

UNIT 3 THE INTERNET

OVERVIEW

1.1 Fill in the gaps with the words from the box.

e-mail	FTP (file transfer protocol)	Intranets	IRC (Internet relay chat)
PPP (point to point protocol)	ISP (Internet service provider)		newsgroups
Telnet	videoconferencing		

The language used for **data transfer** on the Internet is known as (1) This is like the Internet operating system. The first program you need is a (2) This piece of software allows the (1) ... system to work with your **modem**; it **dials up** your (3) ..., transmits your password and **log-in name** and allows Internet programs to operate.

(4) ... is your personal connection to the Internet. It allows you to exchange messages with people all over the world. It can include text, pictures, and even audio and animation. When you set up an **account** with a(n) (3) ..., you are given a unique address and anyone can send you a message. The mail you receive is stored on the server of your (3) ... until you next connect and **download** it to your hard disk.

(5) ... is a system for real-time (usually typed) conversation. It is easy to use. To start a **chat session** you run a(n) (5) ... program, which connects you to a(n) (5) ... server – a computer **dedicated to** (5) Then you join a channel, which connects you to a single chat

area. Next you type a message and the other **participants** can see it.

Internet telephone and video chatting are based on (5) ... protocols. (6) ... programs enable users to talk to and see each other, and **collaborate**. They are used in (7) ... -- company networks that use Internet software but make their Web site **accessible** only to employees and **authorized** users.

With (8) ... software you can copy programs, games, images and sounds from the hard disk of a remote computer to your hard disk. A(n) (9) ... program is used **to log** directly into remote computer systems. This enables you to run programs kept on them and edit files directly.

(10) ... are the public discussion areas which make up a system called 'Usenet'. The contents of the (10) ... are **contributed** by people who send articles (messages) or respond to articles. They are classified into categories: *comp* (computers), *misc* (miscellaneous), *news*, *rec* (recreation), *soc* (society), *sci* (science), *talk* and *alt* (alternative).

1.2 Explain the meaning of the words in bold.

2.1 What services are available on the Internet? Name and describe them.

2.2 Read the passage below and say what Internet services can be referred to **synchronous and asynchronous CMC**.

Computer-Mediated Communication (CMC) is a term used to describe systems that allow users to communicate using a computer network. At present most of this communication is written although video- and audio-conferencing permit speech. Most computer-mediated communication is asynchronous i.e. the participants are not on line at the same time and there are delays between messages. Synchronous CMC depends on participants being on line at the same time. There may be a few seconds' delay – like a satellite phone call – but the communication is closer to face-to-face interaction.

2.3 Read the passage and tell your class about your experience of using MOOs.

One type of CMC is MOO – multi-user object oriented system. It is an Internet virtual environment, developed from multi-user adventure games, that allows many users to interact in real time. This environment can be 2- and 3-dimensional and objects can be manipulated in order to create a simulation of the process of communication. Participants choose a character and control it using simple commands. Emotions and sophisticated movements and gestures are usually described in a written form.

2.4 Read the examples of CMC and complete this table.

3.1 Read the passage and describe the strategies usual in your environment.

With the exception of videoconferencing, there is no opportunity for paralinguistic features such as gesture. To compensate, users have developed a number of strategies which account for the linguistic features of text-based CMC including: abbreviations and acronyms, e.g. *LOL*, simplified syntax – subject and modal deletion (*C U L8R*), tolerance of surface errors – typographical/spelling errors, symbols and exclamation marks, etc. to express emotional meaning e.g. *Yees!!*, symbols indicating emotions called emoticons e.g. ☺, formulaic phrases, emotes, to display action in a chat room, e.g. *looks round nervously*. Discourse features vary from mode to mode but for e-mails include omitting salutations and quoting previous messages in whole or part.

3.2 Do you know what these chat abbreviations stand for?

ADN	CU	FISH	HIG	KISS	SOT
AFAIK	CUL	FMTYEWTK	HT	KIT	SOTMG
ASAP	CUL8ER	FOMCL	HTH	KOTC	STW
B4N	CYO	FTBOMH	IAC	KOTL	SU
BBIAB	DBA	FUD	IAE	KWIM?	SUS
BBL	DL	FWIW	IANAL	LLTA	TA
BBN	DLTBBB	FYI	IC	LOL	TCOY
BBS	DIKU	GA	IHU	LY4E	TGIF
BF	DITYID	GF	IIRC	MOSS	TNX
BG	DOM	GFN	ILU or ILY	MOTOS	TILII
BIBO	DOS	GGP	IMHO	MUSM	TLK2UL8ER
BOTEC	DQMOT	GIWIST	IMO	NP	TMI
BRB	DTRT	GL	IMS	NRN	TNT
BTA	DWB	GMAB	IOW	OLL	TOY
BTDT	EG	GMTA	IRL	OMG	UW
BTW	EMFBI	GOL	ITIGBS	OTF	WAYD
BWL	EMSG	GTRM	IWALU	OTOH	WB
BWTHDIK	EOM	GTSY	IYSWIM	PAW	WBS
C&G	EOT	H&K	J4G	PITA	WRUF?
CNP	F2F	HAGN	JIC	PM	WYSIWYG
CRB	FAQ	HAND	JK	RT	YBS
CRBT	FC	HHIS	JTLYK	SOMY	

3.3 Try to write these two text message poems in standard English.

<i>txtin is messin, mi headn me englis, try2rite essays, they all come out txtis. Gran not plsed w/letters Shes getn, Swears I wrote better B4comin2uni. & shes African. Hetty Hughes</i>	<i>14 a txt msg pom his is r bunsn brnr bl% his hair lyk fe filings w/ac/dc going thru I sit by him in kemistry, It splits my @oms Wen he ☺s @ me. Julia Bird</i>
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3.4 Create your own text messages and poems.

GRAMMAR AND VOCABULARY

4.1 Fill in the text with the phrases from the box. Explain what syntactic features influenced your choice.

- (a) a method of instant cross-referencing
- (b) accessible to hundreds of millions of people worldwide
- (c) also make use of the TCP/IP protocol
- (d) because messages could be routed or rerouted in more than one direction
- (e) depending on the browser you use
- (f) if they have permission
- (g) more recently
- (h) often this text is also underlined
- (i) that is relevant to this word or phrase
- (j) the most popular of which
- (k) to create a network
- (l) what distinguishes the Internet

The Internet, sometimes called simply "the Net," is a worldwide system of computer networks - a network of networks in which users at any computer can, (1) ..., get information from any other computer (and sometimes talk directly to users at other computers). It was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was first known as the ARPANET. The original aim was (2) ... that would allow users of a research computer at one university to be able to "talk to" research computers at other universities. A side benefit of ARPANet's design was that, (3) ... , the network could continue to

function even if parts of it were destroyed in the event of a military attack or other disaster. Today, the Internet is a public, cooperative, and self-sustaining facility (4) Physically, the Internet uses a portion of the total resources of the currently existing public telecommunication networks. Technically, (5) ... is its use of a set of protocols called TCP/IP (for Transmission Control Protocol/Internet Protocol). Two recent adaptations of Internet technology, the intranet and the extranet, (6) For many Internet users, electronic mail (e-mail) has practically replaced the Postal Service for short written transactions.

Electronic mail is the most widely used application on the Net. You can also carry on live "conversations" with other computer users, using Internet Relay Chat (IRC). (7) ..., Internet telephony hardware and software allows real-time voice conversations. The most widely used part of the Internet is the World Wide Web (often abbreviated "WWW" or called "the Web"). Its outstanding feature is hypertext, (8) In most Web sites, certain words or phrases appear in text of a different color than the rest; (9) When you select one of these words or phrases, you will be transferred to the site or page (10) Sometimes there are buttons,

images, or portions of images that are "clickable." If you move the pointer over a spot on a Web site and the pointer changes into a hand, this indicates that you can click and be transferred to another site. Using the Web, you have access to millions of pages of information. Web browsing is done with a Web browser, (11) ... are Microsoft Internet Explorer and Netscape Navigator. The appearance of a particular Web site may vary slightly (12) Also, later versions of a particular browser are able to render more "bells and whistles" such as animation, virtual reality, sound, and music files, than earlier versions.

4.2 Fill in the articles.

In (1) ... information technology, (2) ... protocol (from (3) ... Greek *protocollon*, which was (4) ... leaf of (5) ... paper glued to (6) ... manuscript volume, describing its contents) is (7) ... special set of rules that (8) ... end points in (9) ... telecommunication connection use when they communicate. (10) ... protocols exist at (11) ... several levels in (12) ... telecommunication connection. There are (13) ... hardware telephone protocols. There are (14) ... protocols between (15) ... each of (16) ... several functional layers and (17) ... each corresponding layer at (18) ... other end of (19) ... communication. (20) ... both end points must recognize and observe (21) ... protocol. (22) ... protocols are often described in (23) ... industry or international standard.

On (24) ... Internet, there are (25) ... TCP/IP protocols, consisting of:

- Transmission Control Protocol (TCP), which uses (26) ... set of (27) ... rules to exchange (28) ... messages with (29) ... other Internet points at (30) ... information packet level
- Internet Protocol (IP), which uses (31) ... set of (32) ... rules to send and receive (33) ... messages at (34) ... Internet address level
- (35) ... additional protocols that are usually packaged with (36) ... TCP/IP suite, including (37) ... Hypertext Transfer Protocol (HTTP) and (38) ... File Transfer Protocol (FTP), each with (39) ... defined sets of (40) ... rules to use with (41) ... corresponding programs elsewhere on (42) ... Internet

There are many other Internet protocols, such as (43) ... Border Gateway Protocol (BGP) and (44) ... Dynamic Host Configuration Protocol (DHCP).

4.3 Choose the correct answer.

TCP/IP (Transmission Control Protocol/Internet Protocol) is the basic communication language or protocol of the Internet. It can also be used as a communications protocol in a(n) (1) ... network (either an intranet or an extranet). When you are set up with direct (2) ... to the Internet, your computer is provided with a copy of the TCP/IP program just as every other computer that you may send messages to or get information from also has a copy of TCP/IP.

TCP/IP is a two-layer program. The higher layer, Transmission Control Protocol, manages the (3) ... of a message or file into smaller packets that are transmitted over the Internet and received by a TCP layer that (4) ... the packets into the original message. The lower layer, Internet Protocol, handles the (5) ... part of each packet so that it gets to the right destination. Each (6) ... computer

on the network checks the address to see where to (7) ... the message. Even though some packets from the same message are routed differently than others, they'll be recomposed at the destination.

TCP/IP uses the client/server model of communication in which a computer user (a client) requests and is provided a service (such as sending a Web page) by another computer (a server) in the network. TCP/IP communication is primarily (8) ..., meaning each communication is from one node (or host computer) in the network to another node or host computer. TCP/IP and the higher-level applications that use it are collectively said to be "stateless" because each client request is considered a new request (9) ...to any previous one (unlike ordinary phone conversations that require a (10) ... connection for the call duration). Being stateless frees network paths so that everyone can use them continuously. (Note that the TCP layer itself is not stateless as far as any one message is concerned. Its connection remains in place until all packets in a message have been received.)

Many Internet users are familiar with the even higher layer application protocols that use TCP/IP to get to the Internet. These include the World Wide Web's Hypertext Transfer Protocol (HTTP), the File Transfer Protocol (FTP), Telnet (Telnet) which lets you (11) ...to remote computers, and the Simple Mail Transfer Protocol (SMTP). These and other protocols are often packaged together with TCP/IP as a "suite."

Personal computer users usually get to the Internet through the Serial Line Internet Protocol (SLIP) or the Point-to-Point Protocol (PPP). These protocols encapsulate the IP packets so that they can be sent over a dial-up phone connection to an access provider's modem.

Protocols (12) ... to TCP/IP include the User Datagram Protocol (UDP), which is used instead of TCP for special purposes. Other protocols are used by network host computers for exchanging router information. These include the Internet Control Message Protocol (ICMP), the Interior Gateway Protocol (IGP), the Exterior Gateway Protocol (EGP), and the Border Gateway Protocol (BGP).

	a	b	c	d
(1)	private	personal	home	client/server
(2)	entry	admission	access	download
(3)	shaping	changing	assembling	composing
(4)	reassembles	transforms	converts	redirects
(5)	compression	connection	routing	address
(6)	personal	client	gateway	mainframe
(7)	download	forward	upload	copy
(8)	asynchronous	point-to-point	synchronous	half-duplex
(9)	connected	unrelated	referred	sent
(10)	specialized	duplex	protected	dedicated
(11)	download	transfer	logon	login
(12)	related	referred	connected	specified

4.4 Complete the text with suitable words.

File Transfer Protocol (FTP), a (1) s_____ Internet protocol, is the simplest way to (2) e____ files between computers on the Internet. Like the Hypertext Transfer Protocol (HTTP), which transfers displayable Web pages and (3) r_____ files, and the Simple Mail Transfer Protocol (SMTP), which transfers e-mail, FTP is an (4) a_____ protocol that uses the

Internet's TCP/IP protocols. FTP is (5) c_____ used to transfer Web (6) p___ files from their creator to the computer that acts as their server for everyone on the Internet. It's also used to (7) d_____ programs and other files to your computer from other servers.

As a user, you can use FTP with a simple command line (8) i_____ (for example, from the Windows MS-DOS Prompt window) or with a commercial program that offers a (9) g_____ user interface. Your Web (10) b_____ can also make FTP requests to download programs you select from a Web page. Using FTP, you can also (11) u_____ (delete, rename, move, and copy) files at a server. You need to (12) l_____ to an FTP server. However, publicly (13) a_____ files are easily accessed using (14) a_____ FTP.

Basic FTP (15) s_____ is usually provided as part of a (16) s_____ of programs that come with TCP/IP. However, any FTP client program with a graphical user interface usually must be downloaded from the company that makes it.

4.5 Arrange the words into sentences.

SMTP (Simple Mail Transfer Protocol)

- (1) a, and, e-mail, in, is, protocol, receiving, sending, SMTP, TCP/IP, used.
- (2) (a) ability, at, end, however, in, is, it, its, limited, messages, queue, receiving, since, to, the,
(b) a, and, download, from, in, is, it, let, mailbox, messages, of, one, other, periodically, (protocols, POP3 or IMAP), save, server, server, that, the, the, them, two, used, user, usually, with.
- (3) a, and, either, e-mail, e-mail, for, for, IMAP, in, or, other, POP3, program, receiving, sending, SMTP, that, typically, use, users, uses, words.
- (4) e-mail, for, is, most, on, sendmail, server, SMTP, systems, the, Unix-based, widely-used.
- (5) a, a, commercial, includes, package, POP3, Sendmail, server.
- (6) also, an, and, be, can, Exchange, include, includes, Microsoft, POP3, server, set up, SMTP, support, to.
- (7) implemented, Internet, is, operate, over, port 25, SMTP, to, usually.
- (8) alternative, an, Europe, in, is, is, SMTP, that, to, used, widely, X.400.
- (9) allows, as, be, delivered, e-mail, Extended, files, Mail, mail, many, multimedia, now, Protocol, servers, Simple, support, Transfer, to, to which.

4.6 Choose the correct word.

ESMTP (Extended Simple Mail Transfer Protocol) specifies **(1) packets/extensions** to the original protocol for sending e-mail that **(2) supports/backs up** graphics, audio and video files, and text in various national languages. The original Internet protocols for sending e-mail are **(3) described/explained** in Request for Comments (RFC) 822, Standard for the Format of ARPA Internet Text Messages, and in RFC 821, Simple Mail Transfer Protocol (SMTP). As users began to want to **(4) attach/send** various kinds of files to e-mail, the need for additional **(5) capacities/capabilities** arose and resulted in RFC 1869, Extended Simple Mail Transfer Protocol.

ESMTP provides the **(6) capacity/capability** for a client e-mail program to ask a server e-mail program which **(7) capacities/capabilities** it supports and then **(8) communicate/connect** accordingly. Currently, most **(9) business/commercial** e-mail servers and clients support ESMTP.

4.7 There may be one mistake in each line. Find and correct it as in the example.

(1) IMAP (Internet Message Access Protocol) is the standard	a _____
(2) protocol for accessing e-mail from your local server. IMAP (the	√ _____
(3) last version is IMAP Version 4) is a client/server protocol in	_____
(4) which e-mail is received and held for you with your Internet	_____
(5) server. You (or your e-mail client) can view just the heading and	_____
(6) the sending of the letter and then decide whether to download	_____
(7) the mail. You can yet create and manipulate multiple folders or	_____
(8) mailboxes on the server, delete messages, or search after certain	_____
(9) parts or an entire note. IMAP requires continual access for	_____
(10) the server during the time that you are working with your mail.	_____
(11) A less sophisticated protocol is Post Office Protocol 3 (POP3).	_____
(12) IMAP can be thought of a remote file server.	_____
(13) POP3 and IMAP deal with the receiving of e-mail from your	_____
(14) local server and is not to be confused with Simple Mail	_____
(15) Transfer Protocol (SMTP), a protocol used as exchanging	_____
(16) e-mail between points on the Internet. Typically, SMTP is used	_____
(17) for sending only and POP3 or IMAP are used to read e-mail.	_____

4.8 There are twelve unnecessary words in the text. Find and cross them out.

POP3 (Post Office Protocol 3) is the most much recent version of a standard protocol for receiving e-mail. POP3 is a client/server protocol in which the e-mail is received and has held for you by your Internet server. Periodically, you (or your client e-mail receiver) will check your mail-box on the server and download any of mail, probably using POP3. This standard protocol is being built into most popular e-mail products, such as Eudora and Outlook Express. It's also built into the Netscape and Microsoft Internet Explorer browsers.

POP3 is designed to delete mail on the server as soon as the user has downloaded from it. However, some implementations allow users or an administrator to specify that mail be saved for some period of the time. POP can be thought of as a "store-and-forward" service.

An alternative protocol is Internet Message Access Protocol (IMAP). IMAP provides the user of more capabilities for retaining e-mail on the server and for having organizing it in folders on the server.

POP and IMAP deal with that the receiving of e-mail and are not to be confused with the Simple Mail Transfer Protocol (SMTP), a protocol for transferring e-mail all across the Internet. You send e-mail with SMTP and a mail handler receives it on your recipient's behalf. Then the mail is read using POP or IMAP.

4.9 Choose the right preposition.

E-mail (electronic mail) is the exchange **(1) of/in** computer-stored messages **(2) with/by** telecommunication. E-mail messages are usually encoded **(3) by/in** ASCII text. However, you can also send non-text files, such as graphic images and sound files, as attachments sent **(4) in/by** binary streams. E-mail was one **(5) among/of** the first uses of the Internet and is still the most popular use. A large percentage **(6) in/of** the total traffic **(7) over/at** the Internet is e-mail. E-mail can also be exchanged **(8) with/between** online service provider users and **(9) in/with** networks other than the Internet, both public and private.

E-mail can be distributed **(10) to/by** lists of people as well as **(11) to/by** individuals. A shared distribution list can be managed **(12) for/by** using an e-mail reflector. Some mailing lists allow you

to subscribe (13) **by/to** sending a request (14) **to/from** the mailing list administrator. A mailing list that is administered automatically is called a list server.

E-mail is one (15) **among/of** the protocols included (16) **by/with** the Transport Control Protocol/Internet Protocol (TCP/IP) suite (17) **of/in** protocols. A popular protocol (18) **to/for** sending e-mail is Simple Mail Transfer Protocol and a popular protocol (19) **to/for** receiving it is POP3. Both Netscape and Microsoft include an e-mail utility (20) **with/for** their Web browsers.

4.10 Fill in the prepositions.

Voice-enabled e-mail (sometimes referred (1) ... as *voice-activated* e-mail) uses voice recognition and speech synthesis technologies to enable users to access their e-mail (2) ... any telephone. (3) ... general, the various products available work similarly: The subscriber dials (4) ... a phone number to access a voice portal, then, to collect their e-mail messages, they press (5) ... a couple of keys and, perhaps, say a phrase like "Get my e-mail." Speech synthesis software converts e-mail text (6) ... a voice message, which is played back (7) ... the phone. The user may navigate (8) ... options, (such as skipping messages, or hearing a list of senders, for example) (9) ... voice commands or key selections. Users dictate their replies, which are delivered (10) ... the recipients as voice messages. Voice-enabled e-mail is especially useful (11) ... mobile workers, because it makes it possible (12) them to access their messages easily (13) ... virtually anywhere (as long as they can get (14) ... a phone), (15) ...having to invest (16) ... expensive equipment such as laptop computers or personal digital assistants (PDAs). Proponents hope that new services like voice-enabled e-mail and unified messaging will turn out to be the killer apps that will dissolve (17) ... the perceived barriers (18) ... data networks and traditional voice networks.

4.11 Write the correct form of the words in brackets.

Unified messaging (sometimes (1) ... (**refer**) to as the *unified messaging system* or *UMS*) is the (2) ... (**handle**) of voice, fax, and regular text messages as objects in a single mailbox that a user can access either with a regular e-mail client or by telephone. The PC user can open and play back voice messages, assuming their PC has multimedia (3) ... (**capable**). Fax images can be saved or printed. A user can access the same mailbox by telephone. In this case, ordinary e-mail notes in text are (4) ... (**convert**) into audio files and played back.

Unified messaging is particularly convenient for mobile business users because it allows them to reach colleagues and customers through a PC or telephone, whichever happens to be (5) ... (**avail**). Some services offer worldwide telephone access.

READING AND DISCUSSING

5.1 Science and technology.

Nanotechnology Speeds Up Internet 100 Times

Using a new hybrid material made of nanometer-sized "buckyballs" and a polymer, Canadian researchers have shown that nanotechnology could lead to the Internet based entirely on light and 100 times faster than today's. This material allowed them to use one laser beam to direct another with unprecedented control, a feature needed inside future fiber-optic networks. These future fiber-optic communication systems could relay signals around the global network with picosecond (one trillionth of a second) switching times, resulting in the Internet 100 times faster. At present, this discovery appeared in a lab: we'll have to live with our current networks for some time.

"This finding showcases the power of nanotechnology: to design and create purpose-built custom materials from the molecule up," says Sargent, a professor at University of Toronto's Edward S. Rogers Sr. Department of Electrical and Computer Engineering.

What kind of problems did they solve?

Until now, engineering researchers have been unable to capitalize on theoreticians' predictions of the power of light to control light. The failure of real materials to live up to their theoretical potential has become known as the "Kuzyk quantum gap" in molecular nonlinear optics.

To breach the Kuzyk quantum gap, Carleton University chemistry professor Wayne Wang and colleague Connie Kuang designed a material that combined nanometre-sized spherical particles known as "buckyballs" (molecules of carbon atoms resembling soccer balls) with a designed class of polymer. The polymer and buckyball combination created a clear, smooth film designed to make light particles pick up each other's patterns.

Sargent and U of T colleague Qiying Chen then studied the optical properties of this new hybrid material. They found that the material was able to process information carried at telecommunications wavelengths -- the infrared colours of light used in fibre-optic cables.

What can we expect from this discovery?

According to Sargent, future fibre-optic communication systems could relay signals around the global network with picosecond (one trillionth of a second) switching times, resulting in the Internet 100 times faster. To do this, they need to avoid unnecessary conversions of signals between optical and electronic form.

Says Sargent: "By creating a new hybrid material that can harness a light beam's power, we've demonstrated a new class of materials which meets the engineering needs of future photonic networks."

However, the keyword here is "future," so don't think that your Internet connection will be 100 times faster before several years.

Source: University of Toronto news release, August 11, 2004

5.2 IT and business.

Have you ever heard about Internet2?

Was Richard Nolan right in his predictions?

Here comes Internet2 for businesses -- in 2005?

Before going on with the story, do you remember what is Internet2? It started in April 1999 as a \$500 million project linking 37 U.S. universities. At this time, the network was supposed to operate at a 2.4 gigabit-per-second speed and the project, linking more than 140 universities, completed by 2003.

Have you heard about Internet2 lately? Harvard Business School (HBS) Richard Nolan spent lots of time on this project and is telling us about the current status.

"I talk to managers about Internet2," Nolan said. The usual response? "Internet what? I thought Internet 1 was dead."

Some executives, he says, are experiencing "dot vertigo," that dizziness accompanying claims about all the wonderful ways the Internet is going to transform their lives. What

they don't realize is that their fears make them discount the impact of the Internet in what Nolan called a very dangerous way.

Quickly and quietly, said Nolan, Internet2 is making inroads in important ways in collaborative learning and R&D. When privatization and business applications start to enter the picture, which he predicted would happen by the year 2005, managers will have much to gain -- or lose.

The power of Internet2 lies in its ability to connect networks of networks. Currently, he said, universities and labs use it to connect researchers working on collaborative projects. These projects can range from building virtual reality models of the ear -- a medical application -- to studying the stars -- a scientific application.

And, even in a publication from Harvard, there is the comparison.

A DVD version of the Hollywood movie "The Matrix," for example, can be downloaded via Internet2 in about thirty seconds, Nolan said. The same DVD would take approximately 25 hours to download via a standard DSL/cable line (and 170 hours -- or more than seven days -- via a 56K modem).

Source: HBS Working Knowledge, September 15, 2002

5.3 Technology for us.

Using Internet to Reduce Electricity Bills

Even if new buildings are connected to the Internet, they usually don't communicate between themselves. And when it comes to electricity, these buildings are selfish and consume what they want without any coordination. Now, a system developed at Lawrence Berkeley National Laboratory is using Web services to collectively adjust power usage to variations in price. In "Internet ups power grid IQ," Technology Research News reports that the system was successfully tested for two weeks on five commercial buildings. "Beyond price, systems could be programmed to respond to changes in air quality or to tap into sustainable energy sources."

In a two-week test that involved five commercial buildings, the researchers showed that it was possible to use Internet-based price broadcasting to vary power use according to predetermined price thresholds. During the test, five different commercial buildings management systems responded to price adjustments within two minutes, said Mary Ann Piette, principal investigator of Berkeley Lab's Environmental Energy Technologies Division.



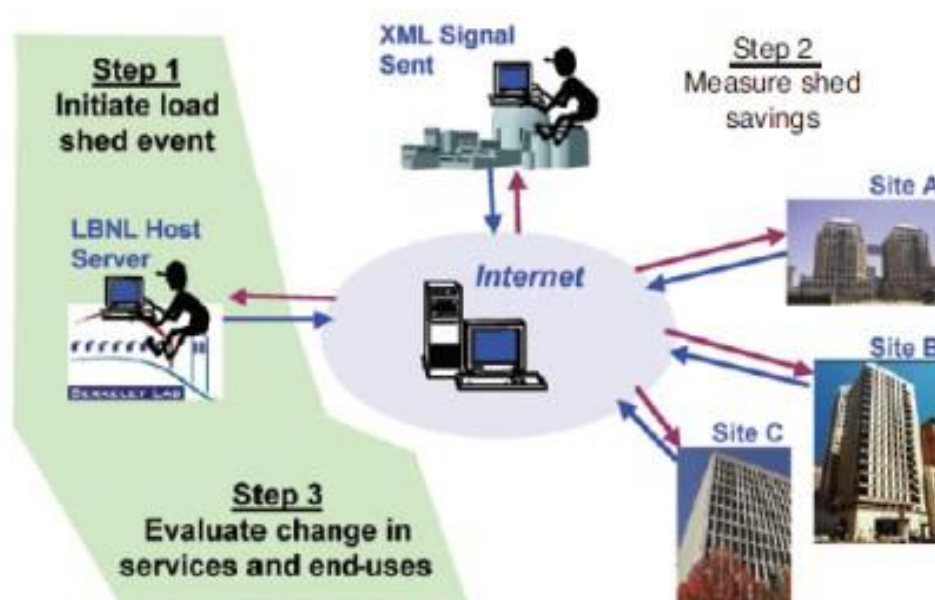
During the test, the researchers broadcast the pricing information, formatted in the Web-standard Extensible Markup Language (XML), to an Albertsons grocery store in Oakland, a Bank of America office building in Concord, the Roche Palo Alto biotechnology facility, a library at the University of California at Santa Barbara, and the Ronald V. Dellums Federal Building in Oakland.

How does this system work?

Berkeley researchers wrote an XML schema based on work by Infotility Inc., an energy market information software and Web services company.

The Berkeley Lab twice signaled price increases that triggered reductions in the buildings' energy use -- at 30-cents and 75-cents per hour -- following criteria established by the buildings' facility managers. The building control systems triggered the required adjustments within two minutes, said Piette.

This diagram shows how the system physically works (Credit: Mary Ann Piette). This image is extracted from "Demand Responsive Technology Demonstrations for Large Commercial and Institutional Buildings"



Can this system be extended and generalized? The answer is definitively yes.

The test was a good if narrow proof of building energy management systems' ability to respond to price changes, according to Stephen Connors, coordinator and multidisciplinary research director at the Massachusetts Institute of Technology Laboratory for Energy and the Environment.

Beyond price, systems could be programmed to respond to changes in air quality, to participate in emissions trading schemes, to tap into sustainable energy sources, to coordinate the responses of groups of buildings, and possibly to minimize local brownout threats and price spikes, according to Connors. "There's still some wiggle room. But, all in all, it's a very cool beginning," he said.

Sources: Ted Smalley Bowen, *Technology Research News*, June 16/23, 2004

ORAL PRACTICE

6.1 Answer the questions.

- (1) What is an ISP (Internet service provider)?
- (2) What services do ISPs provide?
- (3) What is the difference between subscription and free ISPs in terms of services provided?
- (4) What are the possible disadvantages of having a free ISP?

6.2 Discussion ‘Internet Service Providers’.

- (a) *Describe your ISP and compare its services with those of other students’ ISPs. Make notes on different ISPs in your area regarding the following features*
- *sign up options*
 - *local rates calls*
 - *e-mail*
 - *web space*
 - *newsgroups*
 - *customer support*
 - *reliability*
- (b) *Using the information from your notes in Exercise 6.2 (a) make up a dialogue on the topic ‘Choosing an ISP’.*
- (c) *Decide which of the ISPs you have described in Exercise 6.1 (a) offer the best deal to these users:*
- *a household with a young family;*
 - *a small home-based business;*
 - *someone who enjoys online gaming;*
 - *someone who does not want a lot of spam in his/her e-mail;*
 - *a businessman who often has to work at home;*
 - *a hostel student;*
 - *a housewife.*

RENDERING AND TRANSLATION

7.1 Translate from Russian into English.

(1) Чтобы компьютеры могли связываться между собой, они должны пользоваться общим языком, который называется протоколом. Протокол – это набор правил и стандартов, обеспечивающий связь между компьютерами в сети. (2) протоколы – это программное обеспечение, которое обязательно надо установить на те компоненты сети, которые в нем нуждаются. (3) компьютеры могут связываться друг с другом только тогда, когда они используют один и тот же протокол. Если протокол, используемый компьютером в сети, несовместим с протоколом, используемым на другом компьютере, то эти два компьютера не могут обмениваться информацией. (4) Для применения в конкретных сетевых средах существует множество протоколов. Хотя простую связь по сети обеспечивает любой протокол, каждый из них имеет различные функции и выполняет различные задачи. (5) Работу различных протоколов можно понять, изучая стандартную модель сетей – эталонную модель OSI (модель взаимодействия открытых систем). (6) В настоящее время существуют два вида протоколов: открытые протоколы и протоколы независимых производителей. Открытые протоколы – это такие протоколы, которые написаны под общеизвестные отраслевые стандарты. Протокол, соответствующий этим отраслевым стандартам, совместим с другими протоколами, написанными для тех же стандартов. Открытые протоколы не являются чьей-либо собственностью. Типичный пример открытого протокола – это протокол TCP/IP, используемый в качестве стандарта для связи в Интернете. (7) протоколы независимых производителей являются их собственностью; они разработаны ими для использования в конкретных вычислительных средах. Например, корпорация Novell поставляет набор протоколов, разработанных специально для ее архитектуры. NetWare. (8) В состав набора протоколов TCP/IP входит шесть основных протоколов и комплект служебных программ. Шесть основных протоколов – это протоколы TCP, UDP, IP, ICMP, IGMP и ARP – задают набор стандартов для связи между компьютерами и для межсетевых подключений.

Все приложения и другие протоколы в наборе TCP/IP опираются на базовые службы, обеспечиваемые этими основными протоколами. (9) Протокол UDP (User Datagram Protocol) распознает конечное приложение при установлении сетевой связи. Протокол UDP обеспечивает службу доставки пакетов без установления подключения, что позволяет получить быструю, но ненадежную доставку данных. При использовании этого протокола не требуется подтверждения полученных данных, и потерянные и неправильно посланные данные не посылаются снова. (10) Протокол ICMP (Internet Control Message Protocol) дает возможность исправлять ошибки и возвращать сообщения об ошибках для пакетов. (11) Протокол IGMP (Internet Group Management Protocol) представляет собой протокол, управляющий списками членов для многоадресной IP-рассылки. (12) Протокол ARP (Address Resolution Protocol) выполняет разрешение адресов для исходящих пакетов. Разрешением адресов называется процесс, при котором IP-адреса сопоставляются MAC-адресам (Media Access Control). Сетевые платы используют MAC-адреса для того, чтобы определить, предназначается ли пакет для данного компьютера.

7.2 Render in English.

ROUND OFF

8.1 Give definitions to the terms

e-mail
newsgroup
IRC
To upload
To download
MOO
Emoticon
Protocol
Videoconference
Account
CMC

UNIT 4 THE WORLD WIDE WEB

OVERVIEW

1.1 Fill in the gaps with the words from the box.

browser	design	HTML	hyperlinks	links
network-accessible	surfing	URL	web-pages	websites

The World Wide Web (the Web or WWW) has been **in existence** since 1994. it was invented by a man called Tim Berners-Lee and is the part of the Internet where (1) ... and their component (2) ... are stored and can be accessed. Tim Berners-Lee described the Web as: '... the universe of (3) ... information, an **embodiment** of human knowledge,' which gives an idea of the utopian ideals that the early pioneers of public Internet communication **subscribed to**. Today, however, the Web seems to be dominated by big business and commercial interests. When you type a(n) (4) ... into your **browser** the software requests information from the computer **hosting** the website and web-page you have requested. The web-page is then delivered to your computer in packets of information. This information is coded using a computer language called (5) Your (6) ... reads the language and **resolves** it into the words and pictures that make up the web-page you requested.

(7) ... are a defining element of the Web and how it works. Move your mouse pointer around a web-page. As it passes over certain words (usually of a different colour than the other text), images and buttons, the pointer becomes a small pointing hand. This identifies the word or button as (7) Click on it and you are instructing your **browser** to access and display another web-page within the website you are already in or a web-page within another completely different website. Hopping from web-pages and websites, following (8) ... that attract your interest or tweak your curiosity, is known as (9) The Web is huge and growing everyday. In January 1997 there were something **in the region of** 700,000 websites. By the middle of 2001, this figure has increased to 31.3 million. Although the Web contains hundreds of millions of items of information in the form of text, pictures, audio and **video clips**, there is no organization to any of this information beyond the (10) ... of individual websites.

1.2 Explain the meaning of the words in bold.

2.1 Hyper world. Read the following paragraphs and answer the questions

What is hypertext? How is information organized in hypertext?

What is a hypertext link? hypermedia? hyperspace and cyberspace?

How do you understand the expression 'lost in hyperspace'? Have you ever felt 'lost' while surfing the Web?

Do you know any science fiction books) which predicted the appearance of hyperspace?

(a) A technical definition of the World Wide Web is: all the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP). A broader definition comes from the organization that Web inventor Tim Berners-Lee helped found, the World Wide Web Consortium (W3C): "The World Wide Web is the universe of network-accessible information, an embodiment of human knowledge."

(b) Hypertext is the organization of information units into connected associations that a user can choose to make. An instance of such an association is called a link or [hypertext link](#). Hypertext was the main concept that led to the invention of the World Wide Web, which is, after all, nothing more (or less) than an enormous amount of information content connected by an enormous number of hypertext links. The term was first used by Ted Nelson in describing his Xanadu system.

(c) Hypermedia, a term derived from hypertext, extends the notion of the hypertext link to include links among any set of multimedia objects, including sound, motion video, and virtual reality. It can also connote a higher level of user/network interactivity than the interactivity already implicit in hypertext.

(d) Hyperspace is a term that describes the total number of individual locations and all of their interconnections in a hypertext environment. It also connotes a perceived sense of this potentially confusing totality. If you've ever started out somewhere on the World Wide Web and gradually lost the sense that you know where you are going or where you are, you are in the condition known as "lost in hyperspace." (Studies, however, show that the "lost in hyperspace" problem is relatively low on users' lists of "things to improve.") Hyperspace can be considered the hypertextual or architectural aspect of cyberspace, a term that has even richer connotations.

(e) Cyberspace is the total interconnectedness of human beings through computers and telecommunication without regard to physical geography. William Gibson is sometimes credited with inventing or popularizing the term by using it in his novel of 1984, *Neuromancer*.

2.2 Find the information about how popular programs for accessing the Web – browsers – work. Analyze the options available in this software. Discuss different browsers, their pros and cons.

READING AND DISCUSSING

4.1 Read the text about computer languages and find answers to the following questions.

- 1) *What markup tags do you know?*
- 2) *What are the ways to insert markup indicators in a document?*
- 3) *What is the difference between metadata and a language?*
- 4) *Give examples of SGML-based languages.*
- 5) *What are the common languages for displaying web-pages?*
- 6) *Why do web-page creators design different versions of pages written in HTML?*
- 7) *What is the key difference between HTML and XML?*
- 8) *What does the word 'extensible' mean in the names of languages?*
- 9) *Is XML a language or metadata? Why?*
- 10) *What are the features of XHTML?*
- 11) *What does the word 'portability' mean with reference to languages?*
- 12) *What is the origin of XHTML?*
- 13) *How does XHTML differ from HTML and XML?*
- 14) *Give definitions to the following terms: **markup, SGML, DTD, metadata, HTML, XML, XHTML.***

When you create a document you use a special code to denote the layout of the text

Markup refers to the sequence of characters or other symbols that you insert at certain

places in a text or word processing file to indicate how the file should look when it is printed or displayed or to describe the document's logical structure. The markup indicators are often called "tags." For example, this particular paragraph is preceded by (□) (or paragraph tag) so that it will be separated by an empty line from the preceding line.

Markup can be inserted by the document creator directly by typing the symbols in, by using an editor and selecting prepackaged markup symbols (to save keystrokes), or by using a more sophisticated editor that lets you create the document as you want it to appear (this is called a WYSIWYG editor).

There is now a standard markup definition for document structure (or really a description of how you can define markup) in the Standard Generalized Markup Language (SGML).

SGML is a standard for how to specify a document markup language or tag set. Such a specification is itself a **document type definition** (DTD). SGML is not in itself a document language, but a description of how to specify one. It is **metadata**.

SGML is based on the idea that documents have structural and other semantic elements that can be described without reference to how such elements should be displayed. The actual display of such a document may vary, depending on the output medium and style preferences. Some advantages of documents based on SGML are:

- They can be created by thinking in terms of document structure rather than appearance characteristics (which may change over time).
- They will be more portable because an SGML compiler can interpret any document by reference to its document type definition (DTD).
- Documents originally intended for the print medium can easily be re-adapted for other media, such as the computer display screen.

The language that this Web browser uses, Hypertext Markup Language (HTML), is an example of an SGML-based language. There is a document type definition for HTML (and

reading the HTML specification is effectively reading an expanded version of the document type definition).

SGML is based somewhat on earlier generalized markup languages developed at IBM, including General Markup Language (GML) and ISIL.

HTML is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user. Each individual markup code is referred to as an element (but many people also refer to it as a tag). Some elements come in pairs that indicate when some display effect is to begin and when it is to end.

HTML is a formal Recommendation by the World Wide Web Consortium (W3C) and is generally adhered to by the major browsers, Microsoft's Internet Explorer and Netscape's Navigator, which also provide some additional non-standard codes. The current version of HTML is **HTML 4.0**. However, both Internet Explorer and Netscape implement some features differently and provide non-standard extensions. Web developers using the more advanced features of HTML 4 may have to design pages for both browsers and send out the appropriate version to a user. Significant features in HTML 4 are sometimes described in general as **dynamic HTML**. What is sometimes referred to as **HTML 5** is an extensible form of HTML called Extensible Hypertext Markup Language (XHTML).

XML (Extensible Markup Language) is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. For example, computer makers might agree on a standard or common way to describe the information about a computer product (processor speed, memory size, and so forth) and then describe the product information format with XML. Such a standard way of describing data would enable a user to send an intelligent agent (a program) to each computer maker's Web site, gather data, and then make a valid comparison. XML

can be used by any individual or group of individuals or companies that wants to share information in a consistent way.

XML, a formal recommendation from the World Wide Web Consortium, is similar to the language of today's Web pages, the Hypertext Markup Language. Both XML and HTML contain markup symbols to describe the contents of a page or file. HTML, however, describes the content of a Web page (mainly text and graphic images) only in terms of how it is to be displayed and interacted with. For example, the letter "p" placed within markup tags starts a new paragraph. XML describes the content in terms of what data is being described. For example, the word "phonenum" placed within markup tags could indicate that the data that followed was a phone number. This means that an XML file can be processed purely as data by a program or it can be stored with similar data on another computer or, like an HTML file, that it can be displayed. For example, depending on how the application in the receiving computer wanted to handle the phone number, it could be stored, displayed, or dialed.

XML is "extensible" because, unlike HTML, the markup symbols are unlimited and self-defining. Anyone can invent a particular set of markup for a particular purpose and as long as everyone uses it (the writer and an application program at the receiver's end), it can be adapted and used for many purposes - including, as it happens, describing the appearance of a Web page. XML is actually a simpler and easier-to-use subset of the SGML, the standard for how to create a document structure. It is expected that HTML and XML will be used together in many Web applications. XML markup, for example, may appear within an HTML page.

As the World Wide Web Consortium describes it, XHTML is "a reformulation of HTML 4.0 as an application of the XML. The advantages of this language are "extensibility and portability."

Extensibility means that as new ideas for Web communication and presentation emerge, they can be implemented without having to wait

for the next major version of HTML and browser support. New tags or attributes can be defined to express the new possibilities and, assuming some program at the receiving end can understand and act on them, new things may happen on your Web page that never happened before.

If extensibility is likely to lead to more complicated pages and larger programs, the portability advantage means that Web pages can now be made simpler than they were before so that small devices can handle them. This is important for mobile devices and possibly household devices that contain microprocessors with embedded programming and smaller memories. XHTML defines several levels of possible markup complexity and each document states its level of complexity at the beginning. Programs in microdevices might expect XHTML-coded files that state the simplest level of complexity so that they could be handled by a small program and memory.

XHTML differs from HTML 4 on the following points:

- XHTML requires strict adherence to coding rules. Notably, it requires that you use closing as well as opening elements (this is known as *well-formed* syntax) and that all elements be in lower case. HTML was much less rigorous about notation and browsers tended to be even more forgiving.
- This means that XHTML files will tend to be "busier" than HTML. However, they won't necessarily be harder to read because rigor may force more order in coding. In addition, the major editing and file creation tools will probably lay out pages for easier readability.
- XHTML would seem to encourage a more structured and conceptual way of thinking about content and, combined with the style sheet, a more creative way of displaying it.
- XHTML will make it easier for people to dream up and add new elements (and develop browsers or other applications that support them).

4.2 (a) Read the article and speak about advantages and disadvantages of XML from the point of view of the experts. Speak about binary XML as a possible substitute of ordinary XML.

(b) Make a dialogue based on the text discussing the problems of XML and possible ways to eliminate them.

Putting XML in the fast lane

By Martin LaMonica

The technology known as Extensible Markup Language has become a nearly universal way to share information online. But there's a growing recognition that XML's benefits sometimes come with a price tag: sluggish performance.

That problem is now spawning efforts to speed up XML traffic. Proponents say a skinnier XML will boost the speed of everything from Internet commerce to data exchange between cell phones. But so far, there's no agreement on the technology to make that happen.

Here's the problem: Right now, the XML standard calls for information to be stored as text. That means that an XML document, such as a purchase order or a Web page, can be easily viewed by a person or "read" by a machine, either through widely available text editors or XML parsers.

But performance problems result from XML's tendency to create very large files. That's in part because XML formatting calls for each element within a document to be tagged with labels written out as text. What's more, XML-based protocols, called Web services, also generate a great deal of XML traffic.

"Not only is XML verbose, but it's extremely wasteful in how much space it needs to use for the amount of true data that it is sending," said Jeff Lamb, chief technology officer of Leader Technologies, which uses XML extensively in teleconferencing applications and believes that a change is needed.

The leading candidate to help alleviate XML's performance woes is a technology called binary XML, which calls for a new format that compresses XML transmissions.

Sun Microsystems has started an open-source Fast Infoset Project based on binary XML, and the standards body responsible for XML, the World Wide Web Consortium (W3C), has formed the Binary Characterization Working Group to consider putting XML in binary format.

On the face of it, compressing XML documents by using a different file format may seem like a reasonable way to address sluggish performance. But the very idea has many people—including an XML pioneer within Sun—worried that incompatible versions of XML will result.

"If I were world dictator, I'd put a kibosh on binary XML, and I'm quite confident that the people who are pushing for it would find another solution," said Tim Bray, who's both co-inventor of XML and an executive in Sun's software group.

"But as it is, these people think they're right and they're not stupid, so maybe they are right. Thus, let's hope that they play nice with standards bodies and provide that free open-source software—all of which the Sun Fast-Infoset people are doing, to their credit," Bray said.

Putting the squeeze on XML

The Fast Infoset plan, which represents more than a year of work, proposes that XML documents get shrunk down into a binary format in order to speed up transmission of files over the Internet. Sun has chosen a compression method that's already a standard used in the telecommunications industry.

The Sun engineers behind Fast Infoset argue that binary encoding is necessary because it can greatly improve performance, which is necessary in certain situations.

In initial tests, they found that applications perform two or three times faster when using the software. The goal of the Fast Infoset project is to generate interest among developers and eventually create a standardized binary format.

Manufacturers of consumer devices such as Canon, as well as mobile-phone companies such as Nokia, have argued for a binary XML format. Without it, large files such as images will take too long to download to devices such as cell phones, they argue.

The primary concern is interoperability. Potentially, several different binary formats for specific purposes could emerge, which are not universally understood. For example, there may be a method for encoding images sent to consumer electronics, which may differ substantially from others.

Bray is skeptical of the entire notion of converting XML to any format other than text.

"The fact that XML is ordinary plain text that you can pull into Notepad...has turned out to be a boon, in practice," he said. "Any time you depart from that straight-and-narrow path, you risk loss of interoperability. Experience with interoperability via XML as it is, has been excellent. Why take chances?"

Bray noted that there are methods for speeding up XML traffic other than creating a binary format. Advances in networking and processing power go a long way in addressing performance concerns, though perhaps not on battery-constrained mobile phones, he said.

Janet Perna, the general manager of IBM's information management group, said one alternative to binary XML is to handle the mushrooming in XML traffic with faster networking. Five or six years ago, people thought that the Internet would be too slow for doing online commerce, but the industry eventually overcame those barriers, she said.

"I don't see (growing XML traffic) as a limitation here. I think we'll keep up with it," she said.

ZapThink, a research firm specializing in XML and Web services, echoed concerns over binary XML, notably the possibility of proprietary implementations. ZapThink analysts also noted that an XML message can touch several different pieces of software and hardware, such as security systems, all of which would support any binary XML standard.

ZapThink's Ron Schmelzer said binary XML may be limited to niche uses such as high-volume applications, which demand the best performance.

Leader Technologies' Lamb supports the idea of binary XML but with one important caveat--that it be standardized.

"The amount of transactions that contain XML continues to exponentially expand, so we don't want to get caught behind the problem," he said. "But if we can't achieve a standard (binary XML), then my support would go way down."

UNIT 5 WEB SITES

OVERVIEW

1.1 Fill in the gaps with the words from the box.

consistency	content	interlinked	layout	linear
navigating	ranges	search facilities	spot	usability

One common **analogy** for a web site is a book. It is made up of pages with the front page usually featuring some sort of (1) ... list. The analogy stops here; unlike a book, the pages of a web site are very rarely **intended** to be read in a (2) ... manner. On the contrary, very often every page of a web site is connected or linked to every other within that web site via a system of hyperlinks, **menus** and (3) A web page may also contain links to web pages which form part of another, completely different web site.

Another way of thinking about a web site is a collection of (4) ... web pages whose **coherence** comes from a (5) ... of the topics covered by the contents and/or the **design** of the web pages, most web-sites are **built around** a particular subject or service.

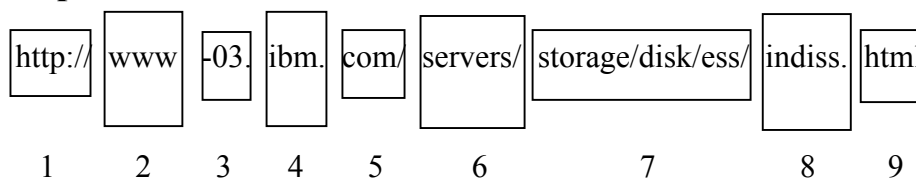
The design and (6) ... of web sites varies dramatically. This (7) ... from web sites where the way to find the information you want is immediately **obvious** to web sites where exploration and discovery are the aim of the designers and little is done to help or guide you. There are no official rules for the design and (8) ... of web pages. As you become more experienced in (9) ... your way around web sites, you will be able to (10) ... which ones are well designed and which ones are not. This will also become a factor in your choice of visiting web sites later.

1.2 Explain the meaning of the words in bo

2.1 Read the text

A **URL** (Uniform Resource Locator, previously Universal Resource Locator) - usually pronounced by sounding out each letter but sometimes pronounced "Earl" - is the unique address for a file that is accessible on the Internet. A common way to get to a Web site is to enter the URL of its home page file in your Web browser's address line. However, any file within that Web site can also be specified with a URL. Such a file might be any Web (HTML) page other than the home page, an image file, or a program such as a common gateway interface application or Java applet. The URL contains the name of the protocol to be used to access the file resource, a domain name that identifies a specific computer on the Internet, and a pathname, a hierarchical description that specifies the location of a file in that computer.

2.2 Match parts of the URL with their names.



(a) web-service (b) directory path (c) document name (d) name of the web site (company) (e) protocol prefix (f) protocol used for data transmission (g) topic of the page (h) language of the text (i) particular name of the server used for storing data (j) name of the document or file

2.3 Explain what each part of the following URL addresses means

http://uk.dir.yahoo.com/business_and_economy/business_to_business/transportation/
http://www.deutschetelecom.com/dtag/home/portal/0,14925,E,00.html
http://www.tse.or.jp/english/index.shtml
http://www.metro.de/servlet/PB/menu/
http://www2.shell.com/home/Framework
ftp://128.445.666/movies/

2.4 Explain what the following domain extensions mean

(a) .mil (b) .coop (c) .aero (d) .pro (e) .int (f) .name (g) .net (h) .edu (i) .info (j) .org (k) .gov (l) biz (m) com (n) .firm (o) .store (p) .web (q) .arts (r) .rec

GRAMMAR AND VOCABULARY

3.1 (a) Choose the correct word. (b) Give synonyms to the underlined words

A domain name (1) locates/specifies an organization or other entity on the Internet. For example, the domain name *www.totalbaseball.com* (1) locates/specifies an Internet address for "totalbaseball.com" at Internet (2) server/point 199.0.0.2 and a particular (3) domain/host server named "www". The "com" part of the domain name reflects the purpose of the organization or entity (in this example, "commercial") and is called the top-level domain name. The "totalbaseball" part of the domain name defines the organization or entity and together with the top-level is called the second-level domain name. The second-level domain name maps to and can be thought of as the "readable" version of the Internet address.

A third level can be defined to (4) identify/show a particular host server at the Internet address. In our example, "www" is the name of the server that handles Internet (5) traffic/requests. (A second server might be called "www2".) A third level of domain name is not required. For example, the fully-qualified domain name could have been "totalbaseball.com" and the server assumed.

Subdomain levels can also be used. For example, you could have "*www.nyankees.totalbaseball.com*". Together, "*www.totalbaseball.com*" constitutes a fully-qualified domain name.

Second-level domain names must be (6) common/unique on the Internet and registered with one of the ICANN-accredited registrars for the COM, NET, and ORG top-level domains. Where (7)

appropriate/assumed, a top-level domain name can be geographic. (Currently, most non-U.S. domain names use a top-level domain name based on the country the server is in.)

On the Web, the domain name is that part of the Uniform Resource Locator (URL) that tells a domain name server using the domain name system (DNS) whether and where to (8) reroute/forward a request for a Web page. The domain name is mapped to an IP address (which represents a physical point on the Internet).

More than one domain name can be mapped to the same Internet address. This allows (9) **multiple/special** individuals, businesses, and organizations to have (10) **unique/separate** Internet identities while sharing the same Internet server.

It may be worth noting that the domain name system (11) **contains/combines** an even higher level of domain than the top-level domain. The highest level is the root domain, which would be represented by a single dot (just as in many hierarchical file systems, a root directory is represented by a "/") if it were ever used. If the dot for the root domain were shown in the URL, it would be to the right of the top-level domain name. However, the dot is (12) **assumed/appropriate** to be there, but never shown.

3.2 There may be one mistake in each line. Find and correct it as in the example.

(1) For a Web user, the home page is a first Web page that is displayed	the
(2) after starting a Web browser like Netscape's Navigator or Microsoft's	√
(3) Internet Explorer. The browser is usually presetted so that the home	
(4) page is the first page of the browser manufacture. However, you can	
(5) set it to be open to any Web site. For example, you can specify that	
(6) "http://www.yahoo.com" or "http://whatis.com" be your home page.	
(7) You can also specify that there is no home page (a blank space will be	
(8) displayed) in which case you chose the first page from your	
(9) bookmark list or enter a Web address.	
(10) For a Web site developer, a home page is the first page presented	
(11) when a user selecting a site or presence on the World Wide Web.	
(12) The usual address for a Web site is the home page address, unless	
(13) you can enter the address (Uniform Resource Locator) of any page	
(14) and have that page to send to you.	

3.3 Fill in the articles.

A **hot site** is (1) ... commercial disaster recovery service that allows (2) ... business to continue (3) ... computer and network operations in (4) ... event of (5) ... computer or equipment disaster. For example, if (6) ... enterprise's data processing center becomes inoperable, that enterprise can move all (7) ... data processing operations to (8) ... hot site. (9) ... hot site has all (10) ... equipment needed for (11) ... enterprise to continue (12) ... operation, including (13) ... office space and furniture, telephone jacks, and (14) ... computer equipment.

(15) ... **cold site** is (16) ... similar type of (17) ... disaster recovery service that provides (18) ... office space, but (19) ... customer provides and installs all (20) ... equipment needed to continue (21) ... operations. (22) ... cold site is less expensive, but it takes longer to get (23) ... enterprise in (24) ... full operation after (25) ... disaster.

Typically, (26) ... business has (27) ... annual contract with (28) ... company that offers (29) ... hot and cold site services with (30) ... monthly service charge. Some disaster recovery services offer (31) ... backup services so that all (32) ... company data is available regardless of whether (33) ... hot site or cold site is used. If (34) ... enterprise must use (35) ... hot or cold site, there are usually daily fees and other incidental fees in (36) ... addition to (37) ... basic service charge.

3.4 There are ten unnecessary words in the text. Find and cross them out.

A **ghost site** is a Web site that is for no longer maintained but that it remains available for viewing. Since so many sites don't identify their date of the last update, it's not always easy to tell whether a site is a ghost site or it just resting. A ghost site is not to should be confused with a retired or invisible site (one which doesn't exist anymore time and results in a "Not have found" message). It's possible to have been a ghost site that continues to be useful or appealing because much its content doesn't date easily.

A **zombie** is an abandoned and sadly out-of-date Web site that for some reason has been moved to another Web address.

ORAL PRACTICE

4.1 Read the text and answer the questions.

The Web is usually described as being like a library or an encyclopaedia. However, this comparison is misleading. Firstly, unlike a library and an encyclopaedia there is no central control over what is put on the Web. There is no control over its accuracy, its up-to-dateness, its truthfulness or any of the qualities you would expect of information stored in a system with some sort of gatekeeper. Secondly, all this information, stored in more than 40 million web-sites, some of which consists of many thousands of pages, is not organized in any way other than that chosen by the authors of the individual web-sites. The World Wide Web has no index and no contents page. There is no central place in which you can find listings for the entire Web.

However, it is still possible to find what you want on the Web. Bear in mind that all of human knowledge is not there. What is on the Web is what people and organizations have chosen to put there, for whatsoever reason. However, if it is there and general access is intended, i.e. not protected by passwords, it is possible to find it.

- (1) *What is the structural organization of the information stored on the Web?*
- (2) *How can you find anything on the Internet?*
- (3) *What is a search engine?*
- (4) *How does a search engine work?*
- (5) *What are the popular search engines in your area?*

4.2 (a) Find out how to request information on search engines and exchange your ideas in class. (b) What would you type into a search box to find the information on the following:

- *weather in London the day after tomorrow;*
- *lyrics of Elvis Presley's The Wonder of You;*
- *where you can buy a new book by Dan Brown (you do not know the title yet);*
- *how to cultivate orchids;*
- *articles for your project work on ...;*
- *a recipe for crab or lobster salad.*