too. Amazon.com is probably the most famous "department store" on the Internet – but despite its millions of customers, it still hasn't turned a profit.

www.passport.com

Many web sites request that the user enter their name, address, and other information, for example when they want to buy something or subscribe to a service of some kind. But typing and re-typing this information gets annoying after a while. Passport allows you to register once, then you can use it to supply information to many different web sites.

www.hotmail.com

Hotmail is a web-oriented e-mail service – here you can receive and send e-mail. This means that many millions of people visit this web site multiple times a day. Many people even use HotMail as their only web site.

Your First Surf-tour

As a beginner on the Internet, it often feels very confusing when you go surfing around on the web. You end up asking yourself, is this where everyone else is visiting? Where is something exciting happening?

So here is a surf tour I have put together, which will take you around a number of typical web sites. Large and small, popular and specialized, useful and useless, mainly English language, with some others as well. Jump on board and let's go!

www.yahoo.com

Yahoo is the most visited web site in the world, with many millions of visitors each day. The two students who started it are now multimillionaires – in US Dollars. Try moving down the interesting categories you can find in the index. You can find some very special things there, for instance there are 10 sites about *air sickness bags.* Yahoo is described in far more detail in the section about searching the Internet on page 34.

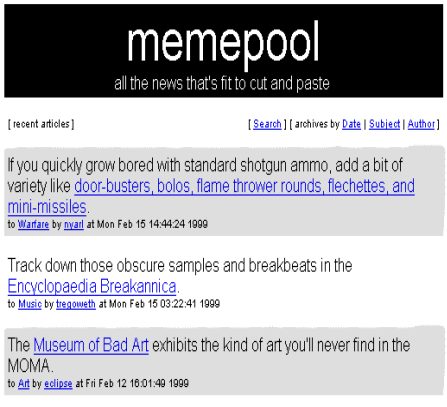
www.ebay.com

This web auction house lets you browse around just like in a real garage sale, and if you find anything interesting, you can put in a bid. You can also ask the seller questions, or see who else has bid on something.

While I am writing this, ebay is advertising that it has 1,512,205 different things on sale. One of them is a red 1959 Cadillac, starting bid set at US$10,200. Another is a football, autographed by O.J. Simpson; the starting price was US$149, but bids are already up to US$177. And there are three days of bidding left, so the price will almost certainly go up a long way yet.

There are also a whole load of more ordinary things for sale, with prices starting as low as US$1. Before trying ebay out, spend some time soaking up the atmosphere on the site; it is a bit special. Learn the terms people use there, and remember, there are swindlers on the net too!

www.memepool.com



Memepool is what is called a *Weblog*, which is a page full of links to news, new web sites, and other very exciting places you never would otherwise have found, all updated daily. Weblogs are usually run by one or two people for interest's sake, and not commercially, which means you don't have to sit and look at all the advertisements that plague other sites.

But this does mean that they are very individual, so you will get the most out of a Weblog if you share some of the editor's interests. Weblogs are usually formatted as a single, long page, where new links are added to the top as the editor finds them. There may also be a few personal comments added, or short excerpts from other web sites.

www.amazon.com

Amazon is one of the most successful web shopping sites. They have now become the biggest book shop in the world, and many say they are the best on the net. If you want to buy from them, and live in Europe, then it is advantageous to jump to the British branch, at **www.amazon.co.uk**. The books may appear slightly more expensive, but you do not pay tax on them when they are delivered – there is no tax on books in the UK – postage charges are much lower, and delivery times *much* shorter.

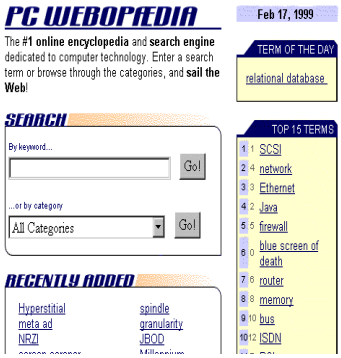
www.geocities.com

Geocities is not a web site, but many millions of web sites in one place. This is because Geocities allows any individual Internet user to set up their own little web site, totally free. In return, Geocities adds an advertisement on each and every web page. Web sites at Geocities are divided up into 'countries' and 'worlds' according to their contents. If you are interested in science fiction, for example, then try visiting some of the web sites in *Area 51*. If romantic poetry is more your line, then visit *Paris*.

www.pcwebopaedia.com

PC Webopaedia is a very useful encyclopedia and dictionary of computer and Internet terms. You can look up words and find explanations and links to relevant web sites. There is also a list of new words, and the most looked up words.

So if you don't understand a word like *granularity*, or a phrase like '*blue screen of death*', then just look it up at PC Webopaedia.



www.swatch.com

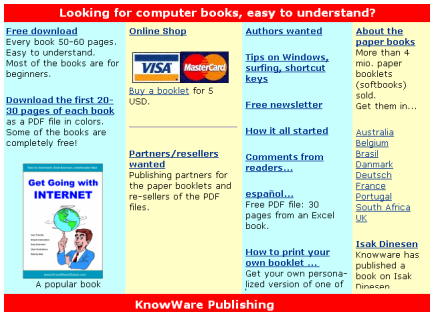
Even if you are not interested in buying a Swatch watch, this site is still worth a visit. It looks beautiful, and is an excellent example of a company that uses the Internet as a showcase for their goods.

While you are there, check out Swatch's attempt to change the way we measure time. The clock divides the day into 1,000 equal parts, going from 0 to 1,000 between one midnight and the next, and the time is the same everywhere in the world. A crazy advertising stunt – or a brilliant idea that will take over the world? Indeed, many Internet users think this is the way time will be measured in the future, and have placed clocks showing the time in 'swatchbeats' on their web sites.

www.knowwareglobal.com

This is the publisher's own web site. Check it out and see if there are other booklets that interest you. You can see how many countries KnowWare booklets are published in. And did you know that this booklet has already appeared in Denmark, Germany, Brazil, Portugal, and Finland?

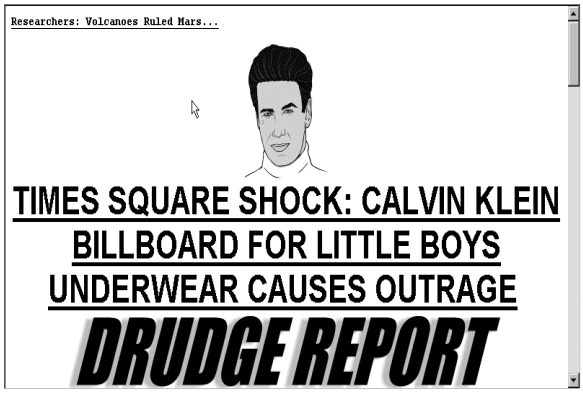
Here you'll also find a link to the publisher's international web site, where you can, for example, download parts of the English versions of our booklets for free.



www.drudgereport.com

The Drudge Report is a famous American web site. It specializes in gossip and rumor. Matt Drudge is famous for publishing everything, whether or not it later turns out to be true. And sometimes he hits a bullseye. For example, the Drudge Report was the first to write about Monica Lewinsky. There were others who knew about the case, but they kept it secret, while Matt Drudge just went ahead and published.

The site is also interesting as it is laid out in its own unique graphic style, which distinguishes it from most other large web sites.

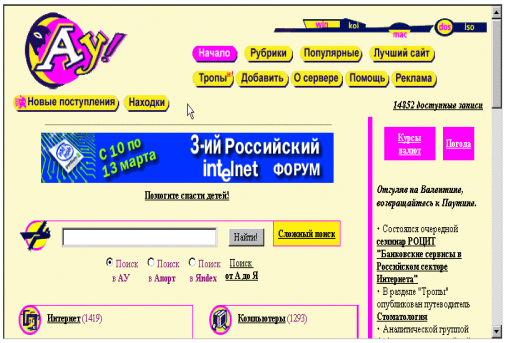


miningco.com

The people behind The Mining Company came up with a good idea: When there are so many enthusiastic and clever people setting up excellent web sites about their interests or hobbies, why not gather them all into one place, add some advertisements, then share the money between The Mining Company and the people running the web sites themselves. In this way, The Mining Company could 'mine' the best private hobby and special interest web sites and put them together into a comprehensive reference system. The idea worked, and now The Mining Company has a site with sub-sites covering everything from Java programming to painting on Porcelain.

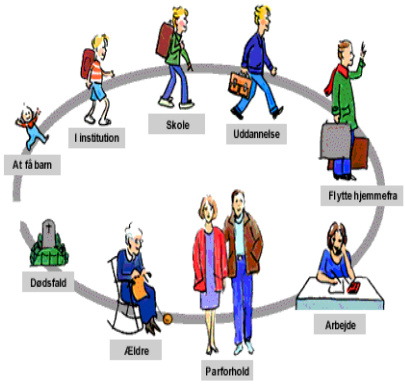
www.au.ru

Yes, a Russian index page with links to lots of Russian pages. What sort of web sites they are, I can't tell you, as I don't understand Russian, but once in a while it is interesting to see web sites written in a foreign language, or using a foreign alphabet. Unlike Asian web sites, which cannot be displayed unless you have the proper character set installed on your computer, you can usually see Cyrillic letters fine, though this may depend on your browser.



www.danmark.dk

Danmark.dk is a very useful site if you are interested in Denmark, thinking of visiting the country, or are Danish! It contains information on everything from where to be vaccinated or get hospital treatment to the names of all Danish mayors. You can find out about everything official here, or find a link to somewhere where the information is kept.
The Danish government is committed to putting all state information on the web, and the site is also unique in that it uses very few graphics, so it is very fast to download.
Much of the site is also in English, so even if you do not understand Danish, it is worth a look.



www.vatican.va

The Vatican City state is, of course, also on the net. Notice that they have their own land code, *va*. At the end of this booklet, you'll find a complete list of country codes.

You can read biographies of modern popes here, and read the latest news from the Holy See. Everything is tastefully set on yellow parchment, with menu choices like '*crossing the threshold of hope*' and '*catechism of the catholic church*'.

www.cte.gov.cn

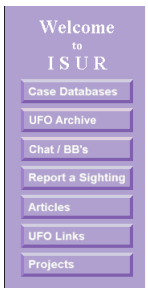
This Chinese web site is part of the Chinese government's official web presence. But it is worth a visit, if only for the animated Chinese banners. It is full of links, but unless you understand Chinese, it can be a bit of a surprise where you end up. No matter, it is a good idea to be reminded once in a while that the Internet does not consist only of European and American web sites.

www.searchterms.com

What a good idea. This sites provides you with a list of the most searched-for words on the Internet search engines. This is where you can satisfy your curiosity about what everybody else is looking for. And I am not giving anything away by telling you that they are looking for sex and pirated programs.

www.isur.com

This site offers UFO information. If you have seen a UFO, or had a close encounter with one, you can report it here. The site also includes articles, reports of sightings, links to other UFO sites, and a chat room where you can talk to others who are interested in the UFO phenomenon. And you can even read some very sober articles written by people who have been abducted by aliens, but lived to tell the tale. Whether you believe in UFO's or not, this site will give you plenty to think about.



www.coolsiteoftheday.com

"Cool site of the day" has found an exciting link every day since the childhood of the web, way back in 1994. So if you have run out of ideas about places to surf, you can do much worse than take a look at the day's recommended web site.

And if you have an hour or so to spare, you can always check out the archives. If you find that you are using this site every day, then you can subscribe to an e-mail service with cool sites in different categories.

www.unclaimedbaggage.com

What happens if a businessman forgets his briefcase on a plane and never turns up to claim it? It finally ends up at the *Unclaimed Baggage Central*, which sells it and its contents on their web site.

Personally I find it hard to believe, but the company guarantees that everything on its site really does come from orphaned suitcases from all over the world!

www.swazibusiness.com

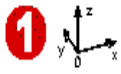
Swaziland is on the net, of course. So if you happened to be thinking of starting up a company there, just check out the rules and regulations on this site. And if that wasn't what you were thinking of doing, then you can surf by anyway to see that the Internet is being used everywhere in the world. You can also read the annual report of the Swaziland Central Bank while you are there.

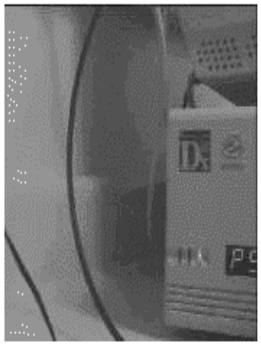
www.africam.com

Web cameras are cameras that are connected to a web page, and take pictures at regular intervals. Africam is a web site containing a number of different cameras, all of which are set up in different wildlife sanctuaries. They are placed near water holes, or other places that attract a lot of animals, and take pictures every 30 seconds. With a little luck you can spy on a lion or a giraffe, or another exciting species.

Remember to surf by during daytime (in Africa, remember the time difference) if you want to see anything exciting.

telerobot.mech.uwa.edu.au



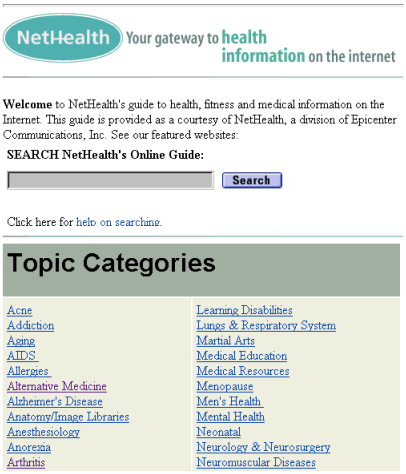


This web site is connected to a robot in an Australian laboratory. Everyone and anyone can have the chance to control the robot using this site. All you have to do is be willing to wait your turn, and remember, this is not a game, but a real 'live' robot, totally unique.

If you are registered as a named user you are given a higher priority, and can push non-registered visitors off and take over control of the robot.

You can also chat with other users and keep an eye on what is happening in the laboratory or on the web site.

www.netdoctor.com



There is lots of medical information on the Internet. A useful site to start from is netdoctor, which contains links to many other sites about both traditional and alternative treatments. Though run by a commercial organisation, many of the sites it links to are non-commercial, or set up by sufferers groups. If you are prescribed a medicine, it is also worth searching for the name of the medicine using one of the search engines (see page **Error! Bookmark not defined.**), there are many sites run by universities, patient groups, and medical companies that describe side effects, dosages, uses and so on.

How to find …

Beginners often ask: “where is the main index?” The answer is that there is no main index of the pages on the web. Quite simply, there are too many web pages for this to be practical. But on the other hand, there are many indexes and search engines put together by different companies and individuals. It is impossible to make any sense of the web without using some of these web indexes and search engines. This section describes some of the most used ones.

There are two fundamental ways of searching the net. **Indexes** are lists of web sites and web pages arranged by subject in a hierarchy. **Search engines** are databases containing the contents of a large number (though not all) of the world’s web pages.

Simply stated: An index lets you search by category for a web site, while a search machine lets you search for a web page containing a specific piece of text.

Using an index is a little like looking for a book in a library. If you are after a book about Japanese art, first you go to the non-fiction section. Then you find the section dealing with foreign countries. Then you find the shelves dealing with Japan, and finally a shelf with books about Japanese art. The only way you can use an index is if you have an idea of what it is you are looking for.

Using a search engine is completely different. A search engine is actually an enormous database of all the words that appear on many of the web pages on the Internet. You search by typing in one or more words, and the search machine will display a list of all the web pages it knows of containing that particular word.

There are advantages and disadvantages with both methods. The advantage with an index is that it is easy to use, and you do not have to spend so much time to find what you are looking for. The disadvantage is that indexes only contain a fraction of the web pages that exist on the Internet. But this can also be an advantage. It means that you are only presented with web pages that other people have evaluated and found interesting. And indexes are very influenced by the people who collate them. This means that American indexes contain many links to American pages, Danish indexes include mainly Danish pages and so on. This can be both a good and bad thing, depending on what you are looking for.

The big advantage with search engines is that they give you access to many more web pages on the Internet, and you can search for very specific things. The disadvantage is that they are very difficult to use and it can take much longer to find what you are looking for. You can easily end up with thousands, or even hundreds of thousands, of results from a search on a search engine, which is far too many to use. Even though there are a lot of ways to make a more precise search, search engines are usually much more inconvenient to use than web indexes.

So it is nearly always wisest to start with a web index. And if you cannot find what you are looking for there, then switch to a search engine.

Use a web index:

- if you’re starting a search on a new subject
- if you don’t know where else to look
- if you are looking for a well-known site, a commercial site, or a web site owned by an organization.
- if you are looking for web sites dealing with a particular subject.
- if you are not looking for anything in particular, but just want to see what is available on the net.

Use a search engine when:

- you have had no luck using an index.
- you are looking for a home page put up by a private person.
- you are looking for web sites dealing with a very specific subject that cannot be found in any index.
- you are looking for information about a combination of different subjects.
- you are looking for web sites in a language that is not covered by any of the indexes you know.
- you are looking for a specific web page (and not a specific web site).

For example: If you want to find a web site about playing with Lego, then use an index (this subject is so broad that it will almost certainly be covered in one index or another). But if you are

looking for information about the connection between smoking and a particular sickness, then you will probably have to use a search engine. If you are looking for a firm that produces car radios, then use an index. If you are looking for your Spanish pen-pal's home page, then use a search engine. If you are looking for information about Europe in the Middle Ages, then use a web index. But if you are looking for information about a specific weaving technique that was used during the Middle Ages, then you will have to use a search engine.

Indexes

One of the best indexes of sites on the web is called Yahoo. It is found at **www.yahoo.com.** Yahoo is a hierarchical index of web pages on the web. In many cases, Yahoo is the best place to start when you are looking for something particular.

You can either click through the various main categories until you find the correct one, or enter one or more search words in the search field, which will give you a list of categories containing them in the title or description.

The main page shows the 14 main categories that Yahoo uses to classify all the web sites it contains. The small words shown under each category are the most used sub-categories in each section. Click on the category that is the nearest match for the subject you are looking for. This will display a new page containing sub-categories of the category you chose. On this page you can choose a new sub-category, and continue in this way until you have found the right category.

If you are looking for a web page dealing with Japanese art, first choose *Art*, then *Ethnic*, *Asian* and finally *Japanese*. Voilá: An index of sites on the web dealing with Japanese art!

This sub-category consists of four parts: Where the sub-category is placed within the hierarchy, a search field, a list of further sub-categories, and a list of web pages belonging in the displayed sub-category.

As well as searching down the hierarchy category by category, you can also carry out a search using one or more words directly from Yahoo's main page. You will then be presented with a list of categories that match your search terms and that contain web sites matching them. If you try a search like this, make sure you do not make your search too specific. If you don't find any relevant categories using this search, then just try clicking down through the categories, maybe the one you are looking for is not called what you thought it

should be!

If Yahoo cannot find anything in its own index that matches your search, then your search is passed over to the Inktomi search engine, and you see what that contains. The logic is that if the best web index cannot come up with anything, then you will have to use a search engine.

In addition to the hierarchical index, Yahoo can also offer another index. *What's New* is an index of the latest web pages on the web. This section lets you keep an eye on developments on the web. *What's Cool* is a list of especially good or experimental web pages.

Many countries have their own Yahoo-like lists. These contain web pages organised by subject and are used in roughly the same way as Yahoo. If you are after a web page in a particular language it is always worthwhile starting with such an index.

And to find these indexes? They can be found by using Yahoo (choose *Countries* from the main menu).

Search engines

If the indexes named above cannot help you find a web page, then you will have to search for it yourself using a search engine (sometimes known as a search machine). Search engines are integrated into an ordinary web page by using forms. They work differently and the same search can give different results on different search engines. When you type in one or more search words, the search engine looks for them in its database of web pages. Search engines collect their information by sending special programs (called web crawlers, spiders, or agents) around the net, which look for new web pages and then add them to their databases. In practice, this can be done in many different ways, so there are differences between the different search engines. There are also differences between how the different searches are undertaken. So the same search on different search engines will seldom give the same results.

HotBot

HotBot is a search machine that can be found at **www.hotbot.com**.

As with all other search engines, HotBot works by continually searching the web for new pages.

HotBot contains a database covering *every word in all the many millions of web pages it knows*. By using this database, HotBot can find the web pages containing the word or words you specify. A list of pages found is then displayed with their titles, a link, and a short description.
You can just click your way to any particular page from this list. As with all the other search machines, HotBot is far from perfect – there will always be web pages that HotBot cannot find for technical reasons.

Searching using a search engine can often feel like a very slow process, and is as much an art as a science. You simply have to try with a simple search, check out the results, alter your search terms (maybe based on the contents of the pages which appear), then try again, alter again and continue until you find what you are looking for, or it becomes obvious that you never will find it – at least not today.

A simple search using HotBot

1. Type one of more words in the empty search field. Separate each word with a space. Words can be in any language, and may include accented or 'foreign' letters.
2. Click on *Search*.
3. HotBot finds all the web pages in its database that contain *all* the words you have entered as search criteria. HotBot displays a list of the top ten results with a short description. Clicking on a result jumps you directly to the page.

Search engines sort the results they show according to how well they match your search criteria. HotBot works by seeing how often your search term appears, so if it appears often, the page will be judged as more relevant than a page where your search term only appears a couple of times. If the word appears in the title or heading, it will be rated higher than if the word only appears in the body text. You will often find that the results of your first search are not particularly useful. For example, if you are interested in the dance called the Samba, and search just for this word, then you will be presented with over

70,000 results. This means that HotBot contains over 70,000 pages in its database containing the word Samba in some form or other.

Notice that HotBot displays a number of advertisements at the top of the search results. They can be irritating, but it is the income from them that keeps HotBot in existence.

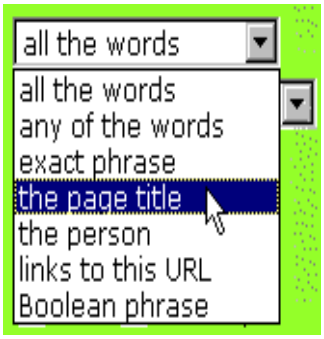
The three text links at the bottom of the page are not part of the result. They suggest other places you can search, and are actually another type of advertisement – though a more useful one than the banner advertisements at the top, as they show you where you can search in different, though relevant, areas like news, or books.

The first result on the list often has nothing to do with what you are looking for. In this example, you can see from the description given that this link has nothing to do with Samba music, but is a server called Samba. In such a case then you will need to refine you search using more search words and criteria.

Good advice

- If a search does not give the result you want, try using synonyms. If *house* doesn't give the result you want, then try *bungalow*, *apartment*, *building*, *home*, etc. etc.
  Don't forget that different places use different terms, 'petrol' in the UK is 'gas' in the US and so on!
- Type the words in the search field in lower case. HotBot will then find all examples of the word, no matter what case they are in. But if you use upper and lower case, then HotBot will only find the pages containing the capitalization you have used. So a search for 'underworld' will also find pages referring to the dance group 'Underworld' as well as pages about the criminal underworld, but a search for 'NetGuide' will not find pages containing the word 'netguide'.
- Remember that the pages you find are often just a part of a complete web site. You are just dumped right in the middle of what might be a very large and complicated structure. It is just like opening a book at random and trying to read one page; it makes little sense because you don't know what context it is in. Try and find a link to the main page of the site and get an idea of what the site is about. You can also limit your search to main pages in order not to run into this problem.
- It is not always a problem if your search results in thousands of web pages. In many cases, they have been so well sorted that the results you want are right at the top of the list. If this is not the case, then you will have to refine your search further.
- Type in the word in the language you want your results to be in. If you search for 'Cologne' you are unlikely to find many German pages about the city, as it is known as Köln in German. You will only find pages written in English.
- Be careful with your grammar and your spelling. If you search for *frogs*, you will not find pages containing the word *frog*. It is best to supply the most usual form of a word. And check your spelling, a single spelling mistake can make any results meaningless.
- Use as many search words as possible. The more search words you use, the more precise you search will be. But be careful that you do not use so many search words that relevant web pages are not shown.

Changing the criteria used for search



words

HotBot starts by looking for pages containing *all* the words you have specified. When you want to refine you search, make changes in the field containing the text *all the words*.

all the words

HotBot only finds pages containing *all* the words you have typed in. This is the default, or standard, type of search.

any of the words

HotBot finds all the pages containing at least one of the words you have typed into the search field. Such a search will, of course, come up with far more pages than if you used the standard 'all the words' type search. So if you are looking for pages about China's capital city, then you should search for both spellings: *Peking* and *Beijing*. But even if a page only contains one of the spellings, you still want to see it, so you should specify *any of the words*.

exact phrase

If you use this, you should have entered a sentence, or a list of words that would naturally occur together, in the search field. HotBot will only find pages containing exactly these words, in exactly the order you have given. If you typed in *rise and fall of Rome*, you will not find a page containing the phrase *Rome, its rise and fall*, as the words are in the incorrect order.

the page title

HotBot only finds pages with the search word in the title. You should only use this kind of search if you are sure that the page you are looking for has a particular word in its title. A web page can be all about vitamins, even though the word vitamin may not be in its title.

But this option does let you reduce the number of results when you have ended up with far too many. For example, searching for *Copenhagen* brings up over 27,000 results, but there are only 460 pages with the word Copenhagen in the title.

the person

HotBot finds pages containing the name of the person you have specified in the search field. If this does not produce the result you are looking for, then try specifying *all the words* instead. HotBot will then carry out a search without the special criteria it uses for looking for a name.

links to this URL

HotBot finds pages that contain links to the address you have given in the search field. So you have to type an Internet address into the search field for this type of search to work. This is the way to find all the pages that have links to your own web page (if you have one). Or, if you are interested in finding out how many pages throughout the world have links to the danish parliament web site, then type in **http://www.folketinget.dk** as your search term – you have to put in http for HotBot to recognise it as a URL, and then choose *links to this URL* (the answer is 390).

Boolean phrase

HotBot finds pages that match the conditions of what is called a Boolean (or logical) expression. *Oranges AND Strawberries* will only find pages containing both *Oranges* and *Strawberries*. You do not have to learn how to use these Boolean expressions as *Super Search* lets you search like this, but without these complications.

More tips

- If you can read several languages, you can search for the same word in different languages. So you could try searching for *car bil voiture* to find pages about cars in Eng-

lish, French, and the Scandinavian languages. If you carry out such a search, remember to check the a*ny of the words* option as it is unlikely you will find any pages containing all three words.

- If necessary, you must search for different forms of a word, as HotBot only looks for exactly what you enter. So if you search for *auto* you will not find pages with the word *automobile* on them – but neither will you find pages containing *automatic*, *autosuggestion* or *autobiography* (unless they also include the word *auto*). This is usually an advantage, but if you do want different forms of the same word, then type them all in (*auto automatic autostart*) and remember to set the option *Any of the words* on, or HotBot will only find pages containing all the words!
- Be patient. It is seldom that you find exactly what you are looking for at the first attempt. Experiment with different search words and change the words you use.

What are people searching for?

Some search engines offer lists of the most popular search terms entered by users. These lists can give you an idea of what people are searching for. Such a list depends, of course, on the particular search engine as well as its date of creation, etc. Here's a current list of the most popular search terms:

1. MP3
2. Sex
3. HotMail
4. Yahoo
5. Pokemon
6. Warez
7. Chat
8. Jokes
9. Britney Spears
10. ebay

In the last few years, sex has been at the top of the list, but today, it's been supplanted by pirated copies of programs. MP3 is a music file format, which, due to its high quality, is good for pirated copies of music. Warez is jargon made up by computer geeks, which refers to pirated copies of programs.

The classics sex, chat, and jokes will not disappear from the list anytime soon…

Some of the words in the list reveal that many Internet users are not very skilled with search engines. HotMail is a web-oriented e-mail service that belongs to Microsoft, but recently the word has become a synonym for e-mail in general – more about this on page [PLEASE INSERT PAGE REFERENCE HERE!]

Instead of conducting a search using this word, it would have been much more practical to type the address `www.hotmail.com` right into the address field of the web browser – just as, instead of searching for Yahoo, one should just enter the address `www.yahoo.com`.

Ebay is, without a doubt, the best-known auction site on the Internet. Here you can buy or sell all kinds of things. It's not helpful to search for this site with a search engine – its address is just `www.ebay.com`. Finally, let's take a look at current trends: Pokemon is a phenomenon that encompasses computer games, film, comics, and collectible cards, and Britney Spears is a current superstar. Presumably, these terms and names will shortly be replaced by others.

At `www.searchterms.com`, you can find a current list of the most-used search terms. At `50.lycos.com`, you'll find a list of popular terms that collect many search terms under one category – so, for example, *xmas*, *christmas*, and *santa claus* all belong to the category Christmas. Here you can follow the rise and fall of the fortunes of famous people, and you can see what influence current events or the season has – in December, you'll see many more Christmas-related terms, which can hardly be surprising…

Other search engines

If HotBot doesn't give you the result you are looking for, then don't give up. There is still a chance you can find what you are looking for using another search engine.

Every search engine has its own method of sorting web pages, its own method of searching its

database, and its own method of sorting the result, so a search on another search engine is likely to give a completely different result.

Google

The Google search engine is at **www.google.com**.

Google is an innovative search engine, as it uses completely different criteria to sort its results. Google sorts pages according to their popularity; in other words, how many links there are to a page from other web sites. A search for *olympic games* is very likely to produce the official Olympic web site, as so many other web sites link to it. On the other hand, a private web site about the Olympics, which has not been updated for years and is only known to a few people, is unlikely to appear in Google's search results.

And the method really works. Google is also the only search engines that has a button – labelled *I'm feeling lucky!*, which takes you directly to the first result on the list, which in this case is the official Olympic web site.

Just like other search engines, Google can also display a list of the top ten results so you can decide yourself which you will click on.

If you *know* that you are looking for a very obscure web site, or a new one that nobody really knows about, then Google is not the right search engine to use.

Northernlight

The Northern Light search engine is at **www.northernlight.com**. Northern Light is different than other search engines in that it can sort the results it comes up with into different folders, each about its own subject. This makes Northern Light similar to a web index like Yahoo. These folders are not permanent, they are created by the search engine as the results of your search come in. If you search for the word *Java*, which is a programming language, an island, and a type of coffee, then Northern Light will more or less sort the results. In practice, you will end up with a number of different folders, so it will still take you quite a bit of time to find a result that is relevant.

FAST

You'll find the search engine FAST at `www.alltheweb.com`. *All the Web* would really be a better name than FAST – the advantage of this search engine is the fact that its database contains more web sites than almost any other search engine's. FAST contains, according to its own report, about 200 million web sites, which is certainly a lot, but not nearly all the pages on the web.

FAST is useful if you're searching for an obscure term such as a seldom-used word that would yield few results using other search engines. For more run-of-the-mill searches, FAST is less useful exactly because it produces more results than most other search engines.

How many web sites are really out there?

There are many reports about how many web pages are on the Internet. At the moment, the number is estimated to be close to 1 billion. But this number cannot be correct – for several reasons:

- it's not possible to count the number of web pages precisely. Web sites contain millions of different web pages and many owners of a site would rather not know how many pages are on their server. Thus, this number is based on random samples and approximations.
- secondly, the number of web pages is growing constantly – more and more countries are using the Internet to a greater extent, more companies are establishing web sites, and existing web sites are being expanded. Therefore, any estimation of the number of web pages goes out of date very quickly.
- thirdly, random samples have proven that many web sites exist on multiple servers on the Internet. One of these studies estimated that as many as 40% of all web sites are just copies of other web sites.
- fourthly, estimations of this kind assume that one can count individual web pages. In reality, many web sites are not fast units. Visit the portal Yahoo, for example (**www.yahoo.com**), and have a look at the contents of the main page with its news, advertisements, etc. Now surf a little across the net and then return to Yahoo – not by using the Back button on your browser, but by typing the address in anew. Now the main page probably looks different, with new advertisements and likely also new news and other elements. Is this a new web site or is it the same page, just changed a little?

Or take a look at the news service CNN at **www.cnn.com**. The text is in English, but it's possible that the advertisements can appear in another language. That's possible because the web site recognizes where you're located and it customizes its advertisements accordingly. In other country, things would look different. So are these really different web pages or just the same page in different versions?

Or try a search for your name using HotBot (**www.hotbot.com**) – that is, try this if your name is a reasonably uncommon one. In this case, you'll probably be the first to try this particular search, so you'll also be the first to see the results page. Here, the page that you see doesn't really exist; it exists only when this search is run and then nevermore. Of course such a web page is not covered by the abovementioned estimates. And there are many other pages that are the result of searches – results from databases – that only exist for a brief moment.

So the correct answer to the question about how many web pages there are out there is that it makes no sense to count them – and that there are infinitely many web pages.

Downloading programs

One of the best things about the Internet is that you can download programs to use on your own computer. This can be done from your web browser. Just as a web page can include links to other web pages, it can also contain links to files that are available to users of the Internet.

When you choose a link that points to a file, the file will be brought to your computer and saved to your hard disk. In technical terms, this is called *downloading* a file.

The Internet is bulging with programs for your computer. Most of these are either *shareware* or *freeware*.

Freeware are programs that may be used for free, and that may be freely copied and given away.

Shareware is the name of a special type of software, which you are allowed to copy and try before deciding whether or not you want to buy it. Most of the programs on the Internet are shareware. There is normally a time period of 30 or 60 days during which you can try the program. If you want to go on using it after this period, you must pay for it. When you pay for a shareware program you do not talk about buying it (you already have it on your computer), you talk about *registering* it. Shareware programs always contain information about how they should be registered.

Before running up your telephone bill getting hold of a program, you should check that it can be used on your computer. If you use Windows, you should not download a program for a Macintosh, and you should remember that there are differences between Windows programs. 32-bit Windows programs can only run on Windows 95/98 or Windows NT. If you use Windows 3.11, you should not download a 32 bit program. If you run Windows 95/98, you can usually run a program designed for Windows 3.11 (usually called a Windows 16 bit program), but you should only do this if there is no version available for Windows 95/98.

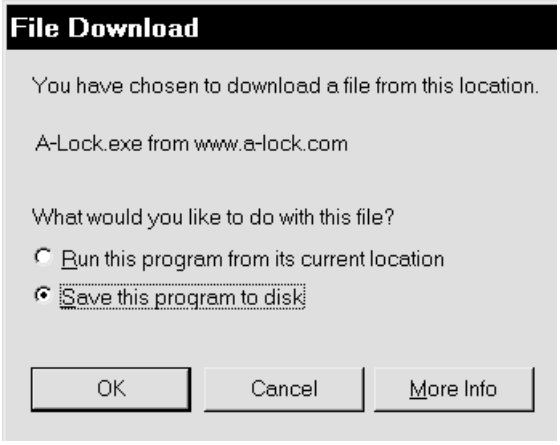
Programs are spread around the Internet on thousands of different computers, but despite this, they are not so hard to find. A number of services on the Internet specialize in giving easy access to these many thousands of programs. The best are to be found at **www.shareware.com** and **www.filez.com**. Here is an example of how to use **www.shareware.com.**

Shareware.com lets you search for names and descriptions of nearly all the shareware and freeware programs to be found there. When you have found the program you want, you can download it to your own computer and start using it.

1. The first page of *shareware.com* contains a text field and a drop-down menu containing the names of various operating systems. Choose which operating system you want to find programs for in the drop-down menu (i.e. Windows 95, Macintosh or another). It is important that you choose the correct category, or the programs you find will not work on your computer. The list includes a category called *PC Games*. This is because many PC games run under DOS, and so will not be shown if you only search for Windows programs (even though the games will run fine on a Windows computer).
2. Next, type one or more words in the text field. If you already know the name of the program you want, then all you need do is enter it here. Or you can type in a word describing the sort of program you are looking for. Searching takes place using both the name of the programs in the database, and a short English description, so you search word must be in English. In this example I have typed in the word *simpsons*, because I want to find software having something to do with the TV series The Simpsons.

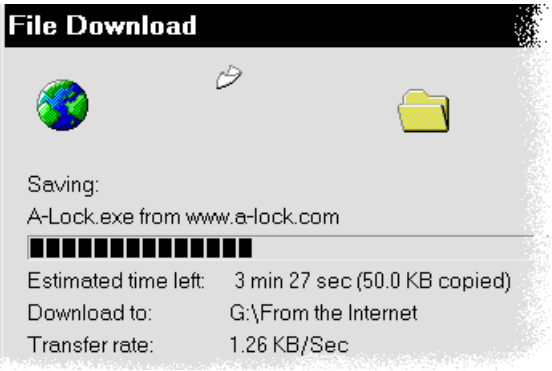
3. After typing in your search word and clicking *Search*, a list of results is displayed, in the form of file names and descriptions. The word you searched for is highlighted in bold in the description. In this example I have found a number of programs, pictures and sounds that are connected with The Simpsons.

4. When you have read the description, you should click on the file name of the program you have decided that you want. You will then be shown addresses of the various computers where this program can be found for download.
5. The addresses are sorted by country. Choose a computer as close to your location as possible, or in the USA. It may sound paradoxical, but it is often faster to download a program from the USA than from the country next to yours. Experience will teach you which is best.
6. Click on a file name. You will be asked if you want to open the file or save it to your hard disk. It is usually best to start by saving the file. Before doing anything, some web browsers will issue a warning that programs downloaded from the Internet may contain viruses. This is correct, but the danger of getting a virus infected program is not so great that it should stop you getting programs from the Internet – though the risk is large enough to make it sensible to install an anti-virus program



7. Next is to specify where on your hard disk you want to save the program that you are downloading. It is a good idea to have a specific folder just for this. Give it a name like *New from the net*. This will mean that you will always know where these downloaded programs end up.

8. The file will now be downloaded. A small window will keep you informed as to how much of the file has been transferred, and how long it will take before the process is completed. It can take a long time to get a program file. It depends on how large the file is and how fast your modem is. A file of about 5 MB can easily take an hour or more to download. You can minimize the window and carry on using your browser while this is happening, so you can surf around other web pages while you are downloading a file. You can even download several files simultaneously if you wish.



When the file is downloaded, you'll need to install it on your computer. How this is done depends on several things. In some cases, the file is compressed using a packing program (a special program that shrinks files so they are quicker to download from the Internet). If this is the case, then the file first needs to be unpacked or expanded (read about how this is done a little further on). In other cases, the program is ready for use. It can be started by double-clicking on the program icon, which usually has the program's name under it. But most programs have to be installed first. This is done by double-clicking the icon called *Install* or *Setup* and then answering the questions about how the program should be used. If you are unsure, just accept the suggestions the program makes itself.

Unpacking and installation

Nearly all the programs you can find on the Internet are in *packed* files. Imagine that you want to transport a Volvo in a container that only measures a half meter in every direction. Can it be done? Yes, but only if you cut the car up into very small pieces and pack them as tightly as possible in the container. Packing (or compression) programs do the same with files. By using a

packing program, you can make files much smaller.

A file that was 2MB is now only 1MB. A packed file like this, which can, by the way, hold several files, can also be called an *archive*. The advantage of this is that the file is easy to transport. Before it may have filled two diskettes, but after being packed it only uses one.

And when the program is downloaded from the Internet, it only takes 10 minutes, instead of the 20 minutes it would have done unpacked. Another advantage is that several files can be packed together into one file. This makes is easier to manage file transportation and storage.

Technically, the method used to pack a file is that the pack program analyzes the file and puts it into a format so it fills less space. For example: If somewhere in the program there is a sequence looking like this: 2525252525252525, the pack program can change this to 8x25. But just as you cannot drive a Volvo that has been cut into small pieces, you cannot use a program in its packed state. Before the file can be used, it has to be unpacked.

There are many different packing programs, each of which uses its own format to pack programs. The most used format for PCs is called *Zip*, and you will almost certainly find files packed in this format. You can recognise them by their `.zip` extension.

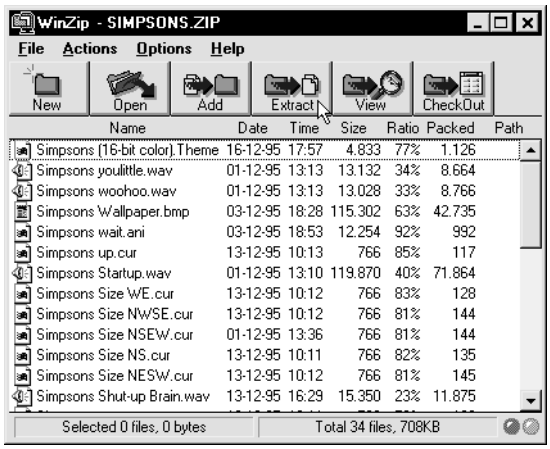
On the Macintosh, the most popular format is `.sit`.

WinZip

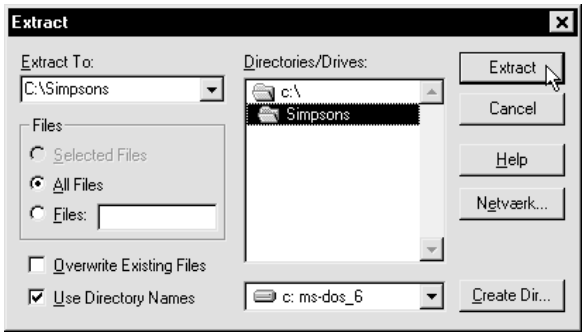
WinZip is a brilliant packing program that PC users often need to use. The program is very easy to use after you have gotten to know it, but it may seem a little confusing the first time. The program is shareware and can be found at **www.winzip.com**

I have downloaded a theme for my desktop for Windows 95/98 (this is a background picture, new icons and mouse markers, etc.). The file is called `simpsons.zip`. I copy the file to my hard disk in a folder I call `Simpsons`. Notice the icon that looks like a filing cabinet in a clamp. This means that my system recognises the file as a zip file, which cannot be used until it is unpacked.

Now I open the `simpsons.zip` file by double-clicking on it. As I have installed WinZip on my computer, it automatically registers that I am trying to open a zipped file, and the program takes over and shows this window:



We do not need the top menu this time. Underneath this are a row of buttons and a big window showing the contents of the compressed `Simpsons.zip` file. This shows that it contains many files (34 in total) and I can see the names and sizes of them all. I simply want to unpack every single file, so I click on the *Extract* button. The program now asks me where the files should be placed after I unpack them.



I choose to put them in the same folder as the compressed file, i.e., in the **Simpsons** folder. Then I click on the *Extract* button. And there it is! After a couple of seconds, all the files are there in their original size and ready to use. The packed file is still there, even though its contents have been copied and unpacked. This means that you can unpack the file again if you need it. If you don't think you will use it again, you can delete it.

On the Macintosh, you can use the shareware program StuffIt Lite, which you can find at **www.aladdinsys.com**. This program comes complete with the StuffIt Engine, which can help you unpack nearly all compression formats you're likely to encounter on the Internet, including **.zip**.

It is a good idea to use a fixed procedure when you download files. Create two folders just for downloads – if you use Windows 95/98 you could call them **New from the net** and **unpacking** – and put them on your desktop. Every time you download something, put it in the **New from the net** folder. After you come off the Internet, copy it to **unpacking**, unpack and install the program, and then you can delete the contents of the **unpacking** folder. If you have enough space on your hard disk, you can keep the packed file in the **New from the net** folder. This means that it is always available if you want to install it again, or if a friend wants a copy.

Viruses

When you download a program from the Internet, there is, in theory, a risk that it can infect your computer with a virus. Everybody has heard about viruses that can take over your computer and destroy all your data. In practice, the problem is not so great as journalists make out in newspapers and computer magazines. I have worked intensively with computers for over six years and have only twice met a virus, and their effects were fairly innocent on both occasions. But for safety's sake, it is a good idea to install an anti-virus program that can intercept any dangerous viruses if the worst should happen.

But first we should see what a virus actually is. A virus is a little program that can copy itself – hence the name. And most viruses are programmed to muck up your computer by deleting or corrupting files, writing idiotic messages on your screen, or, in the worst case, deleting the contents of your hard disk.

There is nothing mystical or supernatural about a virus. Just like all other programs, they do what they are told to do by the person who programmed them. The programmers themselves may be anti-social individuals who do not feel they have enough excitement in their lives, so they get their kicks from trying to sabotage other peoples' computers. The problem with viruses is that they are programmed to hide themselves inside other programs so that you do not spot them. In this way, they can spread from one computer to another – by being downloaded from the Internet, for example.

You can only infect your computer with a virus by downloading a program or certain other files (from a word processing program, for example) and then using them. The most common virus at present is one called a *macro-virus*, which can hide in files produced by the word processing program Word or the Excel spreadsheet program. You *CANNOT* get a virus into your computer by looking at web pages or reading e-mail.

Luckily, there are what are called anti-virus programs that can be installed on your computer to guard against it being infected by a virus. Anti-virus programs can be bought everywhere you can buy software. Well known ones include

Norton Anti-virus and *McAfee Anti-virus*. You can get an excellent anti-virus program at:

`www.mcafee.com`

Anti-virus programs run in the background while you are working with the computer. If you download a virus-infected file from the Internet, the program will warn you that it has detected a virus in a certain file. If this happens, keep calm and just do as follows:

1. Delete the virus. This should be a simple task with the help of the anti-virus program. Normally the file hiding the virus can be salvaged, but in bad cases this may not be possible.
2. Carry out a thorough virus check of your entire hard disk. This should also be a simple process using your anti-virus program.
3. Check all your floppy disks for viruses by putting them in your disk drive and running the anti-virus program on them.
4. Contact everyone you could have passed the virus on to (or who could have passed it on to you). That is, everyone you have exchanged files with since you got the virus, both by diskette or over the Internet.

The Internet Worm

In 1988, the Internet experienced its most comprehensive collapse to date. The collapse was caused by the so-called Internet worm. Such a "worm" is a virus-infected program that copies itself from computer to computer and thus spreads itself across the whole Internet. The 23-year-old inventor of this program only intended to spread his little program across the Internet, not to cause damage or have it be detected. But because of a programming error, the program spread itself much faster and further than he'd expected, and it laid approximately 6000 computers low, which subsequently had to be shut off and repaired by technicians before they could be returned to service. At the time, this amounted to about 10% of all Internet computers.

Where are the files to download?

I have already described how to download programs from **www.shareware.com** above. There are also many other web sites where you can find good downloads; generally, the procedure will be similar. If you're looking for programs for the Internet, check out **www.tucows.com.**

If you know the name of a specific program or the name of the company that makes it, you can often download it directly from the company's web site by guessing the address. For example, you'll find McAfee's anti-virus program at `www.mcafee.com.`

You'll find the e-mail program Eudora at `www.eudora.com.`

Alternative browsers and plug-ins are available at `www.browsers.com`.

If you can't find the browser you want here, you'll certainly find it at the web site of the company that makes it; try

`www.netscape.com`

or

`www.microsoft.com/ie`,

depending on which browser you use. You should know that sometimes, these programs are loaded onto your computer in a special way. Internet Explorer, for example, first downloads a small program of .5 MB to your computer. Once you activate the program, it will take care of downloading the rest of the program for you.

Accessories for your web browser

A Web browser on its own can only show ordinary web pages. But some web pages have built-in films, music, programs, and animations that the browser on its own cannot show.

Plug-ins are extras for your web browser that allow it to use these formats. When the browser itself cannot show a particular format, then it calls on the accessory to do the job for it. Plug-ins are a kind of building brick that expands what it is possible for your browser to do. Using one lets you watch a film directly from a web page, or play music.

There are literally hundreds of plug-ins for various purposes. Three or four of them are very popular, as many web pages will only display correctly if you have them installed. These plug-ins are described below. You can find a list of plug-ins for download at

`www.browsers.com`

So plug-ins are programs that you need to download and install (read how to download programs on page **Error! Bookmark not defined.**). The program attaches itself to your browser itself, so it is activated next time you open a web page containing a file that uses the plug-in to work.

Remember to check that the plug-in can be used with your browser and operating system. Some plug-ins can only be used with certain browsers. And some plug-ins are included with the browser from the start. Which these are depends on which browser and which version you have.

RealPlayer

RealPlayer is a plug-in that allows your browser to play sounds and show films in special RealAudio and RealVideo formats.
RealPlayer can be downloaded from `www.real.com`.

Radio on the net

There are a lot of radio stations on the Internet. Some of them are ordinary radio stations that also broadcast normally. Others are totally new stations that can only be heard over the net. You can hear these radio stations by using your web browser and RealPlayer. Try:

`www.timecast.com`

`www.thedj.com`

`www.firstradio.com`

You can find a list of radio stations at:

`www.yahoo.com/Business_and_Economy/Companies/News_and_Media/Internet_Broadcasting/Real_Time/`

Shockwave

Shockwave is a plug-in that allows your browser to show animations and programs in two different formats (called *Flash* and *Shockwave* respectively). They are used to build small games or cartoon films in web pages. The plug-in can be downloaded from `www.macromedia.com`, but is already included with Internet Explorer 4.0. You can see an example of a web site that uses Shockwave at:

`www.msn.com`.

Quicktime

Quicktime is a plug-in that allows your browser to show films in the special Quicktime format. It can be downloaded from `quicktime.apple.com`. There a quite a few web sites which show films in Quicktime format, including `www.cnn.com`.

Adobe Acrobat Reader

PDF is a special format for laying out pages with text and pictures. PDF files are actually designed for printing out the pages on paper, but for practical reasons it is also used for some web pages. You can download the *Adobe Acrobat Reader* that can display these files from `www.adobe.com`.

Shopping on the net

There are lots of shops with goods for sale on the Internet. The most usual things on sale are CDs, CD-ROMs, books and software, but you can also buy other things. There is an index of English speaking shops at

www.yahoo.com/Business_and_Economy/Companies/Shopping_Centers/Online_Shopping/Some of the best-known shopping sites on the net are **www.amazon.com** (books and music) and **www.interflora.com** (which will send flowers anywhere in the world.).

The level of service for things bought over the net can be much lower than what you are used to. It can easily take a month before what you have ordered actually arrives in the mail. It can also be very difficult to get the firm to take responsibility for a complaint about the goods you have bought. However, you can often save a lot of money by buying in the USA or elsewhere.

Credit card numbers and security

To be able to buy at these Internet shops, it is nearly always necessary that you have an international credit card, like VISA or Mastercard. You order your goods, fill out a form with your name, address and other relevant information, including the number of your credit card.

No matter where in the world you buy a product, it is the law of your own country that applies to a credit card purchase. In most countries, this means that in order for money to be debited from your credit card, you must give proper authorization. Whether this can be given over the Internet is an unanswered question, so in theory it is the firm that sells you the product that takes the risk, as they are sending you the goods without real proof of your identity.

So if money is charged to your account without your actually buying anything, all you need do is go to the credit card company and tell them that the transaction was unauthorized. In most cases, this will lead to the amount being credited to your account. So, assuming you keep an eye on what is charged to your account, there is no great risk involved in buying things over the Internet.

There is a slight risk that a third party could eavesdrop on the personal details you give when making an Internet purchase. To minimize this risk, *secure websites* have been created. All data sent to these pages is encrypted into a special code so that no one except the person running the page can see it. When you request such a secure web page, you will see a dialog box telling you that you are entering such a secure area. You can always check that you are in a secure web site by looking at the status line in your browser, which will display an icon of a locked padlock or key.

While you are in this secure web area, all data sent using a form will be encrypted so no one else can use it. As soon as you leave a secure area, you will see a message informing you that all future pages are insecure.

Customs and import duties

You should know a little about customs regulations when buying over the Internet. If the sender has a presence in an EU land, the VAT is included in the price – exactly as if you were at the supermarket. Depending on the countries and relationships involved, the tax assessed may vary, but you don't have to worry about that.

But most of the business transactions on the Internet involve the USA. If you purchase something here or in another non-EU country, it's *your duty* to pay the appropriate VAT and any applicable customs duties. That is, you must count on an additional cost of at least 16% if you live in most European countries. Random samples are taken; if your shipment is not investigated, then it's your duty to pay the appropriate taxes to the authorities.

Electronic mail (e-mail)

Electronic mail (e-mail) is the method you use to communicate directly with other Internet users. In its simplest form, all you do is send a text message to another Internet user. In most cases, they will receive it within a few seconds.

Most Internet users have an e-mail address. This consists of three parts. A user name, an 'at' sign (@) and the address of the computer the user is attached to. Here are some examples:

torben@prestige.dk

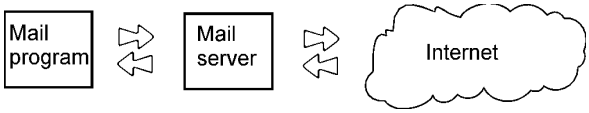
president@whitehouse.gov

tva@dr.dk

On most English language computers the '@' sign is on the '2' key, though you might have to hold down both the 'ctrl' and 'alt' keys simultaneously to access it. It means simply that the user is *at* the computer given in the next part of the address. This computer functions as a *mail server*, meaning that it looks after receiving, sending and managing electronic mail. You will need a mail program on your computer if you want to use e-mail. There are many excellent mail programs available, most of them for free. You will probably have come across Eudora, and Netscape includes an e-mail module. Outlook Express is included with Internet Explorer; I will use it as an example here.

Setting up your mail program

When you start your mail program, it automatically checks your mail server to see if you have received any mail. If you have, it will be downloaded to your computer. When you send a letter, it will be sent from your computer to the mail server, which then takes over and sends it to the person to whom it is addressed.



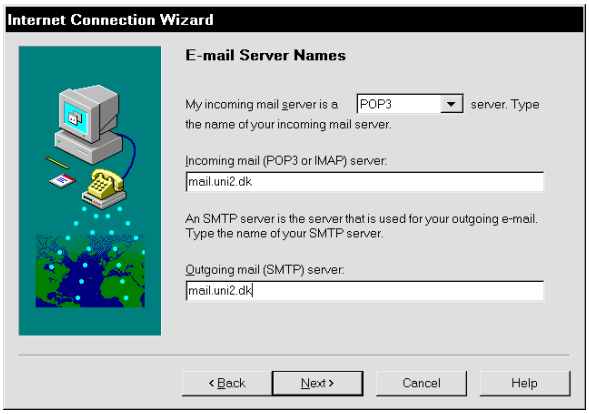
There are several advantages to this way of doing things. First, you can receive e-mail at any time without having to have your computer switched on. The mail server is always operating and it looks after any messages until you collect them with your mail program.

And second, you can access your mail server no matter where in the world you are, and no matter what computer, what mail program, or which ISP you are using. All you need to do is enter your *e-mail address* and the *address of your mail server* and your e-mail program looks after the rest.

Most mail programs ask for these details the first time you use them. All mail programs need to know the following:

- Your name (user name)
- Your e-mail address
- The address of your mail server
- Your password

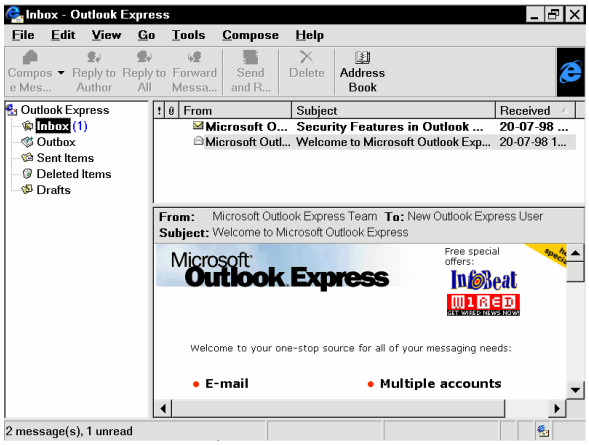
The mail server's address is usually *mail* followed by your ISP's address. For example, my ISP is called prestige, and my mail server address is *mail.prestige.dk*. Occasionally you will find that there are different addresses for incoming and outgoing post. If this is the case, you will have to enter both of them in the mail program.



No matter which mail program you use, the first thing you must do is enter your own e-mail address and the address of your mail server. You cannot use the program before you have done this. You will also be given the choice of entering other information. This can include your name, to be included with all the mail you send, and also an organization name (company or university etc.) if this is relevant.

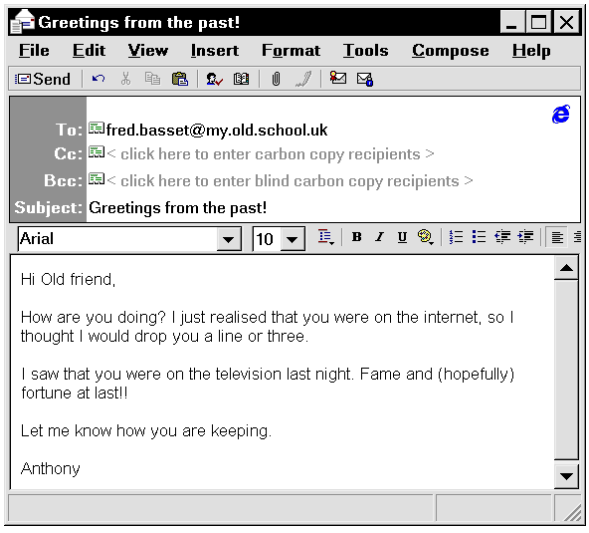
Your e-mail program

Your e-mail program consists of three parts. A number of folders (an in-folder for incoming mail, a folder for mail that has been sent and so on), a window showing the mail in the folder that is open, and finally the contents of the mail that is open.



Sending an e-mail

Click on the *new mail* button to send an e-mail. Type the address of the recipient in the *To:* field. If you want to send it to several different people, you can enter several addresses, separated by commas. The mail will then be sent to everyone whose address you have entered.



It is not necessary to enter your own address; your mail program will do this automatically every time you send an e-mail.

In the Cc: field (Cc stands for *carbon copy*), you can enter the addresses of anyone else you want to send a copy of the mail to. This can be used if you send a mail to one person, but think that others should also see it. For example you may send an e-mail to your boss, and also want other employees to see a copy of it. The original recipient of the e-mail can see that copies of the e-mail have been sent to other people.

Bcc: stands for *blind carbon copy* and is the same as cc:, except that the recipients named in the To: and Cc: fields cannot see that this person has been sent a copy.

The *subject:* field should contain a very short description of the message. Always try and write a good and relevant description. For example, *Resume of our meeting of 22/6* is better than *Hello!* Some people receive many e-mails daily, and the more relevant this subject line is, the easier it is to manage a long list of e-mails.

You use the large text field to write the text of your e-mail. Some mail programs let you control the font, size, and color of your text, but these are uncommon. This means that you have no control over whether the person you are writing to can see your formatting. Unless you are sure they can, it is best to stick to normal text.

Receiving and answering mail

Most e-mail programs check automatically to see if you have received mail when you start them. They also keep your mail, both incoming and outgoing, until you delete it yourself. When you receive a new e-mail, you will see in the list of received mail that there is a new e-mail that you have not yet read. When you have read an e-mail, you can choose to reply to it immediately. This is done by choosing *Reply*, either on a menu or by pressing a button. The sender's address is automatically entered as the recipient of the new e-mail, and your own address is entered as the sender. The *subject* remains the same, but the abbreviation *re:* (standing for *regarding* or *reply*) is added in front. So if you reply to a mail with the subject *Party invitation*, the new subject becomes *Re: Party invitation*. You can always alter the subject to something else if you wish.

You should bear in mind that your reply will usually only be sent to the sender of the original e-mail. This means that even though the mail may have also been sent to others (because their addresses were either in the To: or Cc: fields), these others will not see your answer unless you also put their addresses in these fields. However some mail programs *do* send any reply to everyone who received the original mail – be careful, this may not have been what you intended.

When you reply to an e-mail, the text of the original mail will automatically be included in the new mail. The > character will appear in front of each line to show that it is quoted from the original message. This is often a good idea. If you receive a letter consisting of a number of questions, you can just add your replies in the right places. So your reply will look like this:

```
Hi!
Thanks for your mail. You wrote:
>How do you know if there is an
>elephant in your refrigerator?
That is easy to see. You will notice
the footprints in the margarine.
All the best,
Torben
```

You should only include the original text if there is a reason to do so. Many users of e-mail programs that automatically quote the original mail forget to delete it. So you often receive e-mails that appear, at first glance, to be the same e-mail as you sent out, and you have to scroll through it before you find the reply.

Off-line

If it takes you an hour or so to read and answer your mail, it will quickly become expensive if you are online the whole time. So most e-mail programs let you use them *off-line*. This means that you can break the connection with your ISP ('putting the phone down') as soon as you have received your mail. You can then read it in peace and quiet and take your time replying. When you are finished, you call up again and send your e-mails.

Foreign characters

Some years ago, sending mails that included country-specific and accented characters such as æ, ø, é and ß was a big problem. This problem is virtually solved, as there is now a standard in force for sending them. This has been descriptively named *ISO-8859-1*. Most normal mail programs follow this standard without you having to do anything, so you can use any of these characters. In some programs you may have to specify that ISO-8859-1 be used, as they default to use the American US-ASCII, which only contains standard English characters.

If you are using a computer or program that cannot use special characters, or know that the recipient cannot see them, you will have to use the nearest equivalent English characters, or write things out in full (the £ currency symbol is one example where misunderstandings could arise – safest to use the word 'pound' if you are unsure!).

The @ sign

The @ sign has many different names in different languages. In German it's called a "bracket-monkey," in Swedish a "cinnamon-snail," in Finnish a "cat's tail," and in Italian a "snail." In English it's just referred to as an "at" sign.

Actually, this at sign is several hundred years old. It comes from the Latin word "ad," which means "at" (imagine that!). In the Middle Ages, scribes carefully wrote the d around the a, and thus the sign looks like this today: @.

In England, this symbol was used by merchants for expressions such as "2 carrots @ 5 Pence," that is, more like the French "à."

Gradually, the @ symbol was used less and less – but it still appeared on some typewriters and thus also on the first computer keyboards.

The reason that this symbol became a permanent part of e-mail addresses was that the inventor of electonic mail on the Internet, Ray Tomlinson, needed a symbol to divide the username from the address of the computer. He wanted to be sure that the symbol he chose would not be used for other parts of an e-mail address, and thus he chose @ -- the only symbol on the keyboard that wasn't used for other purposes. This development was also entirely logical since this symbol means "at," which reinforces the fact that an e-mail address refers to a particular user *at* a particular firm or organization. Today, the @ symbol is a symbol of the Internet and of modern communication generally.

Signature

Most mail programs let you compose a *signature*. This is an ending that will be added to all the e-mails you send. For example, I could write *yours sincerely, Torben*, or write out my address and telephone number. If you write to people all

over the world, remember to write your signature in a language they can all understand, which will probably be English.

You should be a little careful with what you include in your signature. It is not certain that you want everyone you send e-mails to know your physical address or telephone number. On the other hand, it can be a very good idea to include the address of your web page, if you have one.

Many people choose to include a quotation in their signature. This is usually a bad idea, as such signatures are usually ignored when reading e-mail. To set up your signature in Internet Explorer 4.0, choose TOOLS|STATIONERY and click on the *signature* button.

Attached files

You can attach any type of file to your e-mails. This is done by choosing INSERT|ATTACH FILE and then choosing a file on your hard disk. You can attach anything, text from a word processor, graphic files, or program files, but remember that the person you are sending the file to should be able to use it. So a Word file will be useless if they haven't got the Word program, and a Windows program is useless for a Macintosh user.

You should also remember that if you attach a large file, it will take a long time for the person you send it to download it. So you should only send large files (bigger than 1MB) if you have arranged it beforehand. When a file is as large as this, it is a good idea to pack it before sending it using a packing program. (read about the packing program WinZip on page 44). Very large files (larger than 5-10 MB) should not be sent by e-mail as they can give server problems both when received and during the transmission process.

Smileys

Smileys are special pictograms that have been invented to show what mood a writer is in. A smiley looks like this: :-) formed by a colon, hyphen and right bracket, and means that the text should be taken to be ironic or a joke. For instance:

```
Yes, the weather in Denmark is al-
ways good :-)
```

If you rotate this page through 90 degrees, you can see that the smiley looks like a smiling face (hence the name). Smileys are used to emphasize the meaning behind a sentence, but be careful not to use too many of them. An e-mail containing many Smileys is a sure sign that the sender is new to the Internet.

:-) This is the most usual smiley. It shows that something should be taken ironically, or just for fun. Sometimes it can be used to add a little energy to a message. The nose is often left out, hence: :)

;-) Shows that the sender is winking. Usually a sign that the message is ironic.

:-(Shows that the sender is upset or annoyed. There are hundreds of different Smileys, most of which are much sillier than this.

:-* Kiss

8-) The sender is wearing sunglasses.

E-mail and net etiquette (netiquette)

Netiquette describes how you should behave on the Internet. As most people are still beginners in the world of e-mail, it often happens that misunderstandings arise because they have not learned how to behave properly on the net. The advice given below is both for your own and others' benefit:

- Never send advertisements by e-mail.
- NEVER WRITE E-MAILS USING ONLY CAPITAL LETTERS! It is nearly unreadable and very impolite, rather like carrying on a conversation by shouting all the time.
- Try not to make your language too harsh. A hard tone in an e-mail often seems much worse than the same thing said in an ordinary conversation, because the people involved cannot see each other's reactions. So you risk getting an angry reply to an e-mail that was meant to be friendly, but was written a little too harshly. A single well-placed smiley can often show what you really mean.
- Sooner or later you will receive a chain letter via e-mail. Do not send them on, and do not answer them. Chain letters are stupid and a waste of other people's time, whether they are on paper or sent by e-mail.
- You will also receive warnings about new, dangerous and mysterious viruses. Some peo-

ple mistakenly believe that e-mail can contain viruses. Ignore them, and do not forward them. In nearly all circumstances, they are a hoax. Mistaken warnings about e-mail viruses spread incredibly fast, and are a kind of virus themselves in that they waste more time than the real viruses that do actually exist.

- Are you sure that you are sending the e-mail to the right person? Many people send their first e-mail from a friend's computer, or from one in a library or school. If you answer this mail, it could well be someone other than the person you think who will end up reading it.
- Remember that e-mail (and all other communication over the Internet) is not secure. In theory, anyone with a little technical knowledge could read your mail. So it is not a good idea to entrust great secrets or wild gossip to an e-mail. Imagine the worst possible situation, that your boss/wife/worst enemy/girlfriend/local police (make your own choice) happens to read that particular e-mail. And remember that people can archive their e-mail for years.
- Remember that an e-mail always exists in at least two examples. Even though you may have deleted your copy, the person you sent it to may have kept theirs. You cannot burn your letters on the net.
- It is very easy to make an e-mail public, by forwarding it or sending it out to a newsgroup (read about newsgroups on page 55). So be careful what you write about!
- You should also be careful about forwarding e-mail you receive. It is always best to check with the sender before doing it. On the other hand, there is no need to be nervous about doing it if there is a good reason for it and you know that no problems will arise.
- Never attach large files to an e-mail -- especially if the recipient is not expecting them.
- Do not over use e-mail. Meaningless and irrelevant e-mails are a nuisance. Some things are better said on the telephone or face to face than by e-mail. E-mail should be used to improve communication, not to confuse things!
- Do not send films, fun programs, or such unless you know that the person you are sending them to will enjoy receiving them. It is quite possible that they have already received them from three other people, and maybe they do not have a computer that can use them anyway.

How can I find an e-mail address?

There is no central register of e-mail addresses on the Internet. But some countries have set up their own directories. The best place to start if you are looking for someone's e-mail address is at one of these addresses:

www.four11.com
www.bigfoot.com

These are international databases of e-mail addresses. Search for a name, and if the person is in the database, you can see their e-mail address. Neither of these two databases is particularly comprehensive. If you don't strike lucky here, then you could try searching directly for the name in a search engine like AltaVista. If you are lucky, you may find the person's web site or web page – assuming they have one – and their address may well be on it.

Web-based e-mail

In the first 25 years of its existence, e-mail was only possible if you had a special e-mail program of the sort we've just described. Today, however, there's another possibility: Web-based e-mail. Here you don't need a special e-mail program; instead, you can send and receive your electronic mail using a Web site on which you're registered as a user. The best-known example of this kind of setup is HotMail – the company that invented it (**www.hotmail.com**). Today, there are many other companies that offer you Web-based e-mail. Here are a few examples:

www.juno.com
www.rocketmail.com
www.netaddress.com
www.mail.com

Web-based e-mail has several advantages as compared to more traditional forms of e-mail:

- Wherever you happen to be in the world, if you have access to the Internet, you can send

and receive e-mail. With traditional e-mail, this is not possible. For example, you could be underway in Nepal, visit an Internet café, and send and receive e-mail using your very own address. If you don't have a computer of your own, you can use Web-based e-mail at the library or on a friend's computer – wherever you can get Internet access.

- Secondly, Web-based e-mail doesn't cost anything, while traditional e-mail costs you money – it may seem like it's free, but only as long as you subscribe to an Internet provider. Often, an Internet subscription offers – even for families – just a single e-mail address. Instead, each family member can set up his or her very own Web e-mail address.
- Thirdly, Web-based e-mail is very easy to use and it doesn't require that you install any programs on your own computer.

But Web-based e-mail does have disadvantages:

- There are many restrictions on how much server space you can use – that is, there's a limit to the amount of e-mail you can store in your account, especially if you receive messages with large files attached to them (image, music, and such files, for example).
- Secondly, there's always the (relatively rare) risk that the server will not be available exactly when you need it most.
- Thirdly, there are security problems with Web-based e-mail. It has already happened at several large mail services that due to errors, many e-mails were deleted or someone gained unauthorized access to other people's e-mail.
- Fourthly, traditional e-mail programs offer you many more possibilities – for example, the sensible storage of e-mail messages, the administration of e-mail addresses, the customization of the program to suit your own needs, and the ability to work offline.

Some people have a traditional e-mail account and a Web-based e-mail account. This way, they can choose which they wish to use and decide which is the most practical solution.

Here's how to use Web-based e-mail

The first thing you should do is have a look at different Web-based e-mail services and decide which one suits you best.

Once you've made your selection, set up your new e-mail address according to the instructions on the Web site. You'll probably have to provide some information – a user name and password at the very least. The user name is the text that stands in front of the @ sign in your new e-mail address. If your user name is *torben77*, for example, and you've chosen HotMail, then your address will be *torben77@hotmail.com*. You can only use your given name as your username if it's relatively uncommon – otherwise, it's possible that someone else has already chosen it. One solution is to put a number after your name – your year of birth or another number that will stick in your head – or you can choose a special combination of your first and last names.

You must remember your username and password at all costs!

Finally, you'll need to find out how your Web-based e-mail service works. In addition to sending and receiving e-mail, one can often

I. organize mail in folders
II. delete old mail
III. create an address list

Generally these tasks are accomplished with the help of buttons, but this will depend on which service you've chosen.

Mood-trends on the net

Every now and again, a new or heretofore obscure Web site will suddenly and unexpectedly become very popular. This can happen if visitors to the Web site send its address to their friends, who send it to their friends, etc. Or sometimes, a news service or another big Web site will create a link to an obscure site – at which point it will be mentioned on other Web sites on the net, and so on, until there are links to it all over the net. Sometimes, a Web site will become popular because it's mentioned in the news. But even Web sites that are just funny or strange can experience a sudden popularity. Sometimes, these mood-trends take over and a perfectly normal Web site will be visited by millions of people in the space of a few days.

Newsgroups on USENET

USENET is a collection of tens of thousands of *Newsgroups*. 'Newsgroups' is actually an unfortunate name as they have very little to do with news! A newsgroup is a more like a sort of discussion club, which is composed of numerous e-mails collected together in one place. Every newsgroup concerns a particular subject, and is full of discussions, questions and answers, suggestions, articles and so on.

There is not a lot of difference between using a newsgroup on USENET and using ordinary e-mail. Instead of sending e-mail to a person, you send it to a newsgroup, where every Internet user can read it.

Just as there are mail servers for distributing mail, there are also *news servers* for distributing articles to newsgroups. All news servers on the Internet are connected via a net (hence the name USENET), which is used to distribute the articles between them. Using this method, an article you send to a particular news group is sent to all news servers all over the world carrying that group within a couple of days. Articles are only stored on a news server for a short time, usually about a week, before they are deleted.

The owners of each news server decide what newsgroups are available on their server. So not every Internet user is able to see every newsgroup. Commercial ISPs usually carry all the main newsgroups (though some of a more radical nature may be censored), while educational, government, and companies will have a much smaller selection of newsgroups available (if any at all!).

A hierarchy of subjects

There are newsgroups for every conceivable subject: philosophy, computers, sex, cooking, Shintoism, kite flying, and much more. Anybody can make a contribution to a group, express their opinion, make a suggestion or ask a question.

As with everything else in the computer world, these newsgroups are also arranged in a hierarchy to make them more navigable. There are at least 40,000 newsgroups at present, and the number is still rising. At the top of the hierarchy are such groups as:

comp	about computers, networks, software, etc.
sci	about science.
rec	hobbies/sports/art/books/films, etc.
soc	cultural and social subjects, religion, etc.
talk	debate about anything and everything
news	about USENET itself
misc	anything which cannot be classified as any of the above
alt	different subjects, anything from TV series to dumb blondes to pseudo intellectual discussions about sex and relationships. In practice this is where most of the action is.

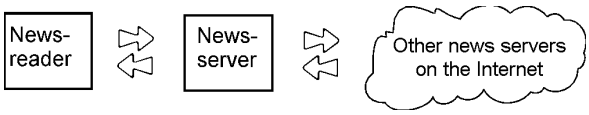
The newsgroups themselves are found further down in the hierarchy, with more descriptive names. If you are interested in African culture, for example, then look in the group **`soc.culture.african`**, if you oppose the Internet, then look in the **`alt.destroy.the.internet`** group, and if you are interested in cats, then **`rec.pets.cats`** is for you.

Newsgroups can be entertaining and worthwhile, but they can also be a complete waste of time. Many contributions are in the wrong place, or are just endless discussions about meaningless subjects. Some newsgroups never deal with the subject they are supposed to, or are openly a spoof group where no real discussion ever takes place. In reality, no more than one third of all newsgroups contain any real activity. There is a huge difference between the tone and atmosphere in different groups. Some groups are dominated by a particular culture or opinion. Others are a permanent battlefield between different groups. Yet more are very apathetic, or concentrate on rather obscure and nauseating subjects (though often in a rather amusing way).

Newsreader

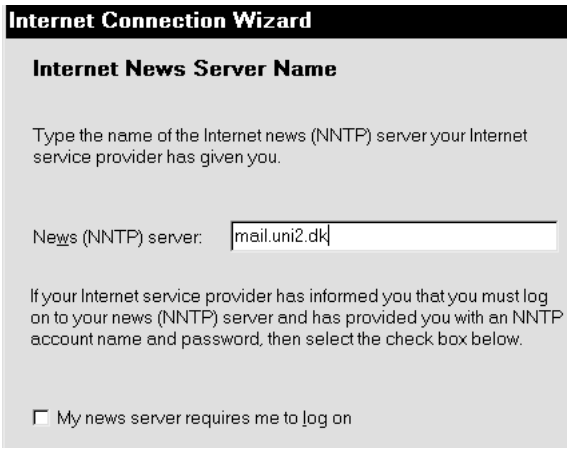
A newsreader is a program that displays newsgroups and their articles for you, and allows you to send contributions to a newsgroup. A newsreader is very similar to a mail program. Just as a mail program sends and receives electronic mail

via a mail server, your newsreader lets you read and send contributions to newsgroups using a news server.



There is often a newsreader included with your web browser. If you use Internet Explorer, your newsreader is called Outlook Express, which is also used as a mail program. It is started by choosing CHANGE TO|NEWS.

The first time you open your newsreader, you will have to enter some information, the most important being the address of your news server. This is often your ISP's usual address, prefixed with the word news and a dot. So my ISP is UNI2, and they run a news server called *news.uni2.dk*.

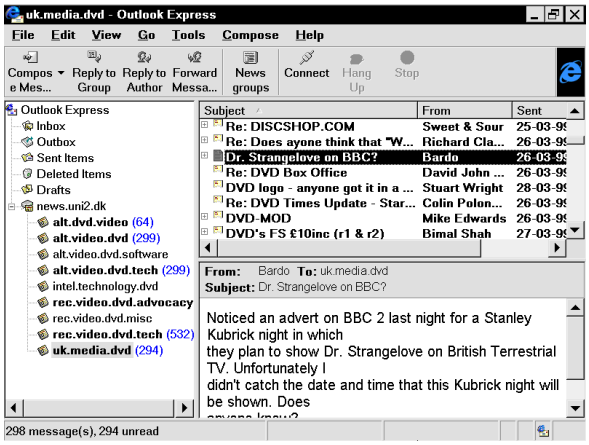


You will also be asked for your name and e-mail address. This is so that people reading your contribution can see who you are.

Subscribing

All news readers let you subscribe to any number of newsgroups you choose. This merely means that you tell your newsreader which newsgroups you are interested in (just like adding a web page to your list of favorites). The first time you start your newsreader, you tell it which newsgroups you want to subscribe to. Some programs will automatically show you a list of all the newsgroups available (very few ISPs carry all newsgroups; most carry only a limited selection). With other newsreaders, you will have to download this list yourself. As this list can be very long, it can take some time to download. Once you have this list, you can mark the newsgroups you want to subscribe to. This subscriber list can always be altered later. If you cannot find the groups you want by working down the hierarchy, you can always search for a word, and all the newsgroups containing that word will be displayed.

You choose a group from your subscribed list by double-clicking on its name. The newsreader will then download the subject lines from all the messages in the selected newsgroup. Then you can click on one of the messages to see it on your screen.



The illustration above is Outlook Express displaying a list of all newsgroups in the top window on the left. The newsgroup **uk.media.dvd** is marked. The right hand windows shows the contents of the newsgroup. I have marked one of the articles, which is then displayed in the big window in the lower half of the screen.

Threads

There can be literally thousands of messages in a single newsgroup. To be able to make some sort of sense of this huge amount of information, all contributions are divided up into *threads*. A thread consists of the *original posting* plus all the answers and commentaries to it and each other. As long as postings keep being sent on the same subject, the thread will continue.

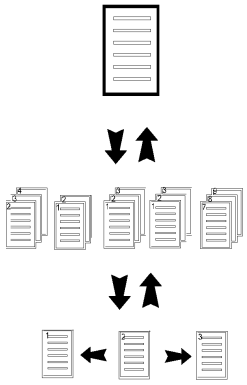
A thread starts when an article is replied to by another user. Imagine that you have sent in an article with **Antique chair for sale** to the **gb.junkshop** newsgroup. All articles replying to this original article will be headed **re: An-**

tique chair for sale and will belong to the same thread. This thread only stops when nobody replies or comments on the articles in it. Some threads can (and do) continue for years.

Most newsreaders are built up around this concept, so that every comment in a thread can be read in the correct order. This means that it is also very easy to drop a thread when you lose interest in it. If a thread has been running for some time, then it is probable that the first article has been deleted on the server, and so it can be very difficult to find out what the discussion is actually about.

Using Newsgroups

When you use USENET, you should know the difference between the three different levels.



Top Level: All the newsgroups you subscribe to. You can remove newsgroups you no longer wish to subscribe to, and add others to the list. If you click on one of the newsgroups in the list, you jump down to the next level.

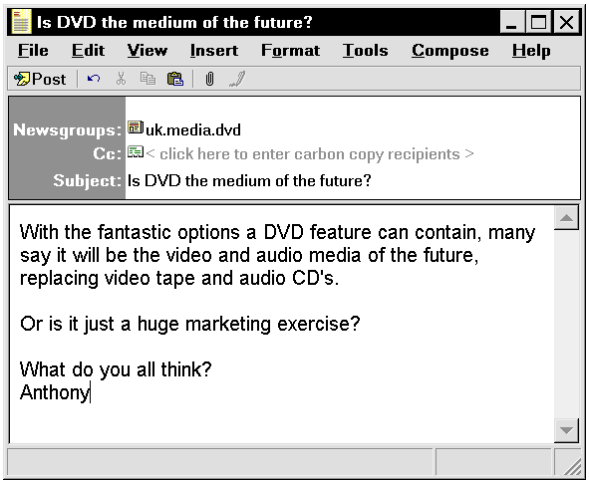
Middle level: All the articles in the newsgroup, sorted by threads. A thread can contain any number of articles. The first article may be too old and hence has been deleted. When you click on one of the articles, you go down to the lowest level. You can also start a new thread by sending in an article.

Bottom level: This displays the article on screen, so you can read it. If there are any Hyperlinks in the text, you can follow them. You can also reply to the article.

Joining in the discussion

In Outlook Express, you join in the discussion by choosing the *Follow Up Article* button while you have the contribution you want to reply to on your screen. What you write will be shown as an answer to that post, and hence part of the same thread. A message which is an answer to another message is also called a *follow-up*. Just as with ordinary e-mail, the program will automatically insert a *Re:* in front of the subject to show that it is in answer to another contribution. Furthermore, the message you are answering will be included as a quote in your new message with a > in front of every line. If you do not think this is necessary, you can delete all or part of it. It is often a good idea to use these quotes liberally, as the message you are replying to will be deleted sooner or later making your reply hard or impossible for other readers to understand.

If you want to start a new subject, then press the *new message* button. Such a contribution is called an *original message*. Make sure you choose a good subject line for your post. A bad subject line will often mean that no one can be bothered to read it. A misleading subject line can mean that others feel they have been tricked into using time to read it. Remember that other users pay to read your message in some way or another, not only with their time but also with their telephone bill, because it takes time to download what you have written. Maybe 1000 or more people will all use a minute each to read what you have written. It soon mounts up.



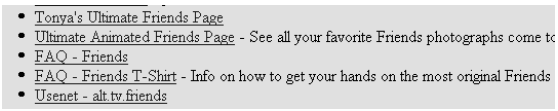
Most newsreaders can manage to use ‘foreign’ characters and symbols. Some newsreaders need configuring to use a special character set as is described in the section on e-mail and European characters on page 51.

Most newsreaders also let you send a personal letter to the author of an article. In this case, the message is sent as an ordinary e-mail and cannot be seen in the newsgroup itself.
When you have read a contribution in a newsgroup, your newsreader will mark that you have read it. Next time you use your newsreader, the articles that you have already read will not be shown. This makes it easier to keep track of all the many articles.

How do you find the Newsgroups you are interested in?

You can find newsgroups you are interested in by looking at the list of all the newsgroups that are on your news server. This will certainly turn up some newsgroups you are interested in subscribing to. But as the list will almost certainly include many thousands of different news groups, it might well be difficult to find precisely the subject that you are interested in.

You can also find newsgroups as links on the World Wide Web. When you search for a particular subject on an index like Yahoo, you will also be shown any relevant newsgroups in the results. These newsgroups will nearly always be last on the list, because they start with the word Usenet, followed by the newsgroup's name.


- Tonya's Ultimate Friends Page
- Ultimate Animated Friends Page - See all your favorite Friends photographs come to
- FAQ - Friends
- FAQ - Friends T-Shirt - Info on how to get your hands on the most original Friends
- Usenet - alt.tv.friends

This shows what happened when I searched Yahoo for information about the American TV comedy show *Friends*. Most of the results show links to ordinary web pages, but at the bottom of the list there is a link to a newsgroup called **alt.tv.friends**. Clicking on this link will start your newsreader and display this group.

FAQ

Many newsgroups are very specialized and use their own jargon. For this reason, it is a good idea to follow a newsgroup for a while before you try taking part in the discussion. It often happens that a large amount of knowledge has been accumulated over a period, especially after the same questions have been asked, discussed and answered several times.

Many newsgroups have an enthusiastic participant who has taken it upon themselves to collect all this knowledge in a file called an *FAQ*. This stands for *Frequently Asked Questions* A FAQ is an article that contains answers to the questions that often appear in the newsgroup. Experienced and long time participants easily get annoyed if a beginner asks a question that is already answered in the FAQ.

There are three ways to find a FAQ. First, it is often sent to the newsgroup itself. Look for a contribution with FAQ as its subject. Secondly, most FAQ's are sent to a special newsgroup called **news.answers**. And finally, you can find an index covering most FAQ's at **www.cis.ohio-state.edu/hypertext/faq/usenet**

Offline

Following the discussions in newsgroups can soon become an expensive luxury if you have to be on-line for several hours to read all your favorite groups. So most newsreaders can be configured to be used offline.

Instead of retrieving the entire contents of a newsgroup, you can choose just to retrieve the subject lines of each individual contribution. Then you simply mark the articles you want to read, and your newsreader will only download the contents of the marked articles.

Newsgroups and netiquette

When you send a contribution to a newsgroup, it is very important that you follow some guidelines for good behavior. The guidelines already given for e-mail should be followed (read about e-mail and netiquette on page 52). And you should also bear these points in mind:

- Avoid asking members of the newsgroup about topics that have already been addressed. See if there is an FAQ for the group and read it first.
- Do not mock, threaten, abuse, hassle, or otherwise irritate other newsgroup users. A mocking or abusive e-mail is called a *flame* or *flamemail*, and can result in a *flamewar*, where threats and abuse fly back and forth between different users. A flamewar can really ruin a newsgroup for everybody else.
- Remember that other members of a newsgroup can come from any country in the world, and from a completely different cultural and social background. You cannot be certain that other users know anything about your country, political system, or popular entertainers.
- Avoid sending contributions to a newsgroup if a personal message to a contributor would be better. Most newsreaders let you choose between these two options when sending a message.
- Give some time to consider what you write. Remember that in principle the whole world can read what you send, including your boss, your children and the caretaker of your building. There is no privacy at all in newsgroups. And all contributions are archived forever – not on the news-server itself, but at `www.dejanews.com`.
- If you answer another contribution, remember to quote it, or describe what it was about in your own words. When others come to read your message, the original could have been deleted.
- Avoid including the entire message you are answering, just include the important sections that you have decided to comment on.

Unfortunately, you cannot count on others following these guidelines. In fact the reverse is true; many newsgroups have a very uncomfortable tone. It seems that most people find it easier to be more stupid, irritating, and negative when they write than they would ever be face to face. For this reason, some newsgroups bear more than a passing resemblance to the walls of men's public toilets!

Newsgroups and mailing lists

Newsgroups and mailing lists have the same purpose; to allow Internet users to talk about different subjects with each other. But there are differences between the two methods.

Old messages in newsgroups are deleted automatically. This means it is sometimes difficult to follow a discussion if you did not see how it started. On a mailing list, the old messages are not deleted. They just stay in your mailbox, and you can decide yourself when you will read them and when you will delete them. You do not need to check with your newsreader to see if any new contributions have been sent. Everything is automatically sent to you.

Furthermore, most mailing lists are controlled, meaning that someone has read all articles before they are sent out. So your mailbox will not be filled up with irrelevant messages that have nothing to do with the subject. On the other hand, most newsgroups are uncontrolled, meaning anything can (and usually does) gets sent to them. There are some controlled, or *moderated* newsgroups, where an individual keeps an eye on postings and participant's behavior, but these are few and far between, and are usually only for very specialized subjects.

Chat

Chat on the Internet means talking to other users by writing text on your screen. It is mainly used for entertainment and the nearest thing to compare it with are telephone chat groups where one can also just jump into a conversation with complete strangers.

A computer on the Internet that runs a program that allows users to chat with each other is called a chat server.

There are two different ways of chatting. One is called *Webchat*, and is simply a web page that you download, which allows you to chat with others who also have this page open.

The other method is to download a special Chat program that you install on your computer, to let you chat with other users who use the same program. No matter what sort of chat you use, most things are the same.

You will always have to give a *handle* or *nickname* when you start to chat. This is the name you will appear as. It is usual to choose a name other than your own, usually something funny, or a set of initials, or a couple of words put together, like ChatMan or The BOSS, No1 or something similar.

A chat server usually is running a number of different *chat rooms*. Chat rooms are similar to ordinary rooms in that when you are in one, you can chat to everyone in the same room, but can't chat to people in other rooms. Each Chat room is for a specific interest. Even though there may be many thousands of people using the same chat server, there are seldom more than 20 people in each chat room. This means that it is more or less possible to keep up with what is happening.

Some chat systems let users create their own chat rooms, and invite others to join them there.

Some chat systems organise their rooms into a system of buildings or pavilions, or some such. This is both to make the experience richer and create an atmosphere, but also to make it easier to keep an eye with what is happening in all the different rooms. There could be a system set up like a hotel, with rooms called 'lobby', 'reception', 'the bar', 'the discotheque', 'the casino', 'the swimming pool' and so on.

Text-based chat programs work by displaying everything said up on the screen. The nickname of the person 'speaking' is on the far left.

```
Hanson> So, where do you live?
PostModern> CPH, Denmark. You?
FlyGuy enters the room
theWitch> Hello?
Hanson> Sorry, I have to go. CUL8R
guest1203 enters the room
calorieGIRL> how are you FlyGuy?
FlyGuy grows wings and takes off
guest1203> Hi, what are you talking
about?
```

You join in the chat by typing something in a field at the bottom of the screen and then pressing Enter to send it.

As well as the talk, you can also see messages telling you who has come into or left the room. Many chat systems also let you do things, so certain commands let your character appear to do something instead of just speaking. This is what FlyGuy did in the example above. The way this is done is very different in different chat systems.

You can usually 'whisper' to another user, meaning that you can send a private message, which only you and they can hear.

Webchat

The advantage of Webchat is that you do not have to install a new program on your computer – just find a web site offering chat, and start communicating. But Webchat is more limited compared to dedicated chat programs, and the options available are often clumsy and difficult to use. Different Webchat pages are of different qualities.

Here are some examples of the chat genre:

```
www.talkcity.com
HTMwww.go.com/Chat
chat.yahoo.com
www.chatworld.com
```

Each Webchat-page works differently, but there are some things they all have in common. You fill out a field with a *nickname* or *handle*, which is the name you want to be known as. When you want to say something, you write your text in a field and then click on a button to send it. All Webchat systems are built up like IRC, which is described below.

If you spend a lot of time chatting, you will get bored with Webchat very quickly and will probably want to try one of the real chat programs. In my opinion, the program described here is the best one available.

The Palace

You can download the chat program the Palace for free from the company's homepage:

`www.thepalace.com`

The Palace is a graphical chat program, which means that the chat room and participants are depicted graphically on your screen.

The program is easy to use. You install it, start it, and choose the menu item FILE|CONNECT, whereupon the program connects you to the Palace server. Then you'll see many tiny figures, most of which look like green balls with faces. These are the users who are currently connected to the server. If you want to say something, type it in the little field under the picture. In just a moment, you'll see your comment appear in a speech bubble above "your" head. It's worthwhile to activate the menu item OPTIONS|LOG WINDOW – this helps you maintain an overview over who's saying what.

If you click on doors, windows, steps, and other things, you can move about the palace, and perhaps even find a quiet place to have a long chat with one of the ball-people. If you'd like a bird's-eye view, choose the menu item OPTIONS|GOTO ROOM.

In addition, you can adorn your person with various items by clicking on the little suitcase in the lower right corner: a t-shirt, a hat, a bicycle, a parrot, and many more.

A visit to the palace costs you nothing, but of course it's also possible to pay something and get additional privileges. In this case, you gain entrance to further rooms, you can create your own figure instead of being just another little green ball, and you can leave objects on the screen for other people.

ICQ

ICQ – pronounced "I seek you" – is a chat program that does not lock you in a chat room, but instead, allows you to call other users. While with other chat programs, chatting is rather like going to a bar and talking to the people there, ICQ is more like a telephone. If other people have this program – and millions of others do – and it's currently running on your computer, then you can talk to them. You can create a list of friends and acquaintances and keep track of who's on the net at any point in time. Many people use ICQ as an e-mail program if they want to establish contact with other people.

You'll find the program at `www.icq.com`.

Gooey

Gooey is a chat program that you use with a web browser. Here, the chats are not divided into rooms, but instead, you chat with other Gooey users who are currently on a particular web site using the browser. If, for example, you go to the Filmsite Internet Movie Database

(www.imdb.com), you can chat with other film fans. If you change over to CNN (www.cnn.com), you can chat with others who are interested in this web site. Here, for example, you can pose questions about how to use this web site, discuss its advantages and disadvantages, talk about current events, or just find other people with similar interests.

You'll find Gooey at www.gooey.com.

Nine Good Tips

1. Get used to using the right mouse button in your browser – the popup menus are often useful.
2. If you're loading a big file or Web site, don't waste your time – open a new window and do something else while you're waiting.
3. A long list of your favorite Web sites is as good as gold and can save you a lot of time. Don't forget that you can add search pages to this list.
4. If you want to keep current on what's happening on the Web, check out Yahoo's *What's New* feature as often as you can.
5. Only use a search engine if you've already searched a Web index like Yahoo in vain.
6. Take a careful look at the URL of a Web site. You'll soon learn to read certain kinds of information out of it – where the Web site is, whether a company or private person is behind it, what it's about, and above all: is it worth your time to look at it?
7. Make yourself a personal homepage if you have the opportunity to do so. It's fun, you'll learn a lot, and you'll make the Web a better place. In the booklet *Web Design*, you'll learn more about this topic.
8. Every now and then you should check whether your web browser is up-to-date. It could be that a new version has come out, or that a new (and better) competitor has come onto the scene.
9. Eat healthy food, drink lots of water and get enough sleep!

Be critical

It is more than probable that the Internet will quickly become a part of your everyday life. Before you have realized it, you have got into the habit of using e-mail regularly, and searching the Internet before going down to the library or looking in the telephone directory. For your own sake, it is a good idea to give some thought to questions like how much security you want or need, how active you will become on the Internet, how much you wish to guard your private life and so on.

Private life

Before you begin to use e-mail for your job, studies, or private life, you should be aware that e-mail can rapidly become an onerous duty and an invasion of your private life. E-mail can be used to get employees to work in their free time, and to send up to the minute, but totally unnecessary information, which does nothing but waste people's time.

If you begin to use e-mail seriously, it means that you may have to check your mail regularly, often at least once a day, or maybe more often. The Internet can quickly become an enormous influence on your everyday life.

Be critical

Experience shows that people often forget to use their critical faculties when something new and exciting bursts on the scene. The famous American radio broadcast of 'The War of the Worlds' and the panic it created shows that a new medium can appear to be much more trustworthy and impressive than that which it supersedes, for no other reason than that it is new. There is no reason to make the same mistake with the Internet. There are as many lies, exaggerations and incorrect information on the Internet as there are on any other media.

How can it all be free?

Nearly everything on the net is free. You can find free current affairs and up to the minute news, free programs, and free information about every subject under the sun. But you should be a little sceptical when things are just given away, because there is usually some motive for such generosity. The firm or person who is giving something away will nearly always want something in return. Many web sites are supported by advertising revenue. Of course they want you to stay there as long as possible so you see as many advertisements as they can push at you.

Some firms offer free information about a certain subject in the hope that you will end up buying a certain product. It can often be harder to differentiate between marketing and real information on the Internet than in traditional media.

At other web sites you 'pay' for all the free information or service by giving personal information about yourself, your age, occupation, income, and so on. The purpose of collecting these details is usually to be able to come back and try and sell you something. It is also very probable that the information collected will be sold to other firms who will also use it for marketing purposes.

Information overload

There is a nearly infinite amount of information on the Internet. A search for a relatively obscure subject can give several thousand web pages as a result. A web page about something that interests you can contain several hundred links to other similar pages. The consequence of all this is that you will get used to making quick decisions on whether you have found what you are looking for. You will have to learn to skim over text very quickly (in every language you can understand) if you cannot already do that.

The Law

Due to the Internet's decentralized structure, there is no common, agreed, international law that can be applied to it. But some countries try to make laws that apply to their part of the net. In countries such as Iraq and France, it is illegal to use programs like PGP to encrypt e-mail This may well mean that it is also illegal for someone to send an e-mail encrypted in this way from a country like Denmark, where the program's use is legal, to a country where it may not be used. In theory, it might also be illegal to send encrypted e-mail that *crosses* France's borders on its way to the recipient. In practice, no one knows how a court would react if a case of this kind was ever to be taken up.

Security

Unfortunately, there are many security issues and problems connected with using the Internet. Many of them have no solution at present, but this makes it no less important that you know they exist.

There is a general problem in that you leave electronic footprints everywhere you go. Every time you connect to a server, that server can:

- See which type of web browser you are using.
- See which web page you were on before you arrived at that server.
- Read your IP address. If you are a private user, all this means is that the web server can see which ISP you use. If you are sitting at work, then your address may well show the name of the company you work for. So at `www.playboy.com` they can see how many visits they have had from your workplace or school. Technically, it is possible to find out exactly which computer visited the site.

But a web server cannot discover your e-mail address.

On several occasions, serious faults have been found in web browsers, meaning that in theory, a server could read files on a visitor's computer. These faults have always been fixed immediately, but what about the faults that no one knows exist yet?

Another example of your digital footprints is the list of web sites you have visited. Other people who use your computer can follow your movements around the net in detail.

A third example is if you have a home page containing personal information, things like what you do, your picture, your home address, and so on. Think that millions of people can see you, learn your address and so on. I really do not know if this is a problem, because it has never been possible before, but I am sure that some people will find unpleasant and undreamed of ways to use this information.

You should also be aware that it is very easy to search on the Internet. Using DejaNews (see page 59), anybody can search for your name in all existing newsgroups in just a few seconds. This means that anyone could be watching everything you write, even though you thought that you were only talking in a little private news group without many members.

A further security risk is a little file included with the Netscape web browser, innocently named *cookies.txt* When you connect to a web server, the server can enter certain messages here. This is usually used to save any configurations you have changed on a web page, so that you find the same options available next time you connect to the same page. But there is no guarantee about what is being written in your 'cookies' file. It could also be personal information that you have given out without thinking, and that then can be used to target advertisements or some such. So be careful when filling out on-line forms that ask you to give personal information.

I could go on describing security and privacy problems like these, but that is not really the point. The point is that you should understand that you can be observed in many ways without you realizing it.

The best way to protect yourself is to be aware of the risk, and always be careful. Even though you may have nothing to hide, you have every right to protect your private life. It is better to be too careful than to believe that no one is interested in knowing anything about you. There is no doubt that in the future, cases will arise of companies and individuals who have misused information about people's private lives obtained by disingenuous means from the Internet.

Glossary

32 bit Used in many different ways, but when in the context of a Windows program (the most common usage) means that it can only run under Windows 95/98 or NT, and not Windows 3.11.

AOL American on-line service (the largest in the world).

Applet A small program written in Java and designed to be built into a web page.

Au A format for sound files

Avatar A visual representation of an Internet user, which can be in the form of a cartoon figure, a three dimensional shape, a photo of the user, and so on. Avatars are used especially in chat programs, where you do not see the actual person you are chatting with, but their avatar instead.

Avi A format for video files

Bandwidth The name given to the capacity of a connection on the net. The bigger (or wider) the bandwidth, the faster data can be transported. At the time of writing, bandwidth in most places is not wide enough for downloading film or other types of data, which make such huge demands on a system.

BBS Bulletin Board System. An electronic meeting place where a user can find files or communicate with other users. There are BBSs on the Internet, and there are BBSs not on the Internet that can be reached via a their own telephone number.

Beta A program that is not yet finished, but is released so users can try it out. It is best to avoid beta releases unless you really need the newest features. Remember that they can give problems. They are sometimes known as 'Preview versions'.

Bounce When an e-mail is returned to the sender because it could not be delivered to the address given in the to: field.

Cable-modem A special modem used when you access the Internet via cable TV instead of the telephone system.

Client A client is a program that asks a server to perform an operation for it. Examples of client programs are web browsers and mail programs.

Coffee (also Tea, Cola etc. etc.) Something you can drink an awful lot of while waiting for web pages to download.

Cookie A little piece of information that a web server saves in a file on your computer, so it can be used at a later date. So if you give your name and address to a web site when you buy something, then next time you visit the site, you will be recognized and so will not have to give this information again.

Crosspost To send the same contribution to several different newsgroups, all of which cover relevant subjects.

Cyber anything connected with the net.

Cyberspace A word invented by the science-fiction author William Gibson, which describes the global computer network of the future. It is now often used to describe the world found on the Internet. It is a word with a very broad meaning, and is also used in connection with virtual reality techniques. The word cyber is misused all over the place, and usually does not mean more than 'we are also on the Internet' (cyber actually comes from the Greek kubernan = to steer, and is used scientifically when control systems are being discussed).

Dedicated Internet connection A direct Internet connection (i.e. without using a telephone line and a modem). With a dedicated connection, you are always connected to the Internet.

Dialer The program used for calling up your Internet service provider.

Dialup Internet connection Connect to the Internet via a telephone line and a modem. With a dial up connection you are only connected to the Internet temporarily, until you tell your program to break the connection.

DNS Domain Name System. A system that 'translates' a computer's address to four numbers separated by full stops or 'dots' (*For example from gator1.uni-c.dk to 130.225.253.128*). An address in this form is actually the only way a computer can understand it.

Domain The area that a computer belongs to. A computer with an address *imv.aau.dk* is called imv and belongs to the *aau.dk* area (which for those in the know is the university of Aarhus in Denmark).

Download To transport a document or other type of file from a computer on the Internet, or a BBS, back to your own computer. See upload.

EFF Electronic Frontier Foundation An organization that fights for the standpoint that some of the rights named in the American constitution (for in-

stance, freedom of speech) should also be enforced on the net.

E-mail, e-post Electronic mail.

Encryption Coding of data so that it can only be read by a recipient who holds a key, and not by anyone else who may intercept the message. See PGP.

Extranet An intranet that has been expanded to include a firm's customers or other selected organizations.

FAQ Frequently Asked Questions. A list of the most common questions about a subject, together with answers. Read every FAQ you find; you will become much wiser.

Firewall A security system between a local network and the Internet that is used to protect the former from users of the latter. It is a computer that all Internet traffic has to pass through, and that is programmed with a number of rules governing what type of traffic is allowed through. Firewalls are often used by companies that are connected to the Internet, and they often give problems, as some programs cannot be used from behind a firewall.

Flame, flaming slang for reacting aggressively against a person in a newsgroup. Acting aggressively means to throw insults, threats and so on at them. It is good netiquette to avoid flaming other users.

Freeware Free software. There is lots of it on the Internet!

FTP *File Transfer Protocol*. A protocol for transporting files on the Internet. When you download files from a web page (like from www.shareware.com), you may notice that the url does not start with http:// but instead begins with ftp:// - There is no noticeable difference for you as a user. There are also dedicated FTP programs that are used to transport files between computers.

Gateway A computer or program that translates from one protocol to another. As the Internet functions with common protocols, there is no need for gateways on the Internet itself. But there are gateways to other networks and on-line services, so it is possible to send e-mail from one system to another.

GIF A graphic format that is often used on web pages. Uses 265 colors and is most efficient for simple drawings.

Hit Every movement in a web page. A movement is when one downloads a page, presses a button on a page, follows a link to another page and so on. Popular places like Yahoo or `www.playboy.com` can have several million hits a day.

Homepage The central web page in a collection of web pages. A home page is usually a combined welcome to users, a front page for the site owner, and an index to other pages on the site. The word is also used to describe the web page that is shown when your web browser starts.

Host A computer offering some sort of service to users on a network. This could well be as a webserver.

HTML HyperText Mark-up Language. The language used to write web pages. Actually text files with built in markings that are interpreted by the web browser. The current standard is HTML 3.2.

HTTP HyperText Transport Protocol. The protocol used to transfer HTML documents (web pages).

Hyperlink See link.

Hypertext Text containing links, which are connections to other pieces of text or other resources (like other web pages).

IE4 Microsoft The web browser Internet Explorer 4.0

Infobahn, the The European equivalent of the American 'information superhighway'. Both of these are phrases dreamt up by politicians (or their public relations firms), who have never really caught on.

Internet2 An experimental network that connects academic institutions. Much like the Internet, but much faster. The Internet2 is used for transferring video or other resource-intensive data. Knowledge and technology that is developed here will eventually be applied to the Internet.

Internet service provider (ISP) A company offering connections to the Internet.

Intranet A local net using the Internet protocol TCP/IP and ordinary Internet software. An intranet can be connected to the Internet, but it does not have to be.

IP Internet Protocol. See TCP/IP.

ISDN A type of digital telephone connection that offers more possibilities than a normal (analog) connection. For example, it offers a faster connection than a normal modem.

Java A programming language used to write programs for web use, which can be stored on web

pages, and then automatically downloaded and used on your computer.

Javascript A programming language that can be built into a web page itself, and can be used to develop the functions on that page. This can give moving buttons, animations, simple games and so on. Javascript and Java are two completely different languages.

JPEG, JPG A graphic format that is often used on web pages. Uses 16 million colors, and is very efficient for photographs.

Link A connection from one web page to another web page, or to a film, a sound file, a picture or a program. Connections usually consist of a word that is highlighted with an underline and a special color, but a link can also be a picture or part of a picture.

LISTSERV A program used to administer mailing lists.

Lurker Someone who follows a newsgroup without taking part themselves.

Mail server A computer on the Internet that can receive and send electronic mail.

MIME Multipurpose Internet Mail Extension. Despite its name, a standard description of file formats.

Mirror server or mirror site When a file server or web server becomes overloaded due to its popularity, a mirror site is often set up. This is another server that contains exactly the same files or web pages as the original server. Mirror sites are often set up on different continents so that everyone can get quick access.

Mov Extension for a video file in the Quick-Time format

Mozilla Nickname for Netscape (and the name of the green dragon that is Netscape's mascot).

MP3 Is an audio file format. MP3 files are mainly used for music, as their quality is virtually the same as that on an ordinary CD. Music in MP3 format fills about 1MB per minute, so most pop songs will take 3 - 4 MB. Even though these files are big, they are a revolution for sound files; the files on an ordinary CD are up to eight times bigger for the same quality.
MP3 files are often mentioned in the same breath as criminality on the net, as they are often used for pirate copies of music, distributed via the Internet. But there are also many sites where MP3 files have been placed with the full co-operation of the artists concerned, who can then sell their own music without having to use the music industry's distribution system (another reason the MP3 format is unpopular with the industry).
The term MP3 is the second most used search word on the Internet. If you can't guess what the most used one is, then read about `searchterms.com` on page 31)

MSIE Microsoft Internet Explorer Browser. Internet Explorer is the most popular web browser, with Netscape Navigator in second place. One reason for this is that Internet Explorer is pre-installed on most new computers. It has some advantages and disadvantages compared to Navigator. Which you prefer to use is mainly a matter of personal choice.

MSN Microsoft Network. An on-line service owned and run by the software giant Microsoft.

Nameserver A computer that runs DNS. Your Internet service provider has a nameserver that translates all computer addresses to numbers.

Newsgroups Discussion areas where Internet users can discuss, comment, and ask questions . Each newsgroup concerns itself with a single subject.

Newsreader A program that is used to read and send articles to newsgroups on the USENET.

NNTP Network News Transfer Protocol. The protocol used to transport newsgroups over the Internet.

On-line service A commercial network for paying users only, often based on different technology to the Internet. In practice, the borders between the Internet and on-line services are becoming very blurred. The most widely used on-line service is now AOL (still known as America on-line in the USA).

PGP Pretty Good Privacy. A program used to encrypt information sent over the Internet. Worth using if you are worried about third parties intercepting and reading your messages. Illegal to use in some countries.

Plug-in A program that is like a building block that can be added to another program to give it new functions. There are many Plug-ins for Netscape, allowing it to show films, display special text formats, three dimensional worlds and so in, directly in Netscape itself.

POP Point Of Presence. A telephone number where you can connect to the Internet. Even though an Internet service provider may be in one place geographically, they often have different

telephone numbers in different locations, so users need only call up a local number to connect.

Portal A portal is a web site that functions as a 'door' or starting point to the net. Portals always include an index of web sites and search tools. They often include other offers, like free e-mail, news about what is happening on the web, interesting places to visit, and so on. Many users use a portal as their start page as it is a good place to start a web tour. Well known portals include **www.yahoo.com** and **www.netscape.com**.

Protocol, A set of standards for the transmission of data on a network. Protocols may be on several different levels. The basic protocol standardizing all communication over the Internet is called TCP/IP, but above this, individual types of program function with their own protocol. HTTP is a protocol, Gopher is a protocol, and e-mail is a protocol.

ram Extension for files in the RealAudio sound format that can only be played by the RealPlayer program.

Server A program or a computer that can offer a service to a client, as when a web server gives access to a web page, or a file server gives access to software.

Shareware Software that may be copied and distributed without charge (via the Internet, for example), but that should be paid for if it is used for longer than a limited try-out period (usually 30 days).

Site A 'place' on the net - actually a server. In normal use, the term is not so much used to describe a server, but a collection of pages on a particular server.

Snailmail The old-fashioned letters that are delivered by the postman!

Spam, spamming 1. Unsolicited advertising sent out in mass e-mails. 2. A not particularly pleasant activity that consists of sending the same message to many newsgroups, no matter what the groups are actually about. Originally, the expression comes from a well-known Monty Python sketch, in which a restaurant served the lunchmeat Spam (cheap ham) in every dish.

Surf moving around the web with no other purpose than to be entertained.

TCP/IP Transmission Control Protocol/Internet Protocol. The standard that makes everything possible. The basic 'language' of the Internet .

TCP/IP-stack A program that you must have on your PC as a layer between the client programs (like a web browser) and the Internet. The TCP/IP stack calls up your Internet service provider and manages all communication (that is made using TCP/IP). Windows 3.1 and 3.11 do not include a TCP/IP stack, and so you will have to install one yourself.

Trumpet Winsock One of the many Winsocks available free on the Internet.

UNIX A very common operating system for servers on the Internet.

Upload The opposite to download. To copy a file from your own computer to one of the computers on the Internet.

URL Uniform Resource Locator. A standard for resource addresses on the Internet. These resources can be web pages, programs or other files, e-mail addresses, and many other things. A URL describes the exact address and which protocol should be used to access the resource. Examples: **www.jubii.dk** and **mailto:president@whitehouse.gov**, URLs that describe a Danish search engine and the American president's electronic address, respectively.

Usenet A large group of newsgroups, where users can discuss and exchange viewpoints on all sorts of different subjects via e-mail.

Virtual A very misused word, given meanings from 'artificial' to 'non physical', 'not real' to 'anything taking place electronically over the Internet'.

VRML A language used to construct three dimensional objects on the web. There are VRML worlds on the web that you can visit if your web browser is expanded with a plug-in that can display these files.

Web browser A program that is necessary to have in order to be able to read and navigate around web pages on the World Wide Web. Netscape Navigator and Microsoft Internet Explorer are the best known web browsers.

Web pages Files written in a special HyperText format (see HTTP). Web pages can contain text, pictures, film, sound and links to other web pages.

Web server A computer connected to the Internet that runs a program allowing users to download and view web pages on their own computer.

Winsock Windows Socket. The name of the TCP/IP-stack for the Windows operating system.

World Wide Web A gigantic collection of web pages, pictures, text files films and sounds which are all connected to each other via links.

XDSL A designation for several technologies, which enable permanent and fast Internet connections over a normal telephone connection. These technologies, which include ADSL, HDSL, and SDSL are often collected under the term xDSL. For private users, XDSL represents a realistic alternative to ISDN or an analog modem connection.