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**«ФИНАНСОВЫЙ УНИВЕРСИТЕТ  
ПРИ ПРАВИТЕЛЬСТВЕ РОССИЙСКОЙ ФЕДЕРАЦИИ»**

**Кафедра «Иностранные языки-3»**

**И.А. Хагба**

# **АНГЛИЙСКИЙ ЯЗЫК**

**Пособие к учебнику  
С.Р. Эстерас  
«Infotech, English for Computer Users,  
Fourth Edition»**

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В пособии представлены материалы, дополняющие учебник С.Р. Эстерас «Infotech, English for Computer Users, Fourth Edition». Целью пособия является практическое обучение английскому языку как средству устного и письменного общения в области информационных и коммуникационных технологий. Материалы пособия могут быть использованы для написания эссе, докладов и подготовки презентаций в Power Point.

Для студентов направления подготовки «Прикладная информатика», «Прикладная математика и информатика».

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«FINANCIAL UNIVERSITY UNDER THE GOVERNMENT  
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**Department of Foreign Languages-3**

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**ENGLISH LANGUAGE**

**Supplementary Course  
(to Infotech, English for Computer Users, Fourth Edition)  
by S.R. Esteras**

**Moscow 2014**

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**English Language:** Supplementary Course (to Infotech, English for Computer Users, Fourth Edition) by S.R. Esteras. — M.: Financial University, 2014. — 92 p.

ISBN 978-5-7942-1230-3

The textbook contains the supplementing material to the course book by S.R. Esteras “Infotech, English for Computer Users, Fourth Edition”. The aim of the Supplementary course is a practical teaching of English as a means of oral and written communication in the field of information and communication technologies. The material of the textbook can be used in writing essay, making reports and Power Point Presentations.

The book is for the learners of English for IT and computing.

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## Предисловие

Учебное пособие предназначено для студентов II курса факультетов «Прикладная математика и информационные технологии», «Анализ рисков и экономическая безопасность», изучающих иностранный язык.

Целью пособия является обучение языковым средствам для эффективного общения с компьютером и ориентации в компьютерно-опосредованной информационной деятельности.

В результате работы по данному пособию студенты должны приобрести следующие навыки:

1) устные — правильно и бегло читать тексты, построенные на знакомом фонетическом, лексическом и грамматическом материале, передавать содержание самостоятельно прочитанного текста, уметь вести беседу на английском языке на пройденные темы;

2) письменные — овладеть орфографией в объеме изученного лексического и грамматического материала, уметь написать письма, статьи, составлять доклады и отчеты.

При составлении пособия использовались тексты из оригинальной литературы, материалы американской и английской прессы.

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# UNIT I

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## Reading 1. The Internet

Expressions such as information superhighway, cyberspace and surfing the Net all refer to the most important and exciting development in modern computing — the incredible growth of the Internet and World Wide Web.

The Net (the Internet) and the Web (the World Wide Web) can be used for a variety of purposes by users worldwide.

What is the Internet?

The Internet can be understood in various ways, reflecting its different aspects.

- A network of computer. The Internet is the world's biggest network, linking every continent. People who meet on the Net are said to meet in cyberspace — a non-physical or virtual “space” created by computer systems.

- An information resource. The Internet contains information on an enormous range of topics of interest, and huge amounts of data are constantly being transferred between computers on the Internet. For this reason it is sometimes called the information superhighway, especially in the media. The World Wide Web is the main source of information on the Net, but you can also get information from other sources.

- A collection of services. Many services, such as the World Wide Web, FTP, email and Usenet run on the Internet, using different protocols.

- A communication system. The Internet links users all over the world using fast and relatively cheap forms of communication. Electronic mail (or, more commonly, email) is the

most widely used service on the Internet, but people also use other forms of communication on the Internet such as newsgroups and chat rooms and online forums. VoIP telephony and instant messenger services such as MSN Messenger are also popular with the Internet users. An instant messenger is an application which allows instant text and voice communication between two or more people. An instant messenger application also allows users to send files to each other.

- A broadcasting medium. Streaming media allows users to listen to audio files and watch video online. It is also possible to watch TV programmes and listen to radio stations online. Many radio and television broadcasters such as the BBC provide Internet versions of their radio and TV programmes. This means that it is possible to access online media in much the same way as was previously possible only with a conventional TV or radio. Webcasts are also popular and are similar to TV programmes. The First webcasts tended to be live transmissions of rock concerts but webcasts can also be used for educational and training purposes.

Many Internet users read blogs and download and listen to podcasts via their computer. RSS (Really Simple Syndication) is another service that allows Internet users to subscribe to websites that have “RSS feeds”. Typically, these are websites that change or add new content regularly, such as news sites like the BBC. To get an RSS feed, you need a software program known as a news aggregator or an RSS reader. Once a user has subscribed he or she will receive news and updates which means that it is no longer necessary to search the Internet to find all the latest information.

- A community of users. The Internet can be understood as a kind of community of people all over the world. People often make friends on the Net with people in dis-

tant countries, and there are thousands of special interest groups whose members use the Internet to keep in touch with each other. Peer-to-peer (called P2P) applications are also used within Internet communities to share files. P2P networks work by connecting individual computers together to share files across the Internet instead of having to go through a central server. These networks are used for sharing files such as audio, video, digital photographs or indeed any file that is in a digital format. However, users should be aware that it is illegal to share copyrighted materials.

◆ **1.** Read the text again and decide whether these sentences are true or false:

- 1) The Internet and World Wide Web are synonyms.
- 2) An instant messenger application allows users to send files to each other.
- 3) Streaming media allows users to listen to radio stations and watch TV programmes.
- 4) Webcasts can be used only for educational and training purposes.
- 5) P2P networks are used for sharing files such as audio, video and digital photographs.

◆ **2.** What Internet system from the box should these people use?

- email • mailing list/listserv • chat and instant messaging
- Internet telephone • video conference
- FTP • newsgroups • TELNET

- 1) I like receiving daily updates and headlines from newspapers on my computer.
- 2) I'm doing some research and need computer access to the University library.



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3) I'd like to avoid flying to Japan to attend the meeting but I want to see what's going there.

4) I want to read people's opinions about environmental issues and express my views.

5) I have designed a web page and want to transfer the data to my reserved web space.

6) I'd like to check my students' draft essays on my computer and send them back with my suggestions.

7) I don't want to spend too much money on international phone calls but I love hearing his voice.

8) I live in a small village where there are no other teenagers. I wish I had the chance to meet and chat with friends.

## **Reading 2. The World Wide Web**

People have dreamt of a universal information database since late 1940s. In this database, not only would the data be accessible to people around the world, but it would also easily link to other pieces of information, so that only the most important data would be quickly found by user. Only recently the new technologies have made such systems possible. The most popular system currently in use is the World Wide Web (WWW), which began in March 1989. The Web is an Internet-based computer network that allows users on one computer to access information stored on another through the world wide network.

As the popularity of the Internet increases, people become more aware of its colossal potential. The World Wide Web is a product of continuous search for innovative ways of sharing information resources. The WWW project is based on the principle of universal readership: if information is available, then any person should be able to access it from anywhere in the world. The Web's implementation follows a standard client-server model. In this model, a user

relies on a program (the client) to connect to a remote machine (the server), where the data is stored. The architecture of the WWW is the one of clients, such as Netscape, Mosaic, or Lynx, “which know how to present data but not what its origin is, and servers, which know how to extract data”, but are ignorant of how it will be presented to the user.

One of the main features of the WWW documents is their hypertext structure. On a graphic terminal, for instance, a particular reference can be represented by underlined text, or an icon. “The user clicks on it with the mouse, and the referenced document appears”. This method makes copying of information unnecessary; data needs only to be stored once, and all referenced to it can be linked to the original document.

◆ Write an essay of 200–250 words about “The success of the WWW”. Consider these ideas:

- 1) Where was the World Wide Web invented?
- 2) When was the World Wide Web invented?
- 3) Who invented the World Wide Web?
- 4) Why was the World Wide Web invented?
- 5) What will the Web be like in the future?

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## UNIT II

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### Reading 1. Banking Security

#### *A Bank Security Officer Is Talking About His Job*

I'm what they call a white-hat hacker. I've worked for the bank for about five years. I was in the IT department responsible for the firewalls and encryption software. But I really like programming and when the bank had a few hackers starting to penetrate the network I got involved in keeping them out.

So, a white-hat hacker is a computer hacker, but when we expose security flaws we let the organization know they have a problem, rather than exploiting it. We fight against black-hat hackers — criminals who will exploit these problems.

For example I'll run a "ping sweep" on a bank's network to see who is connected and then do some TCP/IP fingerprinting to find out what operating system people are using. I may then run a sniffer which will watch out for their passwords as they key them in. Now, if they aren't using 128bit SSL certificates, their data isn't encrypted and then I can access the bank's network and data centre and do what I like. I don't of course; I tell the bank I have found a weakness or a user who needs to improve their online security.

What would my advice be to people to remain secure online? Make sure you are using antivirus software and you download any updates to keep out the latest viruses and worms. Use a personal firewall.

Never respond to emails that look like they are from the bank, you know, phishing. This type of activity is becoming ever more sophisticated, spear phishing is far more targeted,

not just the blanket spam a few years ago. These emails look like they really are meant for you as they are relevant to your business area. The email will contain something that looks like an attachment but actually it's a piece of malware like a Trojan or a worm. This software will sit on a computer and send the black-hat hacker personal information, passwords, credit card numbers, bank account details. These then allow them to hack into the bank's data centre and steal thousands of people's account numbers and sell them to other gangs.

◆ 1. Read the text and decide whether these sentences are true or false:

1) A white-hat hacker is a hacker who helps organizations protect themselves against criminal hackers.

2) A ping sweep is a process to check to see who is connected to a network.

3) TCP/IP fingerprinting doesn't give any information about what operating system people are using.

4) 128bit SSL certificates decrypt data.

5) Antivirus software can't protect against viruses and worms.

6) Spear phishing is a more targeted form of phishing.

◆ 2. Read the text again and answer these questions:

1) What can people do to stay secure online?

2) Is there anything else that people should be aware of?

3) What is phishing?

4) Is it safe to use credit cards online?

5) What is a black-hat hacker?

## **N o t e**

### ***History of Computer Viruses***

Computer viruses have a relatively short history, but the damages caused by some of them pushed cyber-experts to open-

ing a new chapter on computer viruses. Some viruses led to serious damages and affected a large number of companies, universities and even governments.

Here are some of the most dangerous computer viruses in history

### ***Jerusalem – 1987***

This is one of the first *MS-DOS* viruses in history that caused enormous destructions, affecting many countries, universities and companies worldwide. On Friday 13, 1988 the computer virus managed to infect a number of institutions in Europe, America and the Middle East. The name was given to the virus after one of the first places that got “acquainted” with it – the *Jerusalem University*.

Along with a number of other computer viruses, including “*Cascade*”, “*Stoned*” and “*Vienna*” the Jerusalem virus managed to infect thousands of computers and still remain unnoticed. Back then the antivirus programs were not as advanced as they are today and a lot of users had little knowledge of the existence of computer viruses.

### ***Morris (a.k.a. Internet Worm) – November 1988***

This computer virus infected over 6,000 computer systems in the United States, including the famous *NASA research Institute*, which for some time remained completely paralyzed. Due to erratic code, the worm managed to send millions of copies of itself to different network computers, being able to entirely paralyze all network resources. The damages caused by the Morris computer virus were estimated at \$96 million.

To be able to spread, the computer virus used errors in such operating systems as Unix for VAX and Sun Microsystems. The virus could also pick user passwords.

### ***Solar Sunrise – 1998***

A decade later the situation didn’t change, in fact it even got worse. Using a computer virus, hackers, in 1998, penetrated and took control of over 500 computer systems that belonged to the army, government and private sector of the United States. The whole situation was dubbed Solar Sunrise after the popular vulnerabilities in computers that run on the

operating system called Sun Solaris. Initially it was believed that the attacks were planned by the operatives in Iraq. It was later revealed that the incidents represented the work of two American teenagers from California. After the attacks, the Defense Department took drastic actions to prevent future incidents of this kind.

### ***Melissa – 1999***

For the first time computers got acknowledged with Melissa computer virus on March 26, 1999, when the virus shut down the *Internet mail system*, which got blocked with e-mails infected by the worm. It is worth mentioning that at first Melissa was not meant to cause any harm, but after overloading the servers, it led to serious problems. For the first time it spread in the *Usenet* discussion group alt.sex. Melissa was hidden within a file called “*List.DiC*”, which featured passwords that served as keys to unlocking 80 pornographic websites. The original form of the virus was sent through e-mail to different users.

Melissa computer virus was developed by *David L. Smith* in Aberdeen Township, New Jersey. Its name comes from a lap dancer that the programmer got acknowledged with while in Florida. After being caught, the creator of the virus was sentenced to 20 months in federal prison and ordered to pay a fine of \$5,000. The arrest was made by a team of representatives from FBI, New Jersey State Police and Monmouth Internet.

Melissa had the ability to multiply on Microsoft Word 97 and Word 2000, as well as on Microsoft Excel 97, 2000 and 2003. In addition, the virus had the ability to mass-mail itself from Microsoft Outlook 97 and Outlook 98.

### ***I Love You – May 2000***

Using a similar method as the Melissa, the computer virus dubbed “I Love You” managed to infect millions of computers around the world overnight. Just like Melissa this computer virus sent passwords and usernames, which were stored on the attacked computers, back to the developer of the virus. After authorities traced the virus they found that a young Filipino

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student was behind the attack. The young man was released due to the fact that the Philippines did not have any law that would prevent hacking and spreading malware. This situation served as one of the premises for creating the *European Union's global Cybercrime Treaty*.

### ***The Code Red Worm – July 2001***

This 21st century computer virus managed to penetrate tens of thousands of systems that ran Microsoft Windows NT and Windows 2000 server software. The damages caused by the Code Red computer virus were estimated at \$2 billion. Core Red was developed to use the power of all computers it infected against the official website of the *White House* at a pre-determined date. In collaboration with different virus hunters and tech firms, the White House managed to decipher the code of the Code Red virus and stop traffic as the malware started its attacks.

### ***Nimda – 2001***

Shortly after the September 11 tragedy this computer virus infected hundreds of thousands of computers worldwide. Nimda was considered to be one of the most complicated viruses, having 5 different methods of infecting computers systems and being able to duplicate itself.

### ***Downadup – 2009***

The latest and most dangerous virus is the “*downadup*” worm, which was also called “*Conficker*”. The computer security company *F-Secure* stated that the computer virus has infected 3,5 million computers worldwide. This malicious program was able to spread using a patched Windows flaw. Downadup was so “successful” in spreading across the Web, because it used a flaw that Microsoft patched in October in order to distantly compromise computers that ran unpatched versions of Microsoft's operating system. But the greatest power of the worm is believed to be the ability of computers, infected with the worm, to download destructive code from a random drop point. *F-Secure* stated that three of the most affected countries were China, Brazil and Russia.

◆ 3. Read this short article about a computer infection. Fill in the gaps with words from the box.

• worm • zombies • identity • theft • spyware  
• pharming • denial of service • BotNet • keylogger

Conficker has been in the news a lot. It is a ..., which unlike a virus does not need to be attached to an existing program to infect a machine, and which seems to receive regularly updated instructions from its controllers. It has created a ... — a network of infected machines. Once infected, these machines are known as ... . At this point no one knows what the purpose of Conficker is. At present it has infected ten million computers. These could be used for a ... attack where all the infected computers attempt to access one site simultaneously.

It is probably controlled by criminals who want to steal users' personal information, i.e. ... . There are a number of ways of doing this: a ... records information entered via a keyboard, ... literally means harvesting users' information while they are online. We will probably soon see if Conficker consists of this type of passive monitoring spyware or whether it will mount a more active attack once it receives a new set of instructions.

## **Reading 2. Local Man Arrested on Hacking Charges**

*Wilmington Daily Post*

Wilmington — Donald Greene has been arrested by Interpol on computer hacking charges. Interpol claims that Greene, a computer hacker, planted viruses on unwitting host computers. It is thought that Greene used a method called “piggybacking” to gain access to computers when their owners logged in. This gave him ac-



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cess to the computer's protective firewall and allowed him to disable it.

Interpol says that Greene has done over \$50 million in damage. Most of this damage was done when he used overwriting viruses to overwrite and destroy files on government computer systems. But Greene targeted home computers, too. For these, antivirus software was unable to stop Greene's viruses because he included anti-antivirus with them. These viruses essentially shut down antivirus software. Greene is also alleged to have used resident viruses. These viruses imbed themselves in a file or disk drive. When resident extensions are included with them, they become a part of the computer's operating system. This makes them nearly impossible to get rid of. As with all viruses, Greene's viruses are said to have replicated themselves quickly to infect multiple computers.

◆ **1.** Read the newspaper article and choose the right answers:

- 1) What is the article mainly about?
  - a. new types of computer virus;
  - b. a man who is investigating viruses;
  - c. the capture of a man who used viruses;
  - d. a way to protect computers from viruses.
- 2) Which type of virus was the most harmful?
  - a. overwriting viruses;
  - b. anti-antivirus viruses;
  - c. resident extensions;
  - d. resident viruses.
- 3) What can be inferred about resident viruses?
  - a. They can disable firewalls.
  - b. They aid hackers with piggybacking.
  - c. They do less damage than anti-antivirus viruses.
  - d. They do not always include resident extensions.

- ◆ **2.** Match the words (1–5) with the definitions (a–e):
- 1) piggyback                      a. a virus that attacks antivirus software
  - 2) host                              b. an add-on that makes a computer virus part of the host computer's operating system
  - 3) overwriting virus            c. a virus that copies its code over and destroys the files of the original data
  - 4) anti-antivirus virus        d. to gain unauthorized access to a computer system by using the owner's connection
  - 5) resident extension        e. a computer system that has a virus attached to it

◆ **3.** Write a word that is similar in meaning to the underlined part.

- 1) Email is used to contaminate computers with viruses.  
\_\_\_\_\_
- 2) Enter identification that allows one to use a computer first.  
\_\_\_\_\_
- 3) Some viruses can make copies of themselves.  
\_\_\_\_\_
- 4) If the virus becomes a part of something else, it will be hard to delete.  
\_\_\_\_\_
- 5) Viruses that become part of files but do nothing until activated can go unnoticed for months.  
\_\_\_\_\_

◆ **4.** Discuss with your partner:

- 1) How do computer viruses impact business?
- 2) What should people do when their computers are infected?

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## UNIT III

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### Reading 1. Internet Security

Cybercrime is criminal activity on the Internet. Companies that sell goods and services over the Internet need to reassure customers that their credit card details will not be stolen by cybercriminals. Confidential information is encrypted or coded so that it cannot be read by others. Companies that sell on the Internet will display the level of encryption that users of their site benefit from.

Internet bank accounts are protected by passwords, Phishing is when criminals try to obtain this information by sending emails that pretend to be from someone's bank, telling them to reconfirm their security details — passwords, etc. — and allowing criminals access to the account. Or they may manage to put spyware on your computer that records passwords, etc. as you type them. This is identity theft.

You might get an email telling you that you have won a lottery or that someone's uncle has died and left money that you can claim. These, of course, are scams.

When someone uses the Internet, they leave an electronic trail — a record of sites they visit — and if they buy something, their personal details. This raises issues of privacy and confidentiality. Who should have the right to access and analyze this information?

This is all part of the debate about the powers of surveillance — the powers to watch and examine the activities of private individuals — that law enforcement agencies, such as the police, should have. Critics say that the authorities should not snoop into people's private lives; they

say that there are big issues of civil liberties at stake. These are freedoms that ordinary people should have without being watched by Big Brother – a term from George Orwell’s novel 1984 describing a society that was under constant surveillance.

◆ Complete the article with words from the box.

- identity theft • infected • infiltrated • malware • scam
- security

### ***Cybercrime Booming***

Computer security firm McAfee says that cybercriminals were “cashing in on consumer anxiety to profit from ‘get rich quick’ (1) ...”. And another computer (2) ... group, Sophos, said it now found a new infected website every 4,5 seconds. Each of these websites could lead to the user having his or her computer (3) ..., with the risk of (4) ..., said Sophos in its latest Security Threat Report.

Sophos said that there were now five times more infected emails being sent than at the beginning of the year. Sophos added that the US remained the biggest source of (5) ... websites (37 per cent) followed by China (27,9 per cent) and Russia (9,1 per cent). It further said that (6) ... – malicious software – was a growing problem for Apple Macintosh users.

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## Reading 2. Information Security

◆ 1. Read the introduction to an email and answer the questions:

- 1) Who is this email from (i.e. an employee, IT specialist, customer, etc.)?
- 2) Who is the email to?
- 3) What is the basic problem being discussed?
- 4) What will the rest of the email be about?
- 5) What kind of ideas might be in the rest of the email?

From: Rupert Wilson TO: ALL EMPLOYEES
SUBJECT: DATA SECURITY
Dear All, Unfortunately there have been several instances recently of data falling into the wrong hands. I have been a victim of ID theft and we have lost a few company laptops and memory sticks containing sensitive trading information. The following rules around data and data security are mandatory and failure to abide by these will result in disciplinary action up to and including dismissal. I am sorry for the stern tone but this is a very serious issue for us all.

◆ 2. Read the rest of the email, some sentences have been removed from the email. Read the text and complete the gaps 1–6 with the sentences a–f below:

- a. Ideally this should contain both letters and numbers.
- b. Only company-provided and approved software may be used.
- c. At the end of each day, ensure that your desks are clear and all documentation or storage devices are in locked drawers.

d. Do not leave them where they can be seen on the back seat of a car.

e. IT will be running a webcast on how to do this next Tuesday 25<sup>th</sup>.

f. Any documentation found lying around after the trading day will be destroyed. You have been warned.

***Clear Your Desk***

With immediate effect we will be running a Clear Desk Policy in the office. \_\_\_\_\_ 1.

***Shred***

All unwanted printouts, photocopies, notes, etc. must be put into the shredders that have been installed in each office. \_\_\_\_\_ 2.

***Use Passwords***

All systems must be accessed using a password. \_\_\_\_\_ 3. This password is secret to you and should not be shared with any other individuals.

***Change Passwords***

All passwords must now be changed on a monthly basis. If you think that your password has been compromised, call the IT Helpdesk immediately.

***Don't Download***

All laptops are to be scanned on a monthly basis by IT to check for spyware or malware. Under no circumstances should any programs be downloaded from the Internet onto company laptops. \_\_\_\_\_ 4.

***Emails***

Do not open attachments unless you know the originator of the mail personally and you are expecting an attachment of that type and name.

***Keep Secure***

All laptops taken out of the office either to clients' offices or to work from home must be kept secure at all times. \_\_\_\_\_ 5.

***Memory Sticks***

All memory sticks are now numbered. The IT Department will keep a list of memory sticks and who is responsible for them.

***Encrypt***

All data stored on memory sticks must be encrypted.  
\_\_\_\_\_ 6.

And on a personal note if anybody sees my wallet, could you please pop it into my office.

Regards,  
Rupert

***Confidential***

Internet communications are not secure and therefore London investments does not accept legal responsibility for the contents of this message. This email and any attachments may be confidential. They may contain privileged information and are intended for the named addressee(s) only. They must not be distributed without our consent. If you are not the intended recipient please notify us immediately and delete the message and any attachments from your computer. Do not disclose, distribute or retain this email or any part of it. We believe but do not warrant this email and any attachments are virus free. You must therefore take full responsibility for virus checking.

◆ **3.** Match the verbs in A with the words in B to make expressions from the email:

A	B
1) be	an email attachment
2) change	a document
3) download	a program
4) open	a victim
5) run	a webcast
6) scan	a laptop
7) shred	a password

◆ **4.** Now complete sentences 1–7 with the expressions from exercise 3. You may need to make changes to the verbs.

1) Why can it be dangerous to ... if you don't know who sent it?

2) Why is it important to ... like a bank statement that contains personal information, and not just throw it away?

3) How often should you ... or a desktop for spyware and malware?

4) Why can it be harmful to ... from the Internet and run it on your computer?

5) Why is it a good idea to ... regularly even if there's no evidence it has been compromised?

6) What are the advantages of ... as opposed to having training seminars?

7) Have you ever ... of ID fraud?

◆ **5.** Write a short email to the members of the staff of a company. Think of three or four bullet points under the heading. (Phishing is the fraudulent stealing of information about bank accounts, PIN numbers, passwords, etc.)



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## UNIT IV

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### Reading 1. E-commerce

E-commerce or online shopping is the process of buying and selling products and services using the Internet. It has similarities with traditional commercial activity.

A product or service, from plane tickets to books, is offered in an online shop, the seller's website. Customers select and order products, which are then paid for and delivered. The main difference is that most of the processes take place on the Web.

E-commerce websites use the following components:

- A shopping cart program, a web-based software application to keep a record of the product chosen by the customer.
- A secure socket layer (SSL) certificate, to verify that the credit card information has been securely transmitted; this is usually shown by a small padlock on the web page.
- A payment gateway, an interface between the website and the bank that accepts the electronic payment.

#### ***How to Buy on the Internet***

The first thing to do is to look for the product in a search engine or, even better, in a comparison engine or bargain finder, to find the lowest price.

Most online shop websites are designed so that the customers follow these steps to do their virtual shopping.

You start by adding the item you want to buy to the shopping basket, or virtual shopping trolley.

When you have selected the items that you want to buy, you proceed to the payment section by clicking on the checkout button.

You may have to log in, provide your username and password, or sign up, by providing your personal data, billing and shipping address, etc., if this is the first time you have accessed the site.

You will be given an account, so you are recognized as a customer. You will be asked to enter payment details, e.g. credit card numbers, etc. Before the transaction is completed you will be asked to confirm the order and check that all the information is correct.

Finally, you log out and leave the website.

There are different types of electronic payment: credit cards or debit cards. A digital wallet, the electronic equivalent of a wallet for online shopping, holds credit card data and passwords for logging into websites. PayPal, Microsoft's Passport and Yahoo! Wallet are examples of digital wallets.

### ***Types of e-Businesses***

Companies whose activity is centred on the Internet are called dotcoms, after their web addresses. However, most e-commerce businesses are bricks and clicks, as they have both a physical and online presence.

Although there are some examples of B2B commerce, business to business, e-commerce is mainly used for B2C, business to consumer, or even for C2C, consumer to consumer. Internet auctions, websites like eBay where people offer products and sell them to the highest bidder, are an example of C2C e-commerce.

◆ There some drawbacks to e-commerce and people are not always happy with it. Complete the sentences with words from the text.

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1) ... is great until you have a complaint. Unlike a shop you have nowhere to go.

2) There have been problems with both ..., web only businesses, and ..., high street names with a web presence. Computing experts say a large part of the problem lies with the software available for customer support online.

3) Since the National Consumer League started tracking Internet fraud some years ago, one type of e-commerce has come top for complaints about fraud: Internet ... . Four out of ten buyers reported problems such as never receiving what they had bid for.

4) If you want to reduce the risks while buying on the Web, use a ... as a way of holding securely credit card numbers, shipping and mailing addresses.

## Reading 2. EBay

Yesterday I cleared up my house and I mean really cleared up my house. The room that gave the most results was my husband's office. There I found: one right-footed walking boot, size 10 (he lost the other one somewhere), a garden badminton set, complete with rackets and a net (we decided to get fit last summer and played with it once), a set of Star Wars videos and two small china cats someone gave me last birthday. I collected these and other finds, took them downstairs and logged on to [www.eBay.com](http://www.eBay.com): the answer to all our rubbish — or one person's junk is another person's treasure.

What is eBay? The simple answer is that it is the world's most popular auction house. The website says, eBay's mission is to provide a global trading platform where practically anyone can trade practically anything, — yes, even one right-footed boot. People can sell and buy in a range of over 300 categories, including cars and other vehicles, movies and DVDs, sporting goods, collectibles, travel,

tickets, musical instruments, real estate, clothes and shoes, jewellery c the list goes on and on.

The idea came from Peter Omidyar. Born in Paris, Omidyar, moved to Washington when he was still a child. At High School he became very interested in computer programming and after graduating from Tuft University in 1988, he worked for the next few years as a computer engineer. In his free time he started eBay, as a kind of hobby, originally offering the service free by word of mouth. By 1996 there was so much traffic on the site that he had to upgrade and he began charging a fee to members. Joined by a friend, Peter Skoll, and in 1998 by his dynamic CEO, Meg Whitman, he has never looked back. Even in the great dot com crashes of the late 1990s eBay went from strength to strength. It is now one of the ten most visited online shopping sites on the Internet.

If you think about it, it's a perfect Internet idea. It sells connections not goods, putting buyer and seller into contact with each other. All you have to do is take an e-photo, write a description, fill out a sales form and you're in business; the world is your market place. Oh, and of course for each item sold eBay gets a percentage and that is a great deal of money. Every day there are more than sixteen million items listed on eBay and eighty percent of items are sold.

Some of the more bizarre items up for offer have been a piece of French toast, partially eaten by Justin Timberlake, advertising space on a man's head, a pair of used false teeth, and Nothing (the seller said he would give the profits to a local university).

One week later I am the proud possessor of a clean and tidy home and €110 in cash. Someone even bought the boot.

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## Note

### *Shipping*

Before an auction, eBay lets sellers choose which shipping options to offer – regular mail, express mail, or courier service. The website lets buyers choose which option to accept.

Since 2012, eBay has also allowed US sellers to opt into its Global Shipping Program. The program works as follows: Each seller decides whether or not to opt into the program. If a seller opts in, and a non-US buyer buys an item from the seller, then the buyer pays an additional fee to Pitney Bowes. The seller ships the item to a Pitney Bowes facility in the US. After receiving the item, Pitney Bowes forwards it to the buyer. The program enhances the selection available to buyers, but can considerably increase buyers' costs on low-value items.

### *Controversy and Criticism*

eBay has its share of controversy, including cases of fraud, its policy of requiring sellers to use PayPal, and concerns over forgeries and intellectual property violations in auction items. There are also issues of how negative feedback after an auction can offset the benefits of using eBay as a trading platform. eBay has also been criticized for not paying its share of UK tax: the BBC reported in October 2012 that eBay pays only J1.2m in tax on sales of over J800m.

◆ 1. Read the text about eBay and choose the correct word:

- 1) eBay is ...  
a. a shop                      b. a website      c. an office
- 2) The writer ... things on eBay.  
a. bought                      b. found              c. sold
- 3) You can buy and sell ... things on eBay.  
a. lots of different      b. unusual              c. expensive
- 4) People ... can use eBay.  
a. in Europe              b. in the USA      c. all over the world

◆ 2. Read the text again and answer the questions:

1) You want to sell something on eBay. What three things do you have to do?

2) You want to buy the following things. Which category would you look in?

a. a ticket for the 2014 Football World Cup final;

b. a motorcycle;

c. an apartment in Chicago;

d. a pretty ornament of a cat.

3) How did people find out about the company before 1996?

4) When did a lot of Internet companies have problems?

5) Has eBay ever had any serious problems?

6) Who is the Chief Executive Officer of eBay?

7) How does eBay make a profit?

8) Did the writer manage to sell everything?

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# UNIT V

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## Reading 1. Online Banking

Electronic banking is the general term given to the possibility of performing banking transactions through electronic communications, mainly the Internet. That's why many people prefer to use the terms online banking or Internet banking.

Online services can be provided by traditional banks, brick-and-mortar banks, which through the use of these new technologies become brick-and-click banks. Banks that don't have physical branches or ATMs are called virtual or Internet banks.

To use these services you need a computer with Internet access. Customers can also log in with a mobile phone or a PDA. The use of wireless networks to access financial institutions is known as wireless banking.

### ***Online Banking Services***

What do you use online banking for?

I pay bills online. I've got a list in my computer with all my payment recipients' names and account details. When I have to pay, I select the amount and the name of the payee. I can also schedule the payments, or fix the date for payments. The bank will transfer the funds, or send the money, to the selected account.

I check account balances. I can access and view my accounts any time, from any PC. Also, I don't need to wait for the post to get written statements from the bank. I can see and then save online statements on the bank's website. It saves time and paper.

I find online banking extremely convenient. I don't need to remember when my credit card expires or the date of a payment. My Internet bank sends short message notifications, warnings or other information services to my email or mobile phone.

I trade stocks online. I contact an online broker to invest my money, and to buy and sell shares.

### ***Online Security***

Most online banks have introduced the concept of two-factor authentication, the simultaneous use of at least two different devices or layers of security to prevent fraud.

When you open an Internet account, you are given a confidential PIN, personal identification number, and a password and username.

For some transactions, customers are required to use a TAN, transaction authorization number, from a list provided by the bank. It can only be used once, and it acts as a second password.

Security tokens are microchip-based devices that generate a number that has to be typed by the user or read like a credit card. They are becoming a common form of two-factor authentication.

One of the best methods of identifying the user of a bank account is biometric authentication, the use of a physical trait, such as a fingerprint, to allow a person to log in. Some laptops have built-in fingerprint readers, which makes online banking easier and more secure.

◆ 1. Find expressions in the text which have the following meanings:

1) Banks that offer physical locations and online services.

2) The type of banking where you can use mobile phone networks to perform transactions.



- 3) Banks that only do business over the Internet.
- 4) Banking services (transactions, payments, etc.) offered on the Internet.
- 5) Banks that don't have Web presence.
- 6) The general term that includes all sorts of banking that make use of ICT technologies.

◆ **2.** Read the text and choose the right alternative for these electronic banking transactions:

- 1) send/trade stocks;
- 2) pay/save bills;
- 3) check/trade account balances;
- 4) save online statements/stocks;
- 5) transfer short message notifications/funds;
- 6) schedule funds/payment;
- 7) pay/send short message notifications.

◆ **3.** Complete this text with words from the box.

• PIN • security token • two-factor • transaction authorization number • biometric

Most financial institutions offering Internet-based products should use (1) ... authentication to reduce the risks of fraud and identity theft.

At present, most authentication methodologies involve three basic factors:

- Something that the user knows a (2) ..., the confidential number given by the institution;
- Something the user has a (3) ..., the keyring-like identification number generator;
- Something that shows who the user is, i.e. (4) ... authentication (e.g. a fingerprint).

Authentication methods that depend on more than one factor are more reliable; for example, the use of a (5) ..., a TAN (something the user knows) to log in, and then a token (something the user has) to transfer funds.

◆ 4. Make a list of the advantages and disadvantages online banking may have.

## Reading 2. Article for Retail Week

### *Retail week*

Latest retail news, jobs, analysis and market data.

Cash, card or mobile phone?

Right now, retailers need to get to grips with the dawn of contactless payment.

In the past week there has been a raft of announcements and news on alternative payment methods. Technologists everywhere are still convinced that they can come up with something better than cash for smaller transactions.

The alternative method that retailers must consider in the immediate future is contactless payment system already, more than 1,000 other sites have signed up to use it, and 3,000 consumers have registered their interest in the system's OnePulse contactless card.

A recent YouGov survey commissioned by an ATM operator highlighted that consumers have fraud concerns about contactless payment. Yet similar survey of online shopping also tend to highlight significant fraud fears, while the number of people and volume of their online transactions continues to grow.

In the longer term, the techies are still betting on the mobile phone becoming the new wallet. PayPal has gone

live with a mobile payment system already. Others are still very much a work in progress; such as the mobile payment system dubbed GPay that it has emerged Google has filed a patent for.

Another, PayForIt, is a mobile payment scheme for transactions under J10 that all five major mobile network operators have signed up to. At present, it is only really being used to pay for mobile phone content. However, the plan is to expand this so consumers can make payments to online retailers when they access their sites via mobile phone.

If this seems far-fetched, just take a look at some of the retailers that have registered for .mobi Internet domains – a type of web site address that highlights the fact that the site has been optimized for viewing on a mobile device.

It is good practice to buy any domain that may pertain to your brand. However, it is interesting to note that innovative retailers such as Amazon and Tesco have already secured domains that will allow them to launch mobile-optimised sites, should they wish.

◆ 1. Read the article and decide whether these statements are true or false.

1) The Barclaycard Business contactless payment system is already being used in London.

2) Contactless payment systems carry a greater fraud risk than online shopping.

3) It seems likely that mobiles will be increasingly used for making payments.

4) Major retailers are worried about the competition from mobile-optimised sites.

◆ 2. Answer the following questions:

1) Do you know of any other systems of contactless payment?

2) Do you think we will ever stop using cash? If so, when?

3) Do you think that contactless payment and other electronic forms of payments are more open to fraud than traditional forms of payment?

4) Do you know of any retailers that have registered for .mobi Internet domains?

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# UNIT VI

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## Reading 1. Jobs in ICT

Most ICT-related jobs have developed to meet the need to analyze, design, develop, manage or support computer software, hardware or networks.

All the people involved in the different stages of development of a computer project, i.e. analysts, programmers, support specialists, etc. are controlled by a project manager.

### *Analyze*

A database analyst is in charge of the research and development of databases; network analysts study the network requirements and recommend the most suitable type of network; systems analysts decide what ICT system will cater for the requirements of a specific institution.

### *Design and Develop*

Web designers, also called webmasters, create and maintain web pages and web applications for websites.

Software engineers, either application programmers or systems programmers, plan, design and test computer programs.

Hardware engineers design and develop ICT devices.

Security specialists specialize in the design of software and hardware to protect information from malware: viruses, spyware, etc.

**Manage**

Network or computer systems administrators install and maintain networks.

Database administrators manage the accuracy and efficiency of databases.

**Support**

Computer operators control computer data processing.

Help desk technicians are in charge of troubleshooting, the solution of technical problems.

Computer training instructors or trainers teach people how to use hardware and software.

Technical writers write the instructions for ICT systems.

◆ 1. Classify these jobs under the heading that best describes their function.

Analyze	Design/Develop	Manage	Support
---------	----------------	--------	---------

software engineer	help desk technician	database administrator
trainer	network analyst	system analyst
hardware engineer	network administrator	

◆ 2. Compose true sentences about jobs from the columns.

1) A technical designer controls all the operations and people in project.

2) A project writer writes documentation of a program or device.

3) A web specialist plans and keeps websites updated.

4) A security manager designs applications against viruses.

## Reading 2. Job Advertisements

◆ 1. Read these advertisements and answer the question: “What jobs are being offered in these advertisements?”

<p>We are seeking a person to operate peripheral computer equipment, and perform report distribution duties and backup procedures on our servers.</p> <p>Major responsibilities:</p> <ul style="list-style-type: none"> <li>• operating printers and unloading reports from the printer and distributing them through the internal mail system;</li> <li>• performing backups on various operating systems;</li> <li>• analysing and troubleshooting problems in the Data Centre reported by help Desks or IT support associates.</li> </ul>	<p>The successful candidate will be responsible for maintaining logical and physical database models as well as managing the database.</p> <p>Job requirements:</p> <ul style="list-style-type: none"> <li>• bachelor’s degree in Computer Science, a related field or equivalent experience;</li> <li>• analytical skills and a proficiency in developing structured logic.</li> </ul>
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◆ 2. Complete the text with the words from the box.

- |   |
|---|
| <ul style="list-style-type: none"> <li>• desktop publishers • online teachers</li> <li>• teleworking/telecommuting • computer animator</li> <li>• teleworkers • telemedicine</li> </ul> |
|---|

The use of ICT caused the development of new ways of working. People no longer need to be stuck in an office.

Laptops, the Internet and wireless technologies allow (1) ... . What's more, there are more and more people who have decided to become (2) ... and so have no need to travel to work at all.

The Internet has also enabled doctors to practice (3) ... and educators to work as (4) ... . ICT technologies have introduced changes in the artistic world, too. Cartoons are now made by (5) ... and (6) ... produce materials ready for publication.



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# UNIT VII

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## Reading 1. Cloud Computing

What does it mean “Cloud computing”?

Cloud computing provides many businesses with affordable and customizable services. Yet many avoid this technological resource because they don’t understand it. The newspaper column about technology gives the explanation of the concept.

Cloud computing is a lot like utility computing. However, cloud computing focuses on using the Internet for software and other resources.

Cloud computing offers more elasticity and scalability than normal computing. Businesses have access to many resources from both the private and public clouds. Computers can easily switch to a new OS with PaaS (platform as a service). They can also switch to a new server with IaaS (infrastructure as a service).

Businesses benefit from the pay as you go pricing of cloud computing. And with SaaS (software as a service), the deployment of new software is almost automatic. It eliminates the need to buy software and install it on every single computer. Furthermore, businesses can monitor their usage and cancel services anytime.

Installing a CDN (content delivery network) is a local form of cloud computing that will increase bandwidth. A CDN designates computers on a network for storage. Instead of all computers clogging one server to retrieve data, each user accesses data on nearby CDN storage computer.

With cloud computing, businesses get inexpensive solutions to their individual needs.

◆ **1.** Read the newspaper column about cloud computing and choose the correct answers:

- 1) What is the advice column about?
  - a. how to set up a CDN?
  - b. ways to deploy and cancel SaaS?
  - c. the benefits of cloud computing?
  - d. differences between cloud and utility computing?
- 2) What is the benefit of SaaS?
  - a. It makes a CDN work faster.
  - b. It eliminates elasticity and scalability.
  - c. It increases a server's available bandwidth.
  - d. It reduces the time and money lost installing software.
- 3) What can you infer about the column?
  - a. Its author uses cloud computing.
  - b. It is only available online.
  - c. The last entry was on utility computing.
  - d. It helps people understand computer terms.

◆ **2.** Match the words (1–7) with the definitions (a–g):

- |                      |  |
|----------------------|--|
| 1) public cloud      | a. Internet services available for a fee               |
| 2) cloud computing   | b. Internet services available to everyone             |
| 3) utility computing | c. receiving server functions over the Internet        |
| 4) scalability       | d. receiving operating systems over the Internet       |
| 5) PaaS              | e. use of the Internet for software and other services |
| 6) private cloud     | f. potential for a system to change size               |
| 7) IaaS              | g. computing as a metered service                      |

◆ 3. Complete the sentences with words from the box.

• deployment • SaaS • pay as you go • elasticity • CDN

- 1) Thanks to ... pricing, we're only billed when we use it.
- 2) Set up a ... to increase the available bandwidth.
- 3) Cloud computing increases the ... of our computer system.
- 4) Use ... to avoid installing new programs on each computer.
- 5) Cloud computing makes ... of new software much easier.

## Reading 2. Who is in the Cloud?

◆ 1. Read the newspaper article about cloud computing and decide whether these sentences are true or false.

<p>The “cloud” and cloud computing are among the buzz words of the year. The big players are moving into this area in a big way. Google will already run your email and host your documents, and its App Engine lets users run custom applications. Amazon has a service that allows users to set</p>	<p>44-year-old chief executive and co-founder is convinced that cloud computing is the way ahead. “This is the future”, he says “If it isn’t I don’t know what is. We’re in it. You’re going to see this model dominate our industry”. Benioff sees the service cloud as the alternative to</p>	<p>about two and a half hours. Besides questions about reliability, some doubters also voice worries about privacy and security. But supporters of the cloud say that organizations like Salesforce and Google do a much better job of uptime and transparency than most IT depart-</p>
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up virtual servers on the Internet, and Microsoft is joining the party with Windows Azure.

At the same time, the concept of cloud computing is far from new, and one company that has been in the business since 1999 (an age in internet terms) is salesforce.com. The business lets customers manage their sales data, leads and other information on the internet using salesforce.com's online applications, and with over \$1bn in annual revenue, it is clearly a model that works.

Marc Benioff, the company's

call centres and telephone helplines. He believes that when customers have a problem with a product or service they no longer call a helpline, they go to Google. Companies like Orange are already using the service cloud, where they can set up their own web portal with links to customer services and other applications.

But are there any dangers to this the brave new world? When Gmail was hit by an outage in February, Twitter was alive with cries about the risks of moving mission-critical data and applications outside your own IT department's control, even though the downtime lasted only

ments. "All complex systems have planned and unplanned downtime", says Benioff, who claims 99,9% uptime last year. "The reality is we are able to provide higher levels of reliability and availability than most companies could provide on their own".

His 55,000 customers and 1,5 million subscribers, will be hoping that he is right.

- 
- 1) Salesforce has been operating cloud services longer than the big players.
  - 2) Salesforce has had to change its business model because of falling profits.
  - 3) Benioff believes cloud computing will replace call centres and helplines.
  - 4) Cloud computing suffers from more unplanned downtime than average in-house IT departments.

◆ **2.** Discuss with your partner:

- 1) What applications do you regularly use that are provided in a “cloud”?
- 2) Do you think people will be comfortable with software being provided remotely in the future?
- 3) What are your reasons for your answer?
- 4) How many clouds will there be? Do you think one big service provider could provide a single cloud for everyone?

**N o t e**

*Salesforce.com Inc.* is a global cloud computing company headquartered in San Francisco, California. Though best known for its customer relationship management (CRM) product, Salesforce has also expanded into the «social enterprise arena» through acquisitions. It is currently ranked the most innovative company in America by *Forbes* magazine, as well as number 19 in *Fortune* magazine’s 100 Best Companies to Work For in 2013. It is listed on the New York Stock Exchange and is a constituent of the S&P 500 index.

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## UNIT VIII

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### Reading 1. Electronic Publishing

#### *Word Wise Publishing*

We are pleased to announce that many of our publications are now available for purchase as e-books? What are the benefits of reading e-books? They are convenient and instantly available! We upload new books daily. Read them online on a web browser, or download them and read them offline. E-books are available:

On our hand held ergonomic e-Reader.

Read your e-book anytime, anywhere!

Zoom and reflow features display text at any size needed.

The active matrix display and sub-pixel rendering provide crisp images in any light.

Black and white photographs and illustrations appear as bitmapped graphics for best quality.

On web browsers:

Available in many formats — no need to install new software.

Check our system requirements and find a list of supported PDF readers in the information section of the website.

◆ 1. Read the announcement on a publishing company's webpage and choose the correct answers.

- 1) What is the announcement mostly about?
  - a. how to download an e-book;
  - b. different systems that support e-books;

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c. the qualities and prices of e-Readers;  
d. the availability and quality of the company's e-books.

2) Which of the following does the e-Reader not feature?

- a. reflow;
- b. PDF readers;
- c. sub-pixel font rendering;
- d. bitmapped graphics.

3) What can you infer about Word Wise Publishing's e-books?

- a. some feature color illustrations;
- b. the number of available books is increasing;
- c. they are less expensive than paperback books;
- d. viewing their pictures requires extra software.

◆ 2. Match the words (1–7) with their definitions (a–g):

- |                          |   |
|--------------------------|---|
| 1) upload                | a. the software or hardware that is needed to run a program   |
| 2) ergonomic             | b. a type of screen that can display a very clear image       |
| 3) publications          | c. designed to prevent strain or injury                       |
| 4) PDF readers           | d. books or magazines produced by a publishing company        |
| 5) offline               | e. a program that opens text documents                        |
| 6) system requirements   | f. to make data available on the Internet                     |
| 7) active matrix display | g. being available for use when not connected to the Internet |

◆ **3.** Find the words in the text with following meanings:

1) Many shades of gray —

2) Fit many different screen sizes —

3) A process that improves clarity —

4) Transfer from the Internet to your computer —

5) Made up of many little points of color —

## Reading 2. E-publishing Versus Paper Publishing

◆ **1.** Read the article about news and answer the questions below.

Managing News in the Digital Age		
<p>I am in the head office of a leading Spanish newspaper, standing in the cavernous News Hall, a vast circular room where the silence is only broken by the quiet hum of the air conditioning. All around, monitors flicker on individual desks, and high above</p>	<p>laptops, smartphones and digital cameras, although reporters in war zones have sat phones as well. Like a one-man-band, each reporter can send digital material to a site that feeds into the production system. The 600 editorial staff</p>	<p>In terms of information and data, the news operation manages hundreds of terabytes. The organization has two data centres for disaster recovery reasons, each with a few hundred servers. The website gets about 240 million page impressions a</p>



<p>isa giant screen that continuously streams news feeds and headlines from around the world. My host, the editor Fernando Sanchez, takes me through the process of gathering news in the digital age. The newspaper's reporters are spread across the globe, some in diplomatic capitals, some in centres of commerce and some in dangerous trouble spots. More often than not they work either individually or in very small teams, relying on a simple combination of</p>	<p>receive this constant stream of news content along with reports from the Press Association, Reuters and other outside agencies. The editorial team, all Mac and Adobe users, then create the headlines and stories and get them ready for the print version on the Internet. The same news goes on both the newspaper and the website. The print version is sometimes scaled down and shortened for the daily publication; fuller pieces appear on the website, a 24/7 operation where the content is constantly changing</p>	<p>month, and there are 30 million unique users split between Spain and Latin America. As for the future, Mr. Sanchez is confident that the paper will continue to prosper. "The world is changing so fast", he explains, "and people are generating and receiving news in so many ways now – print, email, web, blogs, Twitter, it just doesn't stop. If a news business like ours is going to survive, we have to adapt quickly and embrace new technology. And believe me, that's just what we intend to do".</p>
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1) How has technology changed the size of teams of reporters?

2) Apart from its own reporters, what sources does the newspaper use?

3) How does the print version of the paper differ from the online version?

4) To what extent is Mr. Sanchez worried about the effects of new technology on the news industry?

◆ **2.** In small groups or in pairs discuss the following questions:

1) Are printed, daily newspapers going to disappear? What are your reasons?

2) What will the media landscape look like in five or ten year time in your country?

3) Should music or other digital content be free?

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## UNIT IX

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### Reading. The Evolving WEB 1

#### *Broadband Internet*

High-speed broadband access to the Internet, making it easier to download text, pictures and video, etc. has now become well-established.

Higher bandwidth — connection speed — allows better use of some applications such as webcams, for two-way video communication, and video-conferencing, where people in two or more locations can see and talk to each other.

Internet TV is also emerging, with users able to watch television as it is streamed over the Internet, and with video-on-demand (VOD) services such as the BBC's iPlayer to watch programmes later.

Internet access is increasingly available on wireless LAN (local area network) systems, also known as Wi-Fi. To access the Internet in this way, you have to be in a particular hotspot — a place such as a café, airport terminal, etc. equipped with the network.

#### *Mobile Internet*

This relates to accessing the Internet via mobile devices such as mobile phones and personal digital assistants (PDAs), also referred to as handhelds. In this area, a new category of computer has emerged: the netbook, a small, portable laptop computer with no moving parts, specifically designed to browse or surf the Internet. The standard mobile communications technology for doing this is 3G.

Mobile devices increasingly come loaded – equipped – with different applications or apps – programs for different uses, for example email, a music player such as Apple’s iPod, etc. Another of these applications is SatNav – satellite navigation using GPS (Global Positioning System) – with mapping to see where you are and to navigate – plan and follow routes.

### ***Moore’s Law***

As ever, Moore’s law is playing its part in bringing down the price of different devices. This is the principle that the computing power of a particular size of computer chip – the basic component of computers – will roughly double every 18 months. This means that the cost of a particular unit of computing power will continue to halve every 18 months for the foreseeable future. The law is named after Gordon Moore, co-founder of the chip company Intel, who made the prediction in 1965.

◆ 1. Use the words from the box to complete the sentences.

• bandwidth • webcams • Internet • download  
• wireless • video-conferencing • video-on-demand

1) Akimbo offers individual TV shows as well as ... TV’channels’ like the Anime Network.

2) American Airlines replaced its network, including all its computers, and put in higher ... to carry data, pictures and graphics.

3) Eleutian Technology is a company with 120 employees that use Wyoming teachers to teach South Koreans how to speak English via ... .

4) Many day-care centers offer ... . Most of the cameras don't offer streaming video, but the quality is generally good enough to pick out individual children.

5) Microsoft has enabled the Xbox to ... movies and television shows.

6) Streaming video differs from ... in that it's not downloaded to a computer. Rather, it streams, playing only once on a computer, while downloads are generally accessible more than once.

7) The New York Giants set up a ... broadband network for fans who want to access the Web on their laptops or mobile devices during the game.

◆ **2.** Read this advertisement and answer the questions using expressions from the text.

We are proud to introduce the Optimum 3000. It's not just a mobile phone — it's in a class of its own: it's a communications device, a music player and an Internet browser. The Optimum 3000 has the latest 3G mobile technology and the best wireless technology. Its many other features include GPS and games that you can buy and download from the Optimum site.

1) Which technology does it use to make calls and access the Internet?

2) Which technology does it use in hotspots?

3) Where can you buy new applications for it?

4) What do you use to avoid getting lost?

5) What do you use to find and access different websites?

◆ **3.** Use Moore's Law to do the following calculation. In 1979, the cost for a particular size of computer memory

chip was US \$12,500. What was the cost for the same unit in 2009? Choose from the options (a–c):

- a. \$1000    b. \$10    c. 10 cents

◆ 4. In small groups discuss the following questions:

1) Do you think mobile devices are suitable for accessing the Internet?

2) What sort of devices would you like to access — for example, football-action video replays, internet shopping, weather forecast?

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## UNIT X

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### Reading. Intellectual Property

#### *Downloading*

Joe Reggiano is a music industry executive:

We don't sell as many compact disks these days. Internet users can download music from online music stores such as iTunes for very reasonable amounts. We license the stores to do this. We even organize downloads of concerts just after they have happened. So the whole business model in our industry is changing. This is the new way to generate revenue — make money — with our content, in other words our music, pay royalties to its creators — the performers — and make a profit and stay in business.

Of course, illegal downloading and file sharing, when people make copies for their friends on peer-to-peer (P2P) sites, is still going on. But we think that legal downloading is a better alternative for consumers.

#### *Copyright Infringement*

Julia Kaprisky is a film industry executive:

We have problems with films appearing on the Internet even before their release — before they come out in cinemas. And when they do come out, there are people who pirate our films by using cameras in cinemas. This piracy is infringing our copyright. Content providers like film companies face a big challenge through copyright theft such as this. Our assets — our films — are our intellectual property. The companies can only be profitable if these assets are copyrighted and protected.

Everything on the Internet is in digitized form – the language of computers and the Internet. People can make perfect copies of music or films without any loss of quality. We have technical means of encryption so that records and films cannot be copied. We also use a system of electronic or digital watermarks – technical means to identify the source of all material. But of course, there will always be people who find ways of breaking this encryption; our defences will have to become more and more technically advanced.

### ***Digital Rights Managements***

Julia Kaprisky continues:

There is a lot of discussion about digital rights management (DRM). Some people say that films and music should not be copy-protected, but we argue that films need to make money and be profitable if we are going to be able to pay film makers, actors, etc. and to invest in new films.

We want a system of digital rights management to make sure that people pay for the films that they watch. We want total copyright protection for all our products whereby we receive payment for all use of our property. We want to fight any idea that a record or film can be “free”.

- ◆ 1. Complete the table with the words from the text.

<b>Verb</b>	<b>Noun</b>
copyright	
	download
encrypt	
	infringement
pirate	
protect	



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◆ **2.** Match the nouns above with these definitions. This is when:

- 1) legal means are used to prevent a film or recording from being copied;
- 2) technical means are used to prevent a film or recording from being copied;
- 3) a rule or law broken;
- 4) a film or recording is obtained from website;
- 5) a film or recording is copied illegally.

◆ **3.** Complete the extracts with these expressions from the text.

- copyrighted • downloading • file sharing
- peer-to-peer • revenue • digital watermarks
- encrypting • intellectual property • pirates

1) Radiohead invited fans to digitally download their seventh album for whatever price they chose from its website, radiohead.com. This initiative contrasted sharply with what happened last week in US District courtroom in Duluth, Minn. There, the record industry won a \$220,000 judgement against a local woman it sued for ... 24 ... songs and making them available for ... with others.

2) So far this school year, 1,287 Ohio University students have been caught breaking copyright and ... laws on the university's computer network. The Recording Industry of America has targeted songs swapped over ... sites where students make their music collections available while they pick from collections of others.

3) The Motion Picture Association of America said that American film and record industries lost an estimated \$2,3 billion in ... to copyright ... in China last year,

with only one out of ten DVDs sold in China a legal copy.

4) The record industry has spent a lot of time and money coming up with ways to plug “leaks”, such as ... advance CDs with ..., so sources of leaks before the official release date can be traced.

◆ 4. In pairs discuss these questions. Give reasons for your answers.

Do you think it's acceptable to download music from file-sharing sites on the Internet? Why? / Why not?

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# UNIT XI

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## Reading 1. The Evolving WEB 2

### *Web 2.0*

The Internet is evolving. Many Internet companies went out of business when the dotcom bubble burst in 2000-1.

What has emerged is Web 2.0. Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as a platform, and an attempt to understand the rules for success on that new platform. It emphasizes:

- communication;
- information sharing;
- interoperability — the ability of different computers and computer systems to work together;
- collaboration — users working together, for example on wikis — websites that anyone can edit — contribute to and change; the most famous wiki is online encyclopedia Wikipedia.

### **N o t e**

The history of wikis is generally dated from 1994, when Ward Cunningham gave the name “WikiWikiWeb” to the knowledge base, which ran on his company’s website at c2.com, and the wiki software that powered it. c2.com thus became the first true wiki, or a website with pages and links that can be easily edited via the browser, with a reliable version history for each page. He chose “WikiWikiWeb” as the name based on his memories of the “Wiki Wiki Shuttle” at Honolulu International Airport, and because “wiki” is the Hawaiian word for “quick”.

The website Wikipedia, a free content encyclopedia, was launched in January 2001, and quickly became the most popular wiki, which it remains to this day. Its meteoric rise in popularity (it entered the top ten most popular sites in 2007) played a large part in introducing wikis to the general public. There now exist at least hundreds of thousands of wiki websites, and they have become increasingly prevalent in corporations and other organizations.

### ***Keeping in Touch***

Instant messaging allows internet users to send short messages to each other that are received immediately.

Social networking sites allow users to post — make available — details and pictures about themselves in their profiles, say who their friends are, etc.

Some are external social networking sites open to everyone. There are also internal social networking sites open only to particular groups, for example medical workers in a particular speciality, who exchange information and advice with each other in a specialized forum. Here, users may be vetted — checked — to see if they are properly qualified.

Video-sharing sites such as YouTube have created another online community — internet users seen as a group. Users upload videos they have made to the site for all to view.

Other online communities make up the blogosphere and include:

- blogs — online diaries written by bloggers, with readers able to react and comment;
- chat rooms — users conversing with each other in written form to socialize;
- forums where people discuss a particular subject.

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### ***Website Attractiveness***

Websites are judged by their attractiveness — how nice they are to look at — and their user-friendliness — how easy they are to use. By their nature, some applications are more interactive than others, requiring more activity on the part of the user.

Many websites are free to use and they generate revenue — make money — with advertising. Advertisers, like site owners, want to know how many hits they are getting — how often the site is visited — or in other words, the amount of traffic they have, as well as the number of unique users — different visitors to the site. There is also the number of page views — the total number of times that people look at the site's pages. Another factor is whether a site is sticky — whether users stay on the site for some time. The related noun is stickiness.

There are specialized internet ratings agencies that measure user numbers, stickiness, etc. One task of website management companies is to ensure that when people enter particular words in a search engine like Google, a site is near the top of the rankings — the list of sites that appear first.

Website developers are always looking for the next killer app — the next very popular and profitable application.

◆ **1.** Complete the sentences, using appropriate forms of expressions from the box.

- |   |
|---|
| <ul style="list-style-type: none"><li>• wiki • collaboration • external social networking sites<ul style="list-style-type: none"><li>• posted profile • messaging • networking sites</li><li>• communication • internal social networking site</li><li>• online community • vetted • video-sharing sites<ul style="list-style-type: none"><li>• uploaded • interoperability</li></ul></li></ul></li></ul> |
|---|

1) I'm an IT manager and when we buy a new internet application, I want to be sure that it will work with the applications that we already have. What I want is ... .

2) As a recruiter for IBM, I check different ... to see if anyone applying for a job with us has ... his or her ... there. You can see them doing stupid things sometimes!

3) I follow politics closely, and it's good to see politicians in embarrassing situations, so I use ... quite a lot. Some of the videos that are ... are very funny.

4) I'm a doctor, I'm treating someone with a rare tropical disease, so I joined an ... to find out more about it from colleagues. It's good to feel part of an ... but at the same time to know that the other users are properly ... .

5) I run a website that anyone can access and change — it's a ... and it's great for ... with other people.

6) I'm a big fan of Web 2.0 Instant ... and social ... are great for ... — people can keep in touch with each other so easily.

◆ 2. Complete the table with words from the text.

Adjective	Noun
attractive	
	interactivity
user-friendly	
sticky	

## Reading 2. Convergence in Telecom and IT

◆ 1. Read the magazine article about trends in Telecoms and IT. Match the industry leader to their area of expertise:

- |                 |             |
|-----------------|-------------|
| 1) Peter Wilson | a. software |
| 2) Jenny Lane   | b. telecoms |
| 3) Sanjay Ravi  | c. hardware |

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Industry leaders share their thoughts about the changing world of Telecoms and IT.

***Peter Wilson***

The world is now plugged in, and countries are connected up using a mixture of terrestrial networks, undersea cables, satellite and micro-wave communications, Wi-Max and Wi-Fi, GSM and 3G. The move from packet-based services to the internet protocol means everyone expects to communicate voice, data and video from anywhere, globally. The availability of wide area services such as MPLS and Ethernet have spread all over the world, allowing companies to manage and communicate with their operations wherever they may be.

A reason for this has been the fall in bandwidth costs, and broadband is getting cheaper and cheaper. Services can now deliver tens or even hundreds of megabits of bandwidth into individual homes for such less money than a 64kb line that a whole factory might have used to run its operation only a few years ago.

***Jenny Lane***

In 1965 Gordon Moore stated that the number of transistors on a chip would double every two years. And that has more or less remained true since then. As we write, a single chip can hold about 1 billion transistors each making 3 billion binary calculations per second.

There has been a huge increase in the volume of data and data storage capacity required for this; secondly there has been a significant decrease in the size and power consumption of hardware and finally manufacturing costs are falling significantly. The result is that there are more and more powerful computers in our lives, and even handheld devices can store gigabytes of data holding thousands of MP3 music files or hundreds of films.

***Sanjay Ravi***

The Internet is changing the way we access, buy and use applications. We go online and download the software we want onto our computer, like any other digital product. Increasingly we don't even have the software on our hardware, but visit an internet site and use that application as a service. The use of this Software as a Service (SaaS) model means that we may not need such powerful computers in the future.

We have seen the impact of off-shoring and the rise of India as the world centre of software development and application management. We are also seeing some of the smartest applications and services coming out of people's bedrooms; more and more popular, creating a real threat to big corporations.

◆ 2. Read the text again and decide whether these statements are true or false.

According to Peter Wilson:

- 1) most countries are connected up with undersea cables;
- 2) many countries have unreliable mobile phone networks;
- 3) recently bandwidth costs have risen dramatically.

According to Jenny Lane:

- 1) Moore's predictions have been fairly accurate;
- 2) a typical chip can now hold 3 billion transistors;
- 3) both data storage capacity and power consumption have gone up.

According to Sanjay Ravi:

- 1) fewer people are going to computer stores to buy software;
- 2) SaaS will require ordinary users to have more powerful computers;
- 3) software development needs the support of a big corporation succeed.



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◆ **3.** Match the words on the left the words on the right to make pairs of words that often go together. The word on the left must go with all three words in the set:

- |             |   |
|-------------|---|
| 1) access   | a. chip, wafer, valley                      |
| 2) download | b. an application, a network,<br>an account |
| 3) go       | c. online, offline, on holiday              |
| 4) mobile   | d. phone, telephony, broadband              |
| 5) silicon  | e. a file, an image, a demoverison          |

◆ **4.** Complete the sentences using pairs of words from exercise 2. Make any changes that are necessary.

- 1) Everyone has ..., so payphones are becoming redundant.
- 2) Many internet entrepreneurs from ... in California are now turning their attention to alternative forms of energy.
- 3) Before you buy the program, you can ... just to see how you like it.
- 4) With a mobile broadband connection, you can ... any time and anywhere.
- 5) Internet banking allows users to ... and check their balances.
- 6) How many transistors can you fit onto a ...

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### Reading 3.

## News Feeds about Telecoms and IT

◆ 1. Read the news feeds about Telecoms and IT and answer the questions.

#### ***Nokia Laptops?***

In another example of convergence, Nokia is considering a move onto the PC market. Unlike netbook and notebook specialists Acer, who unveiled a new smart phone at the Mobile World Congress, Nokia is going in the other direction.

#### ***Lower and Lower***

India has announced plans to produce an educational laptop, the “Sakshat”, which will allow millions of school-children to have access to the Internet. The machine will sell for just \$20, but will come with wireless connectivity and 2GB of RAM.

#### ***Clouds Ahead***

In a new move into the world of cloud computing, Google has announced plans for the Google drive or Gdrive. Instead of storing

#### ***One Billion Downloads in Nine Months***

Apple announced that 13-year-old Conor Mulcahey downloaded the billionth app from the iTunes store. Apps use the technology of the iPhone like the Multi-Touch interface, the accelerometer, GPS, real-time 3D graphics, and 3D positional audio. Most other operators and manufacturers are trying to enter this popular market.

#### ***Adobe Flash on TV***

Adobe has secured a deal to put Flash software onto the chips most commonly used inside TV sets and set top boxes. The move should facilitate the creation of web-based content on TV screens. The move further develops the increasing convergence of TV and PC/internet in the home with users likely to

information on PCs or laptops, users will be able to store data and applications on Google servers and access them over the Internet.

***Is Skype Now the Biggest Telecoms Company in the World?***

According to TeleGeography, Skype handled 33 billion cross border minutes in 2008, up 41%, against an industry increase of just 12%. Skype new accounts for 8% of the international voice. Other VoIP providers make up a further 23% of the international market.

use their TVs for internet searches and increasing consumption of online media content.

***Alcatel-Lucent Posts Eighth Loss in a Row***

Alcatel-Lucent, the world's third largest telecom equipment manufacturer, reported its eighth straight quarterly loss. The €3.89bn loss was said to reflect the drastic deterioration of the global outlook and the change in strategy.

◆ 2. According to the news feeds:

- 1) Where are Nokia and Acer already competing?
- 2) How much will the Sakshat cost?
- 3) How will users access the Gdrive?
- 4) What is the total VoIP market share for international voice?
- 5) How long has it taken Apple to generate one billion downloads?
- 6) For how many months in a row has Alcatel-Lucent made a loss?

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## UNIT XII

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### Reading 1. History of Mobile Phones

A mobile phone (also called mobile, cellular phone, cell phone, or hand phone) is an electronic device used for full duplex two-way radio telecommunications over a cellular network of base stations known as cell sites. Mobile phones are sure to differ from cordless telephones, which are only offer telephone service within a limited range through a single base station attached to a fixed landline, for example, within a home or an office.

A mobile phone allows its users to make and receive telephone calls to and from the public telephone network which includes other mobiles and fixed line phones across the world. It does this by connecting to a cellular network owned by a mobile network operator. A key feature of the cellular network is that it enables seamless telephone calls even when the user is moving around wide areas via a process known as handoff or handover.

In addition to being a telephone, modern mobile phones also support many additional services and accessories, such as SMS (or text) messages, email, Internet access, gaming, Bluetooth, infrared, camera, MMS messaging, MP3 player, radio, and GPS. Low-end mobile phones are often referred to as feature phones, high-end mobile phones that offer more advanced computing ability being referred to as smartphones.

Radiophones have a long and varied history. It goes back to Reginald Fessenden's invention and shore-to-ship demonstration of radio telephony through the Second

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World War with military use of radio telephony links and civil services in the 1950s.

In 1960 the world's first party automatic car phone system, Mobile System A (MTA) was launched in Sweden. MTA phones were composed of vacuum tubes and relays, and had a weight of 40 kg. In 1962 a more modern version called Mobile System B (MTB) was launched. It was a push-button telephone, which used transistors in order to enhance the telephone's calling capacity and improve its operational reliability. In 1971 the MTD version was launched, opening for several different brands of equipment and gaining commercial success.

Martin Cooper, a Motorola researcher is considered to be the inventor of the first practical mobile phone for hand-held use in non-vehicle setting. Using a modern, though somewhat heavy portable handset, Cooper made the first call on a hand-held mobile phone in April, 1973.

The first commercially automated cellular network (the 1G – first generation) was launched in Japan in 1979. Within five years the network had been expanded to cover the whole population of Japan and became the first nation-wide 1G network. This was followed by the simultaneous launch of the Nordic Mobile Telephone (NMT) system in Denmark, Finland, Norway and Sweden. NMT appeared to be the first mobile phone network featuring international roaming. The first network technology on digital 2G (second generation) cellular technology appeared in Finland on the GSM standard. One of the newest 3G technologies to be implemented is mobile telephony communications protocol in the High-Speed Packet Access (HSPA) family. It allows networks based on Universal Mobile Telecommunication System (UMTS) to have higher data transfer speeds and capacity.

◆ 1. Read the text and answer the following questions:

- 1) What is a mobile phone?
- 2) What differs mobile phones from cordless telephones?
- 3) What is the role of the public telephone network in making calls?
- 4) What is the main characteristic of the cellular network?
- 5) What other services, except telephoning, do mobile phones include?
- 6) Who demonstrated the first hand-held phone?
- 7) Who invented the first practical mobile phone?
- 8) What history do radiophones have?
- 9) Where was the first automated cellular network launched?
- 10) How were digital cellular technologies developed and perfected?

◆ 2. Speak about the steps of mobile phones development.

## **Reading 2. Mobile Phone Features**

All mobile phones are known to have a number of features in common, but manufacturers also try to differentiate their own products by implementing additional functions to make them more attractive to consumers.

The common components found on all phones are:

- a rechargeable battery providing the power source for the phone functions;
- an input mechanism and display to allow the user to interact with the phone. The most common input mecha-

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nism is a keypad, touch screen being also found in some high-end smart phones;

- basic mobile phones services to allow users to make calls and send text messages;
- all GSM phones use a SIM card to allow an account to be swapped among devices, some CDMA devices also having a similar card called a R-UIM;
- individual GSM, iDEN, and some satellite phone devices are uniquely identified by an International Mobile Equipment Identity (IMEI) number.

Low-end mobile phones are often referred to as feature phones and offer basic telephony, as well as functions such as playing music and taking photos. Handsets with more advanced computing ability through the use of the native software applications became known as a smartphones. The first smartphone was the Nokia 9000 Communicator in 1996, which added PDA functionality to the basic mobile phone at the time. Miniaturization and increased processing power of microchips having enabled ever more features to be added to phones, the concept of the smartphone has evolved, and what was a smartphone five years ago, is a standard phone today.

Several phone series have introduced, such as the RIM BlackBerry focusing on enterprise/corporate customer email needs; the Sony Ericsson Walkman series of music phones and Cybershot series of cameraphone; ect.

Other features that may be found on mobile phones include GSM navigation, music (MP3) and video (MP4) playback, RDS radio receiver, alarms, memo recording, personal digital assistant functions, ability to watch streaming video, video download, video calling, built-in cameras and camcorders (video recording), with autofocus and flash, ringtones, games, instant messaging, Internet email and browsing, and serving as a wireless modem.

The most commonly used data application on mobile phones is sure to be SMS text messaging. The first SMS text message is supposed to be sent from a computer to a mobile phone in 1992 in the UK, while the first person-to-person SMS from phone to phone was sent in Finland in 1993.

Other non-SMS data services used on mobile phones include mobile music, downloadable logos and pictures, gaming, gambling, adult entertainment, and advertising.

It should be noted that GSM mobile phones require a small microchip called a SIM (Subscriber Identity Module) card to function. The SIM card is approximately the size of a small postage stamp and is usually placed underneath the battery in the rear of the unit. The SIM securely stores the service-subscriber key (IMSI) used to identify a subscriber on mobile telephony devices, such as mobile phones and computers. The SIM card allows users to change phones by simply removing the SIM card from one mobile phone and inserting it into another mobile phone or broadband telephony device.

◆ 1. Read the text and answer the following questions.

- 1) How do manufactures of mobile phones try to do their products more attractive?
- 2) What components are common for many mobile phones?
- 3) What is the role of SIM card?
- 4) What does a battery serve for?
- 5) What are feature phones?
- 6) What are smartphones?
- 7) What enabled more features to the mobile phones?
- 8) What services can modern mobile phones offer?
- 9) What are SMS messages and where was the first SMS from phone to phone sent?
- 10) What is the SIM card and what is it used for?

◆ 2. Speak about mobile phone features.



## **Reading 3.**

### **Types of Modern Mobile Phones**

#### ***A smartphone***

It is well-known that a smartphone is a mobile phone that offers most advanced computing ability and connectivity than a contemporary basic feature phone. Smartphones and feature phones may be thought of as handled computers integrated within a mobile telephone. But while being based on a specific platform, a smartphone allows the user to install and run more advanced applications than most feature phones. Smartphones run complete operating system software providing a platform for application developers.

The first smartphone is said to be called Simon. It was designed by IBM and released to the public in 1993. Besides being a mobile phone, it also contained a calendar, address book, world clock, calculator, note pad, email, send and receive fax, and games. It had no physical buttons to dial with. Instead customers used a touch screen to select phone numbers with a finger or create facsimiles and memos with an optional stylus. Text was entered with a unique on-screen “predictive” keyboard. Manufacturers consider Nokia to launch the first screen communicator model, which was the first true smartphone with an open operating system.

#### ***A smartbook***

A smartbook is considered to be a concept of a mobile device that falls between smartphones and netbooks, delivering features usually found in smartphones (always on, all-day battery life, 3G connectivity, GPS) in a slightly larger device with a full keyboard. Smartbooks tend to be designed to work with online applications.

### ***BlackBerry***

BlackBerry is a line of mobile email and smartphone devices developed and designed by Canadian company Research In Motion (RIM) in 1996. BlackBerry functions as a Personal Digital Assistant (PDA) with address book, calendar, and to-do list capabilities. It also functions as portable media player with support for music and video playback and camera picture and video capabilities. BlackBerry is primarily known for its ability to send and receive Internet email wherever mobile network service coverage is present, or through Wi-Fi connectivity. BlackBerry is mainly a messaging phone with the largest array of messaging features in a smartphone today. This includes auto-text, auto-correct, text prediction, support for many languages, keyboard shortcuts, text emoticons, push email, push Facebook and MySpace notifications, push instant messaging with BlackBerry Messenger, and many other useful features.

The first BlackBerry device was introduced in 1999 as a two-way pager. In 2002 the more commonly known smartphone BlackBerry was released, which supports push email, mobile telephone, text messaging, Internet faxing, Web browsing and other information services. It is an example of convergent device.

### ***Twitter***

Twitter is known to be a social and microblogging service, owned and operated by Twitter Inc., that enables its users to send and read other user's message called tweets. Tweets are text-based posts of up to 140 characters displayed on the author's profile page. Tweets are publicly visible by default, however senders can restrict message delivery to their friends list. Users may subscribe to other author tweets, this is known as following, and subscribers are known as followers. As of late 2009, users can follow list of authors instead of following individual authors.

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All users can send and receive tweets via the Twitter website, compatible external applications, or by Short Message Service (SMS) available in certain countries.

Since its creation in 2006 by Jack Dorsey, Twitter has gained notability and popularity worldwide. It is sometimes described as the “SMS of the Internet”. The use of Twitter’s application programming interface (API) for sending and receiving SMS from other applications often dominates the direct use of Twitters.

◆ Read the text and answer the following questions.

- 1) What are smartphones?
- 2) When did the first smartphone appear? What kind of a model was it?
- 3) What did the first smartphone contain?
- 4) What kind of a smartphone is BlackBerry?
- 5) What are BlackBerry’s main functions?
- 6) Can you describe the operational system of BlackBerry?
- 7) What is a BlackBerry PIN and what is it used for?
- 8) What possibilities does Twitter give to its users?
- 9) How can users send and receive their tweets?

## **Reading 4. The iPhone Devices**

### ***The iPod***

The iPod is a portable media player (PMP) designed and marketed by Apple and launched in October 2001. As of June 2010, the product line-up includes the hard drive-based iPod Classic, the touchscreen iPod Touch, the video-capable iPod Nano, and the compact iPod Shuffle. iPod Classic models store media on an internal hard drive, while all other models use flash memory to enable their smaller size. As with many other digital music players, iPods can also serve as external data storage devices.

Apple's iTunes software can be used to transfer music to the devices from computers using certain versions of Apple Macintosh and Microsoft Windows operating systems. For users who chose not to use Apple's software or whose computers cannot run iTunes software, several open source alternatives to iTunes are also available. iTunes and its alternatives may also transfer photos, videos, games, contact information, email settings, web bookmarks, and calendars to iPod models supporting those features.

### ***The iPhone***

The iPhone is a line of Internet and multimedia-enabled smartphones designed and marketed by Apple Inc. The first iPhone was introduced in 2007. An iPhone functions as a camera phone, including text messaging and visual voice-mail, a portable media player, and an Internet client with email, web browsing, and Wi-Fi connectivity. The user interface is built around the device's multi-touch screen, including a virtual keyboard rather than a physical one. Third-party applications, launched in mid-2008, have diverse functionalities, including games, reference, GPS navigation, social networking, and advertising for television shows, films and celebrities.

There have been four generations of iPhone hardware, and they have been accompanied by four major releases of iOS. The iPhone 3G brought 3G cellular network capabilities and A-GPS location. The iPhone 3GS brought a compass, faster processor, and higher resolution camera, including video. The iPhone 4 has two cameras for face time video calling and a higher resolution display. It was released in June 2010.

### ***The iPad***

The iPad is a tablet computer designed and developed by Apple. It is particularly marketed as a platform for audio and visual media such as books, periodicals, movies,

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music and games, as well as web content. Its size and weight, about 700 grams, are between those of most contemporary smartphones and laptop computers. Apple released the iPad in April 2010. The iPad runs the same operating system as the earlier iPod and iPhone. It can run its own applications as well as ones developed for the iPhone. Like the iPhone and iPod Touch, the iPad is controlled by a multitouch display sensitive to up to eleven fingers. The iPad uses Wi-Fi or 3G mobile data connection to browse the Internet, load and stream media, and install software. The device is managed by iTunes on a personal computer via USB cable.

◆ 1. Read the text and answer the following questions:

- 1) What is an iPod?
- 2) What company launched the iPod and when?
- 3) What types of iPods do you know?
- 4) What are iTunes used for?
- 5) When was the first iPhone introduced?
- 6) What are iPhone functions?
- 7) What new did each generation of iPhones acquire?
- 8) What is iPad?
- 9) Who released the iPad and when?
- 10) What common features do iPad have with iPod and iPhone?

◆ 2. Match the words (1–10) with their definitions (a–j):

- |               |   |
|---------------|---|
| 1) cell phone | a. a portable phone with wireless handset communicating via radio waves and having a base station |
| 2) smartphone | b. a portable media player, also serving as external data storage device                          |

- 3) feature phone      c. one of the first smartphones to be mainly controlled through its touchscreen. It functions as a camera phone, text messaging, a portable media player, and an Internet client
- 4) twitter              d. a personal digital assistant with address book and to-do list capabilities
- 5) BlackBerry        e. a wireless email device, a social networking service enabling the users to send and read short messages
- 6) communicator     f. a high-end mobile device with a full OS and a touch-screen instead of physical buttons
- 7) iPod                g. a hand-held personal computer with functions of a mobile phone
- 8) iPad                h. a low-end mobile phone, offering basic telephony, playing music, and taking photos
- 9) iPhone             i. a tablet computer to be used as a platform for audio and visual media (books, newspapers, films, music, etc.)
- 10) cordless phone    j. a long-range portable electronic device used for mobile communication and having many additional services

◆ **3.** Write an essay comparing mobile phones and iPhone devices. Discuss the advantages and disadvantages of each device. Decide which is the best in your opinion.

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## UNIT XIII

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### Reading. Improving Health

#### *Health & Science Digest*

##### *New Advances in Medical Technology*

Health Technology is a rapidly growing field. New advances aim to improve care and reduce costs.

The EHR (Electronic Health Record) is one technology already in place. ERHs let doctors access patient data easily and efficiently. They also enable CDSS (Clinical Decision Support System) functions. These alert doctors to harmful drug interactions. EHRs can also store data from PACS (Picture Archiving and Communications System). Interoperability is a key aspect of EHRs. It lets physicians in different clinics easily share records.

Other technology has also become popular. Many doctors use CPOE (Computerized Provider Order Entry) systems. These reduce handwriting and communication errors. Bar coding is another common practice. Here, doctors use optic scanners to match patients to their medicines. They often use ADMs (Automated Dispensing Machines). These dispense drug dosages, which can reduce dosage errors. Many hospitals use EMM (Electronic Materials Management) systems. These keep track of drugs and other medical supplies.

Some technology is still in development. With the lab-on-a-chip, doctors will not have to send cultures to labs for analysis. Micro robotic tweezers will let doctors operate in very small areas. Implanted microchips will measure and release drug dosage precisely.

◆ **1.** Read the article from Health and Science Digest and decide whether these statements are true or false:

- 1) CPOE systems help to reduce mistakes related to handwriting;
- 2) Doctors use optic scanners to measure and release precise doses;
- 3) The lab-on-a-chip has saved money and lives.

◆ **2.** Match the words (1–7) with the definitions (a–g):

- |                           |   |
|---------------------------|---|
| 1) implanted microchip    | a. a computerized version of a patient's health record                  |
| 2) PACS                   | b. a device that holds cells and fluid that a doctor can analyze easily |
| 3) EHR                    | c. a system in which doctors scan medicines and match them to patients  |
| 4) lab-on-a-chip          | d. very tiny tools that a doctor operate in very small areas            |
| 5) interoperability       | e. a tiny device in a person's body that releases medicine              |
| 6) bar coding             | f. the ability to send electronic health data between systems           |
| 7) micro robotic tweezers | g. a system that stores medical images from different sources           |



◆ **3.** Write a report describing a new health technology.  
Talk about:

- what the new systems or devices are;
- how the systems or devices work;
- how can they help doctors and improve healthcare.

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## UNIT XIV

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### Reading. Automation

#### ***World Industries***

##### *Investor Report*

In today's business world, investors are looking for companies that can compete. That's why World Industries is proud to announce an upgraded automation system that will increase production and efficiency. As you consider investing in our company, see what this new system will do.

World Industries' system uses CAM (Computer Aided Manufacturing) programs. Our integrated system of hardware and software allows for complete computer integrated manufacturing.

The new production line employs embedded systems and integrated circuits, allowing the hardware to work together. These devices are connected through a high-speed Ethernet network. Encoders in each device send mechanical information to the network through device drivers.

We have an open system that allows us to use any type of equipment. Our devices have a high redundancy for simple replacement.

Equipment at World Industries is designed to work fast and hard. All of our machines have the lowest possible latency time and a high fault tolerant. Our software is protected from priority inversions that could lower production. Oscilloscopes monitor all of our hardware to ensure that any problem will be repaired immediately by our trained engineers.

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Our investments in automation have rewarded us with success. An investment in World Industries will do the same for you.

◆ 1. Read the investor report on World Industries and choose the correct answers:

- 1) What is the main idea of the report?
  - a. Why World Industries has slowed production?
  - b. How World Industries has improved its automation?
  - c. Why World Industries should invest in automation?
  - d. Where World Industries is building a new automation system?
- 2) What does not protect the efficiency of an automation system?
  - a. low latency;
  - b. high redundancy;
  - c. high fault tolerant;
  - d. low network speeds.
- 3) What can you infer about a machine with low redundancy?
  - a. it is difficult to replace;
  - b. it is a closed system;
  - c. its oscilloscope is broken;
  - d. its latency time is too low.

◆ 2. Match the words (1–7) with the definitions (a–g):

- |                       |   |
|-----------------------|---|
| 1) Ethernet network   | a. a device that relays mechanical data to a network  |
| 2) fault tolerant     | b. the ability to continue functioning after an error |
| 3) priority inversion | c. this links computers together at high speed        |

- |                   |  |
|-------------------|--|
| 4) encoder        | d. the use of machines to perform tasks without human assistance     |
| 5) automation     | e. a system that can use many different types of machines            |
| 6) open system    | f. the use of programs to control machines that manufacture products |
| 7) computer aided | g. a software problem that can lower production manufacturing        |

◆ **3.** Complete the sentences with words from the box.

<p>• oscilloscope • integrated circuit • latency time • redundancy • embedded system</p>
--

- 1) Check the ... to see if this machine is working correctly.
- 2) An ... is very small but has several devices attached to it.
- 3) If the ... on the machine is too long, it might need a new processor.
- 4) This factory has low ... , so it doesn't replace machines quickly.
- 5) The ... uses the newest software and hardware.

◆ **4.** You are going to invest in a company that uses automation. Write an email to your business partner explaining why it is a good investment.

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**Хагба Ирина Алексеевна**

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