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VISUAL ORGANIZATION OF A SCREEN SPACE IN MULTIMEDIA DESIGN

Sukhorukova L. Visual organization of a screen space in multimedia design. The article is devoted to a relatively new field of design – multimedia design. Multimedia refers to a computer process communication and represents a combination of graphics, text, sound, animation and video. A multimedia project – a synthetic product that combines an artistic language from different arts: music, cinema, visual art etc. Screen space is considered as an object of purposeful art organization, as a visual space with a subjective filling of image complex placed in it, which is perceptible visually and limited by screen frame. The visual organization of a screen space is represented by a set of tools with the help of which an artistic content of the work is formed. Visual composition is a fundamental factor in the creation of multimedia products, and allows most vividly implement an idea and images of a project, identify their main features and characteristics. The article analyzes tools for compositional organization of a multimedia project screen space.

Keywords: multimedia design, multimedia project, multimedia, visual media, still frame composition, animation.

Сухорукова Л. А. Візуальна організація екранного середовища в мультимедійному дизайні. Стаття присвячена відносно новій галузі дизайнерської творчості — мультимедійному дизайну. Мультимедіа належить до комп'ютерного процесу комунікації і являє собою комбінацію графіки, тексту, звуку, анімації та відео. Мультимедійний твір — це синтетичний продукт, що поєднує в собі художню мову різних мистецтв: музичного, кінематографічного, образотворчого тощо. Екранне середовище розглянуто як об'єкт цілеспрямованої художньої організації, як візуальний простір із розташованим у ньому предметним наповненням сукупності образів, що сприймається зором, обмежений рамкою екрана. Візуальна організація екранного середовища являє собою комплекс засобів, за допомогою якого формується художній зміст твору. Візуальна композиція є основоположним фактором при створенні мультимедійних творів, що дозволяє найбільш яскраво втілити ідею і образи твору, виділити їх головні особливості та характеристики.

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У статті проаналізовані засоби композиційної організації екранного середовища мультимедійного твору.

Ключові слова: мультимедійний дизайн, мультимедійний твір, мультимедіа, візуальне середовище, композиція статичного кадру, анімація.

Сухорукова Л. А. Визуальная организация экранной среды в мультимедийном дизайне. Статья посвящена относительно новой области дизайнерского творчества — мультимедийному дизайну. Мультимедиа относится к компьютерному процессу коммуникации и представляет собой комбинацию графики, текста, звука, анимации и видео. Мультимедийное произведение — синтетический продукт, объединяющий в себе художественный язык разных искусств: музыкального, кинематографического, изобразительного и т. д. Экранная среда рассматривается как объект целенаправленной художественной организации, как визуальное пространство с расположенным в нем предметным наполнением совокупности образов, воспринимаемых зрением, ограниченный рамкой экрана. Визуальная организация экранной среды представляет собою комплекс средств, с помощью которых формируется художественное содержание произведения. Визуальная композиция является основополагающим фактором при создании мультимедийных произведений и позволяет наиболее ярко воплотить идею и образы произведения, выделить их главные особенности и характеристики. В статье проанализированы средства композиционной организации экранной среды мультимедийного произведения.

Ключевые слова: мультимедийный дизайн, мультимедийное произведение, мультимедиа, визуальная среда, композиция статичного кадра, анимация.

Background. Problems of multimedia design as an art-project activity and a relatively new field of design only in the last decade found its place in professional periodicals. Most of available publications in this field are web articles from specific websites. However, exchanging practical experience of leading animators that occurs in modern blogging environment, although is an essential feature of the profession development, but still is pretty sporadic and subjective.

The development of multimedia as a form of art is the least explored area of art history. Only a few works of such theorists as N. Krivulya [2], V. Poznyn [5], K. Razlohov [6] etc. explore new technologies, evolution of audiovisual culture, virtual reality, computer graphics and animation, disclose methods of screen image creation, as well as tools of creating a space using light, color and sound in a film, affecting artistic expressiveness of screen images (frame space). Art critic N. Chukryeyeva on the process of screen image creation indicates that the appearance of a screen image is promoted in contemporary artistic vision as an integration of all previous methods for a “visual” image creation (which were created under the rules of reverse perspective) and “artistic” image (which are created based on scientific knowledge according to the direct perspective rule) [1].

Professional literature analysis proves insufficient state of study of the subject. Until now there was no attempt to carefully study and systematize tools for compositional organization of a multimedia project screen space. The available works, which raise problems of composition, shaping, coloring, etc., usually belong to other branches of art. All of the stated above proves the importance and up-to-date state of a scientific research in this direction.

Relation to scientific topics. Research was conducted under the state budget research program “Logical-semiotic modeling of visual space, cultural and philosophical aspects”, approved by the Ministry of Education, Youth and Sports of Ukraine, registration № 0107U002131.

Relevance of the research. The rapid development of multimedia design as a new and specific design niche actualizes the problem of related tools of screen composition that are used for solving various design problems. Computer technology as a tool expanded capabilities of using traditional compositional tools, expanding them with various transformations and combinations. So today, in the emerging global information space and the era of media industry development, there is a need for re-thinking, systematization of existing forms of artistic expression.

Goal of the article. Define the system of expressive tools of visual composition that allow most clearly implement the idea and images of a project, identify its main features and characteristics. Analyze tools for compositional organization of a multimedia project screen space.

Research methods. An important component for understanding the subject of the study were typology and classification methods that were used to identify the categorical specific of forms of artistic expression in multimedia design, to structure large amounts of information, to identify typical groups of elements.

Presentation of the main research. Multimedia is the most promising and popular direction in modern design that brings together in a single information environment various types of data such as text, graphics, images, photographs, animations, video, sound and visual effects. In design of multimedia project screen space is considered as an object of a focused art organization, as a visual space with located in it subjective content of image complex perceived by sight, confined to the screen. This is a simultaneous integrity where the levels, interacting, form a complex dynamic field. The structure of a visual space creates three-dimensional, plastic, light-color unit, which has its own interpretation of the laws of design (composition, harmonization, contrast or nuance comparison, coloristic harmony).

Visual organization of a multimedia project space is considered as a set of spatial and emotional artistic components and characteristics that interact and influence the audience simultaneously. Each artist expresses thoughts, feelings, worldview with a specific language through a chosen sign system with help of various artistic and expressive tools.

Artistic expressive forms of a multimedia project visual space are a set of tools with which an artistic

content of the work is formed. They can be built with the use of compositional expressive tools – the unity formed by four components: frame composition, frame plastic, frame dynamics, audio-visual harmony.

The composition of multimedia project visual space involves building frames of a screen image that allows the clearest implementation of an idea and images of a project. Elements of a formal frame composition are: choice of a filming method, distance and angle of a camera, type of camera movement, lights setup, selection of tone and color, organizing elements in a visible space, staging setup and figures movement. That requires clarity of a form, choosing exact distance, perspective and light accent on objects [4].

Frame composition is a construction, relative placement of film scenario elements that reflects the artist’s understanding of rules of a displayed objective reality in a current project system; way of implementation and creative interpretation of the material and plot in an organized system of a scenario and a project, expressing the author’s intent. Composition is the basis of a design process, an instrument of a visual space forming that gives a viewer a sense of an aesthetic content. Compositional beginning: an ability to deliberate subordination of parts and a whole, which turns a whole from a set of composite objects into an organized whole.

Methods of an impact on a viewer used by screen art for a static frame forming, in many respects are similar to the rules of project perception in traditional fine arts, that’s why in the analysis of a static frame it is appropriate to use instruments adopted from the analysis of a painting composition (definition of composition center, characteristics of various building blocks, light and color solution, etc.).

The visual composition is a fundamental factor in the creation of multimedia projects. Compositional basis of a multimedia project design is built from the following: diverse character of camera movement animation, rhythmic repeating of standard elements; contrast or nuance coloring of objects; enrichment of a plastic solution of elements; usage of color and texture of a material; highlighting individual objects or dividing perspective of layers; organizing elements according to the golden section rule, the rule of thirds, pyramidal composition, symmetry etc.; and also combining with decorative elements of 2D and 3D graphics. Distinguish look of a multimedia project and special expressiveness are created using such components as compositional balance, structure, focal element. Focal elements include: high contrast, saturation, moving objects, faces and humans and animals. To highlight a focal element such methods are used: framing, contrast forms, directional composition lines etc. [5]. Let’s research tools of emphasizing directions inside a screen space – horizontal, vertical, diagonal, circular or their combination. Each of these areas has its own particular expressive meaning. Horizontal underlines length of a space, its breadth. Vertical is the absolute opposite to the horizontal and expresses ease, height and depth. The intersection of horizontal and vertical is the most accented place. Both of these areas are planar and using

them simultaneously create a sense of balance, strength and financial stability. Diagonals create movement and develop a space in depth. Depth of a space is more than height and width, determines imaginery solution of a frame, project in general and has a significant impact on the aesthetic perception of the viewer. Forming a depth of a screen determines the style of a multimedia project. Here, in addition to prospects, all art expressive tools are involved: color, light, line, external form of objects, tectonics, static and dynamic of an image etc.

Object of design in a multimedia project creation is always a spatial form. Composition of a designed object should contain the variety of spatial forms. For all elements of a complex screen space (from small to large parts) were organically linked, one need a clear understanding of composition, color, formative principles and their implementation.

Frame plastic is defined by a correctly found filming point and camera motion. Well known that shots can be above-general, distant, general, medium, close-up and extra large. The scale of an image depends on the distance between an object and a camera, and also optical parameters of a camera lens. Unlike all other arts that work with an image in multimedia project scale is limited by a frame space and it is constantly changing. The appearance of plans of various sizes, which are connected during post-processing – is actually a major limitation of objects by frame.

Dynamics of multimedia project composition involves the basic principle of screen imagery – the principle of movement.

Author's thought causes an appearance of audio-visual compositions on a screen created by intraframe movement and the movement that appears during post-processing Rhythmic and melodic patterns of building blocks of a multimedia project contribute to the emergence of space-time structures. Moving in time and space, due to the meaning of a project, allow to research various forms of post-processing. Change of frames, assembling phrases, episodes – all elements of a three-dimensional scene – their relation, comparison that is received as a result of change in visual compositions using movement within the frame and frame combination, define the rhythmic basis of a multimedia project.

The movement that occurs during post-processing allows to create a complete audio-visual composition. During post-processing not only an action is completely built in a given sequence, but musical pace and rhythm are defined [6].

Audio-visual image helps to understand an organic unity of an image and a sound in screen art projects. The most powerful artistic expressive tool is music, which helps to reveal the meaning of a project and its emotional part.

Designers, who create rich multimedia projects are able to use still frame, stopping the actual timing; zoom in and out any element, thereby focus a viewer on any object, according to the rhythm of music. They can stop a moment, transform moving image in static, fix and keep a frame as much time as needed, synthesize the rhythm of a musical composition, audio noises and sounds from video sequence composition.

As an independent component of artistic imagery an be considered noises and sound accents: noise, music and intonation. In perception and evaluation of visual space components are interacting, which are connected to each other. From a relation of individual audio and video (sound and visual) elements audio-visual image (unity of an image that is moving with sound plastic) is born. The combination of shapes, colors, light and shadow, dynamics, music, audio noise creates audio-visual harmony.

The research summary. Analysis of various professional literatures reveals the need to conceptualize and synthesis of existing tools of screen space composition that will allow creating a scientific and methodological basis for further theoretical and practical works in the field of multimedia. An extremely wide range of tools for compositional organization of a multimedia project screen space and a demand for their usage require re-thinking of functions and specific of an integration into multimedia design area.

Integrity and compositional unity of a visual space of a multimedia project are achieved by coherence and relative positioning of elements relative to each other in space, audio-visual harmony, moving image unity with sound plastic, synthesis of dynamics and components plastic that have their own individual image that is easy to remember. The study of artistic expressive forms, their capabilities, professional practical operating of computer graphics skills will provide the necessary level of screen culture of a multimedia project when it is converted from moving images on a screen into a piece of art.

Prospects for further research. Given the wide range of multimedia projects and compositional diversity of tools for compositional organization of a screen space, this article is not covering issues related to the harmonious combination of visual range with musical one, audio-visual harmony (moving image unity with sound plastic). These aspects may appear a subject of further research.

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