Краснодарский университет МВД России

ЗАЩИТА И ОБРАБОТКА КОМПЬЮТЕРНОЙ ИНФОРМАЦИИ

Учебное пособие
по английскому языку

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Содержатся профессионально-ориентированные материалы по изучению иностранного языка, позволяющие овладеть профессиональной лексикой, относящейся к предметной области информационной безопасности.

Для курсантов и слушателей образовательных организаций МВД России, обучающихся по специальности: «Безопасность информационных технологий в правоохранительной сфере» (3 семестр).

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Предисловие

Предлагаемое учебное пособие предназначено для обучения английскому языку курсантов 2 курса по специальности 10.05.05 – безопасность информационных технологий в правоохранительной сфере и рассчитано на 46 часов практических занятий.

Представленный в пособии материал строится согласно тематическому плану и включает темы:

15 Компьютерная безопасность
16 Компьютерная грамотность
17 История развития сети Интернет
18 Развитие электроники
19 Обработка информации
20 Системы обработки информации
21 Развитие компьютеризации в США

15 Компьютерная безопасность

Topic15 Computer Security

Some new words:
cracker взломщик
virus propagation распространение вируса
fraud мошенничество
cyber stalking кибер-преследования
online abuse нарушения (насилие, злоупотребления) в сетевой среде

Internet crime

The Internet provides a wide variety of opportunities for communication and development, but unfortunately it also has its dark side.

Crackers, or black-hat hackers, are computer criminals who use technology to perform a variety of crimes: virus propagation, fraud, intellectual property theft, etc.

Internet-based crimes include scam, email fraud to obtain money or valuables, and phishing, bank fraud, to get banking information such as passwords of Internet bank accounts or credit details, both crimes use emails or websites that look like those of real organizations.

Due to its anonymity, the Internet also provides the right environment for cyber stalking, online harassment or abuse, mainly in chart rooms or newsgroups.

Piracy, the illegal copying and distribution of copyrighted software, information, music and video files, is widespread.

But by far the most common type of crime involves malware.

Preventive tips

Don’t open email attachments from unknown people; always take note of the file extension.

Run and update antivirus programs, e.g. virus scanners.

Install a firewall, a program designed to prevent spyware from gaining access to the internal network.

Make backup copies of your files regularly. Don’t accept files from high-risk sources.

Use a digital certificate, an electronic way of providing your identity, when you are doing business on the Internet. Avoid giving credit card numbers.

Don’t believe everything you read on the Internet. Have a suspicious attitude toward its contents.

Professional English in Use. ICT.

Exercise 1 **Identify the Internet crimes sentences (1-6) refer to. Then match them with the advice below (a-f).**

1Crackers try to find a way to copy the latest game or computer program.

2A study has revealed that half a million people will automatically open an email they believe to be from their bank and happily send off all their security details.

3This software's danger is hidden behind an attractive appearance. That's why it is often wrapped in attractive package promising photos of celebrities like Jennifer Lopes.

4There is a particular danger in Internet commerce and emails. Many people believe they have been offered a special gift only to find out later they have been deceived.

5"Nimda" spreads by sending infected emails and is also able to infect websites, so when a user visits a compromised website, the browser can infect the computer.

6Every day, millions of children time in Internet chat rooms talking to strangers. But what many of them don't realize is that some of surfers chatting with them may be sexual predators (маньяк).

A People shouldn't buy cracked software or download music illegally from the Internet.

B Be serious of wonderful offers. Don't buy if aren't sure.

C It's dangerous to give personnel information to people you contact in chat rooms.

D Don't open attachments from people you don't know even if the subject looks attractive.

E Scan your email and be careful about which websites you visit.

F Check with your bank before sending information.

Exercise 2. **Fill in the gaps in these security tips with words from the box.**

Digital certificate malware virus scanner spyware firewall antivirus

Malicious software, (1)……., can be avoided by following some basic rules.

Internet users who like cybershopping should get a (2)……., an electronic identity card.

To prevent crackers from breaking into your internal network and obtaining your data, install a (3)…….. . It will protect you from (4) ……. .

If you have been hit by a (5)……., don't panic. Download a clean- up utility and always remember to use an (6) ……. Program for example, a virus (7) ……... .

Exercise 3 **Answer the questions**

1 What do you do to accomplish protection of your computer from viruses?
2 Do you keep your virus protection updated regulaly?
3What should you do to provide your personal data security on the Internet?
3 Does the Internet have its dark side? Give your reasons.
4 Do crackers use technology to commit a variety of internet-based crimes?
5 Do you make backup copies of your files regularly?

Topical Vocabulary

Authorized	санкционированный
Confidentiality	конфиденциальность
Integrity	целостность
Authentication	идентификация
Availability	доступность
Access control	контроль доступа
Nonrepudiation	строгое выполнение обязательств
Storage device	запоминающее устройство, память
Signify	обозначать
Breach	нарушение
Embarrass	приводить в замешательство, затруднение
Multisided	многосторонний
Vulnerable	уязвимый

Read ant translate the text:

The Term «Computer Security»

The term **«computer security»** is used very frequently, but the content of a computer is vulnerable to several risks unless the computer is connected to other computers to form a network. As the use of computer networks, especially the Internet, has become widely spread, the concept of computer security has expanded to signify issues relating to the networked use of computers and their resources.

The major technical areas of computer security are usually rep storage devices resented by the initials CIA: *Confidentiality, Integrity, and Authentication or Availability. Confidentiality* means that information cannot be accessed by unauthorized parties. *Confidentiality* is also known as secrecy or privacy; breaches of confidentiality range from the embarrassing to the disastrous. *Integrity* means that information is protected against unauthorized changes that are not detectable to authorized users; many incidents of hacking compromise the integrity of databases and other resources. *Authentication* means that the users are those persons who they claim to be. *Availability* means that resources are accessible by authorized parties; ‘’denial of service’’ attacks, which are sometimes the topic of national news, are attacks against availability. Other important factors of computer security professionals call the *access control* and *nonrepudiation*. Maintaining *access control* means not only that users can access only those resources and services to which they are entitled, but also that they are not denied resources that they legitimately can expect to access. *Nonrepudiation* implies that a person who sends a message cannot deny that he sent it and, on the contrary, that a person who has received a message cannot deny that he received it. In addition to these technical aspects, the conceptual reach of computer security is broad and multisided. Computer security touches draws from disciplines as ethics and risk analysis, and is concerned with topics such as computer crime; the prevention, detection, and remediation of attacks; and identity and anonymity in cyberspace.

While confidentiality, integrity, and authentication are the most important concerns of a computer security manager, *privacy* is perhaps the most important aspect of computer security for everyday Internet users. Although these people may feel that they have nothing to hide when they are registering with an Internet site or service, privacy on the Internet is about protecting one's personal information, even if the information does not seem sensitive. Nowadays it is very important that individuals are able to maintain control over what information is collected about them, how it is used, who may use it, and what purpose it is used for.

Exercise 4. **Match the following English key words with their Russian equivalents:**

1) privacy	a) целостность
2) security manager	b) база данных
3) integrity	c) конфиденциальность
4) message	d) сеть
5) network	e) защита
6) protection	f) сообщение
7) database	g) сотрудник по вопросам безопасности

Exercise 5. **Look through the text and find English equivalents for the following expressions:**

… контроль доступа …
… компьютерная сеть …
… концепция компьютерной безопасности …
… получить сообщение …
… пользователь интернета …
… персональные данные …

Exercise 6. **Make sentences from these expressions:**

1. The major technical areas, are usually rep storage devices, of computer security.
2. to be, that the users are those, Authentication means persons, who they claim.
3. Availability means that resources are accessible by authorized parties.
4. and nonrepudiation, of computer security professionals, Other important factors, call the access control.
5. The conceptual reach, is broad, of computer security.
6. Privacy is perhaps, aspect of computer, Internet users, the most important, security for everyday.
7. Computer security, such disciplines, analysis, doesn't touch, as ethics and risk.

Exercise 7. **Use your ideas to complete the sentences:**

1. Keep your personnel computer.....regularly.
2. Make backup …... .
3. Complete privacy on the Internet … .
4. Computer security concerns are … .
5. If you buy cracked software ….. .

6. Individuals should be able to maintain control… .
7. Issues relating to safety behaviour on the Internet … .

Exercise 8 (A). **Translate into Russian:**
1He is a self-employed computer security specialist.
2McAfee is the world's most trusted names in computer security.
3This computer program is able to discover and destroy plenty of computer viruses.
4Educational establishments have learned from their own experiences with computer viruses, which can destroy a months work in an instant.
5This has nothing to do with computer viruses.
6Would you like to have free Internet?
7Save the backup copy of the database.

Exercise 8 (B). **Translate from Russian into English**:
1. Мы создали программу для обнаружения и разрушения всех видов компьютерных вирусов.
2. Регулярно обновляйте антивирусные программы на своем ПК.
3. Не посещайте подозрительные сайты в Интернете.
4. Взломщики пытались найти способ скачать последнюю версию компьютерной программы.
5. Интернет дает большие возможности для общения, но он имеет и темные стороны.
6. Благодаря высокому ровню анонимности Интернет создает благоприятные условия для кибер-преследования.
7. Компьютерные пираты незаконно скачивают и распространяют программное обеспечение.
8. Создайте резервную копию файлов нового каталога.

Exercise 9. **Complete the definitions with these words:**

Confidentiality; integrity; authentication; availability; access control; *nonrepudiation.*
1. … means not only that users can access only those resources and services to which they are entitled, but also that they are not denied resources that they legitimately can expect to access.
2 means that resources are accessible by authorized parties.
3. … means that information cannot be accessed by unauthorized parties.
4. … implies that a person who sends a message cannot deny that he sent it and, on the contrary, that a person who has received a message cannot deny that he received it.
5. … means that information is protected against unauthorized changes that are not detectable to authorized users.
6. … means that the users are those persons who they claim to be.

Exercise 10. **Answer the following questions:**

1) What is the term of computer security?
2) Which are the major technical areas of computer security?
3) What do confidentiality, integrity and authentication mean in terms of PC security?
4) What is nonrepudiation?
5) What disciplines does the term concern?
6) What is the most important aspect of computer security nowadays?
7) What is protected while surfing the Internet?

Exercise 11. **Read this short article a computer infection. Fill in the gaps. Use the words from the box.**

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

Phaming - фальшивые веб-сайты двойники, предназначенные для перенаправления трафика с законного веб-сайта на мошеннический веб-сайт.
Keylogger - клавиатурный шпион

Conficker has been on the news a lot recently. It is a_____1, which unlike a virus does not need attached to an existing program to infect a machine, and which seems to receive regularly updated instructions from its controllers. It has created a _____2 - a network of infected machines. Once infected, these machines are known as_____3. At this point no one knows what the purpose of Conflicker is. At present it has infected ten million computers. These could be used for a_____4 attack where all the infected computers attempt to access site simultaneously.

It is probably controlled by criminals who want to steal users' personal information, e.i._____5. There are a number of ways of doing this: a_6 records information entered via a keyboard,_____7 literary means harvesting users' information while they are online. We will probably soon see if Conficker consists of this type of passive monitoring_____8 or whether it will mount active attack once it receives a new set of instructions.

Grammar

Exercise 1.**Write some or any.**

1 I bought……...milk, but I didn't buy.....cheese.
2 In the middle of the room there was a table and .....chairs.
3 There aren't..... banks in this part of town.
4 Bob and Mary don't have .....children.
5 Do you have.....pets?
6 There are…..... beautiful flowers in the vase.
7 Do you know .....good restaurants in Rome?
8 8 'Would you like …….coffe?' 'Yes, please.'
9 When we were on holiday, we visited.....interesting places.
10Don't buy …..cheese. We don't need.....
11I went out to buy …… apples, but they didn't have.....in the shop.
12I'm thirsty. Can I have ..... water, please?

Exercise 2. **Complete the sentences. Use some or any + the words in the box.**

Air, cheese, help, milk, questions, batteries, friends, languages, pictures, shampoo

1 I want to wash my hair. Is there ..... ?
2The police want to talk to you. They want to ask you.....… .
3 I had my camera, but I didn't take.....… .
4 Do you speak..... foreign ..... ?
5 Yesterday evening I went to a restaurant with ..... of mine.
6 Can I have..... in my coffee, please?
7 The radio isn't working. There aren't..... in it.
8 It's hot in this office. I'm going out for.....fresh.....… .
9 a : Would you like ..... ?
b: No, thank you. I've had enough to eat.
10Tu I can do this job alone. I don't need.....… .

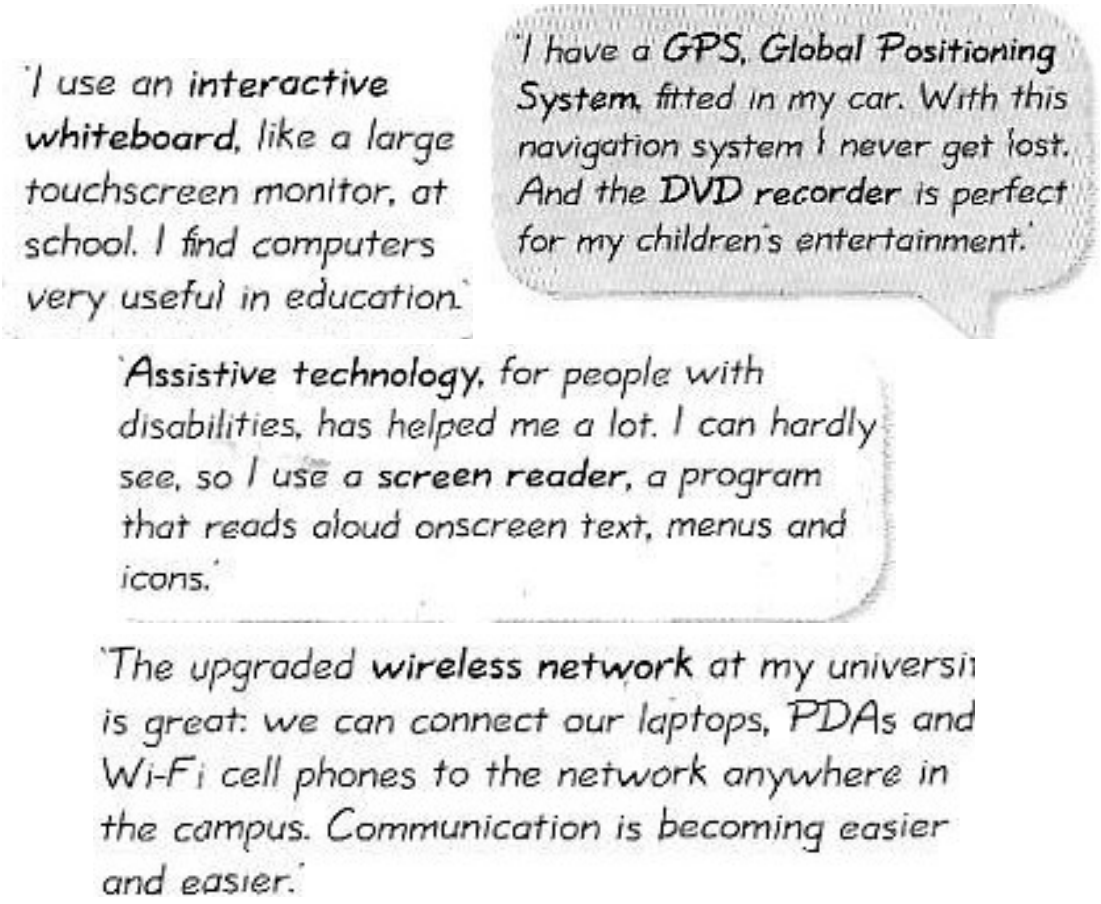
16 Компьютерная грамотность

Topic 16 Computer Literacy

Pre-exercises
Living with computers

Computers: friend…

People who have grown up with PCs and microchips are often called the digital generation. This is how people answered when questioned about the use of computers in their lives.



… or foe?

Our society has developed technological dependence. When computers are down, our way of life breaks down: planes stop flying, telephones don't work, banks have to close.

Computers produce electronic waste, plastic cases and microchips that are not biodegradable and have to be recycled or just thrown away.

They are responsible for health problems, e.g. computer addiction, an inappropriate and excessive use of computers.

Cybercrime, crime committed with the help of computers, is creating serious problems.

Citizens may feel a loss of privacy because of unauthorized use of personnel data or receiving unwanted electronic messages.

Things we can do on computer

A secretary: “I use computers to do the usual office things like write letters and faxes, but what I find really useful is email. We are an international company and I send emails to our offices all over the world”.

A publisher: “We use PCs to produce all sorts of texts in digital format. WE publish e-books (electronic books) and interactive e0learning programs on CDs, and we help a local company to design an online newspaper, displayed on the Web.”

A bank manager: ”We use financial software to make calculations and then generate graphics or charts. We also use database to store information so that it can be easily searched”.

A home user: “I like retouch photos on my computer; I improve them by making a few touches and then save them on a CD. I also enjoy looking at music portals on the Web. I surf the Web every day and I often download files, I copy music from the Net to my PC’.

Professional English in Use ICT

Exercise 1 **Complete this text with the words from the box.**

screen reader	interactive whiteboard	head-mounted display
GPS	DVD recorder	

1The (1)..... is a piece of software that interfaces with your PC and allows you, via keyboards commands, to get any text information read to you in synthetic speech.

2A (2)……., as popularized by virtual reality, lets the user immense him / herself in a synthetically generated environment.

3An (3)……is a touch-sensitive device where a special pen or your finger can act as a mouse.

4Tony Adams is a proud owner of a dark silver Vogue, complete with leather interior, (4)……navigation, and a (5).....with LCD TV screens.

Exercise 2 **Read «… or foe?». What problem do these sentences refer to?**

1All flights were delayed for more than twenty hours.

2 It gives examples and recommendations on how to protect children surfing the Web.

3Technology changes so quickly that we have to scrap computers when they become obsolete.

4I’ve been getting emails about offers for lots of different products.

5My computer system has been broken into and some useful information has been destroyed.

Exercise 3 **Some words often appear together in IT. Complete these computer uses with word patterns from «Things we can do on computer»**

Publishing: design ……..; publish…….. .
Home: …… the Web; download.....,
Bank: …….calculations, store.....,
Offices: write ….. and ……, send ….. .

Exercise 4 **Make a list of the ways you use computers at work and in your free time.**

Exercise 5 **Complete this text with the words from the box.**

financial	Internet	electronic	print	design	microchips

A digital era

Computers have changed the way we do everyday things, such as working, shopping and looking for information. We (1) ..... houses with the help of PCs; we buy books or make flight reservations on the (2) ..... ; we use gadgets that spring to life the instant they are switched on, for example the mobile phone, the music player, or the car ignition, all of which use (3) ..... . Many people now work at home, and they communicate with their office by computer and telephone. This is called 'teleworking'.

With the appropriate hardware and software, a PC can do almost anything you ask. It's a magical typewriter that allows you to type and (4) ..... any sort of document. It's a calculating machine that makes (5) ..... calculations. It's a filing cabinet that manages large collections of data. It's a personal communicator that lets you interact with friends. It's a small lab that helps you edit photos and movies. And if you like (6) ..... entertainment, you can also use it to relax with games.

Exercise 6 **Match the words (1-10) with the definitions (A-J).**

1 _ software
2_code
3_hardware
4_ data processing
5_ information security
6 _ online
7 _ technical support
8 _ data
9 _ quality assurance
10 _ encoding

A putting secret information into code
B the physical parts of a computer
C connected to the Internet
D numbers entered/held in a computer
E checking products for problems
F the act of using information
G programs/instructions added to computers
H helping people use/understand technology
I program language
J the act of protecting information

Vocabulary
computer literacy — компьютерная грамотность
problem-solving device — устройство, обеспечивающее решение задачи
be aware of — понимать, сознавать
opportunity — возможность
basics — основы
application — применение; использование
to restate — пересмотреть, переосмыслить
significant — значительный
achievements — достижения
computing — вычисление; счет; работа на компьютере
to embrace — охватывать
dimension — измерение
instruction — команда, инструкция, указание
to direct the operation — направлять работу
to process — обрабатывать
subscription magazine — журнал по подписке
data processing system — система обработки данных
store manager — директор магазина
to have much in common — иметь много общего

Read and translate the text

Computer literacy

Informed citizens of our information-dependent society should be computer-literate, which means that they should be able to use computers as everyday problem-solving devices. They should be aware of the potential of computers to influence the quality of life.

There was a time when only privileged people had an opportunity to learn the basics, called the three R's: reading, writing, and arithmetic. Now, as we are quickly becoming an information-becoming society, it is time to restate this right as the right to learn reading, writing and *computing.* There is little doubt that computers and their many applications are among the most significant technical achievements of the century. They bring with them both economic and social changes. "Computing" is a concept that embraces not only the old third R, arithmetics, but also a new idea — computer literacy.

In an information society a person who is computer-literate need not be an expert on the design of computers. He needn't even know much about how to prepare *programs* which are the instructions that direct the operations of computers. All of us are already on the way to becoming computer-literate. Just think of your everyday life. If you receive a subscription magazine in the post- office, it is probably addressed to you by a computer. If you buy something with a bank credit card or pay a bill by check, computers help you process the information. When you check out at the counter of your store, a computer assists the checkout clerk and the store manager. When you visit your doctor, your schedules and bills and special services, such as laboratory tests, are prepared by computer. Many actions that you have taken or observed have much in common. Each relates to some aspect of a data processing system.

Exercise 7 **Answer the questions using the text**

1. What does "a computer-literate person" mean?
2. Are you aware of the potential of computers to influence your life?
3. What do the people mean by "the basics"?
4. What is the role of computers in our society?
5. What is "computing'?
6. What is a program?
7. Prove that we all are on the way to becoming computer-literate.
8. Give examples of using computers in everyday life.

Exercise 8**. Read and translate the word combinations**

An information-dependent society; a computer-literate citizen; an everyday problem-solving device; to be aware; to influence the quality of life; to have an opportunity; to learn the basics; to learn computing; the most significant technical achievements; to embrace computer literacy; to prepare programs; to direct the operations of a computer; to be on the way of becoming computer- literate; to process information; to have much in common; a data processing system.

Parts of a computer

A computer is an electronic machine that accepts, processes, stores and outputs information. A typical computer consists of two parts: hardware and software.

Hardware is any electronic or mechanical part of the computer system that you can see or touch.

Software is a set of instructions, called a program, which tells a computer what to do.

There are three basic hardware sections.

1The CPU is heart of the computer, a microprocessor chip which processes data and coordinates the activities of all the units.

2The main memory holds the instructions and data which are being processed by the CPU. It has two main sections: RAM (random access memory) and ROM (read only memory).

3Periferals are the physical units attached to the computer. They include:

Input devices, which let us enter data and commands (e.g. the keyboard and the mouse).

Output devices, which let us extract the results 9e.g. the monitor and the printer).

Storage devices, which are used to store information permanently (e.g. hard disks and DVD-RW drives).

Disk drives are used to read and write data on disks.

At the back of a computer there are ports into which we can plug external devices (e.g. a scanner, a modem, etc.). They allow communication between the computer and the devices.

Exercise 9 **Read these quotations and say which computer essential they refer to. These are computer essentials: printer, speaker, keyboard, mouse, modem, CPU, CD/DVD drive, software, webcam, monitor.**

1"Accelerate your digital lifestyle by choosing a Pentium at 4.3 GHz". 2"Right-click to display a context-sensitive menu".

3"You will see vivid, detailed images on a 17 display".

4"This will produce high-quality output, with sharp text and impressive graphics".

5"Use it when you want to let the grandparents watch the new baby sleeping".

6"Press any key to continue".

Exercise 10 **Match the terms with their definitions.**

1 CD/DVD driver	a any socket into which a peripheral device may be connected
2 speaker	b device used to produce voice output and play back music
3modem	c mechanism that reads and/or writes to optical disks
4port	d device that converts data so that it can travel over the Internet

Grammar

Exercise 1.**Write these sentences again with nobody/no-one or nothing.**

1There isn't anything in the cup .....……..
2There isn't anybody in the cinemar. There's.....
3 I don't have anything to eat. I .....
4 There isn't anything on TV. .....
5 There wasn't anyone at school.....
6 We didn't find anything. ……

Exercise 2.**Write somebody/anything/nowhere et**c. 1 It's dark. I can't see …….....
2His parents live ..... near Moscow.
3Do you know ..... about computers?
4'Listen!' 'What? I can't hear.....'
5'What are you doing here?' 'I'm waiting for.....'
6We need to talk. There's ..... I want to tell you.
7 'Did.....see the accident?' 'No,.....
8 We weren't thirsty, so we didn't drink.....
9'What's going to happen?' 'I don't know ..... knows.'
10 'Do you know ……. in Moscow?' 'Yes, a few people.'
11 11 'What's in that safe?' …… ' It's empty.'
12 I'm looking for my keys. I can't find them .....
13I don't like hot weather. I want to live. .....cold.
14 Is there. ..... interesting on TV tonight?
15 Have you ever met.....famous?

17 История развития сети Интернет

Topic17
History of the Internet Development

What the Internet is? The Internet is an International computer Network made up of thousands of networks linked together. All these computers communicate with one another; they share data, resources, transfer information, etc. To do it they need to use the same language or protocol: TCP/IP (transmission Control Protocol / Internet Protocol and every computer is given an address or IP number. This number is away to identify the computer on the Internet.

Getting connected

To use the Internet you basically need a computer, the right connection software and a modem to connect your computer to a telephone line and then access your ISP (Internet Service Provider).

The modem (modulator-demodulator) converts the digital signals stored in the computer into analogue signals that can be transmitted over telephone lines. There are two basic types: external with a cable that is plugged into the computer via a USB port, and internal, an expansion card inside the computer. A PC card modem is a different, more versatile option for laptop and mobile phones.

At first most computers used a digital-up telephone connection that worked through the standard telephone line. Now a broadband connection, a high data transmission rate Internet connection, has become more popular: either ADSL (Asymmetric Digital Subscriber Line), which allows you to use the same telephone line voice for voice and fast access to the Internet, or cable, offered by most TV cable providers.

The basic equipment has changed drastically in the last few years. You no longer need a computer to use the Internet. Web TV provides email and access to the Web via a normal TV set plus a high-speed modem. More recently,

3Generation mobile phones and PDAs, personnel digital assistants, also allow you to go online with wireless connections, without cables.

Telephone lines are not essential either. Satellites orbiting the earth enable your computer to send and receive Internet files. Finally, the power-line Internet, still under development, provides access via a power plug.

Components of the Internet

The Internet consists of many systems that offer different facilities to users.

WWW, the World Wide Web, a collection of files or pages containing links to other documents on the Web.

Email, or electronic mail, for the exchange of messages and attached files.

Mailing lists (or listeners) based on certain programs that send messages on a certain topic to all the computers whose users have subscribed to the list.

Chat and instant messaging, for real-time conversations; you type your message on the keyboard.

Internet telephone, a system that lets people make voice calls via the Internet.

Video conference, a system that allows the transmission of video and audio signals in real time so the participants can exchange data, talk and see one another on the screen.

File Transfer Protocol (FTP), used to transfer files between computers.

Newsgroups, where people send, read and respond to public bulletin board messages stored on a central computer.

Telnet, a program that enables a computer to function as a terminal working from a remote computer and so we use online databases or library catalogs.

Professional English in Use. ICT.

Exercise 1 **Read «What the Internet is» and «Getting connected» and decide if these sentences are True or False. If they are false, correct them.**

1The Internet and the World Wide Web are the synonyms.
2Computers need to use the same protocol (TCP/IP) to communicate with each other.
3Web TV can provide access to the Net.
4ADSI and cable are two types of a dial-up connection.
5External, internal and PC card are types of connections.
6Information can be sent through telephone lines, satellites and power lines
7The computer IP number is a way to identify it on the Internet.

Exercise 2.**What Internet system from «Components of the Internet» should these people use?**

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.'

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

Exercise 3 **Choose the correct alternative to complete this newspaper article.**

Sharing your broadband connection with your neighbours is either the best way of making friends or the fastest way to lose them. Thanks to new European legislation, (1) *modem / wireless / telephone* technology and a firm called MyZones, several households within 300 metres of each other can now share the cost of fast (2) *broadband / dial-up / phone* access. But the more people using your network, the slower it gets. If four people are using it at once, the surfing speed is 128k. Clive Mayhew-Begg, chief executive of MyZones, says: 'Sharing broadband is just the start of a new generation of consumer-based Internet services.' It starts on July 25 when MyZones will start selling £150 starter kits. These include a wi-fi (wireless technology) point and ADSL (3) *3G / modem /Web TV* but not the wi-fi adapters you and your neighbours will need. These will cost an extra £60 or so for each computer logged on to the wireless network. *The Mirror*

Exercise 4 . **English equivalents.**

A)интернет услуги
законодательство
потребитель
соединение
широкополосный
передача данных
беспроводное соединение
линия электропередач
подключить
одновременно

B) Translate into English

1С каждым годом количесво пользователей интернет услугами увеличивается.

2 Не существует никакого законодательства, регулирующего работу Интернет-кафе.

3Пользуясь материалами сайта, потребитель выражает свое согласие с данными правилами.

4Как только он ответит, я смогу отследить его соединение.

5В этом случае целесообразно использовать широкополосный Интернет.

6Передача данных осуществляется автоматически.

7Систему можно подключить к северу через кабельное или беспроводное соединение.

8Линия электропередач повреждена.

9Теперь устройство Bluetooth можно подключить к системе.

10Ты можешь верить в несколько вещей одновременно.

Read ant translate the text. Some new words:

To originate	возникнуть, создавать, порождать
To make sure	убедиться, удостовериться
Nuclear	ядерный
To discover	обнаружить, открыть
Random	случайный, произвольный
To create	создавать
To let	позволять, разрешать
To navigate	передвигаться, перемещаться (в сети)
To send	посылать
To receive	получать
To share	разделять, делить
To identify	идентифицировать, опознавать

The Internet

The Internet is an International computer Network made up of thousands of networks linked together. All these computers communicate with one another; they share data, resources, transfer information, etc. To do it they need to use the same language or protocol: TCP / IP (Transmission Control Protocol / Internet Protocol) and every computer is given an address or IP number. This number is a way to identify the computer on the Internet.

The Internet originated in the early 1970s when the United States wanted to make sure the people could communicate after the nuclear war. This needed a free and independent communication network without a centre and it led to a network of computers that could send each other e-mail through cyberspace.

In 1989, Tim Berners-Lee, a British computer scientist, invented the World Wide Web (WWW) when he discovered a way to jump to different files on his computer using the random or unplanned links between them. He then wrote a simple coding system, called HTML (Hyper Text Markup Language) to create links to files on any computer connected to the network. This was possible because each file had an individual address, or URL (Uniform Resource Locator). Then he used a set of transfer rules, called HTTP (Hyper Text Transfer Protocol) to link Web files together across the Internet. Berners-Lee also invented the world's first browser. This lets you locate and view Web pages and also navigate from one link to another.

The WWW became available to everyone in 1991 and the number of Internet users grew from 600,000 to 40 million in five years. Today, that number is much larger and nowadays there are many browsers that provide Web pages, information and other services. You can also do research, download music files, play interactive games, talk in chat rooms and send and receive e-mail on the WWW.

Exercise 4. **Translate the words without dictionary**

Network, communication, cyberspace, file, browser, transfer, interactive, e-mail, code, information, service, game, chat.

Exercise 5. **Find in the text above the words or abbreviations for the next word combinations**

1 an address for Web pages
2 a coding system that creates links
3 this finds and shows Web pages
4 rules for transferring files
5 a group of computers joined together.

Exercise 6. **Find in the text above the English equivalents for the following words and expressions:**

- международная компьютерная сеть
- ядерная война
- независимый
- обнаружил способ
- стать доступным
- через 5 лет
- обеспечить
- свод (набор) правил передачи
- загружать файлы
- играть в игры
- посылать и получать электронные письма.

Exercise 7. **Confirm or deny the statements using the following phrases:**

Quite so… Right you are…
I quite agree with you here … Or:
I am afraid not…
I don't agree with you…
I am afraid you are wrong Excuse me but…
On the contrary… Not quite so…

1. Printer converts the digital signals into analogue signals that can betransmitted over telephone lines.
2. The more people using your network, the slower it gets.
3. Video conference, a system that provides the transmission of video and audio signals in real time.
4. Disk drives are used to plug external devices.
5. For real-time conversations; you type your message on the webcam.
6. The Internet provides a splendid opportunity to exchange pictures.
7. Crackers try to combat computer-based crimes.

Exercise 8. **Say it in Russian.**

1. Our company employs more that 1000 testers, technical writers, programmers, scientific researchers. 2.The industry of copyright (индустрия авторского права) is digging a grave for the Internet. 3. Parents let their children stay up half the night on chat rooms 4.The cracker needed both kinds of program to jeopardize (подвергнуть опасности) the system. *5.* The information is provided through the Institute's web

pages. 6. Outdated equipment has been replaced and desktop software updated. 7. We hired a team of software engineers and programmers to work on this project. 8. Employees have direct access to data without reinquiring assistance from computer specialist. 9.Activities were grouped around three main areas: social networks, telecommunications and personnel computers.

Exercise 9. **Complete the following sentences with the words and phrases from the brackets:**

(network; cyberspace; random; create; transfer; navigate; interactive)

1. Some people spend too much time playing … games on the Internet.
2. You can sometimes have a computer … that is not connected to the Internet.
3. It is easy to … around a screen with a mouse.
4. Tim Berners-Lee discovered how to … links between computers in new ways.
5. Some people surf the net at … just to see what they can find.
6. People use the Internet to … information from one place to another.
7. When you surf the Internet, you are traveling in ….

Grammar

Exercise 1. **Write questions**

1 I can write program instructions. (and you?)_____?
2 I work hard. (and Bob?)_____?
3 I was sick this morning. (and you?)_____?
4 I've got a computer. (and Steve?)_____?
5 I'll be at university tomorrow. (and you?)_____?
6 I'm going out this evening. (and Paul?)_____?
7 I like my city. (and you?)_____?
8 I live in Krasnodar. (and Nicola)_____?
9 I enjoyed the play. (and you)_____?
10 I had a lazy holiday.(and you?)_____?

Exercise 2. **Make questions with these words.**

1 (has / gone / where / teacher?) .....……..
2 (working / you father / is / today?) .....…….
3 (the cadets / what / are / doing?) .....
4 (made / is / how / computer?) .....……..
5 (to the meeting / coming / is / your friend?) .....
6 (you / the truth / tell / don't / why?) .....
7 (your parents / have / yet / arrived?) .....
8 (leave / what time / your bus / does?) .....
9 (to work / Bob / why / go / didn't?) .....
10 (your bike / in the accident / was / damaged?) ……..

Topic 18

Development of electronics

How mobile you are? Complete the questions and then compare with a partner.

When you are on the move, how often do you :			
	Never	Sometimes	Often
speak to family?			
speak to work colleagues?			
speak to customers?			
buy something?			
check your bank account?			
listen to music?			
send emails			
write presentations?			
build spreadsheets?			
access an information database?			
download and use a new application?			
use Location-Based Services?			

Discuss what device you use for these activities?

Vocabulary

Applied physics	прикладная физика
Generation	создание, формирование, выработка
Scientific research	научные исследования
Due to the efforts	благодаря усилиям
Manipulation	управление, обработка, преобразование
To replace vacuum tubes	заменять электронные лампы
A piece of semiconductor	полупроводниковый кристалл
Reduced weight	уменьшенный вес
Power consumption	потребление (расход) электроэнергии
To carry out	выполнять
Solid body	твердое тело, кристалл, полупроводник
To respond	отвечать, реагировать
At a rate	со скоростью
Integrated circuit (IC)	интегральная схема
Batch processing	пакетная обработка

To assemble	собирать, монтировать
To lower manufacturing	снизить производительность
To increase reliability	увеличить надежность

Read and translate the text and answer the questions:

1. What is electronics?
2. Does modern life greatly depend on electronics?
3. Why are electronic devices used in scientific research and industrial designing?
4. The invention of vacuum tubes promote the development of electronics, didn't it?
5. What advantages did transistors have over vacuum tubes?
6. What are main essentials of a transistor?
7. When was the transistor invented?
8. When did a new field of science — integrated electronics appear?
9. Did IC greatly reduce the size of devices?
10. 10.What is the essence of batch processing?

Development of Electronics

Electronics is a field of engineering and applied physics dealing with the design and application of electronic circuits. The operation of circuits depends on the flow of electrons for generation, transmission, reception and storage of information.

Today it is difficult to imagine our life without electronics. It surrounds us everywhere. Electronic devices are widely used in scientific research and industrial designing, they control the work of plants and power stations, calculate the trajectories of space-ships and help the people discover new phenomena of nature. Automatization of production processes and studies on living organisms become possible due to electronics.

The invention of vacuum tubes at the beginning of the 20th century was the starting point of the rapid growth of modern electronics. Vacuum tubes assisted in manipulation of signals. The development of a large variety of tubes designed for specialized functions made possible the progress in radio communication technology before the World War II and in the creation of early computers during and shortly after the war.

The transistor invented by American scientists W. Shockly, J. Bardeen and W. Brattain in 1948 completely replaced the vacuum tube. The transistor, a small piece of a semiconductor with three electrodes, had great advantages over the best vacuum tubes. It provided the same functions as the vacuum tube but at reduced weight, cost, power consumption, and with high reliability. With the invention of the transistor all essential circuit functions could be carried out inside bodies. The aim of creating electronic circuits with entirely solid-state components had finally been realized. Early transistors could respond at a rate of a few million times a second. This was fast enough to serve in radio circuits, but far below the speed needed for high-speed computers or for microwave communication systems.

The progress in semiconductor technology led to the development of the integrated circuit (IC), which was discovered due to the efforts of John Kilby in 1958. There appeared a new field of science – integrated electronics. The essence of it is batch processing. Instead of making, testing and assembling discrete components on a chip one at a time, large grouping of these components together with their interconnections were made all at a time. ICs greatly reduced the size of devices, lowered manufacturing costs and at the same time they provided high speed and increased reliability.

Exercise 1. **Read and translate the following international words and word-combinations without dictionary**.

Electronics; electrons; physics; information; microelectronics; industrial design; organism; specialized functions; progress in radio communication technology; transistor; electrode; communication system; chip; discrete.

Exercise 2. **Find in the text above the English equivalents for the following words and expressions:**

- прикладная физика
- передача и прием информации
- научные исследования
- траектория космических кораблей
- способствовать управлению сигналами
- полупроводниковый кристалл
- потребление электроэнергии
- высокоскоростной компьютер
- полупроводниковая технология
- интегральная схема
- пакетная обработка
- снизить производственные затраты
- обеспечить высокую скорость.

Exercise 3. **Make up different word-combinations using the following words (A, B) and translate them:**

A	**B**
Transistor	field
Circuit	development
Size	means
Science	functions
Electronics	solution
Communication	invention
Problem	exploration
Space	reduction

Exercise 4. **Say if it is right or wrong. Give a full answer.**
1. Electronics is a field of engineering and applied physics dealing with the design and application of electronic circuits.
2. Humanity is ready to go on without electronics nowadays.
3. It's an easy task to find a vacuum tube at present.
4. Earth elements (редкоземельные элементы) are not vital in the electronics industry.
5. With the invention of the transistor all essential circuit functions could be carried out inside bodies.
6. Early transistors could not respond at a rate of a few million times a second.
7. The progress in semiconductor technology led to the development of the integrated circuit (IC).

Exercise 5. **Complete the following sentences with the words and phrases from the bracket:**
(innovation, invention, stage, process, portable, touch-screen)
1. The …. of developing is inherently complex and time-consuming.
2. The … of computers has changed the world dramatically.
3. This is a … multimedia player which you can carry anywhere you need.
4. If you are not familiar with using computers, I recommend a … one.
5. This was a custom-made (изготовленный на заказ) … keyboard.
6. Such initiatives are important in driving …. into enterprise.

Exercise 6 **Get ready! Before you read the passage talk about these questions.**
1 What is information Technology?
2What do information Technology professionals do?

IT Department Restructuring

DataPro Inc. is growing, and so our workload is increasing. But our IT department is not dealing with this increase effectively. So I am dividing the IT department into three sections: quality assurance (контроль качества), data processing and information security. The responsibilities of each section are:
Quality Assurance – testing hardware; providing technical support.
Data Processing – writing code; organizing data (систематизация данных);

Information security – encoding online data transfers (кодирование передачи содержимого); updating security software.

These changes are not very simple or easy. But smaller groups deal with tasks more efficiently than larger ones. See you supervisors for your new section assignment.
Thomas Jenkins, CEO DATAPro Inc.

Exercise 7 **Get ready! Before you read the passage talk about these questions.**
What kind of computer do you use? What do use computers for at work?

EMAIL
From: bruce,roberts@tel.com
To:chris.carter@techmagazine.net
Re: TEL Computers

Thanks for including TEL Inc. in your article on workplace technology (производственная технология). We have many types of computers at our disposal. First, all employees receive PDAs (КПК) and desktop computers. But we only use those for word processing and spreadsheets ()электронная таблица). Of course, some programs are too powerful for desktops. So many employees use the faster workstations. And we do have a few laptops and handheld PCs. However,

employees only use them on business trips. Most employees just answer email with their cell phones. The new server provides access to all printers. Finally, our mainframe processes our largest data files. No need for a supercomputer yet!

Regards,
Bruce Roberts.

Exercise 8 **Read the email about computers available at TEI Inc. Then, choose the correct answers.**

1 What is the email about?
A the types of work employees do
B computers that the company sells
C what computers the company uses
D the installation of a server

2 According to the passage, employees use laptops when they _ .
A respond to email
B work on spreadsheets
C process the largest files
D work outside of the office

3 Which of the following is NOT true?
A The company has a mainframe.
B Employees get email on their cell phones.
C All employees receive desktop computers.
D The desktop computers are faster than the workstations.

Exercise 9 **Read the sentence and choose the correct word.**

1 My **(PDA *I* mainframe)** notifies me when I have a meeting.
2 I have a **(laptop *I* supercomputer**) to do work on the plane.

3 John has a (**server *I* desktop computer**) because he only uses simple programs.
4 This **(computer *I* server)** runs programs, but doesn't have Internet access.
5 A **(workstation *I* handheld PC)** is smaller than a laptop, but still has a keyboard.
6 Connect to the **(server *I* PDA)** to use that printer.
7 A **(supercomputer *I* handheld PC)** is the most powerful machine in the world.

Exercise 10 **Match the words (1-3) with the definitions (A-C).**
1 _ workstation
2 _ mainframe
3 _cell phone
A large and powerful computer that supports many other computers working at once
B fast computer that is used by one person and has more memory than an ordinary personal computer.
C a device that makes and receives calls

Read and translate the text. Some new words:

Chamber of Commerce – Торговая палата
sophistication-сложность, изощренность
legal challenges — правовые проблемы
legal adviser — юридический консультант
breach of computer security — нарушение компьютерной безопасности
illegally obtained — незаконно полученные
the Computer Misuse Act — закон (Соединенного Королевства 1990) о надлежащем использовании компьютера
credit card scams — мошенничества с кредитными картами
deception — обманным путем, обман, ложь
aggravated ID theft — кража документов при отягчающих обстоятельствах
The Council of Europe Cybercrime Treaty – Договор Совета Европы о борьбе с киберпреступностью
pharming — «фаминг» фальшивые веб-сайты
bona fide — добросовестный
misrepresentation — введение в заблуждение
unsolicited — незапрошенные
money laundering — отмывание денег
Data Protection legislation — законодательство о защите данных
consent — согласие
falling foul - идти вразрез с правовыми нормами

Information technology law and cybercrime

Computer security

Pieter den Bieman, a legal practitioner specializing in information technology, is speaking at a Chamber of Commerce lunch. 'I'm sure you'd all agree that the development of information technology and e-commerce has presented exciting business opportunities. However, the increasing sophistication of the systems and applications available to end users has created significant legal challenges to individuals, companies, the legislature, and legal advisers. The technology necessary to access the Internet has also enabled innovative illegal activities. You'll be aware that these include the breach of computer security and unauthorized access to a computer commonly known as hacking. There's also the distribution of illegally obtained content from databases, as well as virus writing or virus spreading achieved by attacks on insecure servers which lack adequate protection. In the UK, the Computer Misuse Act deals with such illegal use, and also the publication and distribution of material that may be used to aid hacking. Unfortunately, unless you have adequate security systems in place, your business is at risk.'

Cybercrime

There are cybercrimes that may affect you personally, such as credit card fraud online, commonly known as credit card scams, and identity (ID) theft, when financial benefit is obtained by deception using stolen personal information. In the USA, fraudsters, as they're known, who use a stolen identity to commit new crimes, may be charged with what's known in the States as aggravated ID theft. The Council of Europe Cybercrime Treaty, also signed by US and Japan, has the aim of international co-operation and mutual assistance in policing. Other cybercrime may impact on your business. There's cyberfraud, such as pharming, where users are moved to fake, non-genuine sites, when they try to link to their bona fide bank website. Then there's phishing, when a fraudster, by misrepresentation, gets Internet users to disclose personal information in reply to spam email sent unsolicited to a large number of people. Internet users can also be tricked into money laundering activities which aid the transfer of illegal or stolen money.'

Note: misrepresentation – making a wrong statement to trick someone into a contract

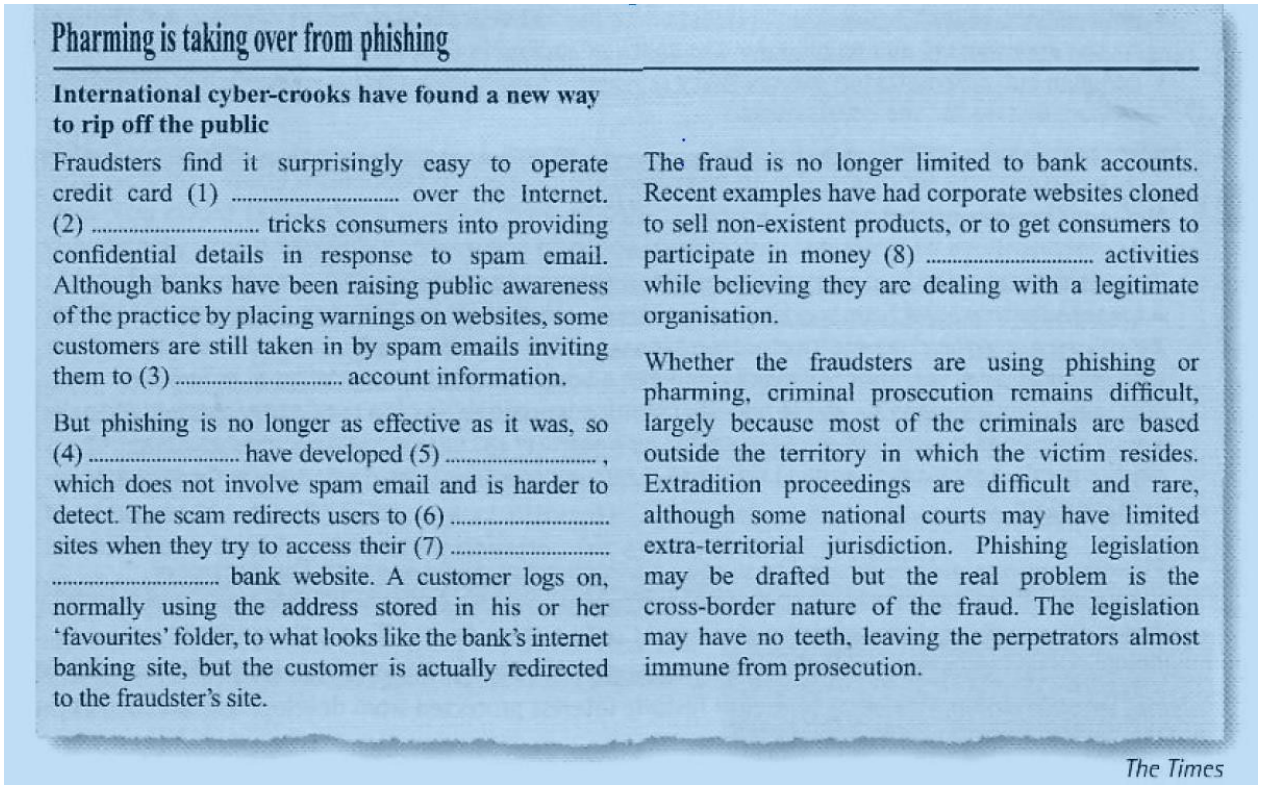
Data protection

The way you collect, store, and distribute information that constitutes personal data on identifiable individuals is now subject to Data Protection legislation. If, for example, you ask potential customers to supply their address details via the web in the process of requesting further information concerning your business, you should also provide the data subject with information about the purpose of collecting the data, the period for which it will be stored, and who will be in receipt of such data. If your web page contains data relating to specific employees, remember that this will be information readily available internationally and nationally. You must have the consent of the individuals concerned allowing you to make such information available. That consent must be informed and freely given. Care must be taken in the

management of personal web servers and server software and clear guidelines given to staff about your Internet policy in order to avoid falling foul of the law, for example the Defamation Act. Finally, in addition to ensuring that you don't infringe regulations, you need to consider how to future- proof contracts you enter into, by considering potential and unknown developments which may affect your business.'

Professional English in Use. Law.

Exercise 11. **Complete the article. There is more than one possibility**



Pharming is taking over from phishing

International cyber-crooks have found a new way to rip off the public

Fraudsters find it surprisingly easy to operate credit card (1) ..... over the Internet. (2) ..... tricks consumers into providing confidential details in response to spam email. Although banks have been raising public awareness of the practice by placing warnings on websites, some customers are still taken in by spam emails inviting them to (3) ..... account information.

But phishing is no longer as effective as it was, so (4) ..... have developed (5) ....., which does not involve spam email and is harder to detect. The scam redirects users to (6) ..... sites when they try to access their (7) .... bank website. A customer logs on, normally using the address stored in his or her 'favourites' folder, to what looks like the bank's internet banking site, but the customer is actually redirected to the fraudster's site.

The fraud is no longer limited to bank accounts. Recent examples have had corporate websites cloned to sell non-existent products, or to get consumers to participate in money (8) ..... activities while believing they are dealing with a legitimate organisation.

Whether the fraudsters are using phishing or pharming, criminal prosecution remains difficult, largely because most of the criminals are based outside the territory in which the victim resides. Extradition proceedings are difficult and rare, although some national courts may have limited extra-territorial jurisdiction. Phishing legislation may be drafted but the real problem is the cross-border nature of the fraud. The legislation may have no teeth, leaving the perpetrators almost immune from prosecution.

The Times

Exercise 12. **Are the following statements true or false? Look at the text. Use appropriate word combinations to explain your answers.**

1People who use computer applications are known as hackers.
2It's a legal challenge to gain unauthorised access to a database.
3Secue servers make virus spreading possible.
4Distributing illegally obtained data is breach of computer security.

Exercise 13. **Answer the questions to the text.**

1What problems are the for the law in defining and stopping hacking?
2What problems are there in balancing freedom of expression and censorship (цензура) on the Internet?
3Which law governs the use of computer stored information about individuals?

4 Under what circumstances a willing agreement to make information available is necessary?
5What type of information can constitute personnel data?

Exercise 14. **Which is right?**
1Each customer **was/were** able to update his personnel data.
2He saw that the hackers **were/was** more curios than malicious.
3This will **help/helping** to prevent unauthorized access to or use of your credit card or other personnel data.
4Stored information on computer hardware may **become/ becoming** relevant evidence.
5The web page of the library **is/are** available from…
6The activities of the ministry **is/are** reflected in the relevant web page on international law.
7Futher information, including on how to register will be **provided/providing** on the web page of the Forum by the end of July.

Grammar

Exercise 1.**Complete the sentences. Use the word in brackets (some/most etc.). Sometimes you need of (some of / most of etc.).**
1 …… cadets like playing computer games, (most)
2 …….. this money is yours, (some)
3 .....cadets never stop talking, (some)
4 ..... the banks in the city centre close at 8.30. (most)
5 .....people have digital gadgets these days, (most)
6 I don't like.....computers in the living room, (any)
7 He's lost..... his money, (all)
8 .....my friends are married, (none)
9 Do you know .....the people in this picture? (any)
10 .....cadets can drive. (most)
11 I enjoyed …….the game, but I didn't like the ending, (most)
12 .....computer viruses are very dangerous, (some)
13 We can't find anywhere to stay. .....the hotels are full, (all)
14 You must have.....this cheese. It's delicious, (some)
15The weather was bad when we were on holiday. It rained.....the time, (most)

Exercise 2. **Are these sentences OK? Correct the sentences that are wrong.**
1 Most of children like playing.
2 All the students failed the exam.
3 Some of police officers work too hard.
4 Some of questions in the exam were very easy.
5 I haven't seen any of those officers before.

6 All of insects have six legs.
7 Have you read all these articles?
8 Most of cadets in our group are very nice.
9 Most of my friends are going to the party.
10 I'm very tired this morning - I was awake most of night. I was on duty.

19 Обработка информации

Processing

Read and translate the text. Some new words:

bus – шина
volatile – неустойчивый
brain – мозг
instruction – команда execute – выполнять
expansion card – плата расширения network capabilities – сетевые возможности

Answer the questions to the text.

1What system do we use in order to avoid complex calculations of bytes?
2What part of a computer people call ”the brain”?
3How the flow of data is measured and synchronized?
4Does the front side bus carry all data that passes from the CPU to other devices?
5What’s the difference between RAM and ROM?

The processor

The processor, also called the CPU or central processing unit, is the brain of your computer. In PC’s, it is built into a single chip – a small piece of silicon with a complex electrical circuit, called an integrated circuit – that executes instructions and coordinates the activities of all the other units.

Three typical parts are:

-the control unit, which examines instructions from memory and executes them;
-the arithmetic and logic unit (ALU), which performs arithmetic and logical operations;
-the registers, high-speed units of memory used to store and control; data.

The speed of a processor is measured in gigahertz (GHz). Thus, a CPU running at 4 GHz can make about four thousand million calculations a second. An internal clock sends out signals at fixed intervals to measure and synchronize the flow of data.

The main circuit board is known as the motherboard. This contains the CPU, the memory chips, expansion slots and controllers for peripherals, connected by internal buses, or paths, that carry electronic signals. For example, the front side bus carries all data that passes from the CPU to other devices.

Expansion slots allow you to install expansion cards which provide extra functions, e.g. a video card or a modem.

Laptops have PC cards, the size of a credit card, which add features like sound, memory and network capabilities. _

RAM and ROM

When you run a program, the CPU looks for it on the hard disk and transfers a copy into the RAM. RAM (random access memory) is temporary or volatile, that is, it holds data while your PC is working 011 it, but loses this data when the power is switched off.

However, ROM (read only memory) is permanent and contains instructions needed by the CPU; the BIOS (basic input/outpur system) uses ROM to control communication with peripherals, e.g. disk drives.

The amount of RAM determines the number of programs you can run simultaneously and how fast they operate. It can be expanded by adding extra RAM chips.

Units of memory

The electronic circuits in computers detect the difference between two states: ON (the current passes through) or OFF (the current doesn't); they represent these states as 1 or 0. Each 1 or 0 is called a binary digit or bit. Bits arc grouped into eight-digit codes that typically represent characters (letters, numbers and symbols). Eight bits together are called a byte. For example, 01000001 is used for the character A. Computers use a standard code called ASCII for the binary representation of characters.

In order to avoid complex calculations of bytes, we use bigger units. A kilobyte (KB) is 1,024 bytes; a megabyte (MB) is 1,024 kilobytes; a gigabyte (GB) is 1,024 megabytes; a terabyte (TB) is 1,024 gigabytes. We use these units to describe the RAM memory, the operating capacity of disks and the size of a program or document.

Professional English in Use. ICT.

Exercise 1. **Match the sentence beginnings (1-6) with the correct endings (a-f)**

1. The CPU processes data and
2. The control unit is the part of the CPU that
3. The arithmetic and logic unit is able to make
4. The registers are high-speed storage
5. Data contained in RAM is lost when
6. ROM memory can only be read:

a areas within the CPU.
b you can’t make changes to it.
c controls the way instructions are executed. d the computer is turned off.
e coordinates the other parts of the computer.
f calculations: add, subtract, multiply and divide.

Exercise 2. **Fill in the gaps with the words from the brackets (slots, clock gigahertz, buses, chips, binary, expantion, bios, motherboard.)**

1. Intel …… are used in many computers.
2. Each 0 or 1 is called a bit, short for … digit.
3. Special cards can be inserted into expansion … .
4. A … controls the timing within the PC by sending signals to synchronize its circuits and operations.
5. The processor speed is measured in … .
6. … carry signals between different parts of a PC.

7. … cards improve the computer's performance.
8. The … uses ROM to control the input/output of data.
9. The main printed circuit board is called the … .

Exercise 3. **Complete the email that Malcom sent Bob with the words from the box.**

Terminals schedules chain trends converged continuous stock renewal

I am sorry to hear about the business issues you are experiencing due to our IT infrastructure. There has been a lot of activity in the background and we are on the verge of a major IT_____1 program that will address your concerns. Please read the attachment to this email which details what the new system will do.

Basically the new system will give you complete supply_____2 visibility, guaranteed_____3 replenishment of stock (пополнение средств), electronic tagging (электронной маркировки), electronic point-of-sale (торговая точка) _____4 and converged fixed-to-mobile phones (конвергированные стационарные и мобильные телефоны).

As well as the systems outlined in the attachment we will all receive better management of information from the new systems. Store Managers will receive a number of automatic reports at 0900 every day, detailing the previous day's trading, _____5 levels, delivery_____6, and buying_____7.

I hope this helps address some of your concerns. Please feel free to contact me to discuss the rollout schedule for your particular store.

Regards, Malcom.

Exercise 4. **Mark the sentences true or false.**

1 The processor, also called the CPU or central processing unit, is the peripheral of your computer.
2The speed of a processor is measured in gigahertz (GHz).
3The main circuit board is known as the modem.
4Computers use a standard code called HTTM for the binary representation of characters.
5 Eighteen bits together are called a byte.
6 Expansion slots don't allow you to install expansion cards which provide extra functions.
7 In order to avoid complex calculations of bytes, we use smaller units.

Exercise 5. **Find English equivalents in the text.**

один чип
интегральная микросхема
арифметические и логические операции
вычисления
временный выключать постоянный команда
работать одновременно символ

Read and translate the text.
Some new words:
typewriter – печатная машинка
mistake - ошибка
delete – стереть, удалить
insert – вставить
margin – поле
indent – подпунк, абзац

A word processor enables you to create a document, store it electronically on a disk, display it on a screen, modify it by entering commands and characters from the keyboard, and print it on a printer. The greater advantage of a word processing over using a typewriter is that you can make changes without retyping the entire document. If you make a mistake, you simply back up the cursor and correct your mistake. If you want to delete a paragraph, you simply remove it, without leaving a trace. It is equally easy to insert a word, sentence or paragraph in the middle of the document.Word processors usually support these features (and a few others).

Cut and paste: Allows you to remove (cut) a section of text and insert (paste) it somewhere else.

Find and replace: Allows you to direct the word processor to search for a particular word or phrase. You can also direct the word processor to replace one group of characters with another everywhere that the first group appears.

Word wrap: The word processor automatically moves to the next line when you have filled one line with text, and it will readjust text if you change the margins.
Print: Allows you to send a document to a printer to get hard copy.

Font specifications: Allows you to change fonts within a document. For example, you can specify bold, italics, and underlining. Most word processors also let you change the font size and the typeface.
Graphics: Allows you to include illustrations and graphs in a document.

Headers, footers and page numbering: Allows you to specify customized headers and footers that the word processor will put at the top and bottom of every page. The word processor automatically keeps track of page numbers so that the correct number appears on each page.

Layout: Allows you to specify different margins within a single document and to specify various methods for indenting paragraphs - how much space you leave between the margins and the paragraphs.

Merge: Allows yu to merge text from one file into another file. This is particularly useful for generating many files that have the same format but different data.

Spell checker: A utility that allows you to check the spelling of words. It will highlight any words that it does not recognize.

Thesaurus: Allows you to search for synonyms without leaving the word processor.

Exercise 6. **Match words from the brackets with these definitions (menu bar, word processor, typeface, merge, footer, header, layout)**

1a program used for preparing documents and letters.
2a row of words that open up menus when selected.
3the distinctive design of letters and characters, e.g. Arial, Courier.
4text printed in the top margin.
5text printed in the bottom margin.
6the way text is arranged on the page, including margins, paragraph format, columns, etc.
7a function that enable you to combine files into one.

Exercise 7. **Complete these statements with a term from: front, find and replace, spell chocker, word wrap, thesaurus, indenting, toolbar.**

1A_____consists of three elements: typeface, type style and type size; for example Arial bold at 9 points.
2 Notice that when you get too the end of each line, Word stats a new line automatically. It moves the word you are typing to a new line when it enters an invisible margin running down the right-hand side of the screen. This feature is called ____.
3 _____and_____lets you find a word and change it into another word throughout the text.
4A good_____program can be used not only to rectify accidental typing spelling mistakes and typing errors, but also to speed typing input.
5Many word processors include a_____, so you can look for words with similar meanings.
6The_____contains a row icons when clicked.
7_____a paragraph involves moving your writing in from the margins of the page. For example, a left indent is the distance between the left margin and the text.

Exercise 8 **Translate into Russian**

1Программа позволяет вырезать и переставлять части текста.
2Также были добавлены другие функции, такие как перенос слов, поиск и замена.
3При поиска и замене текста в документе можно использовать подстановочные заки (wildcads).
4Технические характеристики шрифта позволяют изменять шрифты в документе.
5 Верхние и нижние колонтитулы и нумерация страниц позволяет указать настроенные верхние и нижние колонтитулы, которые процессор будет помещать в верхней и нижней части страницы.
6 Проверка орфографии -утилита, которая позволяет проверить правильность написания слов.
7Тезаурус позволяет искать синонимы, не выходя из текстового процессора.

Grammar

Exercise 1.**Which is right?**

1 Don't move so quick- /quickly. It's not good for you. (quickly is right)
2 Why are you angry/angrily? I haven't done anything.
3 Can you speak quiet/queitly, please?
4 Come on, Dave! Why are you always so slow/slowly?
5 5 Tom is a very careful/carefully father.
6 Amy is studying hard/hardly for her examinations.
7 'Where's Jack?' 'He was here, but he left sudden/suddenly.'
8 8 Please be quiet/quietly. I'm studying.
9 Some companies pay their workers very bad/badly.
10 Those apples look nice/nicely. Can I have one?
11 I don't remember much about the accident. Everything happened quick/quickly.

Exercise 2. **Write good or well.**

1 Your French is very …. You speak it very…..
2 Tim did very ..... in his exams.
3 The film was very.....I enjoyed it very much.
4 Mark has a difficult job, but he does it .....
5 How are your parents? Are they.....?
6 Did you have a .....holiday? Was the weather. ..... ?

Topic 20

DATA PROCESSING SYSTEMS

Some new words:
manual — ручной, выполняемый вручную
to take advantage of smth — воспользоваться ч.-л.
capability — способность; возможность; характеристика
accuracy — точность; правильность; четкость (изображения)
correctly — правильно; верно
to eliminate — устранять; удалять; отменять; ликвидировать
error-prone — подверженный ошибкам
to remain vulnerable — оставаться уязвимым, чувствительным
invalid data — неверные, неправильные, недопустимые данные
communications networks — сети передачи данных; сети связи
travel — перемещение; прохождение; путь; ход
instant response — мгновенный ответ (реакция)
to respond — отвечать; реагировать
access —доступ; обращение; обращаться, иметь доступ
capacity of storage — объем (емкость) памяти
to retrieve — извлекать, выбирать (данные); восстанавливать (файл)
value — значение; величина; значимость; ценность; оценка; оценивать
objective — цель; требование; целевая функция
cost-effective — экономичный; экономически оправданный
challenge — трудность; препятствие; представлять трудность

Exercise 1.**Read and translate the text. Fill in the gaps: error, routine, humans, transmitted, clients, data base.**

ADVANTAGES OF COMPUTER DATA PROCESSING

Computer-oriented data processing systems or just computer data processing systems are not designed to imitate manual systems. They should combine the capabilities of both_____1 and computers. Computer data processing systems can be designed to take advantage of four capabilities of computers.

Accuracy. Once data have been entered correctly into the computer component of a data processing system, the need for further manipulation by humans is eliminated, and the possibility of _____ 2 is reduced. Computers, when properly programmed, are also unlikely to make computational errors. Of course, computer systems remain vulnerable to the entry by humans of invalid data.

Ease of communications. Data, once entered, can be_____3 wherever needed by communications networks. These may be either earth or satellite-based systems. A travel reservations system is an example of a data communications network. Reservation clerks throughout the world may make an inquiry about transportation or lodgings and receive an almost instant response. Another example is an office communications system that provides executives with access to a reservoir of date, called a corporate_____ 4, from their personal microcomputer work stations.

Capacity of storage. Computers are able to store vast amounts of information, to organize it, and to retrieve it in ways that are far beyond the capabilities of humans. The amount of data that can be stored on devices such as magnetic discs is constantly increasing. All the while, the cost per character of data stored is decreasing.

Speed. The speed, at which computer data processing systems can respond, adds to their value. For example, the travel reservations system mentioned above would not be useful if____5 had to wait more than a few seconds for a response. The response required might be a fraction of a second.

Thus, an important objective in the design of computer data processing systems is to allow computers to do what they do best and to free humans from _____ 6, error-prone tasks. The most cost-effective computer data processing system is the one that does the job effectively and at the least cost. By using computers in a cost-effective manner, we will be better able to respond to the challenges and opportunities of our post-industrial, information-dependent society.

Exercise 2. **Answer the questions using the text**

1. What capabilities should data-processing systems combine when designed?
2. What are the main advantages of computers?
3. What do you know of computers accuracy?
4. What is the function of communication networks?
5. Give examples of a data communication network.
6. What do you understand by capacity storage?
7. What other values of computer data processing systems do you know?
8. What is an important objective in the design of computer data processing systems?
9. What is the most effective computer data processing system?
10. What is the best way of responding to the challenges and opportunities of our post-industrial society?

Exercise 2. **Give the English equivalents**

Ограничивать управление; вряд ли допустят ошибку; оставаться уязвимым; недопустимые данные; легкость осуществления связи; сеть передачи информации; системы, основанные на использовании спутников; получить мгновенный ответ; наводить справки; хранилище данных; корпоративная база данных; объем памяти; запоминать огромное количество информации; извлекать информацию; доля секунды; подверженный ошибкам; экономически оправданный.

Read and translate the text.

Some new words:
agendas – повестка дня
multi-purpose – многофункциональный
benefit - преимущество

ICT systems: components and functions

ICT systems are much more than computers. An ICT system involves the use of computers or other types of hardware to meet a specific need. A LAN, local area network, can be an example of an ICT system, but interactive television and database of a library are types of systems too.

ICT systems have these components:

software, instructions and data

hardware, computers and other devices

personnel, people who use, design, control or benefit from the system.

The components perform these basic functions:

input, the data is collected and entered **processing**, data is changed or manipulated

output, the results are shown

communication and feedback, the results are sent out and new data is collected and entered in the system

memory or storage of data.

Types of systems

ICT systems are classified according to their aim.

"In our hospital we have set up an information system to manage data and information about our patients."

"My house is an example of a control system. Its main aim is to control the different devices, e.g. switches that turn lights on and off as a security measure, sensors that detect smoke and set off the alarms, etc."

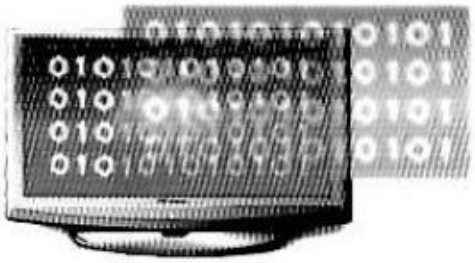
"The Internet is a good example of a communication system; other examples are a mobile phone network or digital television. This type of system is designed for sending data between different devices."

Types of devices and services

At present most of the devices in ICT systems are multi-purpose: mobile phones can be used as digital cameras or agendas, printers are also scanners and faxes. Not only is there media integration in the hardware, but also in the services offered by these telecommunication systems.

Professional English in Use. ICT.

Call centres are one example of computer telephony integration where companies use databases and telephones for telemarketing.



Digital television uses digital technology to increase the number of channels and their quality of image. It also enables viewers to interact with the content and provide feedback to the programmer via telephone line, cable or satellite.

Teletext is a text-based information service provided by television companies. It uses part of the TV signal and is visible on sets with suitable decoders.

Faxes or **telefaxes** use telecommunication technology to send copies of documents through telephone lines.

Radio has also adopted the digital technology **DAB, Digital Audio Broadcasting**. Most digital radio stations are broadcast together with television signals.

The **Internet**, a global network of computers, enables users to exchange files, send emails and surf the Web to find information, take part in e-commerce, etc.

Exercise 3. **Define the following systems (information system, control, communication system).**

1 the registration system of a hospital
2 a robot at a car assembly line
3 an unmanned spaceship
4 a radio network
5 the CIA World Factbook
6 a video conferencing system

Exercise 4. **Guess a word (DAB, Internet, call, fax, teletext, digital)**

1 A new radio communication system._____
2 A system that integrates telephone and computer is a_____centre.
3A global system of networks of integrated services.
4 A device used to send and receive copies of documents._____
5 5Simila to interactive TV._____
6Written information you get on your TV._____

Grammar

Exercise 1.**Write sentences about Kate and Ben. Use than.**

Joan	Peter
1 I'm 17.	1 I'm 18.
2 I'm not a very good driver.	2 I'm not a very driver.
3 I'm 1 metre 68 tall.	3 I'm 1 metre 83 tall.
4 I get up at 6 o'clock.	4 I get up at 6.30.
5 I study very hard.	5 I don't study very hard.
6 I don't have much free time.	6 I have plenty of free time.
7 I'm a very good swimmer.	7 I'm a very good swimmer.
8 I'm not very reliable.	8 I'm very reliable.
9 I'm not a very good painter.	9 I'm a very good painter.
10 I'm very industrious.	10 I'm very industrious.
11 I speak English very well.	11 I don't speak English very well.
12 I don't go to the cinema very much.	12 I go to the cinema very much.

1Peter is older than Joan.

2……

Exercise 2. **Complete the sentences with a bit or much + comparative (older/better etc.).**

1 Tom is 19. Emma is 17. Tom is a bit older than Emma.
2 Joe's mother is 42. His father is 59.
Joe's mother.....…...
3 My computer cost £120. Yours cost £112.
My computer.....
4 Yesterday my grandmother felt sick. Today she feels OK. She feels.....
5 Today the temperature is 5 degrees. Yesterday it was 15 degrees.
It's.....
6 Ben is an excellent musician. I'm not a very good musician.
Ben.....

21 Развитие компьютеризации в США

The Development of Computers in the USA

Some new words to the text:

Microprocessor	микропроцессор
To do calculations	делать расчеты, вычисления
To motivate	побуждать
Invention	изобретение
Technology of semiconductors	технология полу-проводимости
Building block	строительный блок
Handling tool	ручное управление
Computing power	компьютерная мощь
Keyboard	клавиатура

Read ant translate the text:

The Development of Computers in the USA

In the early 1960s, when computers were hulking mainframes that took up entire rooms, engineers were already toying with then – extravagant notion of building a computer intended for the sole use of one person, by the early 1970s, researches at Xerox's Polo Alto Research Center (Xerox PARC) had realized that the pace of improvement in the technology of semiconductors – the chips of silicon that are the building blocks of present – day electronics – meant that sooner or later the PC would be extravagant no longer. They foresaw that computing power would someday be so cheap that engineers would be able to afford to devote a great deal of it simply to making non-technical people more comfortable with these new information-handling tools, in their labs, they developed or refined much of what constitutes PCs today, from ''mouse'' pointing devices to software ''windows''.

Although the work at Xerox PARC was crucial, it was not the spark that took PCs out of the hands of experts and into the popular imagination. This happened in January 1975, when the magazine Popular Electronics put a new kit for hobbyists, called the Altair, on its cover, for the first time, anybody with 400 dollars and a soldering iron could buy and assemble his own computer. The Altair inspired Steve Wosniak and Steve Jobs to build the first Apple computer, and a young college dropout named Bill Gates to write software for it. Meanwhile, the person who deserves the credit for inventing the Altair, an engineer named Ed Roberts, left the industry he had spawned to go to medical school. Now he is a doctor in a small town in central Georgia.

To this day, researchers at Xerox and elsewhere pooh-pooh the Altair as too primitive to have made use of the technology they felt was needed to bring PCs to the masses. In sense, they are right. The Altair incorporated one of the first single- chip microprocessor – a semiconductor chip, that contained all the basic circuits needed to do calculations – called the Intel 8080. Although the 8080 was advanced for its time, it was far too slow to support the mouse, windows, and elaborate software Xerox had developed. Indeed, it wasn't until 1984, when Apple Computer's Macintosh burst onto the scene, that PCs were powerful enough to fulfill the original vision of researchers.

Researchers today are proceeding in the same spirit that motivated Kay and his Xerox PARC colleagues in the 1970s: to make information more accessible to ordinary people. But a look into today's research labs reveals very little that resembles what we think of now as a PC. For one thing, researchers seem eager to abandon the keyboard and the monitor that are the PCs trademarks. Instead they are trying to devise PCs with interpretive powers that are more humanlike – PCs that can hear you and see you, can tell when you're in a bad mood and know to ask questions when they don't understand anything.

Exercice 1. **Find in the text above the English equivalents for the following words and expressions:**

- ручное управление
- эксперт
- клавиатура
- электроника
- компьютерная мощь
- изобретение
- микропроцессор
- технология полупроводимости
- делать вычисления
- достаточно мощный
- строительный блок

Computers and work

Jobs in computing

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 instruction.

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 manage the accuracy and efficiency of databases.

SUPPORT

Computer operators control computer data processing.

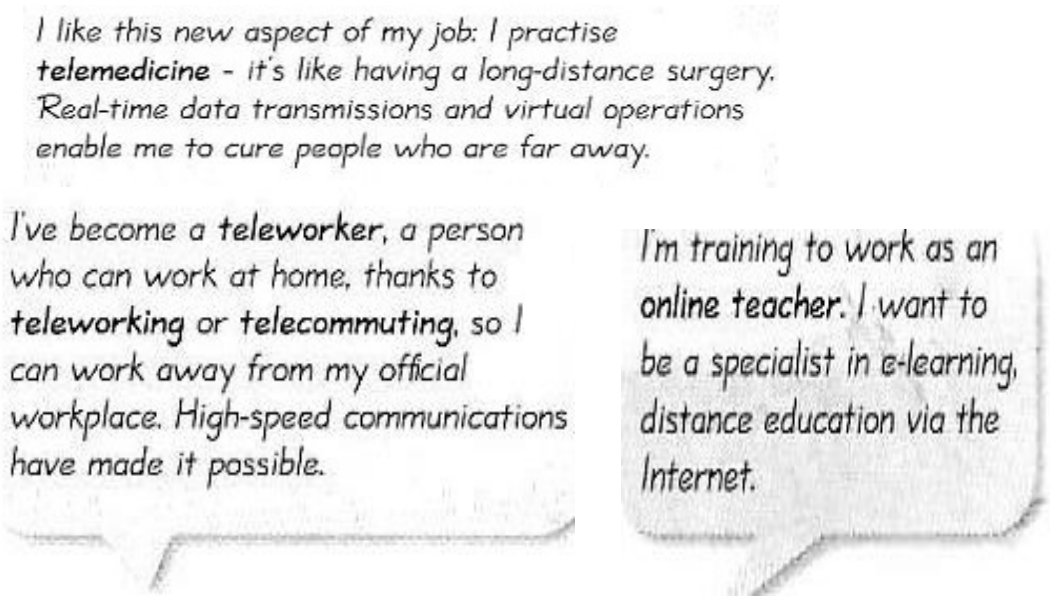
Help desk technicians are in charge of troubleshooting, the solution of technical problems.

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

Technical writers write the instructions for ICT systems.

Computers and jobs: new ways, new profiles

With the development of ICT, there has been a change in the way lots are done.



Professional English in Use ICT

Exercise 11 **Classify these jobs under the headings that best describes their function. They all appear in «Jobs in computing»**

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

Analyze ---
Design/develop ----
Manage ---
Support ---

Exercise 12 **Draw lines between the columns to make true sentences about jobs in «Jobs in computing»**

A technical	designer	controls all the operation and people in a project.
A project	writer	writes documentation of a program or device.
A web	specialist	plans and keeps websites updated.
A security	manger	designs applications against viruses.

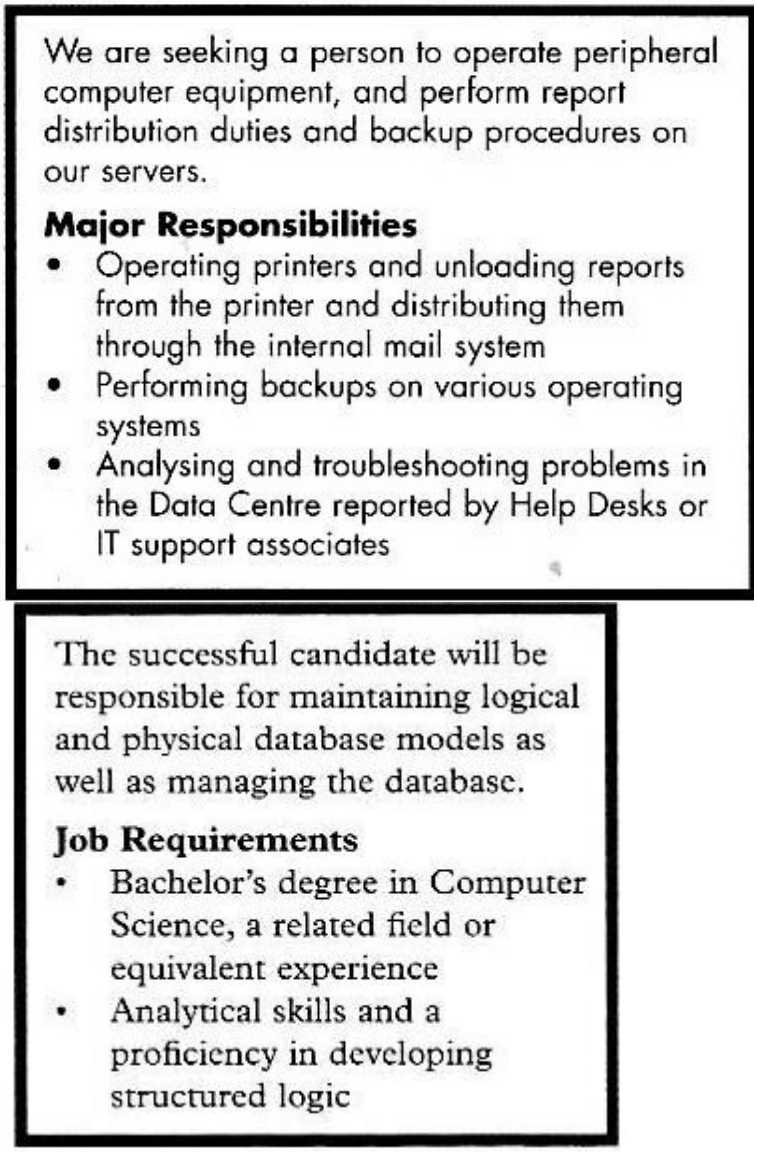
Exercise 13. **Complete the text with the words from «Computers and jobs: new ways, new profiles».**

The use of ICT has 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 enable doctors to participate (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.

Exercise 14. **What jobs in «Jobs in computing» are being offered in these advertisement?**



We are seeking a person to operate peripheral computer equipment, and perform report distribution duties and backup procedures on our servers.

Major Responsibilities

- Operating printers and unloading reports from the printer and distributing them through the internal mail system
- Performing backups on various operating systems
- Analysing and troubleshooting problems in the Data Centre reported by Help Desks or IT support associates

The successful candidate will be responsible for maintaining logical and physical database models as well as managing the database.

Job Requirements

- Bachelor's degree in Computer Science, a related field or equivalent experience
- Analytical skills and a proficiency in developing structured logic

Exercise 15. **Answer the questions.**

1 How have computers changed the way you work or study?

2 Make a list of the advantages and disadvantages that teleworking might have for you.

Exercise 16 **Read the article about Telecoms and IT in finance and answer the questions below.**

The Impact of Technology on Global Stock markets

The period of time between a trade being initiated and its completion is called latency – a key parameter for everyone involved in trading.

Before technology was introduced, the average number of daily trades at the London Stock Exchange was 20,000, amounting to about £700m worth of shares changing hands. After the introduction of automated trading, the figure went up to a daily average of 59,000 trades. This year saw nearly £18bn of transactions in one day.

'The speed and volume of trading is much, much higher these days,' said Sebastian Kolksmann who works for London Investments in Frankfurt. 'Transaction flows are faster driven by end investors, by electronic trading, algorithms, and lower latency.'

'Time is money as they say,' commented Bob Sherunkle, a New York Trader for London Investments. 'If our technology gets me information a nanosecond faster than everyone else, I may be able to sell a stock quickly, a split second before its price drops, or I may be able to buy another stock before its price starts to rise and it's more expensive for everyone else. That's why we need the fastest connectivity, the quickest processing, and the lowest latency out of our systems.'

So where do all these data transactions happen? Each exchange will have its own data centre that stores all the historic and current trading data with inputs, buy and sell requests, or market information, coming from all over the world. Trading companies are now starting to host their own server equipment at the stock exchanges' data centres, providing sub-millisecond access to the trading systems and market data, thereby eliminating network latency.

For member firms that are connected to Stock Exchanges via 100 megabit IP connectivity, collocating their servers could reduce roundtrip trade execution and market data transmission times by another one and a half milliseconds. Typically transaction capacity at exchanges is around 20,000 continuous messages per second and end-to-end execution latency for a deal is from about six milliseconds to three milliseconds.

Watching all this going on in dealer rooms around the world are the traders, surrounded by numerous screens showing red and green numbers and banks of phones allowing them to receive instructions from their clients to buy and sell, and effect those requests using their computers or calling another trading house. Just one exchange such as London will have more than 100,000 screens connected directly or indirectly to its data centre and trading systems. Of course, some dealers may be really putting IP networking technology to good use and have the same data on their laptop screen, while they are sitting on a beach somewhere in the world, trading virtually.

1 What was the main effect of the introduction of automated trading?
2 Where are more and more trading companies now keeping their servers?
3 How many messages can typically be sent per second?
4 Do you think the technology mentioned in the article will mean the end of centralized stock exchanges such as London, Tokyo< and New York?
5How many messages can typically be spent per second?

Grammar

Exercise 1. **Write sentences with as ... as . . . .**

1 St. Petersburg is older than Krasnodar. Krasnodar is not as old as St. Petersburg.

2 My computer is quicker than yours.

3 You start work earlier than me.

4 We worked better than them.
5 We've been here longer than you.
6 6 She's more nervous than him.

Exercise 2. **Complete the sentences. Use a superlative (the oldest etc.).**

1 This tree is very old. It's the oldest tree in the garden.
2 It was a very hard day. It was.....of my life.
3 It's a very good exhibition. It's .....I've ever seen.
4 She's a very popular actress. She's.....in the country.
5 It was a very bad mistake. It was.....I've ever made.
6 It's a very pretty city. It's .....I've ever seen.
7 It was a very cold day. It was ..... of the year.
8 He's a very sensitive person. He's.....I've ever met.

Keys

Topic 15	Topic 16
Ex.1	Ex. 1
1piracy,a	1 screen reader
2physhing,f	2head-mounted display
3trojan house, d	3interactive
4scam, h 5worm,	Whiteboard
e 6cyberstalking,	4GPS, DVD recorder
c	
	Ex.2
Ex.2	1technological dependence
1malware	2computer addiction
2digital certificate	3electronic waste
3firewall 4spyware	4loss of privacy
5virus	5cybercrime
6antivirus	
7scanner	Ex.3
	publishing:
Ex.11	design newspapers,
1worm	publish e-books
2BotNet	**home:**
3zombies	surf the Web,
4 denial of service	download files,
5 identity theft	retouch photos
6keylogger	**banks:**
7pharming	make calculations,
8spyware	store information

	offices: write letters and faxes, send emails. Ex.5 1microchips 2design 3financial 4electronic 5Internet 6print Ex.6 A-2 B-3 C-6 D-8 E-7 F-4 G-1 H-9 I-10 J-5 Ex.9 1CPU 2mouse 3monitor 4printer 5webcam 6keyboard Ex.10 1-c 2 b 3 d 4 a
Topic 17 Ex.1 1False. The WWW is a component of the Internet. 2True 3True 4 False. They are two types of broadband connection. 5False. They are types of modem.	Topic 18 Ex.8 1-C 2-D 3-D Ex.9 1PDA 2laptop

6True 7 True Ex.2 1mailing list 2TELNET 3video conference 4newsgroups 5FTP 6email 7Internet telephone 8chat and instant messaging Ex.3 1wireless 2broadband 3modem Ex.5 1IP 2HTML 3UPL 4HTTP 5WWW Ex.9 1interactive 2network 3navigate 4create 5random 6transfer 6cyberspace	3desktop computer 4 computer 5handheld PC 6PDA 7supercomputer Ex.10 1-B 2-A 3-D Ex.11 1scam/fraud 2phishing 3disclose 4fraudsters 5phaming 6fake 7bona fide 8laundring Ex. 12 1-F 2-T 3-F 4-T
Topic 19 Ex.1 1-e 2-c 3-f 4-a 5-d 6-b Ex.2 1chips 2binary	Topic 20 Ex.3 1information system 2control system 3control system/ communication system 4communication system 5information system 6communication system Ex.4

3slots 4clock 5gigaherts 6buses 7expantion 8 bios 9 motherboard Ex.3 1 renewal 2 chain 3 continuous 4 terminals 5 stock 6 schedules 7 trends Ex.4 1F(brain) 2T 3F(motherboard) 4F (ASCII) 5F (eight) 6F (allow) 7F(bigger) Ex.5 one chip integrated circuit arithmetic and logical operations calculations temporary switch on permanent instruction run simultaneously character Ex.6 1word processor 2menu bar 3typeface 4header 5footer 6layuot 7merge	1DAD 2call 3Internet 4fax 5digital 6 teletext

Ex.7 1front 2word wrap 3find and replace 4spell chocker 5thesaurus 6toolbar 7identing	
Topic 21 Ex. 11 a+b network analyst/ system analyst c+d software engineer/hardware engineer e+f database engineer/network administrator g+h help desk technician/trainer Ex.12 A technical writer writes documentation of a program or device. A project manager controls all the operations and people in a project. A web designer plans and keeps website updated. A security specialist designs applications agains viruses. Ex.13 1teleworking/excommunicating 2teleworkers 3telemedicine 4online teachers 5 computer animator 6 desktop publishers Ex.14 1 computer operator 2data analyst	

Источники

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по английскому языку

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