

Maslak Volodymyr

Doctor of Historical Sciences, Associate Professor,
Head of Ukrainian Studies Department, Kremenchuk
Mykhailo Ostrohradskyi National University
vimaslak2017@gmail.com;

Vasilenko Daria

teacher of the Ukrainian Studies Department,
Kremenchuk Mykhailo Ostrohradskyi National
University
dvoloshka05@gmail.com

THE PRACTICE OF USING INTERACTIVE MULTIMEDIA INSTALLATIONS IN MUSEUM ACTIVITY

The purpose of the study is to analyze modern interactive multimedia installations that function in the museum environment in the process of working on artistic interactive and educational media projects. The research is devoted to the theoretical and methodological principles of use of interactive multimedia installations in the activities of museum institutions. **Methodology.** The selection of the actual material was based on the general scientific methods of visualization, analysis and synthesis, comparison and generalization; methods of system analysis, comprehensiveness, objectivity and retrospective were used precisely, when studying innovative systems that function within museum institutions. In the process of presenting the main provisions of the article system-structural and statistical-analytical, comparative and descriptive methods were used. **Scientific novelty.** For a thorough research of the modern activity of the museum industry through the prism of introduction of interactive installations, the authors have studied the conceptual approaches to hardware and software design of interactive multimedia projects in museums. They have developed their own interactive and educational multimedia project "The Pantheon of Prominent Ukrainians". **Conclusions.** The factors of using innovative multimedia installations were determined. The importance of information technologies for the development of modern museum expositions was emphasized.

Keywords: museum, interactive system, technologies, information environment, socio-cultural phenomenon.

Маслак Володимир Іванович, доктор історичних наук, доцент, завідувач кафедри українознавства Кременчуцького національного університету ім. Михайла Остроградського; Василенко Дар'я Павлівна, асистент кафедри українознавства Кременчуцького національного університету ім. Михайла Остроградського

Практика використання інтерактивних мультимедіа інсталяцій у сфері музейної справи

Метою дослідження є аналіз сучасних інтерактивних мультимедійних інсталяцій, що функціонують у музейному середовищі у процесі роботи над художніми інтерактивно-освітніми медіа-проектами. Дослідження присвячено теоретико-методологічним засадам використання інтерактивних мультимедійних інсталяцій в діяльності музейних установ. **Методологія дослідження.** Добір фактичного матеріалу ґрунтувався на основі загальнонаукових методів візуалізації, аналізу і синтезу, порівняння та узагальнення; метод системного аналізу, всебічності, об'єктивності та ретроспективи, було використано саме під час вивчення інноваційних систем, що функціонують в середовищі музейних установ. У процесі викладу основних положень статті використовувалися системно-структурний, статистично-аналітичний, порівняльний та описовий методи. **Наукова новизна.** Для ґрунтовного дослідження сучасної діяльності музейної галузі через призму запровадження інтерактивних інсталяцій були вивчені концептуальні підходи до апаратно-програмного оформлення інтерактивних мультимедіа проектів в музеях. Розроблено власний інтерактивно-освітній мультимедіа проект "Пантеон визначних українців". **Висновки.** Визначено фактори використання інноваційних мультимедійних інсталяцій. Підкреслено значення інформаційних технологій для розвитку сучасних музейних експозицій.

Ключові слова: музей, інтерактивна система, технології, інформаційне середовище, соціокультурне явище.

Маслак Владимир, доктор исторических наук, доцент, заведующий кафедрой украиноведения Кременчугского национального университета им. Михаила Остроградского; Василенко Дарья, ассистент кафедры украиноведения Кременчугского национального университета им. Михаила Остроградского

Практика использования интерактивных мультимедиа инсталляции в сфере музейного дела

Целью исследования является анализ современных интерактивных мультимедийных инсталляций, функционирующих в музейной среде в процессе работы над художественными интерактивно-образовательным медиа проектами. Исследование посвящено теоретико-методологическим основам использования интерактивных мультимедийных инсталляций в деятельности музейных учреждений. **Методология исследования.** Отбор фактического материала основывался на общенаучных методах визуализации анализа и синтеза, сравнения и обобщения; метод системного анализа, всесторонности, объективности и ретроспективы, были использованы именно при изучении инновационных систем, функционирующих в сфере музейных учреждений. В процессе изложения основных положений статьи использовались системно-структурный, статистическо-аналитический, сравнительный и описательный методы. **Научная новизна.** Для исследования современной деятельности музейной отрасли сквозь призму введения интерактивных инсталляций были изучены концептуальные подходы к аппаратно-программному оформлению интерактивных мультимедиа проектов в музеях. Разработан собственный интерактивно-образовательный мультимедиа проект "Пантеон выдающихся украинцев". **Выводы.** Определены факто-

ры использования инновационных мультимедийных инсталляций. Подчеркнуто значение информационных технологий для развития современных музейных экспозиций.

Ключевые слова: музей, интерактивная система, технологии, информационная среда, социокультурное явление.

Relevancy of research topic. Since the beginning of the new millennium, society and culture have undergone significant changes, and museum institutions are being gradually transformed. Every year they are gaining increasing socio-cultural significance, their role in preserving and interpreting the cultural heritage, in the complex processes of social adaptation and cultural identification, in the educational process, in the organization of leisure is increasing. Over the past few years, European and American conferences have discussed the advent of the era of "culture of participation," which fundamentally changes the model of interaction between cultural institutions and society, which is inevitable in new social circumstances.

One of the significant events in the museum area was the development and approval of UNESCO in 2015 "Recommendations on the protection and promotion of museums and collections, their diversity and their role in society" [1, 187-191]. According to them, along with the traditional functions of museums, such as education, the preservation of historical and cultural heritage, one of the main functions was the communication. In view of this, we would like to note that society places new challenges on the museum: the development of museum pedagogy, social adaptation and socio-cultural identification of children and adults. Museums become centers of education, communication, cultural information and creative innovation.

Interactive technologies are expanding the capabilities of museums, increasing their spheres of influence, helping them get out of the open space and become part of social life.

Analysis of basic research and publications. Among scholars, who are investigating this topic, one can distinguish the work of such leading domestic and foreign scholars as: D. Ignjatovic [8], S. Allen, J. Gutwill [9], V. Yakovenko [2], R. Gural [3], T Trofymenko [5]. The main provisions of each study are the need for the transformation of museums in accordance with modern socio-cultural processes, by moving from monologic to dialogic forms of communication with visitors and providing interactive information, with a view to its more emotional perception, and, as a result, a better assimilation.

Specialists of the museum branch define three directions in the field of museum interactivity at the present stage: multimedia; the creation of special interactive zones, with the conditions of direct active influence of museum objects and sensory devices on all senses, the dissemination of interactive mode to the work of museum studios for the realization of creative opportunities not only for children, but also for adults on the principle of "visit and try" or "do yourself".

The purpose of the article is to analyze modern interactive multimedia installations operating in the museum environment in the process of working on artistic interactive and educational media projects.

Main material. Conceptual approaches to the creation of multimedia museum expositions are determined by the specific conditions in a museum. Designing hardware and software complex for the museum can take place in several scenarios. First, if the multimedia exhibition and exhibition complex is to be created and placed in the exposition space of an existing museum. In this case, the task of the designer is that the elements of the multimedia display complex should be aimed at providing the visitor with the information and reference service, a deeper disclosure of the meaning and content of the exposure, and the elements of the complex need to be unobtrusively inserted into the exposition space. Secondly, when designing the exposition complex of a new museum (or a serious reconstruction of the old museum), the task is somewhat different, the complex should be considered as an integral part, and at times – the main part of the entire exhibition project, and its functions and place in the exposition must be determined at the stage of creation the general concept of the museum [5, 30-34].

We illustrate the sign of equality, that is, the exposition equality of material and virtual objects in this kind of exposition, giving examples of such pairs of different types of museums: a musical instrument and its sound (Museum of Music, Stockholm, Sweden; House of Music, Vienna, Austria); stuffed bird and recording of its singing (Darwin Museum, Moscow, Russia); shaman's clothes and video of a ritual dance (Museum of Ethnology, Leiden, The Netherlands), etc. [3, 582-586]. If we consider the question of interactive multimedia technology, in terms of Ukrainian museums, it should be noted that Ukrainian museums are familiar with the concept of "interactivity", but far from the concept of "interactive media". They implement the principle of interactivity through quests and games. In most cases, given the significant historical and cultural value of museum objects, the visitor is not allowed to touch them, examine them, study the technology of their creation on their own, and a modern visitor is interested exactly in this, for him simple contemplation is not enough, he wants to study and experience himself [4, 37-45]. It is the multimedia interactive technology that enables you to meet the need of a modern museum user.

For Ukrainian museums a project "Museum", which launched the TV program "TSN News" on the "1+1" channel, which took place from March 2 to March 26, 2017, was a vivid example of the use of interactive installations in the exposition activity. The exposition of the museum consisted of 10 halls with interactive zones, each of them dedicated to a separate topic. The museum also had polls and tests: guests were offered sensory screens to answer questions about journalistic ethics, to determine which news is reliable and which is not. With the help of virtual reality glasses visitors to this exhibition project were able to

get to the Verkhovna Rada rostrum, to the front, to the exclusion zone around Chernobyl and to the TSN studio during the evening newscast. The unique exhibit was the 3D image of a TV host Alla Mazur. This is a hologram that tells visitors every day about the most interesting facts of the television industry. This virtual projection in full height has no analogues in Ukraine [6; 7].

As you can see, the use of multimedia interactive technologies by the museums of Ukraine is at a rather low level. Of course, one of the reasons is lack of funding. However, the impression is that even with the availability of funds, new technologies in museums are implemented with some fears. Most expositions, as well as methods of working with the audience, have not changed since the 90s of the twentieth century. The reason for this situation, on the one hand, is the museum staff. It's mostly the elderly, who find it difficult to move from the concept of Museum 1.0 to the modern 2.0 museum, because it requires them to acquire skills to work with the latest technology, which, in their case, is too difficult. That is why in Ukraine there is a minimal development of the museum business, in particular, in the organization of expositions with interactive installations.

Consequently, interactive multimedia installations in museum institutions represent a complex of modern information and computing hardware and computer programs. The multimedia installation is a qualitatively new level of communication between the museum and multimedia. Multimedia technologies are not ancillary means, but an integral part of modern museum activities.

Returning to the topic of worldwide experience in installing multimedia installations, we want to point out that they have their advantages, which will be discussed further: in-depth study of the topic in order to obtain extended information about any of the exhibits; the visitor only needs to select the appropriate tab on the touch screen; large audience coverage; assistance in the activities of the main guide; virtual excursions.

The leaders in the introduction of interactive technologies are large museums, while regional, small and other museums have many barriers to introducing technologies, starting from financial constraints to the lack of specialists. The need for specialists of this kind inside the museum is high, and even if the museum cooperates with external partners to create a site, a multimedia product, it is necessary that within the museum there are relevant technical specialists, who are reluctant to work in museums, preferring more paid work. In general, museums see the undoubted benefits and prospects of using information technology not only in the popularization and communication activities of the museum, but even in strategic planning.

In most museums that use interactive technologies in their expositions, there are some problems, the most important of which are: 1) insufficient attention to content, that is, the filling of technology, this error makes technology an end in itself, and the museum actually becomes an entertainment center; 2) visual imbalance of exposure and technologies, inconsistency of interactive installations with the general idea of exposure, this problem is related to the need to perceive technology as a means of communication that helps, actualizes, communicates a museum object to the viewer.

Multimedia interactive installations help to actively engage visitors to view the exposition, if they have an author's approach, a thought concept and an understanding of the audience [2, p. 75].

Scientific novelty. Having examined and reviewed the basic principles of interactive technology in the museum business, we have developed our own interactive installation, which can be used to realize the educational function of the museum. The main idea for creating the installation was Ukrainian historical figures, who are buried abroad. There were 26 people selected, the chronological boundaries cover the period from the 18th to the first half of the twentieth century.

An interactive installation based on the free Inkscape vector graphic editor is developed. The program was created based on a set of libraries for constructing the GTK + graphic interface and an application for creating C ++ programs for this library (gtkmm). Inkscape's native recording format is SVG, it supports reading and writing images in SVG, OpenDocument Drawing, DXF, PNG, WMF, EMF, sk1, PDF, EPS, PostScript formats. The program can use smoothing, transparency control, creation of gradients of filling, has a built-in set of ready-made templates (for example, arrows), can work with vector fonts. The advantage of the program is a wide range of effects that can be used to create a variety of artistic and design imagery. With the help of the Inkscape vector image editor, the label was superimposed on the map and assigned a label to each tag for its ability to create interactivity using the JavaScript language.

For correct displaying of the map on the web page, the html language was used, and for correct map scaling, cascading style sheets CSS (a special language used to describe the pages written in markup languages, most often CSS is used for visual presentation of pages written in HTML and XHTML, but the CSS format can be applied to other types of XML documents). The domain <http://ukrainelegend.zzz.com.ua/> was registered on the free hosting zzz.com.ua for the possibility of using the map on the network. JavaScript was used to implement the interactive part of the page, and the `OnClickImage` and `OnCloseImage` functions were created.

`OnClickImage` – a function that handles the click event on the label, while the full size image is displayed on the screen with the text of the description of the place indicated by the label. `OnClickImage` also allows you to close the image so you can see other tags on the interactive map. `OnCloseImage` is a function that handles the click event on an image that outputs a function. To move the site files to the hosting, a free FP client FileZilla was used, which allowed downloading files from the computer to a free hosting.

First of all, in order to start browsing the interactive installation, you need to open the browser and enter in the address bar <http://ukrainelegend.zzz.com.ua/>, after which will load the html page with an interactive grave map of famous Ukrainians. An interactive map, allows you to make a virtual trip to the cities of burial places of prominent Ukrainian figures. To start viewing a tour, you must hover a cursor over any of the labels on the map, and a small dialog will appear, in which the photos of this location will be presented. For a more detailed look at the location, you must click on the opened dialog in the form of a location photo. When clicked, a new dialog will open, in which complete information about the person will be provided in the form of text and photographs.

Conclusions. Consequently, during the rapid development of information technology museums need to take an active role in the field of interactive multimedia systems to provide information to visitors. The latest interactive tools allow significant expanding of the possibilities of presenting museum objects, providing additional textual and graphic information about them, displaying missing exhibits and organizing virtual exhibitions. Such technologies allow us to see a three-dimensional image of a sculpture or an architectural structure, to feel the "insides" of this image, to approach any exhibit and to examine it from all sides in a more detailed way. The use of multimedia technologies in the museum increases the prestige of museum institution and provides more opportunities for development and efficient work, in particular, allows you to overcome the limited space of exhibition halls. Museums are able to surprise and interest contemporary visitors, but, for this purpose it is necessary to use new technologies and transform the exposition into a unique interactive space.

Література

1. Акты 38-й сессии Генеральной конференции ЮНЕСКО / Организация Объединенных Наций по вопросам образования, науки и культуры. – Париж, ЮНЕСКО, 2016. – 198 с.
2. Яковенко В. Інформаційні ресурси / В. Яковенко. – Донецьк : ДонНУ, 2005. – 202 с.
3. Гураль Р. І. Основні напрямки розвитку інформаційної структури музеїв / Р. І. Гураль // Роль музеїв у культурному просторі України і світу. – 2009. – Вип. 11. – С. 582-586.
4. Смаглий К. Музейна реформа: європейський досвід для України / К. Смаглий // Агора: музеї та культурна дипломатія. – 2005. – № 14. – С. 37-45.
5. Трофименко Т. М. Інтерактивні методи роботи з відвідувачами як різновид музейної комунікації / Т. М. Трофименко // XVIII Сумцовські читання. – Харків : Майдан, 2012. – С. 30–34.
6. Ткаченко А. 10 причин посетить Музей новостей [Електронний ресурс] / А. Ткаченко // Телевізійна служба новин каналу "1+1". – Режим доступу : <https://ru.tsn.ua/ukrayina/10-prichin-posetit-muzey-novostey-813099.html>.
7. Сайт "Музею історії Києва" URL:<http://www.kyivhistorymuseum.org/uk/filiyi-muzeyu>.
8. Ignjatovic D. (2004). Knowledge Management Systems in Museums: the Next Generation for Assimilating Museum Information Resources in an Electronic Environment. [Electronic resource]. Mode of access: <http://scholarship.shu.edu/cgi/viewcontent.cgi?article=3446&context=dissertations>.
9. Allen, S. & Gutwill J. (2004). Designing with multiple interactives: Five common pitfalls. [Electronic resource]. Curator, 47(2), 199- 212. Mode of access: <https://www.exploratorium.edu/sites/default/files/pdfs/design5pitfalls-2.pdf>.
10. Довгань О. Мистецтво в соціологічних теоріях XIX- початку XX ст. // Вісник Національної академії керівних кадрів культури і мистецтв. Київ: Міленіум, 2013. № 4. С. 311-314.

References

1. Acts of 38th session of General conference of UNESCO (2016). Paris [in Russian].
2. Yakovenko V. (2005). Information resources. Donetsk [in Ukrainian].
3. Gural R.I. (2009). The bases directions of development of information structure of museums. The role of museums in the cultural space of Ukraine and the world, 11, 582-586 [in Ukrainian].
4. Smaglyi K. (2005). Museum reform: European experience for Ukraine. Agora: museum and culture diplomacy, 14, 37-4 [in Ukrainian].
5. Trofymenko T.M. (2012) The interactive methods of working with visitors as a kind of museum communication. XVIII Sumtsovski's readings, 30-34 [in Ukrainian].
6. Tkachenko A. 10 reasons to visit Museum of news [Electronic resource]. Mode of access: <https://ru.tsn.ua/ukrayina/10-prichin-posetit-muzey-novostey-813099.html> [in Russian].
7. Website "Museum of history of Kyiv". [Electronic resource]. Mode of access: <http://www.kyivhistorymuseum.org/uk/filiyi-muzeyu> [in Ukrainian].
8. Ignjatovic D. (2004). Knowledge Management Systems in Museums: the Next Generation for Assimilating Museum Information Resources in an Electronic Environment. [Electronic resource]. Mode of access: <http://scholarship.shu.edu/cgi/viewcontent.cgi?article=3446&context=dissertations> [in English].
9. Allen, S. & Gutwill J. (2004). Designing with multiple interactives: Five common pitfalls. [Electronic resource]. Curator, 47(2), 199- 212. Mode of access: <https://www.exploratorium.edu/sites/default/files/pdfs/design5pitfalls-2.pdf> [in English].
10. Dovgan O. (2013). Art in sociological theories of the nineteenth and early twentieth centuries. Visnyk Natsionalnoi akademii kerivnykh kadriv kultury i mystetstv. Kyiv: Milenium, 4, 311-314 [in Ukrainian].

Стаття надійшла до редакції 26.02.2018 р.