



Congreso de la República del Perú

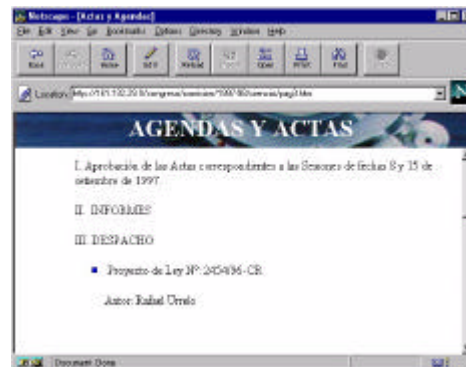
Tradición y Futuro del País

TRAINING PROGRAM FOR THE APPF MEMBER COUNTRIES ON THE INTERNET AND WEB PAGE DEVELOPMENT

INTRODUCTION TO THE INTERNET e-mail AND WWW DEVELOPMENT RECOMMENDATIONS WEB PAGE DEVELOPMENT WITH HTML

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```



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Schedule:
Classroom:

**TRAINING COURSE
ON THE INTERNET AND WEB PAGE DEVELOPMENT
FOR THE APPF MEMBER COUNTRIES**

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CHAPTER I

INTRODUCTION TO INTERNET, WWW, AND e-mail

The world network of networks, Internet, is considered an inexhaustible source of information. Just one of its services, the World Wide Web, offers more than 60 million pages with data in text form, images or sound. The management of this tool permits the user to know the latest advances about almost any subject that is taking place in the world. Nevertheless, it is essential to know what it offers and how to access its services. The objective of this manual is to facilitate the entry into this sea of information that is Internet; in it are described all the tools that it offers and some tips to speed up the information search within the Network.

1.1 Internet: network of networks

The computer network, Internet, was born in 1969. It was created by a group of researchers from the Defense Department of the United States to establish a communication system with other agencies of the Government. The fear that an attack could destroy all the information stored in the same place obliged them to avoid storing the information in one single central computer and, instead, store it in multiple interconnected computers. It is currently estimated that Internet groups 25,000 networks, that communicate among themselves through telephone line, fiber optics or via satellite.

Until the end of the eighties, Internet was mainly used by American researchers and academicians, but in the present decade, since it began to become popular among all kind of persons, it has grown at an unrestrained pace, which makes a census in Internet as impossible to carry out as counting the heads in a riot. Mindful of this, the Internet population can be anything between 10 to 100 million users approximately.

The Internet does not have a director to manage or control it. Neither does it belong to a private or governmental entity. The majority of its services and resources are offered on a free basis to its users.

1.1.1. How to enter Internet

To connect to Internet the following implements are required:

A computer:

It is recommendable to have at least the following specifications: a 486 CPU or bigger, 4 or 8 megabytes (MB) of RAM memory and a 200 MB hard disk.

Modem:

Most computers in the market today include an internal modem; should this not be the case, this can be bought separately in the market, and connected through a cable to one of the serial ports of the PC. Its speed is measured by the number of bits of information that it can transfer per second (bps). The market offers modems of 14.400, 28.800, 36.600 or 52.200 bps at a price that is directly proportional to its speed. This means that the faster the transmittal of data, the lesser the connection time to the network. For example, a 28.800 modem downloads or uploads 3600 words per second of connection; this means that a 145 kbytes document would take 8.05 seconds to fully appear on the screen.

Common telephone line:

It is a standard domestic use telephone line. All data and information is transmitted through this media.

Access provider:

This connects computers with the operating system of Windows as well as Macintosh. There are many companies that offer links to Internet and the price of such connections has been dropping steadily. The first providers in the market used to charge an initial fee and monthly fees that were far beyond the means of the average budget. The use was always for a limited number of hours and with overcharges for additional connection time.

Currently, the majority of the companies offer unlimited access for a fixed monthly fee and an initial registration fee. This includes an e-mail box with unlimited storing capacity.

1.1.2 Interface through fiber optics

Interfacing Internet through fiber optics defeats the greatest limitation of cyberspace: its exasperating slowness. The purpose of the following article is to describe its mechanisms, advantages and disadvantages.

To navigate through the network of networks, Internet, not only do you need a computer, a modem and some programs, but a great dose of patience. A user may have to wait for several minutes in order for a page to load or several hours trying to download a program from the network to your PC.

This is due to the fact that the telephone lines, the media used by the majority of the 50 million users to connect to Internet, was not meant to transfer videos, graphics, texts and all the other elements that travel from one site of the network to the other.

But telephone lines are not the only means to reach cyberspace. There is a service that allows the user to connect to Internet through fiber optics.

Pros:

Fiber optics makes it possible to navigate in Internet at a speed of two million bps, which is inconceivable in the conventional system, in which the majority of the users connect through 28.800 or 36.600 bps interfaces.

Another advantage of the service is the immediate access to Internet. In a telephone connection, the user has to wait for his PC to dial the number of his network access provider; if the line is busy, the process can take several minutes and, in some cases, hours. Through fiber optics, the person only has to activate his browser and he is already connected to Internet (browser, a visualizer, a navigator or explorer is a program that is used to navigate in the network).

Another benefit: as this connection is not through the telephone line, the call can not be disconnected. It is common that after several hours of downloading software through the Internet, the communication gets cut and you have to restart the whole process. With fiber optics this never occurs. The connection is direct and permanent. In addition, your telephone line is not going to be busy while you are navigating.

Cons:

The disadvantages of fiber optics services are: the limitation to connect to Internet from more than one single place, the initial cost and a higher monthly fee.

Since the connection is made through a fiber optics line that passes close to your house, you can only connect to Internet when you are physically there. By the conventional system, instead, there is no

limitation. As there are telephone lines in any part, the user can navigate from home, the office, a hotel, a cellular telephone...

Likewise, only persons who live in the zones of the city which already have a fiber optics network installation can connect through it.

The initial cost is another impediment. The traditional system of connection only requires a PC, a modem (the apparatus that allows computers to communicate by telephone lines). A modem costs between 100 and 200 dollars and the majority of the PC come with one included (i.e. you do not have to buy one separately).

In the case of fiber optics, it is necessary to buy a cable modem which is the equivalent of the modem in the other system, as well as a network card for the PC.

You also have to pay for the initial connection. In the other system you do not have to pay anything because you already have the telephone line at home.

The monthly fee too is higher for a fiber optics connection: the majority of the companies which offer the services do not charge by the hour, but instead for the amount of information transferred to the computer that is measured in megabytes.

The telephone line connection has a variety of plans and prices offered by a number of companies that allow for unlimited connection time.

1.1.3 10 big mistakes on Internet

The largest and fastest growing areas within the Internet are the three "M": the Myths, the Misunderstandings and Misinformation.

Now that the network has become so popular, each newspaper, each radio station and television station has an opinion to offer to Internet backed up by a collection of half truths, misinterpretations and absurdities. The following paragraphs will reveal the truth hidden behind the ten biggest mistakes on Internet.

Mistake 1

The number of users is known:

As previously mentioned, carrying out a census of Internet users is like trying to count the heads in a riot. You know that the number is fairly big and there is a great possibility of counting some heads and leaving out a great many, given the physical impossibility of searching in every corner.

Naturally, none of these ambiguities prevent market researchers or interested corporations from trying to determine the size of the Network. As a matter of fact, during the 10 month term that ended in the middle of 1996, at least 10 top level analysts tried to count the number of Internet users. The definitions of what they were counting were all very different: they varied from very vague to very specific information on the subject.

Their numbers varied even more than their definitions from 5.8 million "North American users" with direct access to the Network up to 17.6 millions of "Home and office users within the United States of America". During the same year other writers and researchers issued estimates that confirmed that the base of Internet users at world level started at 23.5 millions (International Data Corporation) and reached up to 60 millions (Bob Metcalfe, InfoWorld).

Notwithstanding, after this jumble of numbers, we can conclude that the Internet population stretches from anywhere between 10 to 100 million users, approximately.

Mistake 2

Pornography is abundant

There are some dark alleys in cyberspace, some of them very dark indeed, but they represent a modest and perhaps microscopic amount of network traffic.

Some time ago, the Time magazine of the United States published a story titled "Cyberporn", based on a research called: "Commercialization of Pornography on the Information Highway", and repeated the absurd lie that 83.5 % of the images in Usenet are pornography. The research paper published by Martin Rimm from Carnegie Mellon University turned out to be a complete fraud but this did not prevent it from hitting the headlines.

The journalist Brock N. Neeks from the CibeWire Dispatch online publication won a prize for his report on the Time/Rimm scandal. What was its conclusion? Based on the data provided by Rimm, it determined that pornography at the most represented around 0.5 % of the daily cyberspace traffic and there is still no serious research that can contradict this figure.

Nevertheless, there is no doubt that the sensuous sites are quite popular. According the registers of one of the most important search services, sex, nude, www, chat, software, game, Windows and Microsoft are the most popular keywords introduced in the search mechanisms. However, it is almost impossible to accidentally encounter pornography or Nazi propaganda in the Network and it is almost impossible not to find it if one searches for it. The software solutions such as Solidoak,

Netnanny, Surrwatch and Microsys do a great job of hiding this pages with an X classification from youngsters. But these truths don't make good cover stories.

Mistake 3

The network has no limits

In reality Internet is on the verge of loosing the most precious natural resource that it needs to continue expanding: the numbers of the networks. According to the Engineering Task Force Committee of the Internet, which is responsible for providing a solution for this impending crisis, the current numerical scheme to assign IP addresses (unrepeatable numerical address that all computers connected to Internet need) will be complete used up by a little the year 2000.

Robert Hinden, partner of the IPng work group (Internet Protocol for the next generation) states it clearly: "Internet will eventually get left without network numbers. There is no doubt that an IPng is necessary, but no one knows exactly when." Fortunately, IPng has passed from engineering to the real world with results like IPv6.

The current IP addressing scheme of 32 bits (IPv4) allows for a theoretical maximum scarcely under 4.300 millions of addresses in the nnn.nnn.nnn.nnn format. If this network number assignment is depleted, Internet will simply stop existing. IPv6 supports addresses using up to 128 bits of information or 4.000 million times the current size of the 32 bits addressing space. This produces the 3.4×10^{38} theoretical addresses, which is a very large number indeed.

The most difficult part of the gradual implementation of the IPv6 will be convincing the old IPv4 routers to speak with the new ones without confusion. The complexity or impact of this problem should not be underestimated. In fact, one small routing error can put down the network, as Netcom discovered on June 18, 1996. Due to one small typing error 400.000 subscribers lost access to the Web and to the e-mail for 13 hours.

This disaster did not spread through the rest of the Network but who can guarantee that the next error will not affect a greater group of users for a longer period of time? The demand for bandwidth is growing faster than the technology to support it. Anybody betting on Internet expanding at the same rate without serious growing pains, is betting senselessly.

Mistake 4

Speed is the word

ISDN, ATM, cable modems and other networks with greater bandwidth will not solve the serious Internet traffic problems. Remember Alice in

Wonderland where the white rabbit had to run at top speed to maintain himself at the same spot? That is the problem of Internet, where the demand for new types of data that absorb the bandwidth grow faster than the capacity of the data channels.

Unless each piece of the network is simultaneously updated with wider channels, the bottlenecks will simply change from one place to the other.

At present there are less than three dozen connections through the Internet core support. Each step away from these points of access to the Network is a potential bottleneck, especially if the smaller lines heading towards the point of access don't have enough capacity.

Towards the end of last year Bob Metcalfe, widely known as the father of Ethernet, predicted the impending collapse of the Internet. He predicts the Judgment Day of the Network when it becomes overloaded with small JavaScript applications, telephone calls through the Internet and, naturally, all those images that jam the Network. The network engineers are adding capacity almost as rapidly as the growing demand, but during the coming years it is expected that serious if occasional deficiencies will be felt within the services of Internet.

Mistake 5

Beware of the information technology hackers

The movies make it look very easy: an information technology hacker sits down, presses a couple of keys, frowns, presses another couple of keys and proclaims "We're in!". Reality is a lot less interesting, since the majority of such hackers obtain unauthorized access to the Internet hosts by guessing the IDs and the passwords of the users, generally with specific aims and scripts that automatically try common phrases and words until they find one that functions.

The computational safety experts are amazed by the irrational fear of the average network users regarding on line business when they buy with the irrational confidence conferred on the conventional transactions. The probabilities of their credit card number being intercepted by a cyberpunk are comparable to the probabilities of your being abducted by foreign aliens, and this notwithstanding that the majority of us have no problems about giving our credit card number to a telephone operator. These numbers usually end up in a computer file somewhere, and this is the file that is under most danger of being robbed.

The majority of the common users, specially those who employ part time connections or those who are behind corporate firewalls, are very secure, as long as they take routine precautions. You probably need to fear programs more than people; specially of the macros (such as those of Microsoft Word documents) and the small applications (Java and

others) that are automatically executed. Anybody who operates a full time Web or e-mail service needs to be updated regarding safety measures. The keyword policies and the operating systems patches and other type of server software.

A recent report from the Computational Safety Institute suggests that the greatest threat to network safety are bored employees and/or recently fired employees and thus the outside infiltrators represent only a small fraction (less than 3 %) of the online attacks.

Mistake 6

You can find it all

If your question is very specific and related to the popular culture or the computer sciences, you have a good opportunity of finding what you are searching for. Nevertheless, the search mechanisms and the great magnitude of unindexed information in Internet conspires against more elaborate questions.

Bill Gates probably had something as the World Wide Web in mind and a complete text index when he began to meditate years ago on the "Information at your fingertips" concept. But, who would have thought that this was going to be so? According to Digital Equipment, in May this year (1996) the AltaVista index reached up to 30 million pages, with another three million Usenet articles added for pure fun. Not to be left behind, Excite announced its search mechanism updated with fifty million web pages. The problem of this content scrupulously follows Sturgeon's Law: "Ninety percent of everything is rubbish".

The most successful search mechanisms of today are the ones that work like magic and play card tricks. "Choose one site or any site", they say, "provided that it is included in our menus". To find real random information, like the batting average of Babe Ruth in 1923, you need to dominate a complex Boolean logic and then forget it.

It will not be surprising for the advisers to state that the librarians will be in great demand during the following decade. They are the only ones who understand that sometimes the best option is to search in a book.

Mistake 7

Cyberspace is not regulated

Anything done in Internet is potentially subjected to the same laws, regulations and rules that can be applied to the same activities undertaken in physical media. In spite of the unavoidable support and the commonsense of groups such as the Foundation of Electronic Frontiers, cyberspace is not very friendly regarding civil rights, and, in

some cases, editors are less protected by the First Amendment than their colleagues on paper and ink. Laws against obscenity, fraud, pamphlets, gate crashing and conspiracy are applicable. Almost the only thing that restricts the regulations in Internet is its ability to cross international borderlines.

Mistake 8

Internet is vulnerable to a nuclear attack

The intriguing myth that Internet can survive a nuclear attack, has a grain of truth to support it. The pioneer research in the decade of the sixties that originated the ARPAnet (the ancestor of the current Internet) was patronized by the Defense Department. These researchers argued that a highly redundant auto repairable distributed and packet switching network was the best defense against unexpected interruptions in the Network traffic, like those which take place whenever a single node fails.

The military experts state that during the Gulf war in 1991 the TCP/IP Network of Iraq remained intact in spite of the hundreds of direct intelligent bomb attacks by the Allied troops.

In the United States, ARPAnet is history and MilNet (that manages the safety of the military data communications) separated itself from the Network long time ago. Even so, the basic structure of Internet has not changed very much. The damage inflicted on isolated segments simply produces a traffic rerouting around the damaged section. The excessive damage, especially if it produces a failure of a part of the core support, can certainly put the Network down, keeping it from being an accountable communication tool. We hope this is never confirmed.

Mistake 9

You are absolutely anonymous

If you think that anything you do is really private, think again. This is doubled when you use the office computer to access Internet. The corporate heads may have access to all e-mail sent to and from the corporate account. According to the Privacy Rights Enactment, "the boss is the owner (of the electronic mail system) and they are authorized to review its contents".

The website managers can put together a surprising amount of information regarding who you are and where you come from just from searching the headings of the packets that come from your station. They can also save information in a file called "cookies", known as persistent information on the client side.

Anybody who can obtain a small piece of information on you can probably complete the image referring to some of the telephone

directories that exist on the Network such as Bigfoot, Four11, Infospace, Switchboard and Yahoo.

If anybody has access to your hard disk, they can see the sites you have visited on the Web just by searching the cache files. Some companies go a step further installing server software, which maintains a registry of all the sites that you have accessed from your job.

Digital information lasts for a long time. Some aspects of the Network are really short lived, but veteran users shiver when they find that the search mechanisms have made that certain types of information remain uncomfortably persistent. For example, the newsgroups files may contain word written years ago with the hope that they have been issued in a debate among close friends. Try to find your own name in a search engine and see what comes up. You could be disagreeably surprised.

Mistake 10

The exaggerated sending of messages is inoffensive

This is what people who spam their e-mail box with unasked for advertisement say. "Why not simply press the delete key?" they ask. The problem is not the time or the cost. The problem is the noise rate in the signal. Currently, some newsgroups have become so badly spammed that it is almost impossible to spot the few messages they have related to the subject and that are lost among the enormous quantity of advertisements and the indignant answers. Upon the increasing popularity of unasked for advertisement, the e-mail users will be forced to update (at a high cost) with client software which can filter the unwanted messages.

Exaggerated spamming is the spiritual descendant of the demanding routines of telephone marketing. The worst offenders also use the same tricks of hit-and-run: false names, nonexistent addresses and false declarations that are too good to be true.

1.2 World Wide Web

Generally, Internet is only associated with the World Wide Web, the most important section of the Network. But this is only one part.

The entry of a web site is called "home page", while a group of pages is called a "site". In this site the user finds the information distributed in a way to link with other pages with related subjects. Said links are represented by word highlighted phrases, photographs or graphics. For example, if I were reading a home page with a text on bovines and I found the word "dairy cattle" highlighted, I could click once on the word in order to "jump" to a another www site with information on this subject (perhaps hosted in a computer at the other end of the world); and if

within this new text I found the word "Holstein Friesian" highlighted, one click over it could take to a home page of a research society on this breed.

To navigate through the pages of www you use a computer program called the browser. Some of the most popular browsers are Netscape and Microsoft Internet Explorer. To reach a World Wide Web site it is indispensable to write down its address; in Internet it usually begins with http://, but you can also do it with http// or gopher://. To open a page allocated in the hard disk of your computer you use an address like file:///d:/name-of-directory/name-of-file.htm.

In its pages you find information of all kinds. Companies, media, governmental entities, universities, museums, political parties, religious groups, research centers, virtual shopping centers and even individuals have their own presentation pages to promote their products, services and opinions. A few seconds are the only "distance" between the NASA site and the National University of Tokyo. In view of the fact the common language in www and in all the Internet is English, the user should have a fair knowledge of it to take advantage of the sea of information offered in the Net.

Notwithstanding, finding sites can be a tedious job unless you know how to manage the available tools of the Network to do so. There are two basic locations to find information in WWW: the search engines (robots) and the directories. Some of the first ones, like Altavista, are designed to search in computers that save network information (known as servers) and create indexes of the pages in them. The user writes a series of words and the search engines provides a list of pages that contain a list of described contents. On the other hand, directories like Yahoo organize the web pages in different categories. It is also possible to search through them, but they are more restricted. While the search engines can come to list 50 million pages, the directories only list a part of them.

Another option to find information in the WWW are the multiple search engines like Dogpile and Search. These gather in one single page the best robots and directories available in the Network, in the opinion of its creator, allowing a quick research by not having to leave the site.

There are hundreds of search engines and directories in the Internet. If you want to find specific information, it is better to use the first ones. If you are looking for something very general, the directories are more recommendable.

Some engines like El Inspector de Telepolis, Elcano, Donde, Encuentrelo, Ole, Ozu, Fant sticos and Cambios provide information only in Spanish.

Note: The Net also provides other services like WAIS, Telnet, Veronica, Gopher, Usenet, Archie and FTP. Nevertheless, it is frequent for a user to find the same information and in a less complicated way through the web pages. That is why these tools have become outdated.

1.2.1 How to find information in the WWW

All the search engines are a little complicated to use for the first time. Their individual values will only start to appear after a little bit of experience acquired through usage. Each one employs different techniques and programs to accumulate information. Therefore, before starting a search in any of them for the first time, always read your restrictions.

Adopt one of the following strategies based on what you know of your search:

- **Do you know which general topic is related to the information?** You can use one of the directories like Yahoo and follow the links of each page with the site that you feel may lead to the information.
- **Do you know a specific name or title?** Use one of the search engines that searches through titles and keywords like AltaVista.
- **Do you know one or more qualities and characteristics?** This strategy frequently requires various search and evaluation sessions. Some additional information, like the author, geographic location, related organizations, story, etc., may be used to find a specific reference.
- **Use different words for the search.** The extremely common words, such as articles and prepositions contribute very little to the search and are completely ignored. Nevertheless, upon combining common words with logical operators the results may be more promising.
- **Understand the results of the search.** The form by which the information has been grouped in one of the engines or directories can dramatically affect the search process. One word or phrase can work marvelously in one and poorly in another. Try to understand the relation of the keywords and the results.

When your search does not produce any entry, check the following:

- Be sure to have understood the description, options, rules and restrictions of the tools you are using.
- Make sure that the spelling is correct.

- If you used logical operators, revise your syntax.
- Try to be less specific in your question.
- Use synonyms and a variation of the words.
- Go on to another search engine.
- Your search produces too many entries.
- Be more specific in you request.
- Identify and use the common words that may be important

Problems with the server. The server can return an error message (or simply not allow you to connect) if it is busy or temporarily down.

- **Error 404, page/file not found:** There are various reasons due to which this can happen. Maybe the link doesn't exist, that the URL address of the page has been modified or that simply the command is not valid. Check the capital letters and the small letters. The URL addresses are partially sensitive to these. In the first part they are not so but in all the rest yes.
- **No answer, Time out, Too busy.** These are the three types of problems that you can most find. If it happens to you, try again after a few minutes, wait to work during the less congested hours of the day or check the server location. If the server is far from your station the response may be low in contrast to that of a local server.

What to do with the information that you find.

The user has three options to use the information found in the Net:

- **Read it directly in the computer screen.** If you can satisfy your curiosity with a simple glance over.
- **Save it in your hard disk or in a diskette.** To carry out this operation the user has to use the command "save as" from the file option of the main menu. If the document is already open, place the cursor on the selected link, sound or image and click on the right button of the mouse, on the command "save image as", if you want to save it without opening it. Next, choose the format and the location in the hard disk or diskette where you want to save this file. If the format chosen was originally an HTML file, you can see it without the need of being connected to the server, using the normal menu option file/open. If the selection was a normal text, the file will only contain text (instructions for Netscape users).

Normally, a saved page only contains text. In order for the document to include graphics there are several shortcuts to achieve this: with Netscape it is not necessary to save the page nor the images, since everything remains in the cache. First go to options/preferences of

the Network from the main menu, and press "never" in the "verify documents" option. After disconnecting from the Network you enter the command "cache" in the open option of the main menu. A list of the latest visited addresses will appear; after selecting the one that interests you (in case of an error message, it shall be accepted), you can call the page and its images (in order to use this method, it is mandatory that the user navigates with the command "load images automatically" activated).

Another procedure for fully downloading the document, only available in Netscape Navigator Gold or Communicator, is clicking on the edit option of the file menu. After approving the remote save, you select the directory where you want to save it. By following these instructions you can see the complete page without being online.

A last method is to download the complete site. In order to accomplish this it is necessary to install a program specially designed for this purpose. One of the most popular ones is Teleprot Pro; through this you can download a complete website, allowing the user to consult it without being connected to the Network.

- Print it while you are on line. This alternative is recommended if you have a high speed printer.

1.2.2 Page construction fundamentals

The following tips will help the Internet user to make less mistakes during the planning, construction and administration process of his website.

Preliminary activities

- The first thing you have to have clear is what you want to use your website for.
- Define the website structure on paper. Before starting your design you should already have decided whom you are addressing, what goes on the home page (the main page of the site), what you want to put in the other pages, how you will update and with what frequency, what interactive services you will have, etc.

Development process

- The content of the site is the key to your success. The user will only need one click to leave. Even though family photographs and personal hobbies are very dear to us, we should be aware that this information interests very few people. One idea is to include information related to your profession or job; for example if you work as a magazine editor publish a tutorial which explains how to edit an article or a set of tips for writers.

- The home page is the most important page of the site. It must load rapidly; be simple but elegant; be clear in outlining what the other sections of the site will contain and have direct links with each one of them.
- Be moderate in your use of images and animations because this slows the loading of the pages. Use only the necessary ones. Do not use them for decoration or space filling. In your site is slow the visitors will simply go elsewhere.
- Textured backgrounds can reduce the legibility of your pages or make them very slow to load.
- The user must find in all the preceding pages of the same site elements that facilitate navigation: title, description of the content, buttons to go back to the home page and the other selections. A person who reaches your site through a search engine may not enter through the home page but instead through the preceding page; it should be easy for him to know where he is.
- Don't saturate the user with information in a single page. Take advantage of the power of the hypertext links (these are links that take you to other web pages).
- Avoid the headlines "page in process". This discourages the user and drives him away.
- Allow feedback. Include your e-mail address. Try to read all the messages that you receive and what is more important, answer them. Create response format in order to make your task easier.
- Not all browsers can interpret the HTML codes in the same way nor support the same technologies; because of this try your site on various browsers. Likewise, visit the site with modems of different speed (not all are high speed). Also try it with Windows and Macintosh based PCs. And lastly go through the site after disabling the images loading function; if it is not navigable without them, the site is useless.

Page maintenance

- Verify regularly that all the links of your site are correct, specially if it has links with other web pages.
- In Internet time flows faster than in the real world. Your site has to be dynamic and fresh from the technological point of view and it has to be updated regularly.

1.3 Electronic mail or e-mail

The electronic mail, or e-mail is a utility that allows the sending or receiving of messages to any network users around the world. The advantages of e-mail over normal mail or telephone calls are enormous. The speed of the transmission is one of them; unlike conventional paper letter that can take several days, and e-mail messages sent through Internet arrives in a few minutes. Its low cost is another of its attributes, in contrast to the high price of long distances international calls, an Internet user can send all the messages he wants to any part of the world without paying extra money for it (he only pays the Internet Access Provider for the connection time to the Network). A last quality of the e-mail is that of being an asynchronous device, which means that it does not require the simultaneous intervention of sender and receiver; the former sends it whenever he considers is necessary and the latter reads it when he can.

To send a message you need a program like Netscape, one of the most popular programs, or any other browser that you are using. The e-mail needs an source address and a destination address, which can read something like webmaster@congreso.gob.pe. In this case "webmaster" refers to the name of the user, "congreso" is the name of the system or dominion where he holds his account. "gob" means that the provider is a governmental enterprise (universities and educational institutions have the extension "edu", military institution the extension "mil", a govern the extension "gob", non-profit organizations the extension "org" and Network links the ending of "net") and "pe", that corresponds to Peru. For the greater part you can identify the country where the address is located through the last extension, which in the case of Peru is "pe". With the idea of solving legal problems using brands the Ad-Hoc International Internet Committee approved the addition of seven new dominions: .web, .store, .info, .firm, .arts, .rec and .nom, for personal use.

An e-mail message is made up of the following parts:

From

Address of the person or entity who sends the message.
Automatically generated by the system.

To

Address of the person to whom the e-mail is being sent.

Subject

Subject of the message.

Date

Date and hour of dispatch. Automatically generated by the system.

CC (carbon copy)

Address of the person to whom you wish to send a copy of the message.

Attachments

Allows to attach the message to a computer file like, for example, a report, an article, graphics, software or web page.

Contents

Body of the message.

Some companies like Rocketmail, Hotmail, Netaddress, provide boxes for their e-mail for free, by just filling in a small questionnaire. Even though you have to utilize an Internet Access Provider to access the service, the advantages of the services lies in the fact that the user can always use his box even if he changes his provider and that he can consult it from any part of the world because it does not require a specific PC configuration.

Note: The mechanism to attach files to a message as well as a description of the general function of Netscape is available in Spanish for the versions 2.02 and 3.0.

1.4 Mailing lists

The mailing lists are discussion groups whose participants share information and opinions through the Internet e-mail. The interested users can participate in subjects like technology, music, religion, politics, medicine, literature, business, etc.

When a person registers in a list and fills in a form with some required data, he receives a welcoming message which explains the rules of the game of this discussion group; from this moment onwards he receives all the messages sent by the group members. Likewise, the person can send general messages. For this, he must send an e-mail message to the list address; once it gets there, a computer program automatically generates a copy for each group member. Somebody who reads this note can answer either with a general or a private message.

In order to register in a mailing list you shall send a message to the manager of the list (using an e-mail program). This message only has one short phrase which is usually "subscribe (name of list)". There are several indexes which allow the user to consult the internet discussion group list; or he can use search help to find groups for a specific subject. To go to these indexes use the browser that you use to navigate through the WWW; here you find a description of the mailing list and instructions to register. In WWW it's recommendable to visit Liszt and Tile Net List. If

the user wants to receive any of the existing lists he can send an e-mail to listserv@listserv.net and in the contents write global list

Coolist is a site that permits the user to create his own mailing list for free. Before filling in the corresponding application form it is recommendable to read the FAQ (Frequently Asked Questions), in order to clarify doubts.

1.5 Newsgroups

The mailing lists make sense as long as they are not too big. When there are too many persons and a heavy data traffic it is not practical to send an e-mail message to every list member; in this case the ideal are the Internet Newsgroups (Usenet Newsgroups).

The newsgroups are also discussion groups in which people interested in the same subjects participate. The difference between the mailing list and the newsgroups is that the persons send messages to a public bulletin board, that can be consulted by each group member as desired. Is like a company newsletter, a bulletin board in which all employees can put information and consult (which is much more practical than sending letters to each employee).

To use the service, the Internet Access Provider should have a news server, whose address will be taken into account when the browser is configured to use the service (if you don't know the name the provider will give it to you.) You can consult a newsgroup index in Deja News. The program used to read the newsgroup articles (and to put information) is a news reader. Some browsers, like Netscape Navigator 2.0 and its next version, include it.

1.6 Internet Relay Chat (IRC)

One of the advantages of the network of networks, Internet, is that the concept of distance does not exist. For a person in Bogota it is as easy to connect to next door neighbor as it is to connect to a person in Austria. And it costs the same. In both cases you pay the same price as the local call plus what the Internet per minute connection cost.

There are various communication systems. The most common is the e-mail, that serves to send and receive written messages. Another method is telephone conferences, in which two users can have a conversation similar to a regular telephone call (to talk and listen you use the speaker and the microphone of the multimedia PC).

The videoconference allows to see your counterpart on the PC screen. The drawbacks of this system is its high cost (it requires video cameras

in each PC) and that the telephone lines have little capacity to transmit video.

Another system is the Internet Relay Chat (IRC). It has several advantages: it does not require a multimedia PC and unlike the e-mail the communication is immediate. Each party sees what he or she has written in the PC screen as well as what the other person replies; various people can participate in one session. In order to establish a conversation through this system one must remember in which channel or chat room it will take place. That channel is really a space in an Internet computer called server.

In the Network there are thousands of chat channels in which people participate in conversations on subjects that vary from technology to cinema, music, religion and many others.

To use this tool you need a PC, a modem, an Internet access, as well as the programs you need for it like WSIRC, mIRC, InterFaCe, ChatMan and Comic Chat, where the persons who converse are represented by caricatures.

If the user does not want to mess with any software there is another alternative for online communication with friends. Pages such as Latin Connection, Dmfusion, Aguweb, Cordoba, Bachue and Latintop offer this service for free. The only condition is that your browser should support Java; if it doesn't and you want to enjoy this aid, you should buy yourself a more current version.

1.7 Glossary on Internet terms

As an important supplement of this chapter, we have included in the following lines the meaning of some of the most used terms used in the world network of networks: the Internet.

AI Artificial Intelligence:

Part of the Computer Science that studies the simulation of intelligence.

Access Provider:

Server center that provides logical access to Internet, working as gateway between the final user and Internet.

ACK (Acknowledgment):

Response signal

ADSL (Asymmetric Digital Subscriber Line):

Asymmetric system of data transmission over conventional telephone lines. There are working systems that reach speeds up to 1,5 and 6 Megabit per second in one way and between 16 and 576 Kilobytes in the other.

ANSI (American National Standard Institute):

API (Application Program Interface):

Is the set of routines of the system that can be used in a program for input/output management, file management, etc.

APPLET:

Written and compiled JAVA application.

ARPANET (Advanced Research Projects Agency Network):

Military network of the United States of America through telephone lines from which Internet derivative.

ASAP (As Soon As Possible):

Command or option in a network or program which determines the priority of a task.

ASCII (American Standard Code for Information Interchange):

The ASCII character table is composed of 128 characters including symbols and control characters. An extended version of 256 exists.

ASN (Autonomous System Number):

Set of routers and networks controlled by the same management authority.

ATM (Asynchronous Transmission Mode):

System of data transmission used in wide band in order to take the maximum advantage of a line. It is a packet switching system supporting transmission speeds of up to 1,2 Gbps.

AUI (Asociacion de Usuarios de Internet):

Internet users association.

Avatar:

An graphic identity which a users adopts when connected to a CHAT with graphical capacities.

BBS (Bulletin Board System):

Communications server that furnishes various services to the users, such as e-mail or file transfer. Originally worked through normal telephone lines and which can be currently found in Internet.

Bandwidth:

Capacity of a transmission media.

BIOS (Basic Input Output System):

Program resident in an EPROM which controls the basic interactions between hardware and software.

BIT (Binary Digit):

Minimal unit of information; can either be "0" or "1" status.

BOOTP (Bootstrap Protocol):

Provides an IP, Gateway and Netmask address to a machine. Used in communications via telephone lines.

BOT:

Automation, program or script which carries out functions that otherwise shall be carried out manually.

Backbone:

Data transmission structure of a network or set of networks in Internet.

Ban (interdict):

Normally used in IRC. Act of forbidding the entry of a "NICK" user to a channel.

Baud:

Number of status changes per second of a signal.

Bounce:

Return of an e-mail message due to problems in delivering it.

Browser:

Term normally applied to the programs which provide access to the WWW service.

Bookmark:

Mark, usually of a WWW address, that remains filed for further use.

CCIT (International Consultative Committee on Telegraphy and Telephony):

Organization establishing the international telecommunication standards.

CD (Compact Disk):

Optical disk with a 12 cm diameter used for binary storage. Its formatted capacity is of 660 Mb. It was initially intended for audio storage. When it is used for generic data storage is called CD-ROM.

CDA (Communications Decency Act):

American law project which pretended to apply a sort of control over the Internet. Its current status is reckoned as unconstitutional.

CERN Conseil Europeen pour la Recherche Nucleaire:

European institution which developed, for its own internal needs, the first WWW server and, thus, the HTTP. Has decidedly contributed to spread this technology and is one of the W3 Consortium directors.

CERT Computer Emergency Response Team:

CG Computer Graphics:

CGI Common Gateway Interface:

Programs used to make routine calls for controlling other programs or databases from a web page. Can also generate HTML.

CHAT:

(See IRC)

CIR Committed Information Rate:

Is the minimum information stream that a telephone operator (normally the access provider) assures to the customer. The rest of the bandwidth is subjected to the network status and the needs of the telephone operator.

CIX Commercial Internet Exchange:

Connection Provider:

Entity providing and managing physical access to Internet.

COOKIE:

Small portion of data that the server of HTTP furnishes WWW to keep. Normally is information about the connection or the data

required. By this it can know what did that customer do in its last visit.

CSLIP (Compressed Serial Line Protocol):

Is an enhanced version of SLIP developed by Van Jacobson. Mainly is about transmitting only the differences instead of the complete headers.

CSMA (Carrier Sense Multiple Access):

Network protocol to share a channel. Before transmitting the source station checks if the channel is free.

Callback:

System widely used in the United States for international calls consisting of (previously paying) calling a number, indicate the number to which we want to communicate and hang. Afterwards, you receive a call which connects us with the desired number.

Carrier:

Telephone operator that provides a high level Internet connection.

Stream:

Amount of use of a bandwidth. For example, a 1Mbps line can be supporting a 256Kbps stream, leaving a remainder of 768Kbps idle.

Cracker:

Individual with high level of computer knowledge who can hack programs or inflict damage in systems or networks.

DATAGRAM:

Usually referred to the internal structure of a data package.

DCD (Data Carrier Detected):

DDE (Dynamic Data Exchange):

Set of specifications of Microsoft for data interchange and flow control between applications.

DES Data Encryption Standard:

Algorithm developed by IBM which uses data blocks of 64 bits and a key of 56 bits. Is used by the American Government.

DNS (Domain Name System):

Distributed database which manages the conversion of Internet addresses which are expressed in natural language into an IP numerical address. For example 121.120.10.1.

DSP (Digital Signal Processor):

DSR (Data Set Ready):

MODEM.

DTE (Data Terminal Equipment):

It refers for example to the computer connected to a modem which receives data from it.

DTMF (Dual Tone Multifrequency):

The tones used to dial a phone number.

DTR (Data Transfer Ready):

MODEM.

DUPLEX:

Capability of a device to operate in two ways. In communications it refers normally to the ability of a device to receive / transmit. There are two classes. HALF DUPLEX when it can either transmit or receive. FULL DUPLEX when it can do both at the same time.

DVB (Digital Video Broadcast):

Digital video format that complies with the requirements to be considered a broadcast, this means it has the quality to be transmitted by any of the existing television systems.

DVD (Digital Video Disk):

New standard for massive storing devices with CD format but that can reach a capacity of 14 GB.

Dialup:

Process by which a data connection through a telephone line is established.

Domain:

Host domain system in Internet. The domains go separated by a dot and are hierarchically organized from left to right.

Download:

It refers to the act of transferring a file or files from a server to our computer. In Spanish: "bajarse un programa".

DownStream:

Data flow from a remote computer to our's.

EBCDIC (Extended Binary Coded Decimal Interchange Code):

Enhanced packet system for decimal numbers in binary.

ECC (Error Checking and Correction):

EFF (Electronic Frontier Foundation):

Organization for the defense of the rights in the cyberspace.

EDI (Electronic Data Interchange):

ETSI (European Telecommunications Standards Institute):

E-ZINE (Electronic Magazine):

Any magazine elaborated for its broadcast through data media, mainly by Internet.

E-mail (Electronic Mail):

Message data system similar in many ways to ordinary mail but much faster.

FAQ (Frequent Asked Question):

File system containing the most frequently asked questions and answers of a particular topic.

FAT (File Allocation Table):

File organizing system for hard disks. Widely used in PCs.

FDDI (Fiber Digital Device Interface):

Finger:

Facility that furnishes basic information on Internet or UNIX.

FIX (Federal Interagency eXchange):

FTP (File Transfer Protocol):

One of the most used file transfer protocols.

Firewall:

Any program which protects a network from another network. Firewall gives access to a local network machine in Internet but Internet does not see further than firewall.

Frame:

In WWW browsers like Netscape it refers to a sub-windows structure within a HTML document.

Frame Relay:

Connection protocol through permanent virtual circuits widely used to furnish direct connection to Internet.

GIF (Graphics Interchange Format):**GIX (Global Internet Exchange):****GMT (Greenwich Mean Time):****GSM (Global System Mobile Communications):**

Digital telecommunications system mainly used for mobile telephones. Compatibility between networks exist so a GSM telephone can theoretically work in the whole world. In the USA it is located in the band of 1900 Mhz and is called DCS-1900.

GT (Global Time):**GUI (Graphic User Interface):****Gateway:**

Device that allows to connect to networks which normally work under different protocols or a host to a network. In Spanish "pasarela".

HDLC (High-Level Data Link Control):**HDSL (High bit rate Digital Subscriber Line):**

High speed data transmission system that uses two twisted pairs. Speeds of up to a Megabit are reached in both directions.

Header:

First part of a packet which contains information about its characteristics.

Hit:

Used to refer to each time a link is clicked in a website.

Homepage:

Main or initial page in a website.

HPFS (High Performance File System):

System that optionally uses OS/2 to organize the hard disk instead of the regular FAT.

HTML (HyperText Markup Language):

Language to elaborate web pages, currently in version 3.0.
Developed in the CERN.

HTTP (HyperText Transfer Protocol):

Protocol used in WWW.

Hacker:

Computer expert capable of entering in restricted access systems.
Does not have necessarily harmful intentions.

Hayes:

Standard developed by Hayes manufacturer consisting in
commands for modem control.

Host:

Computer connected to Internet. In general, a computer.

IANA (Internet Assigned Number Authority):

The entity that assigns the addresses in Internet.

ICMP (Internet Control Message Protocol):

IEEE (Institute of Electrical and Electronic Engineers):

American association.

IETF (Internet Engineering Task Force):

Association of technicians who organize the engineering tasks,
mainly of Internet telecommunications. For example, improve
protocols or declare others obsolete.

INTA (Instituto Nacional de Tecnica Aeroespacial):

Spanish acronym for NASA.

INTERNIC:

Internet entity in charge of managing the domain names in the
USA.

INTRANET:

Internal use Internet-type network, as for example the corporate
network of a company in which TCP/IP protocol and services
similar to WWW are used.

IP (Internet Protocol):

This denomination includes all the Internet protocols. It also refers
to the addresses of the Internet network.

IPI (Intelligent Peripheral Interface):

In ATM: Initial Protocol Identifier.

IPX (Internet Packet Exchange):

Initially the Novell protocol for information interchange between network applications.

IRC (Internet Relay Chat):

Multiuser system for text transmission through an IRC server. Used normally for on line chat; also useful for file transfer.

ISDN (Integrated Services Digital Network):

Telephone network with bandwidths starting from 64Kbps. Similar to the voice telephone network regarding the needs of installation interface to the user, but digital. In Spanish: "RDSI".

ISO (International Standard Organization):

ISP (Internet Service Provider):

ISS (Internet Security Scanner):

Program that searches for vulnerable points in the network regarding with safety.

Ibernet:

Spanish network managed by Telefonica with IP protocol. Is the Spanish Internet subnetwork.

Iberpac:

Telephone network for data packet switching transmission (normally X.25) mainly for corporate use.

InterDic:

The Spanish dictionary in Internet.

JAVA:

Object oriented programming language similar to C++. Used in WWW for tele-load and tele-execution of programs in the customer computer. Developed by Sun Microsystems.

JAVASCRIPT:

Program written in script language of Java, interpreted by the customer's application, normally a navigator (Browser).

JPEG (Join Photograph Expert Group):

Graphic format with losses which reaches high ratios of compression.

Kick:

Used normally in IRC. To throw a user out of a network.

Knowboat:

Knowledgeable robot or virtual robot. Is a kind of PDA.

LAN (Local Area Network):

Network of computers of small dimension. For example, a network distributed in one story of a building.

LAPM (Link Access Procedure for Modems):**LCP (Link Control Protocol):****Layer:**

In protocols or in OSI it refers to the various packet structural levels or the various levels of connection, respectively.

Link:

This is used to call the parts of a web page which take us to another part of it or connects us to another server.

Linux:

Shareware version of the widely known UNIX operating system. Is a multitask multiuser 32 bit system for PC.

LU (Logic Unit):**Lock:****MAN (Metropolitan Area Network):****MBONE (Multicast Backbone):**

Virtual network that uses the same physical devices of Internet in order to transmit data with Multicast protocols.

MIME (Multipurpose Internet Mail Extensions):

Extensions of the mail protocol of Internet that allow to add additional information to the text.

MMX (Multi Media eXtensions):

Extra instruction set that includes new Pentium processors oriented to reach a higher execution speed of the application that process or move big data blocks.

MNP (Microcom Networking Protocol):

Error correction protocol developed by Microcom widely used in modem transmissions. There are various levels: MNP2 (asynchronous), MNP3 (synchronous) and MNP4 (synchronous).

MODEM (Modulator/Demodulator):

Device that adapts digital signals for their transmission through an analog line, normally telephone.

MPEG (Motion Pictures Expert Group):

Graphic format of video storage. Uses like JPEG compression with losses, reaching high rates.

MROUTER (Multicaster Router):

Router supporting Multicaster Protocols.

MRU (Maximum Receive Unit):

In some protocols of Internet it refers to the maximum size of the data packet.

MS-DOS (Microsoft Disc Operating System):

Widely extended operating system for PC, of command line type.

MTU (Maximum Transmission Unit):

Maximum packet size in IP protocols like SLIP.

MUD (Multi User Dimension):

Internet Multiuser game systems.

MULTICASTING:

Transmission technique through Internet in which packets are simultaneously sent from one to various points.

NACR (Network Announcement Request):

Request of participating in the Network. Is the request for entering Internet for a subnetwork or dominion.

NAP (Network Access Point):

Normally refers to the three principal points through which you can access Internet in the USA.

NC (Network Computer):

Computer conceived to operate connected to Internet. According to many, it is the future. These are very reduced hardware machines (some don't even have a hard disk).

NCP (Network Control Protocol):

Is a Network Layer protocol.

NET:

Network.

NETBIOS:

Network BIOS. Network Basic Input Output System.

Netiquette:

Ways and common usage of the Internet services. You can call it "manners" of the Internet users.

NSA (National Security Agency):

American organization for the safety of, among others, computer data.

NSF (National Science Foundation):

American foundation that manages great amount of the Internet resources.

Navigator:

Normally applied to programs used to connect to the WWW service.

Netizen:

Citizen of the Network.

NEWS:

Internet service with a billeting board structure divided in topics and countries, in which the users of certain interest groups leave or respond to messages related with the referred group.

Nick:

Name or alias of an IRC user.

Node:

By definition a point where two or more lines converge. Sometimes it refers to a single machine in Internet. Normally it refers to a confluence point in a network.

OEM (Original Equipment Manufactured):

Company that buys a product from a manufacturer and integrates it with one or more of its own manufacture. All manufacturers, for example, which include a Pentium in their systems act as an OEM.

OS2 (Operating System 2):

Thirty two bit multitasking operating system created by IBM. Created for the PC with graphical user environment. The current version is 4.0, which supports spoken commands and dictation.

OSI (Open Systems Interconnection):

Open system interconnection reference module proposed by ISO. Divides the tasks in seven levels.

PAN (Personal Area Network):

Network system directly connected to the skin. The data transmission is carried out by physical contact.

PAP (Password Authentication Protocol):

Protocol that allows the system to verify the identity of the other site of the connection through a password.

PDA (Personal Digital Assistant):

Program in charge of serving a determined user in tasks such as information searches or selections considering his or her own personal criteria. It frequently has Artificial Intelligence technology.

PEER:

In a point to point connection it refers to each of the ends.

PEM (Private Enhanced Mail):

Encrypted mail system.

PERL:

Language for management of texts, files and processes. With script structure. Developed by Larry Wall, is multiplatform because it works under UNIX.

PGP (Pretty Good Privacy):

Packet encryption based in a public key written by Phil Zimmerman.

PIN (Personal Identification Number):

Secret number associated to a person or service user through which you access such service. You can refer to it as a "numerical password".

PING (Packet INternet Groper):

Program used to check if a host is ready. Sends control packets to check if the host is active and thus returns them.

PNG (Portable Network Graphics):

Very complete graphics format specially conceived for networks.

POP (Post Office Protocol):

Protocol used by personal computers to manage the mail, specially receiving it.

POST (Power On Self Test):

Series of tests of its devices carried out by a computer when turned on.

POTS (Plan Old Telephone Services):

PPP (Point to Point Protocol):

Internet Protocol to establish a connection between to points.

PPV (Pay Per View):

Refers to so called "interactive" television or "television a la carte" in which you have to pay for each program you select to see.

PROXY:

Proxy is a server normally connected to the access server to the WWW of an access provider, that saves all the information that the users receive of the Web, therefore, if another user accesses through Proxy to a previously visited site, he will receive the information from the Proxy server instead of from the real server.

PVC (Permanent Virtual Circuit):

Virtual point to point line normally established by permanent type commutations, this means by an established circuit.

Packet Driver:

Small program located between the network card and the TCP program, that provides a standard interface for all the programs using such protocol.

Packet:

Minimal amount of data transmitted in a network or between devices. Has a different structure and length according to the protocol to which belongs. Is also called TRAMA.

Phracker:

Data hacker who uses the telephone lines to access other systems or simply for avoiding to pay for the telephone service.

QAM (Quad Amplitude Modulation):

Modulation system for data transmission and telecommunications.

RARP (Reverse Address Resolution Protocol):

Low level protocol for the assignment of IP addresses for simple machines from a server in a physical network.

RAS (Remote Access Server):

RDSI (Red Digital de Servicios Integrados):

(See ISDN)

RFC (Request For Comment):

Request for comments. Series of documents initiated in 1967 which describes the set of Internet protocols.

RIP (Routing Information Protocol):

ROOT:

In file systems it refers to a root directory. In UNIX it refers to the main user.

RSA (Rivest, Shamir, Adelman):

Public Key encryption algorithm, developed by Rivest, Shamir and Adelman.

RTC (Rec Telefonica Conmutada):

Telephone network for voice transmission.

RTP (Real Time Protocol):

Protocol used for information transmission in real time as for example audio and video in a video-conference.

RWIN (Receive Window):

TCP parameter that determines the maximum amount of data that the receiver computer can receive.

RX:

Short way of Reception or Receiving.

Retrain:

This is the action executed by a modem to reestablish the synchronism with the other modem after a communication loss.

Router:

Device connected to two or more network in charge only of the communication tasks.

SATAN (Security Analysis Tool for Auditing Networks):

Set of programs written by Dan Farmer and Wieste Venema for the detection of problems related with safety.

SDLC (Synchronous Data Link Controller):

Also a synchronous communications protocol through telephone line.

SDSL (Symmetric Digital Subscriber Line):

High speed data transference system in regular telephone lines.

SEPP (Secure Electronic Payment Protocol):

Payment system through Internet developed by Netscape and Mastercard.

SGML (Standard Generalized Markup Language):

A language derived from HTML.

SMTP (Simple Mail Transfer Protocol):

Is the protocol used to transport mail through Internet.

SMS (Short Message Service):

Electronic text message service between telephones GSM. With this you can also send e-mail from a GSM telephone and receive messages from Internet, though this possibility seems not to work in Spain.

SNA (System Network Architecture):

Exclusive IBM architecture, principally for mainframe applications.

SQL (Structured Query Language):

Database language.

SSL (Secure Sockets Layer):

Protocol that provides safety functions at a transport layer level for TCP.

STT (Secure Transaction Technology):

System developed by Microsoft and Visa by electronic business through Internet.

Sniffer:

Small program that searches a numerical or character string in the packets that go through a node in order to obtain some information. Normally its use is illegal.

Spam / Spammer:

This is how the e-mail "bombing" is called, this means to send mail or very long messages.

Spider (Robot-Web):

Program that automatically goes through the WWW picking up web pages and visiting the links that they contain.

S-HTTP (Secure HTTP):

HTTP enhanced protocol with functions of safety and symmetrical keys.

SIM (Single Identification Module):

Normally referred to a card: SIM card. Which identifies and through it gives service to a user. Its most common application is through GSM telephones.

SmartCard:

Apparently standard credit card which contains a microchip (EEPROM or Microprocessor) which stores and/or processes information. For examples the telephone cards (EEPROM or the SIM cards of mobile telephones (Microprocessor)

TCM:

Trellis-Coded Modulation.

TCP (Transmission Control Protocol):

One of the most used Internet protocols. Is a transport layer protocol.

TELNET (Tele Network):

Connection to a host in which the client computer emulates a terminal in a way that it configures as a virtual terminal of the server computer.

TTL (Time To Live):

Internal counter incorporated in Multicast packets which determine their spread.

TX:

Short form of Transmission or Transmitting.

Time-out:

Parameter indicating a program the maximum amount of time before aborting such task or function. Also an error message.

Tunneling:

Multicast transport of packets through different devices and unicast Routers. The multicast packets are encapsulated as normal packets so they can travel by Internet through devices which only support unicast protocols.

UDP (User Datagram Protocol):

Open protocol in which the user (programmer) defines its own IP address.

UNICAST:

It refers to Protocols or Devices that transmit the data packets of an IP address to another IP address.

URL (Unique Resource Locator):

Denomination that not only represents an Internet address but also points to a specific resource within such address.

USB (Universal Serial Bus):**UT (Universal Time):**

See GMT.

UUCP (Unix to Unix Communication Protocol):

One of the protocols used in Unix systems to communicate between themselves.

UNIX:

Multitasking, Multiuser operating system. Great part of the characteristics of other better known systems are based in this system. widely used in big servers. Internet may not well conceived without knowing Unix, because the communications are mainly in Unix.

VR (Virtual Reality):**VRML (Virtual Reality Modeling Language):**

Language to create virtual worlds in the Web.

WAN (Wide Area Network):**WINDOWS:**

Pseudo operating system. It shall be better conceived as a graphical environment with a few multitask capacities. The current version Windows 95 works partially in 32 bits.

WWW, WEB or W3 World Wide Web:

World spiderweb, for many WWW is Internet, for other it is only a part of it. We may strictly say that Web is the part of Internet to which we access through the HTTP protocol and, as a consequence, through Browsers such as Netscape.

Wanderer:

Web-Robot. See Spider.

Warez:

Unprotected hacker software.

Webcam:

Camera connected to a web page through which the visitors can normally see images directly.

X.25:

Data transmission protocol widely used in Iberpac. Establishes virtual circuits, connections and channels.

ZIP (Zone Information Protocol):