
THE USE OF ARTISTIC TECHNIQUES IN DESIGN OF
INTELLIGENTLY MANAGED LIVING ENVIRONMENT

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Abstract: *The paper presents the results of research on the formation of artistic image of intelligently managed living environment. The purpose was to determine the actual factors and technological equipment, which directly affect the perception of human visual environment, cause aesthetic experiences and create a general artistic concept of interior design.*

Keywords: *design, living environment, smart home, intelligent management, artistic image.*

The growing variety of home automation equipment expands the functionality range of residential management systems: from meeting basic human needs in security to ensure enhanced comfort conditions. Every year an increasing number of innovative technologies and devices become an integral part of people's lifestyles.

The actual task is to identify the artistic techniques' features in design of living interiors equipped with the technologies of intelligent environmental management. Technological equipment and control devices are part of the objects surrounding the person in the room, so they need to be organically integrated into the visual environment, as well as to support the overall artistic concept.

Intelligently Managed Environment (IME) of housing is a modern housing environment, equipped with high-tech devices controlled by a central computer that are able to recognize the state of the physical environment and residents, provide for their requests and respond in accordance with user-defined scenarios or making autonomous decisions and influence space physically to increase

comfort, optimize resource consumption, maintain the health and safety of housing and residents [3].

Apart from utilitarian and practical purpose, the apartment is important as an object of aesthetic experience. In the research of I.O Rosenson [4], the image of a design object is considered as a project and is characterized by belonging not so much to the artistic, but to the consumer culture, which brings it from the contemplation zone to the zone of practical interaction. The use of "figurative approach" in the design involves the application of three methodological aspects: artistic modeling, compositional shaping, creation of senses.

Let us consider in more detail the aspect of compositional modeling in the context of designing an intelligently managed living environment as a design object. And also consider the artistic techniques that directly affect the formation of an artistic image in a modern human dwelling.

The form and composition principles. Formation of the environment as a whole system and its components belongs to the sphere of compositional harmonization – proportionality, balance, unity of the figurative and stylistic concept. Characteristics of the environment allow the designer to outline the image of the future form and the principles of composition make it possible to achieve consistency, moving from the whole concept to its components.

The formation IME of housing in terms of formative and compositional foundations is no different from the traditional approach. As all the intelligent equipment becomes part of the household objects, it can be mobile, fixed or built-in; can actively influence the formation of the visual environment, or be hidden.

Color. Colouristics of object-spatial environment is the systematic interaction of a large number of colored objects, natural and artificially created spaces and their filling with objects. All this is perceived as a continuous color field that surrounds a person [1]. Color harmony is associated with the emotional impression of the color combination that is quite subjective and can vary not only in different people but also in one and the same. The psyche of people is characterized by fatigue from the usual combinations. And this is

a factor that emphasizes the need to create a dynamic environment in general, and the surrounding color field in particular.

There are two principles for the interaction of IME with the environment colouristics:

- the color solution of equipment that forms the interior objects filling and should harmoniously fit into the concept of color composition;

- the management of environment colors with smart controls.

Most often, the last option is implemented through lighting control, but these tools will be discussed separately in following paragraph. It is also possible to influence the color solution of the environment through electronics: using special materials in decoration (e.g., photochromic glass «Smart Glass», thermochromic paints, electrophoretic screens) and using of mechanized elements that able to change color.

Lighting. Lighting is an integral part of the overall perception of space and its artistic image. Almost all living spaces are characterized by a combination of natural sunlight and artificial electric lighting. Depending on the time of day and functional processes in different areas of the room, the scenarios of using different light sources may be different. Lighting devices has two main functions: utilitarian — providing the necessary lighting for all processes, and decorative — as active components of the compositional structure of the interior.

For IME of housing, setting light effects for the environment, generating lighting scenarios, and managing individual groups of light sources is a typical task performed by even the simplest intelligent controls. However, unlike conventional lighting controls by combining light sources into groups and switching them on when needed, the intelligent control system has the ability to build algorithms and dependencies. Therefore, certain lighting modes become part of general living environment scenarios.

The transformation of the environment. The tendencies of humanization and individualization of the living environment actualize the problems understanding of dynamic space design, which adjusts

and adapts to the different needs of the residents, creates conditions for aesthetic choice. In terms of design theory, the transformation is seen as a functional variability of a design object. Therefore, the possibility of the transformation have objects that have such a material structure that allows them to transform into other objects or significantly change their functions and properties [2].

As a means of enriching the artistic image IME of housing allows the use of the transformation to change the zoning of the premises, transformation of the object environment with a change or expansion of functional purpose, as well as mobile elements of the environment.

CONCLUSIONS

The means of forming an artistic image in the design conditions of intelligently controlled housing environment are determined. It was established that the technological equipment and control devices can actively influence the visual environment, or be hidden and not interact with it. The main means of forming an artistic image with the help of IME equipment are defined: shape and compositional principles, color, lighting, and transformation of the environment.

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