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Analysis of Electronic Information and Educational Resources Aimed at the use of Innovative and Pedagogical Software

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Abstract: In this article, research in the field of physiology and hygiene of the organization of educational processes is one of the most pressing issues, which shows that the mental capacity of students to use a computer changes inversely with the amount of information assimilated. In order to eliminate these causes, the following tasks were analyzed from this study:

- increased load on the visual organs;
- the cessation of the initial excitement of receiving news;
- accumulation of negative emotions due to possible uncertainties and mistakes;
- the adoption of large amounts of educational resources prevents the active development of subsequent information resources.
- This necessitates the development of pedagogical software in the educational process, taking into account the necessary didactic, psychophysiological and methodological requirements.

Keywords: Teaching software, multimedia, visual aids for training, modern information technologies, types of information, original types of information.

Introduction. Today, a variety of teaching software tools are widely used in the education systems of developed countries around the world. Teaching visual aids are created using proprietary software. The use of such programs in the educational process leads to high results, because the student hears, sees and masters at the same time receiving information about the knowledge transmitted in the classroom and performing tasks [1]. Copyright software is a software tool designed to partially or completely automate the learning process using computer technology. They are one of the most promising forms of improving the efficiency of the educational process and are used as a teaching tool of modern technology [2]. Creating e-tutorials using authoring software is very easy. E-textbooks make it as easy as possible to understand and memorize the most important concepts and laws using computer technology [3]. Here are some suggestions on how to look or get an appointment for antique items.

Multimedia is the ability of a computer to process information in a variety of forms, such as color graphics, dynamic effects in text and graphics, sound output and synthesized music, animation, and full-length video clips [4].

The term “multimedia” is derived from the Latin word multimedia: “multi” means many and “media” means environment. Different software tools are used depending on the field of multimedia application. That is, they perform multimedia presentation, execution, creation, and

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more. Based on these tasks, software is divided into several groups. Multimedia system software can be divided into four types:

- system multimedia software;
- professional multimedia software;
- multimedia functional software;
- Multimedia information converters (from one to another).

Multimedia operating systems are operating systems that handle various types of information (text, sound, graphics, video). This operating system is designed to work with different types of information - text, sound, graphics, video [5]. Multimedia operating systems include different versions of Microsoft's Windows operating system. Unix was not originally designed to process different types of information. It is designed for more text processing and programming [6]. To process other forms of information, you only need to install additional software. Such programs are not part of the Unix operating system.

Multimedia interfaces serve to facilitate the process of human communication with computers. Due to the need for complex operations to be performed and the changes and fragmentation of content, multimedia interfaces are often performed intelligently. These include: speech interface, graphical, mimetic, natural language interface (TT-interface) and pseudo-TT-interface.

Typically, interfaces are produced in virtual or transparent structures. A virtual structure is just that, it doesn't exist in real life, and its functions are modeled using real structures [7].

The standard multimedia software of the operating system activates the phonograph (for recording and editing speech), universal playback (for audio and animated files), mixer (to ensure the accompaniment of sounds recorded in different files), regulates audio recordings (regulator), i.e. height and norm, presentation software (for creating and displaying multimedia presentations designed to move content from a human information system in a simple form). Professional software and functional software differ in the breadth of their functionality [8].

Local and telecommunication question-and-answer systems are divided into speech, video-touch, and graphics, depending on the interface used. They include software tools that include templates to help you create these types of systems. Local systems are intended for use on a single computer only. Telecommunication systems are designed for remote computers [9].

Graphic software tools are graphics editors, scene editors (for example, to create animations), programs for preparing graphic presentations. Professional software includes only functionally powerful, multifunctional software. Such programs include 3D-Studio, Macromedia Flash and others [10].

The role and importance of audio and video programs, which are the main software tools of multimedia, is very important [11].

Audio software - includes music, speech, acoustic editors, speakers, playwrights. They are all designed to be entered into a computer and to extract various audio files from it, to create a voice accompaniment to a presentation [12].

Video Editors - Designed to process video captured with a camcorder (“live video”). Video editing is divided into two types: linear and non-linear. In both cases, a computer, a television player (for input) and a magnetic tape player are used to output the converted video from the computer. Video editors: Pinnacle Studio, Format Factory, Adobe Premiere Pro CS3, VirtualDub 1.10.1 [13].

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Classification of hardware and software of multimedia

The word multimedia is now widely used in our daily scientific endeavors. In order to implement multimedia technologies in education, the first question is "What is multimedia?" Let's answer the question. Different professionals have different interpretations of this term. To summarize, multimedia can be described as follows:

Multimedia is an integrated approach to the full delivery of educational materials to the audience using computer software and hardware [14].

Multimedia is one of the fastest-growing modern information technologies, which includes the following traditional types of information: text, tables, various decorations and original types of information: speech, music, TV footage, video clips, clips, animated information.

- CPU mobility for the processing and display of video and audio information on the computer, the capacity of the data bus, fast and video memory capacity, large capacity external memory, the speed of exchange on computer input and output channels approximately doubling is required;
- A new level of "human-computer-human" interaction. It is easier and faster for the user to get perfect information in a much broader and more comprehensive way in the process of technical communication.

Advantages of multimedia and problems of its use in education. Current practice shows that teaching listeners using multimedia tools is twice as effective as traditional education.

The benefits of multimedia education in education include:

- Possibility of deeper and more perfect integration of educational materials;
- Simultaneous use of different forms of education [15].
- Increased willingness to work closely with other disciplines;
- Opportunity to save time as a result of reduced learning time in the classroom;
- The knowledge gained can be stored in the memory for a long time and put into practice.

There are some challenges to using multimedia in the educational process, including:

- Development of educational materials and other necessary instructions in the form of electronic manuals or in the form of computer training programs;
- use of multimedia elements for the developed educational computer programs.

The use of multimedia in teaching is one of the best ways to improve the quality and effectiveness of teaching. Audio-video communication with the help of multimedia means increases the student's interest in the lesson and the desire to learn. Multimedia hardware includes audio speakers, microphones, video projectors, Web-cameras, TV tuners, CD-ROMs and more. Table 1.

Table 1. technical means of multimedia

Name	Position	Picture
calonka	is a device that reproduces sound and fills the multimedia capabilities with sound along with various images.	

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headset	is a device that reproduces sound and fills the multimedia capabilities with sound along with various images. Only one person can use it.	
Microphone	It is a device that allows you to record sound or output it to a speaker.	
Video projector	The computer displays images on various players or cameras on a large screen.	
video card	is an electronic device that converts existing stored graphics in computer memory into a format that can then be displayed on a monitor screen.	
audio card	The sound card is equipped with a sound system, acoustic systems or individual listeners, as well as microphones for audio input.	
Webcam	acts as a small-sized digital video or camera, recording real-time images and transmitting them over the Internet. This task is usually performed in Skype, Instant Messenger or other applications.	
TV tuner	is a type of television receiver designed to receive television signals of various formats for display on a computer screen.	
CD-ROM	CD reader	
DVD-ROM	DVD reader	
CD-Writer	CD burning device	
DVD-Writer	DVD burning device	
Digital video camera	Video capture and storage	
Cell phones	Provides mobile communication and allows you to record and play audio and video files. Today's cell phones can replace multiple devices.	

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Dictaphones	A standalone device that records sounds on a cassette or memory.	
Audio player	A device that plays audio files. It allows the user to select and listen to new audio files and adjust the volume.	
Video pleer	It is a device that plays video files	

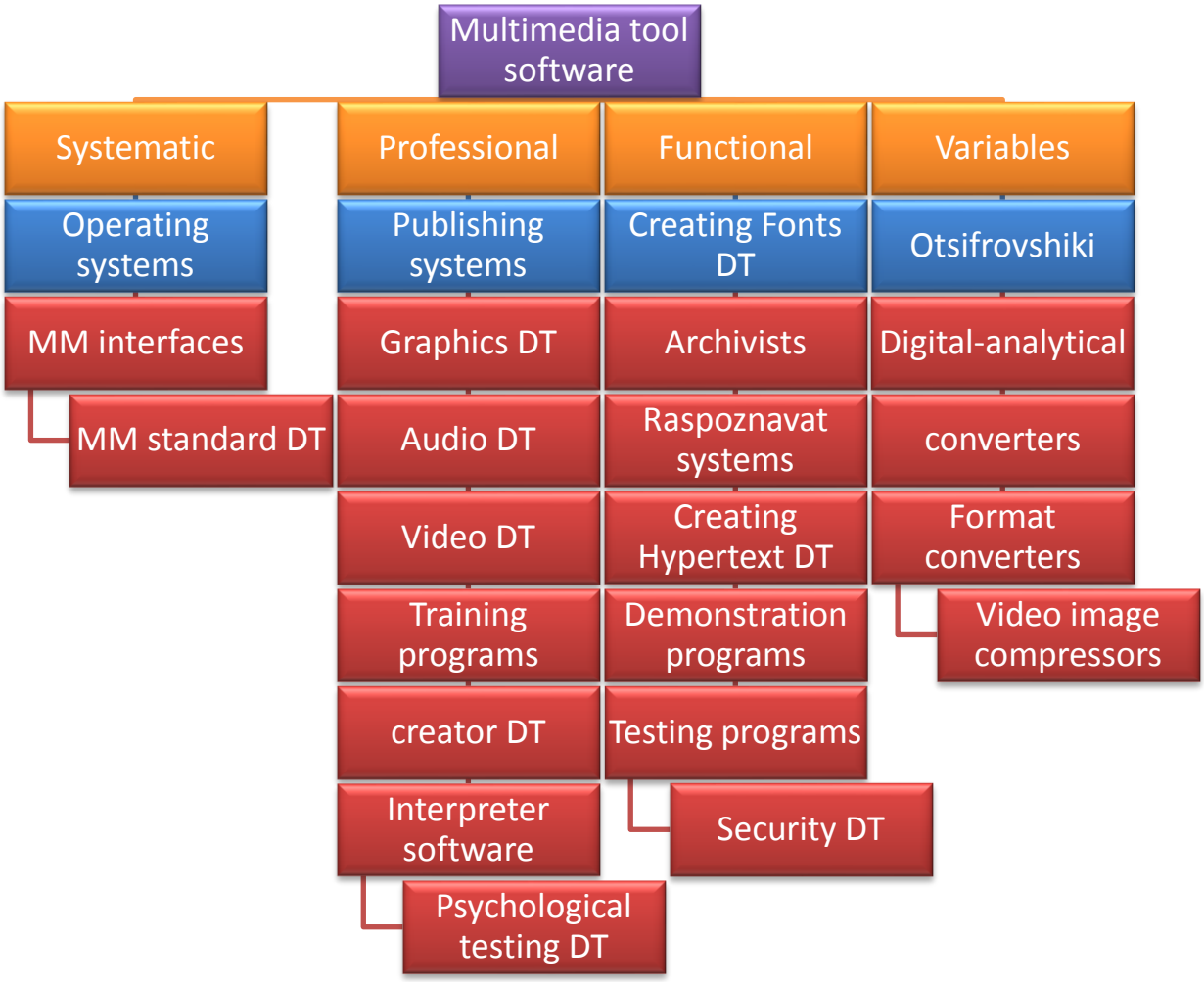

Figure 1. Multimedia tool software structure.

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In addition, the classification of software tools that create multimedia learning resources is very wide. It can be divided into groups as shown in Figure 2. In addition to the groups listed, programming languages are listed separately to expand their functionality

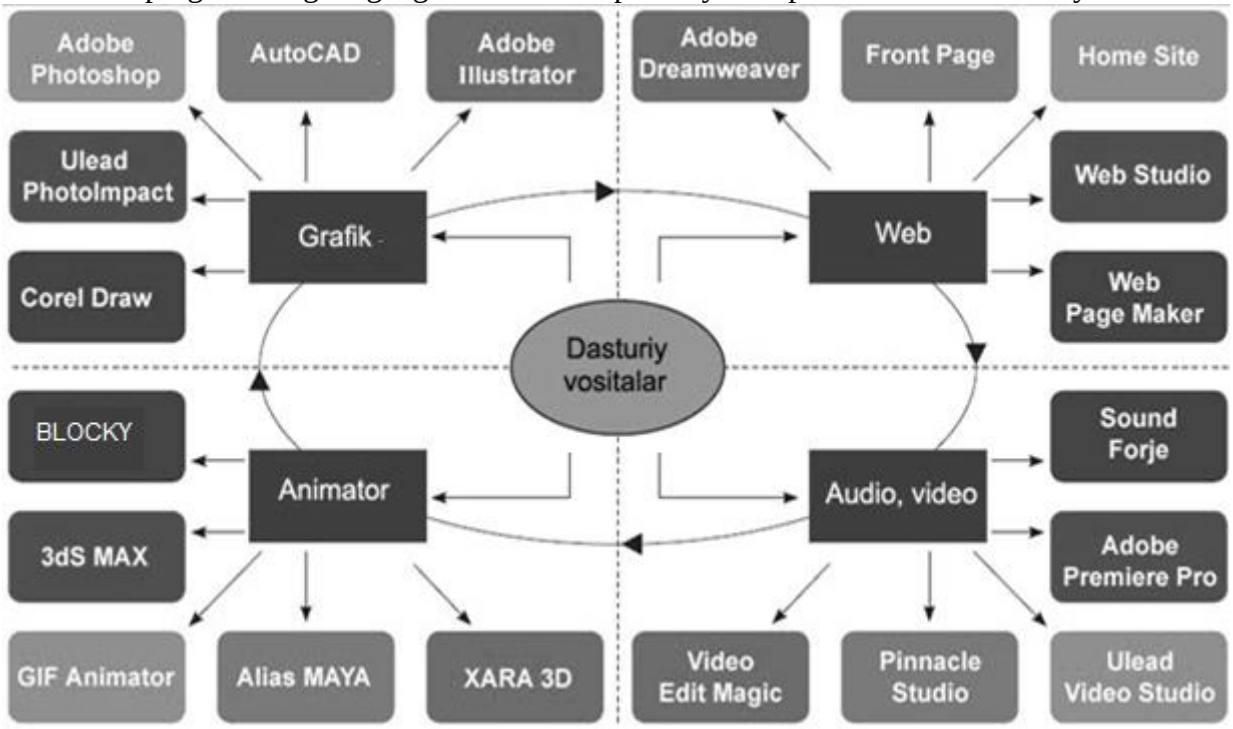

Figure 2. Classification of multimedia creation software

Capabilities of multimedia software. Philosopher and sociologist Jacques Elliott states: "Technology is a collection of all the methods that have been rationally created and are being used very effectively in any field in which humanity is active. Multimedia is the most advanced technology of the information age. The possibilities of multimedia software are so wide that it is widely used in almost all spheres of society. But regardless of the field of application, the goal is to provide a diverse set of information to the audience. The main areas of application can be divided into:

- In multimedia teaching;
- Multimedia information support;
- In multimedia programming;
- In the multimedia business;
- In multimedia games;
- Multimedia in other areas;

In multimedia teaching - one of the main opportunities of multimedia is teaching. In teaching, the audience hears and sees the lecture material and at the same time actively participates in the management of its transmission (for example, allows you to return to obscure or very interesting sections). Multimedia teaching programs, for example, provide fluent pronunciation of a foreign language. In the same way, the lectures written in it are free from mistakes, distractions and distortions that a teacher can make in real life. The main advantage is that you can turn on the computer at any time to see, hear or read the desired part of the material. There are boards and even

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programs (Text-To-Speech) that can read text in a pleasant sound. Another such program is the Speaking Mouse program. When working with this program, not only the sound is pleasant, but also the image quality and the ability to repeat it as many times as you want without forgetting again.

- In multimedia teaching;
- Multimedia information support;
- In multimedia programming;
- In the multimedia business;
- In multimedia games;
- Multimedia in other areas;

Multimedia information - electronic encyclopedias, reference books, dictionaries provide a large amount of information. Multimedia technologies are used in computer and linguistic laboratories, television studios, as well as in libraries and media centers. Visit virtual museums with the help of multimedia technologies, get acquainted with the visual works of artists with the help of three-dimensional graphics, the world's spiritual heritage, explore the museum environment, feel the idea, the nuances of the creation of the work of art, as well as you can feel the location. Multimedia technologies allow you to watch a variety of presentations, videos and documentaries of famous artists. Multimedia publications are a reliable tool for independent learning. In addition, they are convenient and compact in storage. Multimedia Internet resources - the main information is an Internet resource presented in the form of multimedia. For multimedia Internet resources, the following are appropriate:

- Contains a variety of types of information (not just text, but also sound, graphics, animation, video, etc.).
- Highly visual presentation of materials.
- Can use different types of materials: text, graphics, audio and video.
- Possibility to use it for creative work in various fields of art.

Multimedia in programming. It is a new technology in the creation of modern software products. This frees the non-professional user from the complex task of programming objects such as dialog menus, beautiful images, synthesized sounds, music sounds, various effects of dynamic graphics.

Multimedia is used in other fields - multimedia cartography, driving lessons, pilots and astronauts. Collectors can also create a catalog of slides with images of postage stamps, labels, and paintings in the art gallery. The advent of the multimedia system has led to revolutionary changes in various fields.

Conclusion. In the fight against information threats, the diversity of educational issues, the diversity of educational content and teaching materials, the dependence of knowledge on the individual characteristics of students and other factors have a serious impact on the educational process and its organization. and a responsible approach. If all the organizers of modern information technologies are involved in the organization of the lesson process and the lesson is conducted with the necessary technical and communication equipment, students will be more interested in mastering the topic and will be more interested in independent thinking and research. In addition, the introduction of advanced pedagogical technologies in the teaching of science and

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the use of multimedia technologies and teaching methods serve as a unique innovative approach to the formation of both theoretical and practical knowledge in students.

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