Using the Linux Operating System and its Capabilities in Technology Education

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Abstract: *Quality education and training of personnel in accordance with the reforms being carried out in the Republic of Uzbekistan, the priority directions of the socio-economic development of the country, capable of independent thinking, able to organize work consistently in the current market conditions, regarding the implementation of a unified state policy aimed at training highly qualified competitive personnel works are being carried out. Industrial robots and robotics systems are being widely used in today's high technologies. The usage of robots and robotic systems in modern technologies is increasing year by year.*

Keywords: operating system, Lunix, disk, program, robotics, computer, Windows, information, file.

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Linux is a modern Unix like operating system, a POSIX-compliant "OS" for personal computers and workstations. Linux is a freely distributed version of the Unix system. This system was developed by Linux Orvald, who proposed the condition of making the codes open.

Thus, the Linux system was created by a large number of programmers and Unix devotees communicating with each other over the Internet.

Originally, Linux was intended as a "handmade" Unix-like system for the i80 386-processor IBM PC-type machines. But later, Linux became so popular that it was supported by so many companies that today the current versions of this operating system were developed for almost all types of processors and computers. Linux-based supercomputers have also been created. The system uses clustering, modern interface and technologies.

The capabilities provided by the Linux "OS".

➢ Provides an opportunity to legally (openly) have a modern "OS" for use both at work and at home;

➢ has a fast movement level;

➢ strong, stable, works without interruptions;

➢ free from the virus effects;

➢ provides an opportunity to fully use the capabilities of modern "PC" s and removes limitations in the use of computer memory and processor resources typical of Dos and MS Windows;

➢ effectively manages multitasking and priorities, tasks (remote, sending e-mail via modem, formatting diskettes and etc.) related to science do not interfere with interactive work;

➢ allows easy integration of the computer into local and global networks, including the Internet;

➢ works with networks based on Novell and MS Windows;

➢ provides the ability to execute applications of Unix, MS Dos and other Operating Systems in different versions of MS Windows given in the format;

➢ it makes it possible to use a large number of different software packages that are compiled and distributed openly in the Unix world together with the source code;

➢ suitable for Linux and other Operating Systems, object-oriented, provides a rich set of instrumental tools for developing complex applications of any level, including a client-server class system with a multi-window text or graphical interface;

➢ provides the user and especially the developer with an excellent learning base in the form of rich documentation and introductory texts of all components, including the Operating System core;

➢ allows anyone to try their hand at development, communicate and collaborate with any Linux Operating System developer over the Internet, and contribute to the system as a co-author.

Who needs the Linux Operating System and why? Many categories of users may be interested in using Linux for various reasons.

Linux is a full-fledged 32-bit (64-bit is available on the DEC AXP platform) operating system that uses the computer to its full potential. Linux turns the IBM PS PC into a real workstation. The price of a personal computer is much lower than the price of a workstation.

The price advantage is huge here because, in addition to the hardware savings, Linux's software is openly-licensed and does not restrict free copying of the system. Thousands of megabytes of cores, editors, streamers, SUBD, network, graphical interfaces, games and many other programs are provided free of charge and legally.

In the piracy market, it is common practice not to pay for software. But Linux is completely different, no one persecutes its users, and else they provide full documentation. What's more, the original texts of all the programs are also given. Pirates do not even think about it.

Linux is of great interest to users and application system developers. Imagine that a company with several branches is geographically located in different districts of the city and even in other cities and countries. The main enterprise has a database server. Clients, workplaces in branches interact with the server through the network. Such a system is implemented quickly, cheaply and conveniently in Linux. Remember the stability of Linux. This is where it comes in handy!

Linux is a multithreaded, multiuser full-fledged operating system (like other versions of Unix). It can run simultaneously multiple programs on a single machine, multiple users, in parallel.

The official release of GNU/Linux Operating System (the core of the operating system) was created in 1994. Later, the proliferation of programs for this Operating System led to bring about Linux distributions. There are about a hundred "official" Linux distributions. Some distributions come with 1-3 Floppies, while others come with 7 CDs. The Linux Operating System is worked on by programmers from all over the world, so Linux includes many languages.

The advantages of Linux are its reliability, stability, and its protection against viruses. In Linux, there are no "holes" that are common in the Windows Operating System, and even if there are, errors are corrected

quickly free of charge, for this, the user (administrator) is required to obtain new versions of the software from the Internet in time. The user can correct the error himself, of course, for this it is certainly necessary to have experience of being able to read and understand Linux codes.

Installing the distribution creates difficulties for those who are used to the shortcomings of Linux and the Windows Operating System. During the installation process of previous distributives, they asked a lot of incomprehensible questions (usually not encountered during the installation process of Windows), which put users in a difficult situation. Generally, Linux has lived on server computers and on the computers of programmers and aspiring programmers or administrators. Commercial companies mainly use Linux Operating System in order to avoid conflicts caused by unlicensed usage of Windows Operating System. This period of increasing disagreements was at the creation period of Windows XP.

The fact that Linux occupies a high place as the main system of server Operating Systems and professional computers, and the funding of various multinational corporations for the development of the free software project makes a great contribution to the further development of Linux. But Linux is rarely found on personal computers. Linux was developed by programmers to make it convenient for themselves.

From the point of view of the initial user of Linux, the following advice can be given: firstly, it is recommended to use ASP Linux (www.asplinux.ru) or Alt Linux Junior (www.altlinux.ru) distributive. These distributives are being developed by Russian programmers. It has almost entirely been translated into Russian. Doppix (www.doppix.uz) is one of the distributions translated into Uzbek. There is a type of distributive called Live CD. That is, this distribution is on a CD or DVD, which can be downloaded from a computer CD/DVD-ROM to create a ready-made Linux Operating System. This does not harm your data on the disk.

A distributive that requires very little computer resources is Delilinux (www.delilinux.org). A 486, Pentium I, 16-32 Mb of RAM and 600 Mb of space on a Winchester are enough for its operation. The distribution includes Icewm window manager, text editor and internet browser. In the last decade, imaginations about the requirements for a modern OS have been formed. The Windows system was taken as the default.

The Linux Operating System has two parts that differ from Windows, these are:

The first part is the core of the Operating System. The programs contained in it bring the essence of the work of various devices to a single standard, which allows application programs to address any device of the computer according to a single standard. It should be noted that the core of the Linux Operating System is the same for all distributives. Only the core is updated by developers over time, adding capabilities to work with new devices, but the operation process is the same.

The second part is programs that create an interface with the user. A person communicates with the core not directly, but indirectly, with shell-programs that provide a special convenient interface. A shell-program can even have an MS DOS like interface and a Windows like interface. Shell-programs for Linux are very diverse, which one to choose depends on the discretion of the user.

But the main task of any Operating System is to work with files, because files are an indivisible unit of information. Whether we draw, type, or create music, it's all about working with files. Applications provide a simple and convenient interface for working with files. Windows has an Explorer program for this, other software developers recommend Total Commander. Linux also has file managers that make it easier to work with files.

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