

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

Курганский государственный университет
Кафедра иностранных языков гуманитарных специальностей

АНГЛИЙСКИЙ ЯЗЫК

Практикум по формированию навыков
устной речи на основе профессионально
ориентированных текстов по специальностям
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Unit 1

Computers today

Computers applications.

1. Computers can help students perform mathematical operations and solve difficult questions. They can be used to teach courses such as computer-aided design, language learning, programming, mathematics, etc.

PCs (personal computers) are also used for administrative purposes: for example, universities use databases and word processors to keep records of students, teachers and materials.

2. Race organizers and journalists rely on computers to provide them with the current positions of riders and teams in both the particular stages of the race and in the overall competition.

Workstations in the race buses provide the timing system and give up-to-the minute timing information to TV stations. In the press room several PCs give realtime information on the state of the race.

Computers databases are also used in the drug-detecting tests for competitors.

3. Computers store information about the amount of money held by each client and enable staff to access large databases and to carry out financial transactions at high speed. They also control the automatic cash dispensers which, by the use of a personal coded card, dispense money to clients.

4. Airline pilots use computers to help them control the plane. For example, monitors display data about fuel consumption and weather conditions.

In airports control towers, computers are used to manage radar systems and regulate airtraffic.

On the ground, airlines are connected to travel agencies by computer. Travel agents use computers to find out about the availability of flights, prices, times, stopovers and many other details.

A. Match these captions with

- a) Using an automatic cash dispenser
- b) In education, computers can make all the difference
- c) Organizing the Tour de France demands the use of computer technology
- d) Controlling air traffic

B. When you read texts like these, you don't always need to understand every word. But there are words which you can guess from the context. Look at these words. Are they nouns (n), verbs (v) or adjectives (adj) ?

- 1. workstation ... 2. data ... 3. perform ... 4. automatic ... 5. monitor...
- 6. financial... 7. store ... 8. connected ... 9. word processor ... 10. large ...

Now find the words in texts 1 to 4 and match them with the meanings below.

a. information *b.* execute (do) *c.* connected with miney *d.* keep (save)
e. massive *f.* linked *g.* selfacting, mechanical *h.* screen *i.* powerful computer usually connected to a network *j.* programm used for text manipulation

C. Look at text 1 again and discuss these questions.

1. How are/were computers used in your University?
2. What other areas of study would benefit from the introduction of computers ?

What can computers do ?

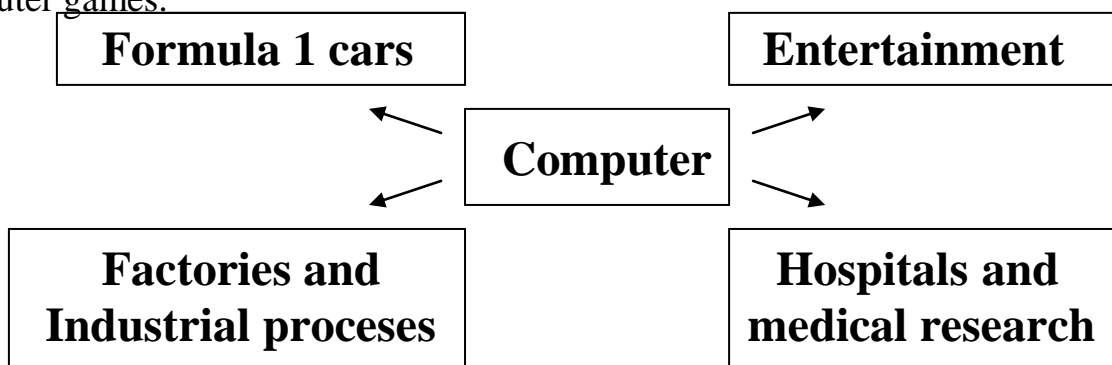
A. Write a list of as many uses of the computer, or computer applications, as you can think of.

B. Now read the text below and underline any applications that are not in your list.

Computers and microchips have become part of our everyday lives: we visit schops and offices which have been designed with the help of computers, we read magazines which have been produced on computers, we pay bills prepared by computers. Just picking up a telephone and dialing a number involves the use of a sophisticated computer system, as does making a flight reservation or bank transaction.

We encounter daily many computers that spring to life the instant they're swiched on (e.g. calculators, the car's electronic ignition, the timer in the microwave, or the programmer inside the TV set), all of which use chip technology.

What makes your computer such a miraculous device? Each time you turn it ou, it is a tabula rasa that, with appropriate hardware and software, is capable of doing anything you ask. It is a calculating machine that speeds up financial calculations of data such as customers' lists, accounts, or inventories. It is a magical typewriter that allous you to type and print any kind of document – letters, memos or legal documents. It is a personal communicator that enables you to interact with other computers and with people around the world. If you like gadgets and electronic entertainment, you can even use your PC to relax with computer games.



A. In small groups, choose one of the areas in the diagram and discuss what computers can do in this area.

Useful constructions:

Computers are used to ...

A PC can also be used for ...

Computers can help ... make ... control ...

Store ... keep ... provide ... manage ... give ...

Perform ... measure ... test ... provide access to ...

Useful words: racing car, car body, design, mechanical parts, electronic components, engine speed.

Entertainment: game, music, animated image, multimedia, encyclopedia.

Factories: machinery, robot, production line, computer-aided manufacturing

Hospitals: patients, medical personnel, program, records, scanner, diagnose, disease.

B. Now write a short paragraph summarizing your discussion.

Then ask one person from your group to give a summary of the group's ideas to the rest of the class.

Examples.

In business, computers are used for financial planning, accounting and specific calculations.

In the office, computers are used to write letters and keep records of clients, suppliers and employees.

Language work: The present simple passive

Look at the HELPbox and then read the sentences.

Fill in the blanks with the correct form of the verbs in brackets.

Example:

Houses (design) ... with the help of computers.

Houses are designed with the help of the computers.

HELP box

The present simple passive

- You form the present simple passive with am/is/are + past participle,
 - This program is written in a special computer language
 - Programs and data are usually stored on disks

1. Various terminals (connect) ... to this workstation.

2. Microcomputers (know) ... as 'PCs'.
3. Magazines (typeset) ... by computers.
4. When a particular program is run, the data (process) ... by the computer very rapidly.
5. Hard disks (use) ... for the permanent storage of information.
6. The drug-detecting test in the Tour de France (support) ... by computers.
7. All the activities of the computer system (coordinate) ... by the central processing unit.
8. In some modern systems information (hold) ... in optical disks.

Unit 2

Configuration

What is a computer?

Computers are electronic machines which can accept data in a certain form, process the data and give the results of the processing in a specified format as information.

Three basic steps are involved in the process. First, data is fed into the computer's memory. Then, when the program is run, the computer performs a set of instructions and processes the data. Finally, we can see the results (the output) on the screen or in printed form.

Information in the form of data and programs is known as **software**, and the electronic and mechanical parts that make up a computer system are called **hardware**. A standard computer system consists of three main sections: the central processing unit (CPU), the main memory and the peripherals.

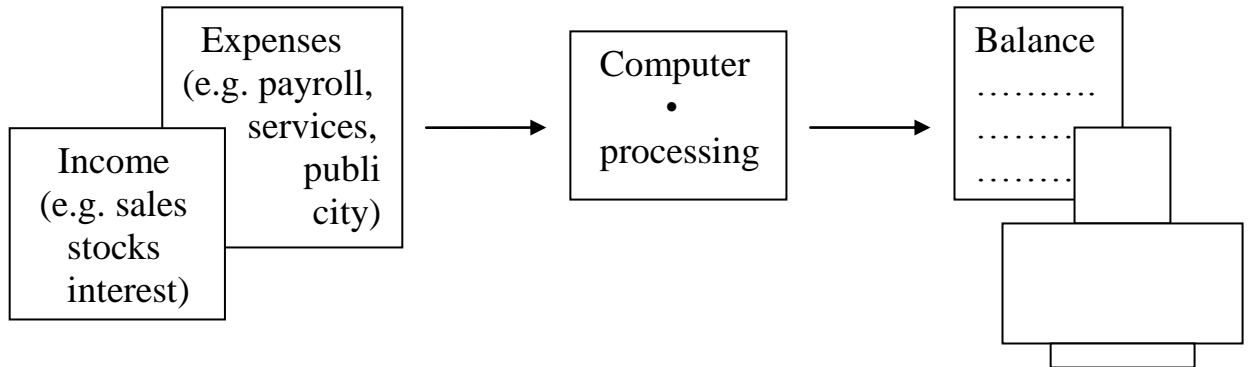
Perhaps the most influential component is the **central processing unit**. Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the brain of the computer.

The main memory holds the instructions and data which are currently being processed by the CPU. The **peripherals** are the physical units attached to the computer. They include storage devices and input/output devices. **Storage devices** (floppy, hard or optical disks) provide a permanent storage of both data and programs.

Disk drives are used to handle one or more floppy disks. **Input devices** enable data to go into the computer memory. The most common input devices are the **mouse** and the **keyboard**. **Output devices** enable us to extract the finished product from the system. For example, the computer shows the output on the **monitor** or prints the results onto paper by means of a **printer**.

On the real panel of the computer there are several ports into which we can plug a wide range of peripherals – modems, fax machines, optical drives and scanners.

These are the main physical units of a computer system, generally known as the **configuration**.



Data

**Result
on the monitor
or in printed form**

A. Use the information in the text and the diagram to help you match the in the box with the appropriate explanation or definition below.

a. software **b.** peripheral devices **c.** monitor **d.** floppy disk **e.** hardware **f.** input **g.** port **h.** output **i.** central processing

1. The brain of the computer.
2. Physical parts that make up a computer system.
3. Programs which can be used on a particular computer system.
4. The information which is presented to the computer.
5. Results produced by a computer.
6. Hardware equipment attached to the CPU.
7. Visual display unit.
8. Small device used to store information. Same as 'diskette'.
9. Any socket or channel in a computer system into which an input/output device may be connected.

B. Read these slogans or quotations, and say what computer element they refer to.

1. a. 'Point and click here for power'
b. 'Obeys every impulse as if it were an extension of your hand'
2. a. 'Displays your ideas with perfect brilliance'
b. 'See the difference-sharp images and a fantastic range of colours'
3. a. 'I love this drive. It's quiet and fast'
b. 'With this it's easy to back up your data before it's too late'
4. a. 'Power and speed on the inside'
b. 'Let your computer's brain do the work'
5. a. '... a big impact on the production of text and graphics'
b. 'Your choice: a laser power house'

B. Complete the text below with the words in the box.

Systems, memory, task, terminals, desktop, CAD, applications.

Minis and micros

The first microcomputers, also known as ... (1) ... PCs, were for single users only, and this clearly distinguished them from minicomputers. Another important difference was that ‘minis’ were much more powerful than ‘micros’: they could execute more than one ... (2) ... simultaneously and were used as file servers for ... (3) ... and workstations. However, modern microcomputers have operating ... (4) ... and network facilities that can support many simultaneous users. Today, most personal computers have enough ... (5) ... to be used for word processing and business ... (6) Some PCs can even handle multitasking and ... (7) ... applications. As a result, the division between ‘minis’ and ‘micros’ is now disappearing.

Unit 3

Inside the system

A. Read the advertisement and translate the technical specifications into your own language.

Ulysses 2002

- Intel 500 MHz Pentium III microprocessor
- 64 megabytes of RAM, upgradable to 768
- 9 GB hard disk
- Comes with Microsoft Windows

B. Try to answer these questions.

1. What is the main function of a microprocessor?
2. What unit of frequency is used to measure processor speed?
3. What does “RAM” stand for?

C. Read the text below and then sentences 1 to 8. Decide if the sentences are true (T) or false (F), and rewrite the false ones to make them true.

What`s inside a microcomputer?

The nerve center of a microcomputer is the central processing unit or CPU. This unit is built into a single microprocessor chip-an intergrated circuit – which executes program instructions and supervises the computer`s overall operation. The unit consists of three main parts.

- **the control unit**, which examines the instructions in the user`s program, interprets each instruction and causes the circuits and the rest of the components – disk drives, monitors, etc. – to be activated to execute the functions specified.

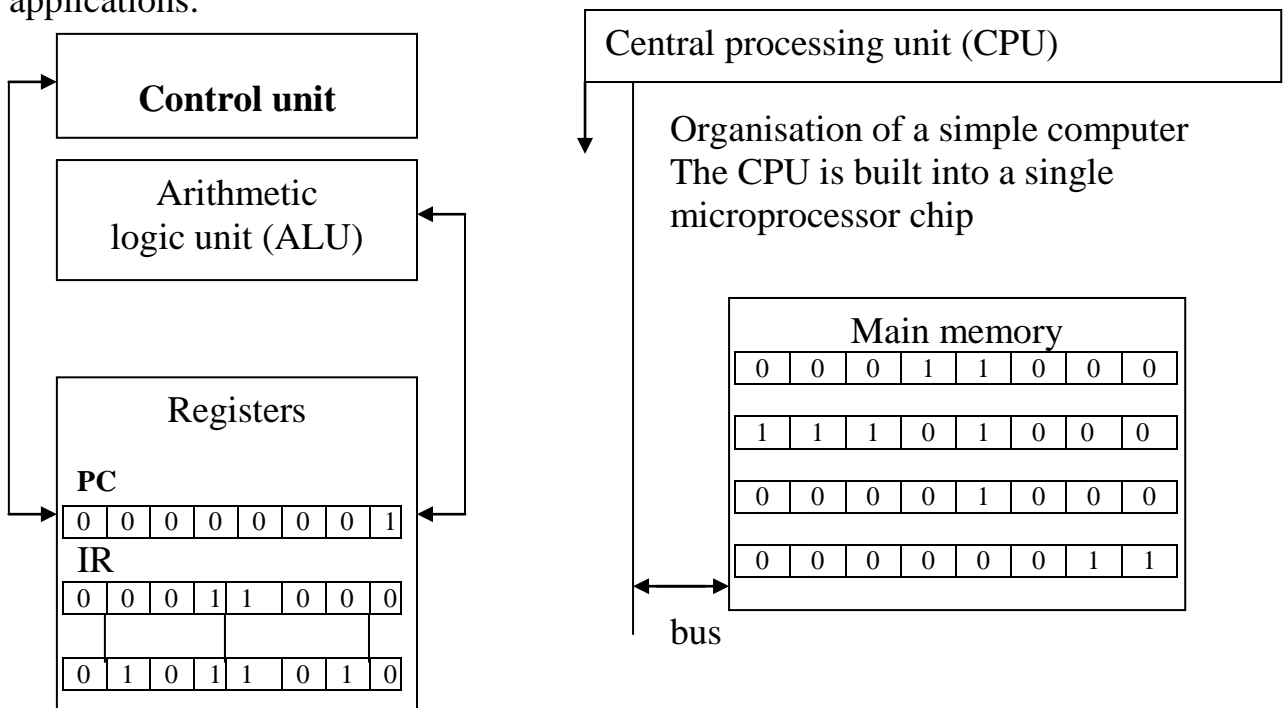
- the arithmetic logic unit (ALU), which performs mathematical calculations (+, -, etc.) and logical operations (and, or, etc.);
- **the registers**, which are high-speed units of memory used to store and control information. One of these registers is the program counter (PC) which keeps track of the next instruction to be performed in the main memory. Another is the instruction register (IR) which holds the instruction that is currently being executed.

One area where microprocessors differ is the amount of data – the number of bits – they can work with at a time. There are 8,16,32 and 64 bit processors. The computer's internal architecture is evolving so quickly that the more information than a 32-bit system.

The programs and data which pass through the central processor must be loaded into the **main memory** (also called **the internal memory**) in order to be processed. Thus, when the user runs an application, the microprocessor looks for it on secondary storage devices (disks) and transfers a copy of the application into the RAM area. RAM (random access memory) is temporary, i.e. its information is lost when the computer is turned off. However, the ROM section (read only memory) is permanent and contains instructions needed by the processor.

Most of today's computers have internal **expansion slots** that allow users to install adapters or expansion boards. Popular adapters include high-resolution graphics boards, memory expansion boards, and internal modems.

The power and performance of a computer is partly determined by the speed of its microprocessor. A **clock** provides pulses at fixed intervals to measure and synchronize circuits and units. The clock speed is measured in MHz (megahertz) and refers to the frequency at which pulses are emitted. For example, a CPU running at 500 MHz (500 million cycles per second) is likely to provide a very fast processing rate and will enable the computer to handle the most demanding applications.



1. The CPU direct and coordinates the activities taking place within the computer system.
2. The arithmetic logic unit performs calculations on the data.
3. 32-bit processors can handle more information than 64-bit processor.
4. A chip is an electronic device composed of silicon elements containing a set of integrated circuits.
5. RAM, ROM and secondary storage are the components of the main memory.
6. Information cannot be processed by the microprocessor if it is not loaded into the main memory.
7. “Permanent” storage of information is provided by RAM (random access memory).
8. The speed of the microprocessor is measured in megahertz. One MHz is equivalent to one million cycles per second.

Main memory: RAM and ROM

A. Read the text and complete it with the phrases in the box

- a) All the information stored in the RAM is temporary
- b) Microcomputers make use of two types of main memory
- c) ROM chips have “constant” information
- d) the size of RAM is very important

The main memory of a computer is also called the immediate access store` as distinct from any storage memory available on disks. (...1...) RAM and ROM, both contained in electronic chips connected to the main board of the computer. RAM stands for `random access memory and is the working area of the computer, that is, the basic location where the microprocessor stores the required information. It is called `random access` because the processor can find information in any cell or memory address with equal speed, instead of looking for the data in sequential order. (...2...), so it is lost when the machine is turned off. Therefore, if we want to use this information later on, we have to save and store it on a disk. When running an application, the microprocessor finds its location in the storage device (the floppy or hard disk) and transfers a temporary copy of the application to the RAM area. Consequently, (...3...) if we want to increase the performance of a computer when several applications are open at the same time or when a document is very complex.

The RAM capacity can sometimes be expanded by adding extra chips. These are usually contained in single in-line memory modules or SIMMs, which are installed in the motherboard of the computer.

We can designate a certain amount of RAM space as a cache in order to store information that an application uses repeatedly. A RAM cache may speed up our work, but it means that we need enough internal memory or a special cache card.

ROM is an acronym for `read only memory, which implies that the processor can read and use the information stored in the ROM chip, but cannot put information into it. (...4...), including instructions and routines for the basic operations of the CPU. The instructions are used to start up the computer to read the information from the keyboard, to send character to the screen, etc. They cannot be changed and are not erased when the power is turned off. For this reason, the ROM section is also referred to as firmware.

B. As we have seen, there are three types of memory used by computers: RAM, ROM and secondary storage. Look through this list of features and decide which type of memory they refer to.

1. Any section of the main memory can be read with equal speed and ease.
2. It is available in magnetic, optical and video disks.
3. A certain amount of this memory can be designated as “cache” memory to store information in applications that are used very frequently.
4. It stores basic operating instructions, needed by CPU to function correctly.
5. Memory which can be expanded by adding SIMMs of 8 MB, 16 MB, 32 MB, or other major increments.
6. Information is permanent and cannot be deleted.
7. You can save and store your documents and applications.

C. Vocabulary quiz

In groups of three, write answers to these questions. The winners are the group that answers the most questions correctly in four minutes.

1. What are the main parts of the CPU?
2. What is RAM?
3. What memory section is also known as firmware?
4. What information is lost when the computer is switched off.
5. What is the meaning of the acronym SIMM?
6. What is the typical unit used to measure RAM memory and storage memory?
7. What is a megahertz?
8. What is the ALU? What does it do?
9. What is the abbreviation for “binary digit”?
10. How can we store data and programs permanently?

D. Your ideal computer system.

a) Make notes about the features of the computer that you would like to have.

CPU:

Minimum / maximum RAM ...

Hard disk:

Speed ...Optical disk drives ...

Monitor ...

Software ...

b) How describe it to your partner.

Useful expressions.

- It has got ...
- It`s very fast. It runs at ...
- The standard RAM memory ... and it is expandable ...
- The hard disk can hold ...
- I need a Super VGA monitor because ...
- As for the Internet ...

Unit 4

Bits and bytes

A. Answer these questions.

1. How many digits does a binary system use? What is a “bit”?
2. What is the difference between binary notation and the decimal system?
Give some examples.
3. What is a collection of eight bits called?
4. One kilobyte (1 K) equals 1,024 bytes.
Can you work out the value of these units?
1 megabyte = ... bytes /1,024 kilobytes
1 gigabyte = ... bytes /1,024 megabytes
(kilo-: one thousand) (mega-: one million)
(giga-: one thousand million)
5. What does the acronym “ASCII” stand for?
What is the purpose of this code?

B. Now read the text to check your answers or to find the correct answer.

Units of memory.

Bits – basic units of memory.

Information is processed and stored in computers as electrical signals. A computer contains thousands of electronic circuits connected by switches that can only be in one of two possible states: ON (the current is flowing through the wire) or OFF (the current is not flowing through the wire). To present these two conditions we use binary notation in which 1 means ON and 0 means OFF. This is the only way a computer can “understand” anything. Everything about computers is based upon this binary process. Each 1 or 0 is called a binary digit or bit.

Bytes and characters

1s and 0s are grouped into eight-digit codes that typically represented character (letters, numbers and symbols). Eight bits together are called a byte. This, each character in a keyboard has its own arrangement of eight bits. For example, 01000001 for the letter A, 01000010 for B and 01000011 for C.

The ASCII code.

The majority of computers use a standard system for the binary representation of characters. This is the American Standard Code for Information Interchange, known popularly as “ASCII” (pronounced “ask-key”). There are 256 different ways of combining 0 and 1 bits in a byte. So they can give us 256 different signals. However, the ASCII code only uses 128 bytes to represent characters. The rest of the bytes are used for other purposes.

The first 32 codes are reserved for characters such as the Return key, Tab, Escape, etc. Each letter of the alphabet and many symbols (such as punctuation marks), as well as ten numbers, have ASCII representations. What makes this system powerful is that these codes are standard.

Kilobytes (KB), megabytes (MB) and gigabytes (GB) –

- We use these units to describe the RAM memory, the storage capacity of discs and the size of any application or documents.

C. Word building

The table gives some prefixes commonly used in computer science. Knowing the meaning of these prefixes will help you understand new words.

Prefix	Meaning	Examples
deci-	ten	decimal, decibel
hexadeci-	sixteen	hexadecimal
kilo-	one thousand	kilocycle, kilogram, kilowatt
mega-	large: one million	megahertz, megaton
giga-	very large, 1000 million	gigantic, gigabyte
mini-	small	minibus, minimum
micro-	very small	microfilm, microwave
bi-	two	bidirectional, binary
tri-	three	tricycle, trilingual
multi-	many	multi-user, multitasking
mono-	one	monologue, monolingual

Unit 5

Buying a computer

A. Role play

Work with a partner. One of you wants to buy a computer, the other is the sales assistant. Ask and answer questions, using the information and instruction below to help you.

Products available	Processor/speed	Minimum/Maximum RAM	Hard disk	Disk drive	Monitor	Price
Explora 700 Net PC	Mips R4700 300 MHz	32MB expandable to 256	4 GB	Optimal 3.5" drive	Super VGA compatible	Z 799
Toshiba portable	Pentium III 500 MHz	64 MB expandable to 256	10 GB	3.5" drive 32x CD	Colour LCD DVD-ROM	Z2,450
IBM Aptiva	AMD Athlon 700 MHz	128 MB expandable to 384	20 GB	3.5" drive DVD	XGA	Z2,640
Polywell	AMD Athlon 700 MHz	128 MB expandable to 768	20 GB	3.5" drive CP/Zip	Super VGA	Z2,330
Compaq	Pentium III 650 MHz	64 MB expandable to 768 MB	16 GB	Zip drive DVD	XGA	Z2,580

Shop assistant

- Greet the customer and offer the help.
- Show the customer some models.
- Describe the speed in megahertz and the main memory.
- Give explanations (MB storage capacity,ect.).
- Give the required information.
- Give the price and explain different ways of paying.

Customer

- Ask to see some computers.
 - Ask for details: processor, RAM.
 - Ask about the hard disk.
 - Ask about monitor and other features.
 - Ask the price.
 - Decide to buy one/ to think about it.
- Thank the shop assistant and leave the shop.

Unit 6

Texts for supplementary reading

Text I. History of the Web

The World Wide Web dates back to March 1989. In that month, Tim Berners-Lee of Geneva's European Particle Physics Laboratory (which is abbreviated as CERN, based on the laboratory's French name) circulated a proposal to develop a "hypertext system" for the purpose of enabling efficient and

easy information-sharing among geographically separated teams of researchers in the High Energy Physics community.

The three important components of the proposed system were the following:

- 1) A consistent user interface.
- 2) The ability to incorporate a wide range technologies and document types.
- 3) Its “universal readership”; that is, anyone sitting anywhere on the network, on a wide variety of different computers, could read the same document as anyone else, and could do so easily.

More than a year later, in October 1990, the project was presented anew, and two months later the World Wide Web project began to take shape. Work began on the first line browser (called WWW), and by the end of 1990 this browser and a browser for the NextStep operating system, were well on the way. The Major principles of hypertext access and the reading of different document types had already been implemented.

In March 1991, two years after the presentation of the original proposal, the WWW line-mode browser saw its first limited network use. Two months later, WWW was made available more extensively at CERN, and the Web was effectively off and running. That summer saw seminars about the Web, and announcements were posted to relevant newsgroups. October 1991 brought the installation of the gateway for WAIS searches (a crucial development for the Web's future as a search as well as a browsing tool), and shortly before the end of 1991 CERN announces the Web to the High Energy Physics community in general.

Essentially, 1992 was a developmental year. The WWW browser was made available via FTP from CERN, and the Web team presented the Web to a variety of organizations and audiences, but it was the software-development efforts of that would make it a vitally important time. In January 1993, 50 Web servers were in existence, and at that time the Viola browser was made available for the X Window system. Viola was the early leader in Web browsing technology, offering the first glimpse of the graphical, mouse-based hypertext system originally conceived by the Web proposal.

The Web was on its way. But two other browsers saw daylight at the beginning of the 1993, and these proved the most important. CERN's Macintosh browser brought the Mac into the WWW game, and at the same time the Internet community saw its first glimpse of Mosaic. In February 1993 the first alpha version of X Mosaic (Mosaic for X Window) was released by NCSA (the National Center for Supercomputing Applications in Champaign, Illinois), developed by Marc Andreessen, whose name ranks behind only Berners-Lee's in media popularity surrounding the Web.

By the end of 1993, the Web project was beginning to receive technical awards, and articles on the Web and Mosaic (the two were already becoming inextricable) began to appear in publications as prestigious as *The Guardian* and *The New York Times*. By early 1994, in fact, the Web/Mosaic combination had begun to attract the sort of media hype that can both make and break a technology. Nineteen ninety-three also saw the release of Cello, an alternative browse

developed by the Legal Information Institute at Cornell University, for users of Microsoft Windows.

Several important developments came in 1994. First, work expanded on the development of “secure” Web access, the kind of security needed if real corporate work were to take across the Web, and if were ever to provide such details as credit card information.

Second, the licensing of Mosaic to commercial developers took hold, and even less-known browsers such as Cello were seeing licensing potential.

NCSA’s development of Mosaic took a run with the departure of Andreessen and others to form the Mosaic Communication Corporation (now Netscape Communications Corporation), and the first international World Wide Web conference took place in Geneva.

Response. Like the request, the response indicates the protocol being used, and it also offers a *reason line*, which appears on the browser’s status line. Depending on your browser, you’ll see exactly what is going on at this point, usually represented by a **Transferring** message.

Finally, the connection is closed.

At this stage, the browser springs into action again. Effectively, it loads and displays the requested data, saves the data to a file, or launches a viewer. If the object is a text file, the browser will display it as a nonhypertext ASCII document. If it’s a graphic image (such as a GIF file), the browser will launch the graphics viewer specified in its configuration settings. If it’s a sound or video file (AU, WAV, MPEG, or other), the browser will launch a similarly configured player. Depending on the type of method specified in the request, the browser might also display a search dialog.

Usually, however, the browser displays an HTML (Hype Text Markup Language) document. These documents show the graphics, links, icons, and formatting for which the Web has become so famous.

Text II. Uses of the Web

The Web can be used for multiple purposes. The following sections provide a brief overview of the Web’s offerings – from information to providing customer support.

Graphical Design of Information

For a long time, book publishers have known the importance of graphical design. Graphical elements offer different kinds of information, and information provides are researching precisely what that means. We are beginning to see strong uses of charts, diagrams, illustrations, tables, graphics, photographs, maps, flowcharts, and all other kinds of graphical representations as the Web’s capabilities increase, and this can only mean an increase in the comprehensibility of the information. Of course, it all has to be done right, but that’s another issue. The fact that it’s possible means that those who care about their information will figure out how to do it.

This doesn't mean that HTML in its current incarnation allows anything like full graphic design. But as HTML 3.0 moves into full acceptance, and as Web clients begin to display fully formatted word processing and desktop publishing files, it almost undoubtedly will. At that point, we should begin to see exceptionally strong designs.

Browsing and Ordering of Products

We're already beginning to see product ordering available through the Web, even through the Web, even through discussions continue as to its security for such activities as credit card use. In the near future, "secure" Mosaik will find a variety of releases, and when that happens, expect to see a flurry of Web shopping centers opening. Until then, you can find a considerable variety of products to order on the Web, ranging from flowers to books to music CDs.

What's the appeal? Very simply, this is home shopping at its most interactive. Unlike home-shopping TV stations, you don't have to sit through 15 descriptions of cubic zirconium rings and bracelets in order to find that elusive Wayne Gretzky undershirt you've been looking for. Shopping on the Web is more like walking into a shopping mall, and in fact mall is the name given to many current Web offerings. Just click on the shop you want, turn on the inline graphics to see a picture of the product you're looking for, and then go to the order forms page to do the actual ordering.

Client and Customer Support

The World Wide Web's potential for client and customer support is extremely strong. Already, companies like U.S. Robotics and Digital Equipment Corporation are using the Web to make available to their customers such items as technical documents, software patches, and the answers to frequently asked questions. The benefits of this approach are obvious. Customers with Web access can take care of their own information needs, resulting in less strain on the supplier's staff and, quite likely, an improved perception of customer service on the customer's part.

The only danger to this approach is the possibility that the Web will be used as a substitution for person-to-person support. But that's not a danger at all if the Web site offers everything the customer needs, and in many cases that might well be true. Consider, for example, the possibility of Web-based tutorials offering step-by-step installation procedures for a new piece of equipment, or for that matter how to program your VCR. If it's well designed, it will be better than a tech support phone call because it shows, rather than tells, the customer what to do.

Of course, HTML forms can also be used to provide feedback and questions on products, and these can be posted as well. The idea is to have a place where customers can feel they haven't been forgotten, and where they can learn from the experiences of other customers as well. That's what we're starting to see.

Display of Creative Arts

For some reason, people in the creative arts are often perceived as traditionalists, stodgy and resistant to new technologies. Yes, there are some of those. But throughout history artists have been among the first to adopt new technologies to their own purposes, as witnessed by everything from the printing press to MIDI. And there's every indication that the artistic community is seeing the World Wide

Web as yet another medium that it can exploit in order to present its work and link up with other artists.

Already we have online galleries featuring new visual art, collaborative artistic efforts of a kind not previously possible, and presentations of artwork that outsiders are asked to evaluate. Examples of creative writing are springing up all over the Web, including some interactive stories and illustrated texts as well. There are even some preliminary attempts at Web-based drama.

The Web offers artists a couple of very important features. First, it allows an inexpensive way of mounting work. As long as the site is in place, the rest is up to the artist, in a way that differs considerably from standard galleries or street corners. Second, everyone posting art on the web has a built-in global audience, and that's something about which artists can usually only dream. Obviously, there are media that will never be entirely suited to Web presentation, but if today's efforts are any indication the Web, all by itself, could lead to a kind of renaissance in both the amount of artwork publicly available and the ability of a mass audience to access and appreciate it.

Text III. The Future of the Web

For any technology, it's impossible to predict the future. No sooner are the predictions made than the technology develops unexpected adherents and unforeseen uses. This was the case with gunpowder, with television, with computers, and now with multimedia, online services, and the Internet itself. But trends count for something, and the Web has revealed nothing if not a series of trends toward future use. Here are some, presented as ideas to be explored.

- **Full-Scale Publishing**

A wide range of publishers has already appeared on the Web. Some have presented samples of publications; others have presented full texts. In the future, there's every reason to expect full publishing efforts on the Web, everything ranging from children's books through advertising-laden magazines.

- **Voting**

With fill-in forms establishing themselves as perhaps the most important single advance in Internet-based technology, and with the White House and other governments turning to the Net for information dissemination of a variety of kinds, it seems only a matter of time until the Web can be used for voting—maybe not in a presidential election, at least for a while, but certainly for other purposes. If the idea is to get more people voting on public issues, why not use all public media?

- **Live Interactive Entertainment**

Yes, we have television. But television is presentation only, not interaction, and here the Web can make a difference, why not comedy routines in which Web users participate in skits and jokes? Why not dramatic pieces in which Web users influence the outcome? How about real-time role-playing games?

- **News**

The problem with CNN or any other continual news supply is that the news we get is the news they decide we'll get. Here the Web's possibilities are enormous. How about fully customisable news packages, so that if we want focus on Rwanda, or the Middle East, or a flood or earthquake area, or for that matter the qualifying games among African teams for the 1998 World Cup, we can get the text, audio, and video of whatever subject we want.

- **Distance education**

Obvious, maybe, but no less important for being so. For decades, universities and colleges have been looking for ways of offering courses to students who don't have access to the campus (usually because of physical distance). The Web is beginning to see activity in this regard, and this activity will increase dramatically over the next few years. Watch for full university-level courses (and perhaps others as well), complete with real-time seminars and exams, and professors' visiting hours.

- **Distance Presentations**

Organisations with high-speed Internet connections might well consider offering multimedia presentations over the Web. These need not to be real-time presentations – which eliminates some of the problems presented by desktop conferencing – and they offer the benefit of eliminating travel and accommodation costs, as well as downtime costs, for presentation attendees. Presentations can take full advantage of the Web's multimedia and networking capabilities, and the HTML pages can be quickly redesigned and updated as a result of the presentation. Another benefit is that the presentation can offer links to other information sources, all of which will be updated by the site being linked. The presentation will thus be always up-to-date.

There are other applications: scheduling, interpersonal communication, meetings and conferences, you name it. But the web is far from the only technology whose future points toward these possibilities, and it remains to be seen if it will overtake, fall behind, or simply incorporate all the rest. What's certain is that the Web is extremely flexible, and that its capabilities haven't begun to be explored.

Text IV. Using the Web for Business

Large Corporations on the Web

Web used by large corporations is a topic of considerable interest as we approach the second half of the 90's. Large business today see the Net as a very real tool for attracting, serving, and maintaining customers and clients. Predictable, however, they're approaching, the Net very cautiously, partly because of security issues and partly because no concrete figures exist to suggest how many people can be reached this way. Because of both concerns, the tendency is to direct funding elsewhere – and corporations, an unfounded project is a nonexistent project.

This is not to suggest that corporations have not already begun some major online activities. A quick scan of the Commercial Sites Index demonstrates that large companies are beginning to assert an Internet presence. While many of these are computer companies (such as Digital Equipment, Hewlett-Packard, and Silicon Graphics), other types of business are coming onto the Web as well.

If corporate America determines that a Net presence can be profitable, we can expect the Web to experience an explosion of bigbusiness activity – to the extent that the balance of Internet activity will be swung in business` s favor. This is something that the larger Internet community is extremely wary of.

Industrial Malls

Large companies can afford to establish their own Internet connections. Small companies, for the most part, cannot. For that reason, we`re seeing an increasing number of “industrial malls” coming into operation on the World Wide Web. Like a real industrial mall, the principle behind these “e-malls” is that one company owns and maintains the structure, collecting rent from the tenants and providing them a space. Rather than a building, of course, the e-mall landlord owns and maintains a full Internet connection, renting disk space and bandwidth to the tenants for a setup fee, a monthly fee, and, in some cases, a page-design fee. The possibilities are varied, depending on the site.

The advantage for the tenants is that they obtain an Internet presence without the significant cost in both equipment and labor of installing their own connections. They don` t have to worry about system upgrades, harddisk failures, UNIX arcama, or anything else. They just assert their presence, pay for the amount of e-space they take up, and display their wares to 20 million Internet users. The disadvantages are that they don` t have the freedom to develop full Internet integration into their company` s daily activities, and they don` t have unique URL addresses (although this isn` t always true). But because most Web users point-and-click their way onto a site rather than type in the actual URL, this latter point probably doesn` t matter that much.

Expect industrial malls to increase in both number and quantity. This is an obvious entry point onto the Web for a great many business, and not just small ones.

Downtown Anywhere

Downtown Anywhere (<http://www.awa.com>) is “conveniently located in central cyberspace”.

It` s structured according to the town metaphor, with a main street, a library and news-stand, and just about everything else you` d find in a downtown. The idea behind the site is to collect a wide variety of businesses and services in one spot, creating not just an industrial mall but a virtual town, and the early development of this site ought to lend some credibility to the possibility of future success.

BizNet Technologies

Unlike Downtown Anywhere, BizNet Technologies (<http://www.biznet.com.Blacksburg.va.us/>) has organized its tenants around the metaphor of the shopping mall. The concepts are similar, but when the metaphors are fully developed, the two sites will end up with very different atmospheres. So

far, however, the sites appear alike, but this is hardly surprising; interface designers have always been much better at coming up with metaphors than developing them fully. Still, the shopping mall is a metaphor you'll run into frequently on your Web travels, so it's worth exploring.

Netmarket

Among industrial malls on the web, netMarket (<http://www.netmarket.com>) is unique. Not only is it designed to house a variety of businesses (which isn't unique at all), it is also structured so that you open an account that covers all the offerings in the mall itself. Establish the account, and you can go shopping inside any of NetMarket's stores. This is an extremely interesting idea because it encourages e-shoppers to stay in that particular mall for all their shopping needs. Rather than establish accounts with each individual store, you only need one in order to begin shopping. (This is potentially dangerous from a personal-finance standpoint, of course, but such is the nature of credit-card shopping).

Text V. Education, Scholarship, and Research

Historically, one of the strength of computer networks has been the ability to bring people together. Educators such as those at the Open University in the United Kingdom and the New School for Social Research in the United States have long recognized this and have used computer networks for education. While scholars still debate the value and proper application of online learning, the Web creates information spaces and communication opportunities that represent a wide range of activities.

This chapter presents some examples of how the Web can be used for education and to awaken students' minds to the excitement of learning.

Motivating Students to Learn

While a traditional classroom relies on a single teacher to provide students with a glimpse into knowledge, the Web can offer direct connections between knowledge producers and students. The following example describes the JASON project, an effort to involve students in exploration. It is just one illustration of many educators can collaborate to create an online learning environment that extends from the classroom to the world.

In 1985, Dr. Robert D. Ballard (now Director of Woods Hole Oceanographic Institution's Center for Marine Exploration) and a research team discovered the wreck of the HMS *Titanic* on the floor of the North Atlantic Ocean. In order to photograph the vessel's interior, the team designed a submersible robot named JASON. In 1989, due to the success of JASON and the curiosity of school children who wanted to know how his team discovered the Titanic. Dr. Ballard founded the JASON PROJECT. In 1990, the JASON Foundation for Education was formed "to excite and engage students in science and technology and to motivate and train their teachers."

In the JASON Web (<http://seawifs.gsfc.nasa.gov/scripts/JASON.html>), Dr. Robert Ballard talks about the project's purpose: "To excite young people in the fields of science and engineering by involving them in the excitement that we

as scientists and engineers enjoy ... {to} involve them in the moments of discovery ... {to} take young people to interesting research sites and let them participate in live exploration (http://seawifs.gsfc.nasa.gov/JASON/JASON6/ballard_purpose.au). One feature of JASON project is *telepresence*, in which scientists, using remote sensing devices, involve others in the process of discovery. The JASON Project home page serves as a clearinghouse for information about the project, as well as tutorials and information for participants.

Schools on the Web

While specific projects such as JASON demonstrate how the Web can be used to support educational projects, other applications of Web show how schools can build webs to provide information to their own students and teachers, as well as to connect their site to the larger world of the Web.

Although electronic mail, real-time text conferencing, and online tutorials have been used in the education community for several years, the Web brings a unique aspect to these online efforts by helping educators create information spaces that present the “face” of a school to anyone on the Web who ventures in for a visit. This section describes several school Webs and surveys the kinds of information that have been created.’ /* последняя кавычка одна ? */

Colleges and Universities

The number of colleges and universities with home pages is large and growing quickly. As of August 1994, Mike Conlon’s page of American Universities at <http://www.clas.ufl.edu/CLAS/american-universities.html> has more than 480 entries, and Christina DeMello’s page of American and International colleges at <http://www.mit.edu:8001/people/univ.html> lists more than 1,000 college-level webs world-wide. This section focuses on selected college course material created for the Web.

A Management Information Systems Course

Another example of a course web is Brian Butler’s undergraduate Management Information Systems course that was taught in summer of 1994 at Carnegie Mellon University (<http://www.gsia.cmu.edu/bb26/70-451/>). This page links the student to a variety of information, not just to the course outline and schedule, but to final exam study hints, lecture notes, and course readings. The instructor also provided links to assignment questions, with the answers provided after the students turn in the assignment solutions also contain links to the relevant lecture notes.

A Composition Lab and Course

The Computer Writing and Research Lab (CWRL) in the Division of Rhetoric and Composition at the University of Texas at Austin provides a view into how educators can create a web of information surrounding a particular area of teaching. In the case of the Writing and Research Lab, of course, student composition skills are the focus. CWRL’s home page (<http://www.en.utexas.edu/>) offers a view into this information structure. The lab’s web is organised around multiple views – from student-centred resources (such as online writing dictionaries and style guides) to instructor resources (hypertexts and hypermedia

information, as online courses and syllabi). The lab also publishes a journal. *The Electronic Journal for Computer Writing, Rhetoric and Literature*, and provides links to a large collection of completed student projects created as a result of classes at the CWRL.

Tutorial Modules

In addition to information that supports an educational institution or a particular course, there are many webs that contain detailed tutorials and learning materials. These webs delve into very specific topics to help students grasp a concept or learn information. Unlike the course webs described previously in this chapter, these tutorial modules are examples of the Web being used to teach students particular content.

Educational Resources

In addition to webs that support information for about education offered at schools, a wide variety of online resources are available to support educators. In this section, explore some major collections.

Canada's SchoolNet

Seldom does an entire country have as bold an initiative as Canada's: to link all of Canada's more than 16,000 schools to the Internet as quickly as possible. SchoolNet is the name for this project, and its home page is at <http://SchoolNet.Carleton.ca/english>.

The United States Department of Education

The U.S. Department of Education's web (<http://www.ed.gov/>) offers to educators a wide variety of administrative and resource information. The government information (such as links to administrative information about the Department, greetings from the current Secretary, and mission statements) provides educators with current background information regarding current national educational goals.

Web 66

Route 66 was a fabled and well-travelled highway linking Chicago and Los Angeles. Using that storied highway as a metaphor. Web 66, a project of the University of Minnesota's College of Education, helps educators and students set up Internet servers and find resources on the "highway" of the Web. Web 66's home page, <http://web66.coled.umn.edu/>, includes an "Internet Server Cookbook", which gives instructions on how to up various Internet servers. Web66 also offers large collections in the following areas:

Resources

SharePages: Pages that can be downloaded and used on your own server, such as a search engine meta-page.

What's New: New information and services on Web 66.

WWW Schools Registry: An imagemap that guides that guides you to school Web servers throughout the U.S., Canada, and world. When the Hillside Elementary WWW server went on the Web on March 12, 1994, there were only four K-12 WWW sites. By March 1, 1995, the Web 66 School Registry listed 121 elementary schools and 228 secondary schools, for a total of 349 sites worldwide.

Discussion

Web 66 Mailing List: A discussion forum for educators using the Web.

WebMaster Ramblings: A presentation of pointers to the ins and outs of developing and serving information on the Web.

Web 66 is a rich source for educator information not only for the local (Minnesota) schools, but also for all schools. Its imagemap interface to schools on the Web is unique, as is its “cookbook” guidance for creating an Internet server.

The Global Schoolhouse Project

The Global Schoolhouse at <http://k12.cnidr.org/gsh/gshwelcome.html> offers online “classroom” resources linking students and educators worldwide with a variety of multimedia tools. Funded in part by the National Science Foundation, the project connects students to the Internet and classroom applications that allow them access to resources and communication.

The Texas Education Network

The Texas Education Network, or TENET, is a Texas-based initiative to advance education state wide through a communications infrastructure.

TENET’s web, <http://www.tenet.edu/>, is organised around a “Central Station”, providing links to resources such as K-12+ servers; academic resources: and library, computer-lab, and field-trip information.

Collections of Educational Sites on the Web

Education-Galaxy: EINet Galaxy’s collection of resources about education (<http://galaxy/einet.net/galaxy/Social-Sciences/Education.html>).

Education-WWW VL: WWW Virtual Library entry for education ([http://www.w3.org/hypertext/Datasources/by Subject/Education/Overview.html](http://www.w3.org/hypertext/Datasources/by%20Subject/Education/Overview.html)).

Education-Yahoo: Education section from Yahoo (<http://www.yahoo.com/Education/>).

Centre/Excellence: Centre for Excellence in Education, to help the best U.S. students and teachers keep the United States competitive in science and technology, and to nurture international understanding among potential leaders of many countries (<http://rsi.cee.org>).

COL: Commonwealth of Learning, distance education techniques and associated communications technologies (<http://www.col.org>).

CoVis: Learning Through Collaborative Visualisation, North-western University (<http://www.covis.nwu.edu>).

Cyberion City: Virtual environment built by schoolchildren ([telnet://guest@michael.ai.mit.edu](mailto:guest@michael.ai.mit.edu)).

DeweyWeb: Facilitating communication between students from all over the world (<http://ics.soe.umich.edu>).

Distance Ed: <ftp://una.hh.lib.umich.edu/inetdirsstacks/disted:ellsworth>.

NDLC: National (USA) Distance Learning Centre ([telnet://ndlc@ndlc.occ.uky.edu](mailto:ndlc@ndlc.occ.uky.edu)).

Distance Ed DB: A database from the International Centre for Distance Learning at the UK Open University (<mailto:ismail@open.ac.uk>).

Distance Ed DB: Contains full text of Mindweave, edited by Mason and Kaye ([telnet://icdl@acsvax.open.ac.uk](mailto:icdl@acsvax.open.ac.uk)).

Diversity U: Diversity University, an experiment in interactive learning through Internet (telnet@//moo.du.org:8888).

Education Gopher: Florida Tech's collection of educational resources (gopher@//sci-ed.fit.edu).

Educational Technology: The World-Wide Web Virtual Library – Educational Technology (<http://tesfa.unige.ch/info-edu-comp.html>).

Empire Schoolhouse: Empire Internet Schoolhouse, a selection of K-12 resources, projects, and discussion groups (gopher://nysernet.org:3000/11/).

Exploratorium: A collage of 650 interactive exhibits in the areas of science, art, and human perception (<http://www.exploratorium.edu>).

Text VI. What is Chat ?

Chat is a fast-paced form of Internet discussion. When you chat on the Internet, you “talk” to others using your keyboard to type text messages. Although there are several different types of Internet chat, they all follow the same basic principles. To join a chat, you enter a “chat room” – a virtual environment where chatters gather. Part of your screen shows the names (or nicknames) of the other chatters in the room. Another portion shows (in real-time) the text of the “conversation” the chatters are engaged in. You can join any time by typing your own comments, which the other chatters will see instantly.

At any time of the day or night, you can find people chatting about computers, sports, entertainment, health, and a range of other topics. Many chat rooms are purely social, designed for anyone who simply wants to interact with others. You can even join special chat events featuring celebrities or other prominent figures.

Moderated vs. Unmoderated Chats

Some chats are moderated, while others are not. A moderated chat room has a set of rules you must follow (e.g., not using profanity, keeping comments relevant to the topic). If you break any of the rules, the chat room's moderator can eject you from the chat room.

Unmoderated chat rooms are wide open and uncensored. Some of what you see could be offensive to you. For this reason, children should always have adult supervision while chatting on the Internet.

Types of Chat

Here's a look at several major categories of Internet chat.

- **Web-based chat:** This is the easiest form of chat and is great for beginners. If you have a browser that supports Java (like recent versions of Netscape Navigator and Microsoft Internet Explorer), you can often jump right into a Web-based chat room and start talking. All the chat rooms available to you through your Personal Start Page channels feature this type of chat. Some Web-based chats require that you have a browser plug-in installed.
- **Instant Messaging:** With instant messaging programs, you maintain a list of your friends, relatives, co-workers, and others who use the Net. The program tells you

which of the people on your list are online at any given time, allowing you to exchange messages with them instantly. You can download several free instant messaging programs, including EarthLink's version of Instant Messenger, PowWow, and ICQ.

- **Internet Relay Chat:** IRC is a form of chat that requires a special program called an IRC client. IRC takes place on several networks of special chat servers all over the world. IRC is a bit more challenging for beginners but offers the widest variety of chat rooms. See our [Tutorials and Other Resources](#) page for links to IRC tutorials.

- **Graphical Chat:** Some chat networks use their own special software to create unique graphical chat environments. An example of this is The Palace, which takes place in graphical chat rooms (night-clubs, spaceships, and a host of others). You control a graphical character called an "avatar" within these chat rooms. See our [Tutorials and Other Resources](#) page for links to graphical chat tutorials.

Text VII.

Using the Internet in the Home Office

It doesn't matter how you define yourself – as a seller, as a buyer, or as a disinterested bystander. As you travel the Internet, one way or another, you move through a commercial environment. Once a public square with the occasional street vendor, the Internet is rapidly becoming a mall – a public where buying and selling are not absolutely required, but are hard to ignore. The Internet has always offered great resources in support of careers and professions, and you're likely to find on the Net plenty of help with your career. But if you're also entrepreneurially inclined, you may want to know how the Internet doesn't just assist business but can actually be a vehicle for commerce.

As you may know, the commercialization of the Internet has been its central controversy for the last several years. Much of the diehard Internet community has been resistant to business uses of the Net, hoping to preserve the Internet as an oasis of commercial-free communication in an overly commercial world. Although the corporate world has used the Internet as an international e-mail backbone and research tool for many years, only recently has the potential of the Net as a place to buy and sell been explored. This chapter describes how business is done on the Internet. It also lists some good resources that can help you embark on your own online business venture.

Note

The addresses in this section are given in Universal Resource Locator (URL) format. Using a Web browser, enter each address exactly as shown. To use a resource through its specific client (such as a Gopher client, newsreader, and so on) omit the part of the URL up to and including the double slashes (//).

For example, to reach the Digital Future Gopher described in this chapter, you use one of the following:

- In a **Web browser**: *gopher://Marketplace.com*
- In a **Gopher client**: *marketplace.com*

How is the Internet a business tool?

The original and still most common business use of the Internet (other than e-mail) is research. Obviously, the wealth of free information available in newsgroups and through Gopher and the Web can be valuable for marketing, acquisitions, product development, regulations research, and many other business research activities. The Internet also offers a wealth of information in support of many different professional disciplines and is also an important source of detailed economic and financial data, both domestic and international. A number of important financial journals are available on the Internet as well (<http://www.yahoo.com/News/Business>).

As the U.S. and other leading industrial nations move deeper into service-based economies, we are finding that communication is business. A huge number of business services can be provided almost completely over the computer. If a service can be performed on a computer, it can be marketed to clients everywhere. The Internet provides a communications medium through which clients can send work to distant service providers, and providers can transmit the results back. Such services include the following:

- Financial management and accounting
- Legal services
- Consulting
- Design
- Electronic publishing and other document services
- Research services
- Custom programming services

Although the Internet provides the point-to-point communications vehicle for supplying these services, it may be more significant a presentation medium for marketing these and other products. In particular, the World Wide Web is shaping up as the perfect electronic billboard: it can show off splashy graphics and multimedia and can offer hyperlinks to expanded information about a

company's product and services. As things stand, there is much more advertising on the Net than there is selling. In particular, companies whose product can't really be sold on the Net are nonetheless advertising there for the sheer visibility value. These advertisers include movie studios, television networks, and auto companies.

It's easy to overstate the importance of the Internet as an advertising medium. Although there are millions of potential customers on the Net, their activities are fragmented among thousands of different activities. It's impossible to draw to a Web page the kinds of crowds you can get with a national TV commercial, and it may grab and hold customers for much longer than the 15 or 30 seconds of exposure a commercial provides.

An important characteristic of the Internet as an advertising (and selling) medium is that it's an inherently narrowcast environment. The population is spread among resources defined by area of interest; to advertise, you must lead customers to your message based on their area of interest. There's no accepted way today to "blitz" the net with broad visibility. On the other hand, the small proportion of Net users you can manage to attract to your ad are a preselected, well-targeted group-something advertisers today pay special-interest magazines top dollar to draw.

The logical extension of Internet advertising is internet selling. After all, if customers can see a picture of your product on the Web, and read about it through a hyperlink to a product description, why shouldn't they be able to order it right then, when the electronic pitch is burning a hole in their pockets? Unfortunately, online sales is a real sticking point of online business.

As it stands, the Internet is simply not a very secure place for people to send others their credit card numbers or bank account information – currently, the only two means of performing online transactions. Similar transactions made today over the telephone are a major source of fraud, which is why business are approaching online sales very cautiously – and with good reason.

It wouldn't be very difficult for a "cracker" or an unscrupulous system administrator to harvest credit card information from online transactions moving through the Net, make his or her own purchases using stolen credit card information, and then cover his or her tracks before anyone knew what happened. For their parts, VISA and MasterCard each maintain a Web site to show how credit cards can be used and what's being done to make credit card transactions more secure. These sites also offer consumer services, such as maps of ATM locations.

One good way to learn about companies doing business on the net is through CommerceNet, a consortium of companies dedicated to exploring the Net's commercial potential. These advertisers' Web pages can be reached directly, of course, but CommerceNet maintains a page of links to them to help you find them all. CommerceNet's home page also includes information about the CommercialNet project and good general information about doing business on the Web.

Note

CommercialNet is not the only engine to which companies have hitched their cars. Another, the Internet mall, also maintains a list of links to Internet sellers. Bear in mind, however, that selling can be done anywhere on the Web and in other Internet resources, so long as it is done using accepted practices.

The internet itself is also a publishing medium. There are many newspapers and magazines published on the Web, many of them online versions of publications that are also printed. Recently, science magazine *Omni* pointed the way by announcing would retire its print version and move the whole operation onto the Web.

The Open Question: Security

Security is a concern for all uses of the Internet, but online financial transactions are a particular problem. There have been several highly publicized cases of online fraud and computer-based theft and espionage. This problem has done more than discourage the adoption of online sales and ordering.

It has also prevented any widescale adoption of the Internet as a backbone for business-to-business transactions such as electronic funds transfers. Many such transactions are performed electronically today, but nearly all are performed over more secure – and more expensive – private communications networks. The banks don't trust the Internet with their money, and neither do large corporations. Think about that before you type your VISA number on a Web page.

Although high-level security systems are required for overall Internet security, two initiatives are underway to make credit card transactions on the Web more secure to encourage online sales. The first, already in use, is Secure Sockets layer (SSL), developed by Netscape Communications, developer of the Netscape Navigator Web browser. SSL has been endorsed by Microsoft, IBM, and other major companies, and is the security system for a Web shopping center called marketplace MCI ([http://www. marketplace. internetMCI. com/marketplace](http://www.marketplace.internetMCI.com/marketplace)), operated by MCI, the same company that keeps calling you to ask whether you're happy with your current long-distance service. The other Web-based security system, yet to debut, is called Secure HTTP and is championed by Commercenet. At this writing, the jury is still out on both systems.

Until an effective security system is developed for protecting credit-card transactions, the Internet will be a dicey place to sell. Whether that's a reason to stay away or jump right in depends on the type of businessperson you are.

The Do's and Don'ts of Net Commerce

The basic rule for Internet business ventures is passivity – let the buyers come to you, don't reach out and grab them. That philosophy runs counter to everything today's aggressive, competitive businesspeople have been weaned on, but for now, it's the best approach. In a famous case a few years ago, a Phoenix law firm cross-posted an ad to thousands of newsgroups, hoping to drum up some

customers. Internet users flamed the firm by e-mail so severely that the law firm's Internet provider had to cut off the firm's account.

A Web page is a great place to advertise, not only because of the sexy ways you can use it to show off your product but also because you can't snare users – any user who navigates to your Web page wants to be there. You can post gentle announcement about the existence of the web page in newsgroups and mailing lists whose topics relate directly to your product or service. Don't advertise in your announcement – simply let people know where your Web page is (or your e-mail address if you're not using the Web), and save the pitch for when they arrive. Obviously, if you want them to come, you have to offer a carrot to get them there – cool video or sound clips, an online game, and so on.

Another good technique for passive advertising is to sponsor something non-commercial and build a Web page for your sponsoree that also happens to promote your company. For example, laser disc maker Voyager Co. sponsors a number of cultural events, including the Nuyorican Café, a project promoting Latino poetry and concerts by performance artist Laurie Anderson. Folks are drawn to Voyager's Web site to learn about the Café, and while there, discover links to information about Voyager product and services (<http://voyagerco.com>).

The Bottom Line: Getting Started

Here's the bottom line: You can advertise, market, and sell anything on the Internet. And if your product or service can be coded into a computer file and sent over a wire, you can even provide it over the Internet. Today, the Internet is unlikely to make you rich. But success depends on being in the right place at the right time; within a few years, the Internet may well be the right place. If you get started today, you'll be there when it happens.

To get started, think about the type of product or service you supply (or want to supply) and how the Internet can play a role. Check out the rest of this chapter for some great sources offering good starting points and other business-related information.

Internet Professional Resources

The Internet offers journals, job openings, peer networking opportunities, and other resources for every profession imaginable. Perhaps the best way to locate resources about your professional area (medicine, law, design, and so on) as a search term.

It's impossible to adequately show the breadth of professional resources available on the Internet. But the following few examples may give you an idea.

- **The American Institute of Graphic Arts** (<http://www.Dol.com/room/org/AIGA/AIGAlink.html>)
- **The Engineer's Club** (<http://www.Engineers.com/tec.html>)

The place where the slide-rule set hangs out.

- **The midwifery Page** (<http://www.Csv.warwick.ac.uk:8000/midwifery.html>)
Links and resources for professional midwives and other childbirth professionals.

Job Hunting

Yes, you can find a job on the Internet – although the jury's out on whether the Internet is really an effective job hunting/recruiting tool. The Internet population is so large and spread out and most recruiters look for a few local people. Still, the want ads are there, and the internet is as good a place as any to start.

Probably the best way to find a job online is to locate a resource related to that job that job and then look for job listings. For example, many of the U.S. government's Web pages feature a link that lists jobs in the department or agency to which the page pertains. You may find job listings at specific companies available from a link on the companies' home pages.

There also more general job listings available. For example, the Job Search page, available at <http://www.adnetsol.com/jsearch/jshome.html>, is a searchable database of over 40,000 jobs in Southern California.

Internet Business Resources

This section describe places to find business information and support services on the Internet.

First, you may want to see a list of links to companies already doing business on the Net. Try the Yahoo directory at <http://www.yahoo.com/Business/Corporations>.

Starting an Internet Business

- **Internet Plaza** (<http://plaza.xor.com/plaza/index.html>)
Internet Plaza offers a range of business services to help companies get started in online business.
- **Digital Future** (<gopher://marketplace.com>)
An online newsletter about Internet-based commerce.
- **Internet Business Center** (<http://www.tig.com/ibc>)
A Web server specializing in providing information about business uses of the Internet.
- **Commercial use Strategies Home Page** (<http://www.netrex.com/business/usage.html>)
More strategies and tips for online business.
- **Small Business Administration** (<http://www.sbaonline.sba.gov>)
A Web page for the U.S. Small business Administration, created to help new and existing small business compete. Includes business development services and links to other resources.
- **Open market Commercial Sites Index** (<http://www.directory.net>)
A pile of links to economic information, such as the files of the Financial services Technology Consortium and the customer support pages of major corporations. A great place for ideas.

Economic /Financial Data

- **Financial Economics Network** (<http://www.crimson.com/fen>)

Created by the editor of the Journal of Financial Economics, this home page features abstracts of forthcoming papers and articles and also includes listings of jobs-seekers in the field.

- **QuoteCom** (<http://www.quote.com>)

QuoteCom displays stock quotes (delayed 15 minutes), plus a wealth of information from newswires, market data, and more.

Advertising

- **Chiat/Day Idea Factory** (<http://www.chiatday.com/factory>)

Chiat/Day is a former ad agency (now specializing in “brand promotion”) whose Web site, a “virtual office”, shows off splendidly what a little imagination can do on the web. Whether you do business with Chiat/day or not, the company`s web pages are a guide to the possibilities.

- **Advertising Age** (<http://www.adage.com>)

The venerable advertising magazine and sourcebook, now in an online version.

Note

For more information about Internet business, pick up the internet business Guide, Second Edition, by Rosiling Resnick and dave Taylor (Sams. Net Publishing, 1995).

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АНГЛИЙСКИЙ ЯЗЫК

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