European Research Studies Journal
Volume XX, Special Issue, 2017

pp. 215-223

Artistic Design of Visual Multimedia Content

Ayrat G. Sitdikov[1], Artur Nabiullin[2], Arthur Ahmetzyanov[3], Denis Sadykov[4]

***Abstract**:*

The article is dedicated to the development of an approach to the design of visual information content of an exposition for museum equipment. It considers the importance of designing informative visual imagery.

The proposed techniques for solving the issue of images in the absence of complete archaeological and historical data imply the use of stylization.

Various ways and approaches to the solution of the content styling issue are provided.

Successful application of the design techniques is illustrated by experimental data.

Keywords: *Museum Exposition, Archaeology, Content, Stylization, Design, Museum Equipment, Computer Technologies, Visual Image*.

[1]*Institute of International Relations, History and Oriental Studies, Kazan Federal University, Russia, lilgalim@bk.ru*
[2]*Institute of International Relations, History and Oriental Studies, Kazan Federal University, Russia, lilgalim@bk.ru*
[3]*Institute of International Relations, History and Oriental Studies, Kazan Federal University, Russia, lilgalim@bk.ru*
[4]*Institute of International Relations, History and Oriental Studies, Kazan Federal University, Russia, lilgalim@bk.ru*

1. Introduction

"If our artists successfully cooperate with scientists, the time is near when such typical images of ancient life which do not leave untouched the deepest secrets of the soul will be created... There is no need to emphasize the great importance of such works on the development of national self-identification" (Knyazeva, 1963, p. 22). From a course of lectures by N.K. Roerich "Artistic technique applied to archaeology".

The stylistic design of visual multimedia content in museum and exhibition spaces is a matter of current interest. During the establishment of the scientific concepts of expositions, museum workers become concerned with how to illustrate certain material or historical event using a great variety of multimedia means available today due to technological development. These are virtual reality systems, displays, video projections, etc. However, what they all have in common is the artistic and stylistic solution of visual imagery.

The work of artists related to the development of the aforesaid techniques is particularly significant, as the historical genre as such is one of the most complex genres in visual arts, and the necessity of scientific and accurate display of material poses a rather serious challenge for the artist.

How and by which stylistic and artistic techniques does an artist demonstrate a historical site or event?

2. Methodology

In search for the answer to this question the authors turn to the origins of the artistic design of historical events, and particularly to book illustration and historical painting, and on the basis of this information determine the primary artistic styles which can be used in museum exposition spaces, as well as analyze the most successful solutions implemented in museums around the world, and share personal results in the field through the example of City Panorama exhibition and entertainment complex in the city of Kazan.

To begin with, let us define the concept of style. Let us take the definition of style from the following article: Time and Space in the Museum Exposition. "Style is a system of patterns in the arrangement of an artistic form" (Rosenbloom, 1997, p. 111).

Based on this definition, let us define the concept of style in museum information multimedia content as a combination of the utilized technologies and artistic methods of presenting visual information, primarily affecting the perception of information by the visitors and creating an impression of the exposition.

"The establishment of a museum exposition is a complex research, creative, engineering and manufacturing process requiring joint efforts of scientists, artists, designers, museum pedagogues and engineers" (Galkina, 2004, p. 15). The success of a museum exposition depends on the presentation of a museum exhibit to the public, which in turn depends on the quality of the artistic design of the scientific concept. "A scientific concept is the first and most important stage of design, revealing the exposition concept and providing a general idea of the future exposition" (Galkina, 2004, p. 15).

Today, during the establishment of the general thematic structure of a scientific concept museum worker should give special consideration to the search for visual material to create content at the stage of artistic design of a museum exposition.

3. Results and Discussion

In our time, the necessity of using interactive equipment is beyond argument. All modern museums are equipped according to the latest technical requirements.

Now the creative team is faced with the task of solving both technical and artistic issues to determine the visual content required for the establishment of a complete representation of exhibited items. At the same time, the intensive development of multimedia has brought about the time when content represents an actual exhibit of an exhibition. For instance, it is the reconstruction of past events on interactive and projection displays and the recreation of ancient sites with the use of the virtual reality technology, as demonstrated on the interactive digital Collection Wall at the Cleveland Museum of Art integrating over 3500 exhibits. "It is impossible to present the whole variety of new interesting exposition solutions of contemporary foreign practice in a single review article. Every museum and exhibition are searching for individual and unique ways and forms of creating expositions" (Datleva and Lyakhova, 2001, p. 15).

A detailed study on the effectiveness of interactive visual equipment is available in the article Comparative Study of Interactive Systems in a Museum (Ioannides *et al.*, 2010, p. 250).

Different museums develop individual stylistic solutions during the creation of visual graphics based on the selected equipment.

Visual graphics implies: animation technologies and various digital, graphic and cinematographic techniques. These technologies can be used both separately and in combination. All technologies can be conditionally subdivided into two types of visualization:

1. 2D (2-dimensional - a plane superficial image)
2. 3D (from English 3-dimensional - a volume stereoscopic image)

The use of each of the aforesaid methods and techniques in the exposition content creates an individual unique impression.

For instance, it is the "resurrected" scroll by the 11th century Chinese artist Zhang Zeduan demonstrating the golden era of the Song Dynasty "Moving of the Riverside Scene Qing Ming Shang He Tu painting at Asia World- Expo and Qingming Festival."

Here we see a combination of the use of 2D technology with combined 3D objects, and image projection of the camera mapping type (mapping from the camera) (Tomono, 2005). Character animation was implemented in the form of motion capture (capture of movement from a live actor). The result was a rich and detailed work conveying the disposition and household life of the epoch. This is a bright example of the successful combination of various techniques designed for image styling for an original painting work. It is necessary to pay attention to the fact that the authors of this large-scale work attempted to recreate the original identity of the scroll due to its perfect preservation.

However, the execution of such work is a rather expensive task: Many high-power projectors for image stitching, long-term complex technological work was carried out to develop animation and game content. These execution methods will not be justified in all expositions.

In 2015 the Amsterdam van Gogh Museum presented an exhibit in the form of an application of "resurrected" paintings by Van Gogh and Edward Munch providing an opportunity to see Europe of that time and personally visit it in the paintings themselves (Forster *et al.*, 2014).

This application was developed using the VR (virtual reality) technology with the application of 3D space, combining 2D textures therein. The painting technique of the post-impressionism period was imitated in 3D space. With the origination of photography, the artists stopped copying reality and began to interpret it based on personal impressions. In this regard, the developers of this application have tried to convey such an unusual vision of the world, placing the viewer in the picture to experience the reality directly through the eyes of the artist.

The advantage of this approach is that a person is immersed in the essence of the stylistic interpretation of the exhibition. Also, having familiarized with the application and the exhibition, a person can visit the virtual gallery at any time. The other advantages consist in the simplicity of the project. The downside of using VR technologies is that certain people, when using virtual reality glasses, begin to feel slightly dizzy. Therefore, this method should be used with caution. Another disadvantage is that if a user does not have a VR device, the person will not be able to interact with the application.

In the examples above, we saw how the creators of these exposures solve the problem of transferring the essence of the historical era through artist visions and stylization. This is an important point related to the analysis of the era, through an artwork.

Therefore, there is no issue of reliability. The main task is to look at the world through the eyes of the artist and experience space as he saw it. Therefore, relying on the work of artists, one can reflect the past historical events and life, as it was presented at the exhibition in China - the "resurrected" scroll - and convey the atmosphere of that time through familiar images, as at the Van Gogh exhibition. At the same time, during the work on the "City panorama" museum in Kazan, we also used various visual techniques to create content. The task was to recreate the history of the Kazan Khanate and the city of Kazan, from the 10th century up to the present day (Krylov and Krylova, 1998).

Demonstration of such a vast period required he use of various stylistic techniques and their interpretation in relation to the specific period. However, stylization required an analysis of the different types of traditional fine arts in Russia and particularly the Volga region. This step was necessary in view of the complexity of styling for conveying the atmosphere of a specific epoch (Kazakov, 2001).

When it comes to the historical museum, each detail we present should be reliable and correspond to the historical period. Therefore, the necessary consultations and work with historians and archaeologists for each site were carried out. There is always a high risk of making a mistake. To avoid them, we successfully applied an analysis of the paintings created in that period. For instance, these are the annalistic engravings or master plans for architectural structures. Similarly, the images and reconstruction of events can be adopted from the paintings of contemporary artists. In such cases it is necessary to analyze the reliability of these works in view of the large number of copies and interpretations, which constitutes the work of historians and art experts. Therefore, by composing various objects from different pictures, one can create an authentic image of the epoch (Shelkova, 1988).

Now, let us consider more specific about the very stylization and creation of a visual image of the exposition. In Europe, the first academies of art appeared in the 16th - 17th centuries. In Russian art at that time, the iconography prevailed, and only with the reform of Peter I at the beginning of the XVIII century the situation changed. "It is commonly believed that Peter the Great introduced Russia to Western art that with him the first seeds of artistic understanding in the pan-European sense were sown and that the first new Russian school of painting appeared in his time" (Benua, 1995, p. 23). And then the question arises: How does one stylize an earlier period, if there are no images conveyed in the painting? Should we, as developers, rely on various traditional pictorial - folk knowledge - in every respect? There is a chronicle of events of the world and of Russian history, created in the 1560s-1570s for the Tsar's library of Ivan the Terrible, Tsar-Book, in a single copy, known as the "Face

Chronicle" Also, the type of woodcuts known as lubok was actively used in Russia starting with 15th century. I other words, all the objects and events that survived until 18th century, will have to be interpreted in a conventional xylographic style - lubok - or in the style of the "Face Chronicle." However, lubok and other techniques are not sufficiently informative, and it is very problematic to reliably visualize the objects because of the conventionality of the image, and the corresponding tasks are essentially similar. Therefore, it is necessary to resort to other technologies to solve the issue of approach to style.

At the same time, going back to the example with the revived paintings of Van Gogh, we decided to visualize the "City Panorama" museum in order to interpret the reality of that time period with the aid of the subjective vision of certain renowned artists. When selecting a reference visual series, we turned to the works of the earliest authors of academic paintings who wrote in the historical genre that belong to the territory of the Volga region: I.I. Shishkin, V.M. Vasnetsov, M.V. Nesterov, N.I. Feshin (Shelkova, 1988).

"In the present understanding, historical painting is an image of important events in the development of society both in the past and in the contemporary reality of the artist's life. The works of this genre demonstrate the major historical events and mior private episodes, actions of outstanding figures, as well as the characters, customs and lifestyles of people who lived in the distant past" (Datleva and Lyakhova, 2001, p. 5).

A person visiting the museum witnesses that everything is focused on the past, and his feelings are directed to the village, to people and the events of those times. At the same time, academic art attempted not only to capture the reality, but also to interpret the sensations and emotions of time through the artistic painting technique (Garipova, 2013).

Despite the analysis of historical objects, a visualization problem arises. Not all objects are known to us, or not all objects have reached us in complete form, and we must resort to artistic solutions that will help to conceal certain aspects without compromising the overall picture. In this case, the use of pictorial stylistics is very helpful, including the use of an impressionistic "touch", leave some aspects unspoken, conceal them for the sake of the art so that certain unknown objects are not in not conflict with the scientific data. In the reconstruction of historical events, we must plan each composition in such way that they are historically reliable. In other words, we should build the composition in such way that would maintain the aesthetic component of the visual image and at the same time, its reliability. This is the essence of the complexity of the task (Garipova, 2013).

Therefore, when creating works in different periods of time, we must understand that the artists writing complex historical paintings carry out a thorough historical analysis. This is since artists treat their work as a historical material conveying the

authentic reality. However, as mentioned above, ongoing consultations with art historians and the authenticity of the image are required. Let us consider another visualization technique - the application of 3D graphics (Tomono, 2005).

The positive aspect of 3D graphics is that given a good execution of the work, creation of reliable objects and high-quality historical material, 3D visualization reveals the entire historical reconstruction in complete form. This is a very qualitative and demonstrative technique, but it is only applicable in cases when a thorough scientific work of historians, archaeologists, ethnographers has been previously executed. Also, the creation of 3D visualization involves several technical limitations that need to be resolved at the planning stage. One of the methods of 3D visualization is 3D scanning of the historical site.

"Electronic collections and archive databases are quite common in museums. Entries for specimens are not always complete (containing data from all sources) and as a result strides to fill in the blanks and include digital images and document scans are being undertaken. These kinds of digital projects: data migration, imaging, and geo-referencing, are essential steps in the process of building comprehensive digital databases" (Graham, 2012, p. 2).

As a subset of 3D visualization, one can incorporate the use of the gaming technology for better communication between the created 3D objects and the viewer. Cinematographic technologies can also be applied in museums. These are the technology of match moving (the process of calculating the 3D trajectory of the camera and its parameters, as well as the positions of objects in the scene) and the introduction of 3D graphics into space. The advantage of this technology is that by creating movies with real objects and actors and making them wear authentic costumes we achieve the most realistic visual imagery. However, this requires treatment of the historical composition with utmost precision. For instance, one needs to be careful with the reconstruction of historical costumes, so as not to make a mistake, for Ethnic and historical costume is an important historical element. A vivid example of this is the investigation described in the articles by Orfinskaya (2015) concerning on the topic "Issues of clothing reconstruction based on the results of an investigation of archaeological textiles", in which the author justifies the complexity of the scientific reconstruction of the historical costume (Orfinskaya, 2015).

Another disadvantage are as follows: time-consuming plotting; large costs associated with production shootings; difficulties in the creation of historical items. Shooting also includes photography as a type of art demanding absolute authenticity of the image.

4. Summary

Summarizing the conducted research, it can be concluded that the following basic techniques and methods can be used in the establishment of the stylistic exposition content:

1. Artistic artworks having passed an analysis by historians and art experts for historical authenticity.
2. Traditional folk painting as a conditional stylization. The following Russian folk art was selected for this study: Xylography - lubok; artwork - "The Face Chronicle"
3. Traditional academic painting, as a means of transferring a wider range of composition possibilities and conveying of impressions.
4. Computer graphics as a technique for conveying detailed historical data and visualization technique.
5. Cinematography and photography as reliable visualization methods.
6. Animation technologies, as a combined execution of all narrative techniques.

5. Conclusions

It should be noted that all the aforesaid visualization techniques can interact with each other to any required extent, creating an original and unique stylistic image of the visual narration (content) of the exposition and can be applied in any museum spaces.

6. Acknowledgements

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

References:

Benua, A.N. 1995. History of 19th century Russian art. Moscow: Respublika.

Datleva, G.V. and Lyakhova, K.A. 2001. Historical Art Workshop. In Magistri artium Book Series, pp. 5-12, Moscow: Veche.

Forster, C. Pizzoli, M. and Scaramuzza, D. 2014. SVO: Fast semi-direct monocular visual odometry. Proceedings of the IEEE International Conference on Robotics and Automation, 15-22.

Galkina, T.V. 2004. Museum studies: exposition creation basics. Tomsk: Tomsk State Pedagogical University.

Garipova, I.P. (ed.). 2013. The restoration history of cultural heritage of the island-town Sviyazhsk. Kazan.

Graham, C.A. 2012. Application of digitization to museum collections management, research, and accessibility. Malmo: Lunds universitet.

Ioannides, M., Fellner, D., Georgopoulos, A. and Hadjimitsis, D.G. 2010. Digital Heritage. Proceedings of the Third International Conference, EuroMed 2010, Lecture Notes in Computer Science, 250-261, Berlin, Heidelberg: Springer-Verlag.

Kazakov, E.P. 2001. Bulgarian village of Xth-XIIIth centuries from lower reaches of the Kama River. Kazan, Center of the tatar literature.

Knyazeva, V.P. 1963. Nicholas Roerich. Leningrad; Moscow: Art.

Krylov, A.K. and Krylova, A.Yu. 1998. Results of works on copying and cartogramming of XVI century frescos: Church of St. Trinity in the village of Big Vyazemy. Trinity College Research. Proceedings of the conference "The Troitskie Readings", 22-33, Bolshie Vyazmy.

Orfinskaya, O.V. (ed.). 2015. Institute of archaeology named after A.Kh. Khalikov of AS RT: Archaeology of the Volga Region. Issues of clothing reconstruction on the basis of the results of Archaeological textile research, 3(13), 17-30.

Rosenbloom, E.A. 1997. Time and space in the museum exposition. Proceedings of the conference On the way to the museum of the XII century: Museum exposition, Theory and practice, Art of exposition, New scenarios and concepts, 99-107, Moscow, District Executive Committee.

Shelkova, E.N. 1988. From the experience of observations of the state of the murals of the Nativity of the Virgin Cathedral of the Ferapontov Monastery. Ferapontovskii sbornik, 2, 188-199.

Tomono, M. 2005. 3-D localization and mapping using a single camera based on structure-from-motion with automatic baseline selection. Proceedings of the IEEE International Conference on Robotics and Automation, 3342-3347.