### **1 Definition of software.**

Software is a set of programs that makes hardware work. Some people think that this is a combination between artistry and engineering. Someone admits that software comes from heaven when you have good hardware. And all definitions will be correct. Software is made for translating code that a person wrote into binary code that a computer understands. Actually, this process is called compiling. Nowadays there are a lot of software developers that can work at the same company and build the same project for months and even years.

### **2 Categories of software.**

There are two categories of software systems and applications.

1. System software designed to run a computer's hardware and application programs. Users don't interact with system software. It can run independently of the application software. Example: operating system device driver, utility software and programming languages.

2. Application software is software designed to help the user perform specific tasks. Users always interact with application software while doing different activities. It can't run without the presence of the System software. Examples: web browser, word processing, spreadsheet software and presentation software.

### **3 Types of software.**

Software can be divided into 6 parts: System software, application software, operating system, utility software, programming software and device driver.

1. System software is designed for computer - centric tasks, runs independently of the applications and designed to operate, control and extend the processing capabilities of the computer.

2. Application software is designed to help people accomplish tasks, to satisfy a particular need of the environment and can't run without system software.

3. Operating system is a program that acts as an interface between software and computer hardware. It communicates directly with the user and controls the execution of all programs. Also, it runs the user interface.

4. Utility software helps users configure, analyze, optimize and maintain a computer. Also, it makes the system operations emoother and more efficient and supports computer infrastructure and manages system resourses.

5. Programming software is a programming tool for programmers that helps to write code.

6. Device driver is a computer program that operates a particular type of device that is attached to a computer.

### **4 Definition and types of operating systems.**

Operating system is a program that controls key elements of the user interface, which includes the visual experience as well as the keyboard, mouse and others. The most popular operating systems:

- The Windows Family(designed by Microsoft and used on most PEs)

- Mac OS(created by Apple)

- Unix (a multiuser system found on mainframes and workstations in component installation)

- Linux (open source software developed under the General Public License)

An operating system is a set of programs that lies between application software and the computer handware.

### **5 Definition of copyright and license agreement.**

Copyright is a type of intellectual property that protects original works as soon as they are fixed in a tangible form of expression.

A licensing agreement is a legal contract between two parties that allows one party to use the property of the other party.

### **6 Types of software licenses.**

1. Demoware is distributed for free and often comes preinstalled on new devices, but it is limited in some way until you pay for it.

2. Commercial software is usually sold in retail stores or on Websites. Most of this software is distributed either under a single-user license that limits use to one person at a time or multi-user licenses to schools, organizations, and businesses.

3. Freeware is copyrighted software that is available for free, it is fully functional and requires no payment for its use. This license permits you to use the software, copy it, and give it away, but the license does not permit you to alter or sell the software.

4. Open source software makes source code available to programmers who want to modify and improve the software. It may be sold or distributed free of charge in a compiled form, but it must, in every case, also include the source code.

5. Shareware is copyrighted software marketed under a try-before-you-buy policy. It is similar to demoware but typically does not have built-in limitations that are removed when a consumer switches to a paid version.

### **7 Pros and cons of using open source and proprietary software.**

Open source:

* free of charge.
* freedom from venders.
* no licenses to follow.
* different platform.
* more controller data.
* high data.

Proprietary:

* better looking interface.
* fewer bugs.
* free support.
* cheaper training.
* more features.
* better quality.

### **8 Software troubleshooting basics.**

1) If a software program refuses to load on is running slowly-dose all other open applications.

2) Shutting the program down and restarting it can resolve a conflict with other programs.

3) If it doesn't help - try rebooting your computer.

4) Find help on the Internet.

5) If newly installed software may conflict with other software you need to install the othen antivirus product.

6) If you have recently removed one program from your computer-add a program or update DLL files.

7) Use issuing patches to fix bugs.

8) Scan the computer using antivirus and antimalware tools to find problems.

9) Troubleshooting the environment in the operating system.

### **9 Definition of software piracy.**

Software piracy is illegal use, copy or distribution of software.

### **10 Types of software piracy.**

1. Soft lifting - when too many people on a network use one main copy of the program at the same time; this becomes a type of software piracy if the license doesn't entitle you to use it multiple times.

2. Hard disk loading - is often committed by hardware dealers; this form of piracy involves loading an unauthorized copy of software onto a computer being sold to the end user; this makes the deal more attractive to the buyer, at virtually no cost to the dealer

3. Client-server overuse - sharing a program with someone who is not authorized by the licence agreement to use it; often involves purchasing a single licensed copy of software and then loading the software onto several computers, in violation of licensing terms.

4. Counterfeiting - producing fake copies of software, making it look authentic; this involves providing the box, CDs, and manuals, all designed to look as much like the original product as possible.

5. Online piracy - the fastest-growing form of piracy with the growing number of users online and rapidly increasing connection speeds which have attracted an extensive following to the exchange of software on the Internet through "warez" sites with cracked software.

### **11 Dangers of software piracy.**

1. Software piracy is a severe felony.

2. If you are found guilty, hefty fines can be imposed on you or you could even face jail time.

3. Malware attacks should scare you. Because this means that you are losing the very same thing you have been working on.

4. Using pirated or unlicensed software puts you at risk of malware attacks.

5. Some of the common risks you are exposed to when using unlicensed software include credit card and banking info theft, identity theft, ransomware (being locked out of your system until you pay the ransom), ad fraud and even risk the quality of your work being compromised.

6. Pirating and the use of unlicensed software does actually equate you to physically robbing a store.

7. Pirated and unlicensed software is more likely to crash, lose files, and even corrupt files.

### **12 State of issue globally nowadays.**

Law enforcement

Pirated stock

Intellectual property

Copyright piracy

Unlicensed copy

End-user piracy

Any 5% of software in Vietnam is legal.

Governments in Asia have gained some ground in the fight against copyright piracy.

### **13 Preventive measures against using pirated software.**

1. Legal protection.

Most companies make sure their software is officially protected by a user agreement. Letting consumers know that making unauthorised copies is against the law helps prevent people from unknowingly breaking piracy laws.

2. Product key.

This is the most popular anti-piracy system, a unique combination of letters and numbers used to differentiate copies of the software. It ensures that only one user can use the software per purchase.

3. Online verification.

Companies like Adobe have moved their software into the cloud and require online authentication. Before using their software, you must log into your account, and if another computer or device is already using the program, it must be logged out.

4. Tamper proofing.

Some software programs have built-in protocols to shut down and stop working if the source code is modified. It prevents people from pirating the software through the manipulation of the program's code.

5. Watermarking.

Specific marks, company logos, or names are often placed on software interfaces to indicate that products are legitimately obtained and are not illegal copies.