COMPUTER GRAPHICS AND WEB DESIGN IN EDUCATION AND SOCIETY

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Abstract: *This article reflects an improved method of teaching computer graphics and web design, and modern automated design programs, which are necessary for the use of our lives. It also describes the main goals and tasks of teaching computer graphics, methodological foundations of image creation, processing using software and hardware basics.*

Keywords: *3D MAX, Flash MX, Adobe Photoshop, HTML, Corel Draw, PHP, Pictogram, Color model, AutoCad, Paint NET, Raster.*

Due to the rapid development of computer graphics and design and the updating of both technical and software tools, there is a need to constantly develop the course and learn new directions in this field. In recent years, great progress has been made in this field. In the following years, displays that can display 16 million different colors, scanners that enter graphic information, and graphic workstations appeared. As a result, in the field of software tools,

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programs that can depict real reality on a computer have appeared. Studying the theoretical and methodological foundations of computer graphics and web design, as well as acquiring practical skills, is the basis of the computer graphics course.

Computer related field of computer graphics includes all types and forms of representation of images by human perception. Computer graphics are used not only in the computer world, but also in the following areas of human activity: scientific research (structural and vector visualization), medicine (computed tomography), design experiments, etc.

A necessary tool in areas such as computer graphics and animation, film, advertising, art, architectural presentations, creating logos and images, simulating forms, as well as games and educational programs for computer creation. Instructions for the use of new computer graphics are constantly being studied, and accordingly it is appropriate to develop pedagogical and methodological approaches that are widely used in the training of future specialists in this regard.

This problem is of particular importance in connection with the widespread use of mass media and computer graphics. The need for extensive use of graphics

applications have grown especially significantly, thanks to the global development of the Internet, primarily the World Wide Web, a service that connects millions of people "home pages" to one "spider web". It is difficult to imagine any design web page (website) without computer graphics, pictures and animation. Especially in today's competitive process, the fact that the website (website) stands out and attracts the attention of the masses requires a special approach.

In the educational system, education and upbringing using information technologies and informatization of all related processes are brought to increase the effectiveness of education.

The purpose of teaching the subject is to show students the theoretical foundations of computer graphics, introduce students to the operating systems of modern computer graphics and teach them how to work with modern graphic editors, master the graphic capabilities of modern application packages, create new information and presentation of manufactured products, and it consists of organizing its transfer, polishing the created graphics, teaching how to express the form in an exhibition way, and forming the appropriate knowledge, skills and competence of students in mastering modern computer graphics and design tools and their use.

First, let's get acquainted with graphic editors.

1.	Paint NET is a graphic editor that replaces the original simple graphics program.

2.   AutoCad is a program for drawing the most complex projects.

3.   Adobe photoshop is a program for processing raster graphics.

4.   CorelDraw is a graphic editor designed to work with vertical graphics.

In raster graphics editors, each image is built on the basis of points, i.e. pixels. Files created using these programs can be saved in *.bmp, *.jpg, *.psd, *.tif and other formats. These types of files are characterized by bright colors and high quality. As their disadvantage, it should be mentioned that the quality of the image is lost when the image is enlarged, and it takes up a lot of space in the memory. Therefore, it is often recommended to use them in the processing of ready-made images.

Computer graphics are divided into 3 types depending on the methods of image formation:

1. Raster graphics.

2. Vector graphics.

3. Fractal graphics.

They differ from each other by the technologies of creating and processing information in the form of images.

A raster graphic is a matrix made up of geometric figures (pixels) with a very small area, such as squares. Each pixel can have its own color. A set of rasters with different colors makes up an image. Depending on the location of the pixels on the surface of the image, rasters are divided into different types: square, rectangular, circle, and so on.

Vector graphics - the formed image is composed of a set of simple graphic objects, corresponding to its typical element. The main element of a vector image is a line.

Fractal graphics - formed images are based on mathematical calculations, just like vector graphics. But it differs from it in that it does not store any objects in the computer memory. The image is built by an equation (or system of equations), so you don't need to store anything except the formulas.

Design (from English design — engineer-constructor, from Latin designere — to measure, measure) is a creative activity, the main purpose of which is to determine the formal quality of industrial products. This quality, as well as including the outer edges of the product, mainly makes it unique from the point of view of the buyer and the manufacturer of this structural and functional relationship. Design encompasses all aspects of the environment that surrounds man, connected to industrial production.

Types of design are distinguished by the differentiation of the design subject, the goals and methods of the design work, and its final result. There are the following types of design:

— graphic design;

— industrial design;

— web design.

Web-design (derived from the English language, web-design means designing a web page) is the equipment of a web page. Web design plays an important role for a site, just like typography design and paper printing machines. Web design means not only the creation of graphic elements for the website, but also the design of its structure, the means of movement in it, that is, the creation of the entire site.

The fact that computer graphics has a lot of meanings, unusual and symbolic meanings, hiding certain meanings behind an allegorical form has a didactic value. The use of graphics in educational computer systems allows not only to increase the speed of information and its level of understanding, but also contributes to the development of figurative thinking.

The color of the graphic images evokes the imagination. Its impact on thoughts and feelings has an educational and psychological significance. The tonality and turation of colors can have a great impact on the human psyche. Graphics, like other forms of art based on the principles of harmony, activates a person, relieves stress, and stimulates the mind to be creative.

REFERENCES USED:

1.	Jumankuziev, U. "USING NEW APPROACHES TO TEACHING PROGRAMMING LANGUAGES IN SECONDARY SCHOOLS." Galaxy International Interdisciplinary Research Journal 11.5 (2023): 280-283.

2.	OʻKtam, O., Li JumanqoʻZiyev, and Islombek ToʻLqinjon OʻGʻLi. "MAKTAB O ʻQUVCHILARINING AXBOROT MADANIYATINI SHAKLLANTIRISHNING ASOSIY QONUNLARI VA TAMOYILLARI." Academic research in educational sciences 2.CSPI conference 1 (2021): 1073-1077.

3.	M.E.MAMRAJABOV, S.Q.TURSUNOV "KOMPYUTER GRAFIKASI VA WEB-DIZAYN" TOSHKENT – 2013

4.	M.M.ARIPOV, J.YO.MUXAMMADIYEV. Informatika, information texnologiyalar // oliy oʻquv yurtlari uchun darslik. – T,:TDYUU.2004.

5. Жуманкузиев, Уктамжон, and Уткир Йулдошев. "Подходы обучения языкам программирования в общеобразовательных школах." Общество и инновации 2.5/S (2021): 344-350.

6. Йулдошев, Уткир, and Уктамжон Жуманкузиев. "Определение ведущих педагогических закономерностей и основополагающих принципов формирования информационной культуры детей школьного возраста." Общество и инновации 2.5/S (2021): 68-76.

7. A'Zamova, Gulshanoy Mirzoxidjon Qizi. "O 'QITISHDA MULTIMEDIALI ELEKTRON O 'QUV QO 'LLANMALARDAN FOYDALANISHNING AFZALLIKLARI." Academic research in educational sciences 4.CSPU Conference 1 (2023): 361-363.

8. Raximjonovna, Fayziyeva Maxbuba. "DEVELOPMENT TENDENCIES AND CLASSIFICATION OF PROGRAMMING LANGUAGES TEACHED IN HIGH SCHOOLS."Galaxy International Interdisciplinary Research Journal 10.12 (2022): 185-189.

9. O'Ktam, O., Li Jumanqo'Ziyev, and Islombek To'Lqinjon O'G'Li. "MAKTAB O 'QUVCHILARINING AXBOROT MADANIYATINI SHAKLLANTIRISHNING ASOSIY QONUNLARI VA TAMOYILLARI." Academic research in educational sciences 2.CSPI conference 1 (2021): 1073-1077.

10. Nuraliyeva P.E. The Importance of Digital Technologies in the Organization of Modern Education // Procedia of Philosophical and Pedagogical Sciences. –Portugal, 2023. Vol. 2, Issue-1 . – P. 7-11.

11. Nuraliyeva P.E. Digital technologies as a method of forming students' informational skills in the educational process / International Conference on New Scientific Methodologies. –Belgium , 2023. – P. 238-241.

12. Nuraliyeva P.E. The Relevance of the Implementation of Programs for the Formation of Digital Competencies Among Students // Miasto Przyszłości Kielce. Online research journal from Poland. –Poland, 2023. Vol. 35. Impact Factor 6.5. ISSN 2544-980X .– P. 51-55.

13. Nuraliyeva P.E. Methods of organization and evaluation of laboratory work from subjects including informatics // Electronic journal of actual problems of modern science, education and training. – Khorezm, 2021. – № 5. ISSN 2181-9750. UDK: 72:681 (575.1). – P. 17-21

14. Йулдошев, Уткир, and Уктамжон Жуманкузиев. "Определение ведущих педагогических закономерностей и основополагающих принципов формирования информационной культуры детей школьного возраста." Общество и инновации 2.5/S (2021): 68-76

15.   Jumankuziev, Uktam. "ANALYSIS OF NEW INNOVATIVE METHODS AND METHODS USED TO IMPROVE STUDENTS'KNOWLEDGE IN THE PROCESS OF TEACHING PROGRAMMING LANGUAGES IN HIGHER EDUCATION INSTITUTIONS." Gospodarka i Innowacje. 41 (2023): 351-355.

16.   Uktamjon, Jumankuziev. "THE ROLE OF TEACHERS IN TEACHING PROGRAMMING LANGUAGES IN HIGHER EDUCATIONAL INSTITUTIONS OF PEDAGOGY." Gospodarka i Innowacje. 41 (2023): 360-362.

17.   Jumaqozievich, Yuldashev Utkir. "Systematic approach in education as a methodological problem." INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 7.429 11.09 (2022): 269-271.

18.   Yuldoshev, Utkir, and Uktamjon Zhumankuziev. "Determination of the leading pedagogical laws and fundamental principles of the formation of the information culture of school-age children." Society and Innovation 2: 68-76.

19.   Yuldoshev Utkir Zhumakuzievich. "FOLLOWING THE PRINCIPLES OF COMMUNICATION IN COMMUNICATIVE DIDACTICS". Open Access Repository, vol. 8, no. 12, Dec. 2022, pp. 573-5, doi:10.17605/OSF.IO/SZ9HQ.

21. Uktamovna, M. M. (2023, October). EPITET TARIXI VA NAZARIYASIGA BIR NAZAR. In International Scientific and Current Research Conferences (pp. 127-132).

22. Uktamovna, M. M. (2023). O'ZBEK VA INGLIZ TILLARIDA EPITETNING CHOG'ISHTIRMA TADQIQI. OBRAZLI EPITETLAR. MODELS AND METHODS FOR INCREASING THE EFFICIENCY OF INNOVATIVE RESEARCH, 2(23), 439-444.

23. Mamadjanova, M. (2023). ESSENTIAL CHARACTERISTICS OF EPITHET. International Bulletin of Applied Science and Technology, 3(10), 89-91.

24. Uktamovna, M. M. (2022). EPITETNING LINGVISTIK TABIATI. IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI, 2(8), 26-30

22. Uktamovna, M. M. (2023). TRANSFERRED EPITHET IN ENGLISH LANGUAGE. Научный Фокус, 1(1), 921-924.

25. Раҳмонов, М. (2023). ҲИС-ҲАЯЖОН ВА САЛОМАТЛИК. SCIENTIFIC ASPECTS AND TRENDS IN THE FIELD OF SCIENTIFIC RESEARCH, 2(15), 55-63.

26. Раҳмонов, М. (2021). СЎЗНИНГ САЛОМАТЛИККА ТАЪСИРИ. Scientific journal of the Fergana State University, (6), 42-42.