Methods of formation of a volumetric planning structure of multifunctional museum complexes

Konstantin Trehubov
Postgraduate Poltava National Technical Yuriy Kondratyuk University, UKRAINE, Poltava, Pervomajskij Prospect, 24, E-mail: mg34-42@mail.ru

Abstract. This work is devoted to a volume planning structure of multifunctional museum complexes, depending on the nature of links between institutions integrated by the example of modern multi museums.

Key words – multifunctional museum complex, volumetric structure of planning, communication, functional groups of premises blocks.

I. Introduction

Chain of museums has a complex hierarchical structure, which consists of territorially, organizational and functionally interconnected objects. The changes that take place in society (social, economic, demographic, etc.) need permanent improving the system of museums.

II. The main part

Special value gets the museum complex with multifunctional structure. In their planning, organization must lay the decisions that would be able to adapt to changes in the system. Therefore, designing museums has two basic principles:
- Adaptation – adaptation museums to periodic changes in the system;
- Continuous development of elements of the museum net.

The basis for architectural planning structure of the museum building is the organization of space according to the functions that take place in it, and display of functions in the planning solution. Functional planning decisions determined by a functional group spaces (functional areas) with maintenance building and exhibition requirements.

Multifunctional building museum complex (MFMC) is characterized by a large number of various functional groups of premises differing organization: training, research, fund, expositional, recreational, administrative, property, service.

In deciding functional and spatial organization of the museum building is important to consider grouping features rooms. Building MFMC is a complex consisting of blocks that are most efficiently arranged relative to each other and to the functional areas of the site. This will get the optimal functional planning decisions and the architectural and artistic image.

Feature of architectural and planning solutions is the need for a building as a system of universal premises with allocation individual groups in isolated areas impassable blocks.

The basic techniques of forming functional design solutions MFMC should include:
- Zoning based on the formation of blocks that combine space;
- Providing short connections between functional groups premises related activities;
- Differentiation universal exhibition premises in terms of security in order to create no-go areas museum;
- Optimal orientation of the functional groups of the premises;
- The possibility of long-term expansion of the building MFMC.

By relations (communication) system are only those processes that provide the relationship between the normalized functional elements (functional groups of premises). Crucial for communication processes is that their quantitative and qualitative determination depends mainly on the parameters and the spatial placement of normalized elements.

A feature of such processes is their "not the norm" in advance of the formation of planning and spatial structure of the object under study can not establish normal area, volume or length of corridors, stairs, lift, stair units, walkways, existing standards in the industry communications regulate a wide passage, throughput [1].

The nature of links between integrated institutions with regard to their structure and capacity determines the application of a receiving formation of space-planning structure multifunctional buildings, among which should mentioned:
- Focal of locally when planning a site (premises or groups) intersecting the main connection between the premises;
- Discrete focal (dispersed) when there are several nodes;
- Combination, combining the features of the previous two.

Locally focal volume reception planning organization is used for buildings, which are integrated institutions, relatively small capacity (hobbies, classes, clubs, studios, etc.). Figure 1 shows the of locally focal communication scheme as an example the Centre Georges Pompidou (Paris, France).

Discrete focal reception are useful in solving MFMC buildings, which are formed by integrating very large number of institutions sufficiently large capacity (Discovery-room, library visitors, a planetarium, an observatory, a conference hall, a cinema, offices, etc.). Figure 2 shows discrete focal communication scheme as an example the Louvre (Paris, France).

Combined reception space planning organization used in the formation of multifunctional museum complex regional and state level institutions with integrated cultural centers Figure 3 shows a mixed scheme of communication for example Hermitage Museum (St. Petersburg, Russia).
Conclusion

Based on consideration of the multi-museum complex organization of this museum space, reduced communication schemes: local focal, discrete focal, combined. Formation of the museum building complexes based on the detected spatial volume Multivariate receptions provide architectural and planning decisions MFMC will create projects related to different local conditions.

References