# PUBLIC VIRTUAL PRESENTATION OF ARCHAEOLOGICAL MATERIALS: THE NOTES FROM RUSSIA

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**ABSTRACT**

The history of museum informatics in Russian Federation can be divided in stages according to the use of various computer technologies. At the same time nobody takes in account information technologies. First of all the museum cataloguing had aim to put information in order and make it accessible. Public presentation of museum collections and results of scientific research required new technologies different from databases. The up-today solutions are mostly based on web-technologies. Information goes to user. According to the Gartner Hype Cycle methodology, there are five key phases in every information technology's life cycle. First, there are one to two years of announcement, followed by testing and risk evaluation. Then, there are two to three years for inflated expectations linked to the implementation and usage of the technology to peak. Finally, this is followed by a recession and a negative slope. It is curious but just the archaeological collections always was in focus of case studies for the museum informatics. They started by scientific descriptions for the special aims of archaeological research using numerical methods. Then a database for the museum catalogue was developed, and finally we continue to look for the modern techniques for the virtual reconstructions and public presentation of our collections to wide public. Sometimes the necessity to avoid expensive hardware results in the good solutions and possibility to find balance between computer and information technologies. Now, for us the problem consists in usability of the information. Our visitors are in need of data and museum specialists are not ready to apply modern techniques for their purposes.

## 1. ARCHAEOLOGICAL COLLECTION AS A CASE-STUDY

According to the Gartner Hype Cycle methodology, there are five key phases in every information technology's life cycle. First, there are one to two years of announcement, followed by testing and risk evaluation. Then, there are two to three years for inflated expectations linked to the implementation and usage of the technology to peak. Finally, this is followed by a recession and a negative slope. In order to illustrate the application of information technologies in Russian museums the development of web-sites, CD-disks, info-kiosks and digital catalogues was explored [Hookk 2005]. There are two aspects: the technology became out of fashion or simply old.

We used an example of the State Hermitage Museum, where the first department of museum informatics in Soviet Union was organized by Jakob Sher in 1981 (Sher, 1978). Since that time the problem of transition from one technology to another and data safety has been actualised. It is curious but just the archaeological collections always was in focus of case studies for the museum informatics. They started by scientific descriptions for the special aims of archaeological research using numerical methods. Then a database for the museum catalogue was developed, and finally we continue to look for the modern techniques for the virtual reconstructions and public presentation of our collections to wide public (Hookk 2012).

## 2. FROM CATALOGUING TO DISSEMINATION

The history of museum informatics in Russian Federation can be divided in stages according to the use of various computer technologies. At the same time nobody takes in account information technologies. Being influenced by example of Robert Chenhall (Chenhall, 1975), first of all the museum cataloguing had aim to put information in order and make it accessible. Several ages were spent without equipment and all descriptions were only theoretical. Some scientific problems were solved on computer PDP-11 and then certain data in 1990s were transmitted through Robotrons to the first PCs.



**Figure 1 A data model of museum collections data management system "Atlas" includes more than 400 parameters of description (photo by D.Hookk)**

The attempts to create general museum database for collection management could be considered successful at that time. The only one problem exists till now – too many data to input and that is why nobody is ready to work for future generations. Anyway a good example of use of GIS technologies combined with database was demonstrated (Mazurkevich et al., 2005; Hookk et al., 2007). Finally, the database "Atlas" developed with the help of Oracle technologies in 1998 was proposed for the archaeological collection management and it is used still.

Public presentation of museum collections and results of scientific research required new technologies different from databases. There was a period in the beginning of XXI century, when museum CD-disks and sensor kiosks with Flash animations were on fashion. The up-today solutions are mostly based on web-technologies. Information goes to user.

## 3. CRETERIA OF AVAILABILITY AND RELEVANCE

Sometimes the necessity to avoid expensive hardware results in the good solutions and possibility to find balance between computer and information technologies. For example, a sensor kiosk is associated with onetime require (like, pay and go), it does not suit for a guided tour through the museum. Many things can be find simple in internet by Google (e.g. biography of artist). Audio-guides are useful for a single visit at the permanent exhibition. Museum has no possibility to do them for temporal exhibitions. QR-code on label requires free Wi-Fi for all visitors.



**Figure 2 A sensor kiosk in a War Gallery of the Winter Palace with information (photo by D.Hookk)**

Just now we decided to study, what kind of information is available for our virtual visitors in Internet. Virtual guide on the web-page of the museum offer possibility to get data only on 7 from 20 rooms of the archaeological exhibition. Required plug-in is not supported by modern browser. From 17 virtual courses unique topic "Scythes" on archaeology is available only in Russian. Technologies applied by developers of the application are not compatible with iPhones and iPads. In a special mobile application "Hermitage Museum" archaeological collections are presented by 5 items with invalid data taken from the old version of the web-site. Public excursions which include information on the same 20 rooms of the Winter Palace – residence of Russian tsars - and archaeological objects there are accessible for about 200 persons per year, while we have about 3 million visitors.

Thus we came to the conclusion that information is not full and relevant, technologies became outdate, and there is not feedback with visitors. Now, for us the problem consists in usability of the information. Our visitors are in need of data and museum specialists are not ready to apply modern techniques for their purposes. Moreover, we require an approach, easy in use and accessible for everybody, the cheapest as far as it is possible.

## 4. MOBILE TECHNOLOGIES

*Young for the young* is a project organised by the Department of Archeology in order to make the different archeological or pre-historic rooms of the museum more attractive and appealing to the general public. The goal of this project is to create tours which are tailored to the individual interests of the visitors. It is important that they enhance the visit of the tourists at the museum, enabling them to view a range of artwork with a cohesive theme within a comfortable, self-guided tour. For example, if guests are interested in topics such as weaponry, clothes or ceramics, they will be able to choose a self-guided journey dedicated to these specific themes. Each selected artefact will be presented by a short historical, original and authentic text that will focus on several unique or curious facts. This non-traditional approach creates a comfortable, welcoming and adapted environment to discover the different rooms. Obtaining such emotionally-tinged information draws the visitor into the culture of the Hermitage and its complex and diverse world. The visitors will not be expected to follow a specific tour so as to view the objects; they will be free to discover each item of the topic at their own pace and will.

These tours will be accessible on the museum website so as to allow visitors to download and read them on their personal technological devices. The final product - a PDF file - will thus be authorized on mobile devices such as tablets, smartphones

and e-readers. A selection of files will be available on the website: the visitor will find the title of the topic, an abstract of its content, the estimated duration of the tour and the available languages. The possibility to share information with our visitors over the internet lies in the very ideology of personal networking technology (Charter of human rights…, 2012).



**Figure 3 Various forms of data implementation: plans, advisor, sensor kiosk, audio-guide rent and mobile application (photo by D.Hookk)**

According to their taste, the participants of the project will gather information about 10-20 objects (for example, arrows, pots, jewels, statues and so on). Each artefact will be located on the map of the archeological area and will be presented in an attractive way: a short informative text, a poem, a personal impression, etc. By participating in this project, the volunteers are given the opportunity to share their "visitors' point of view" and their personal knowledge to the museum staff. Thanks to this new input, the museum's content can be shown from an original and different perspective. As to the specialists and employees of the museum, they will also participate into the making of the project by providing technical information and by sharing their knowledge of the museum's history. The design of a "topic template" will be developed by volunteers and computer designers. Furthermore, a non-exhaustive list of topics will be proposed and expanded by future participants - the more, the better. In addition, the data provided by the authors of the project will be protected under the domain of the museum's website.

As stated in its name, this project is oriented toward the younger visitors of the museum. Its audience includes not only those who come in search of information from our vast collection, or for the pleasure of viewing such masterpieces on display, but also those who might choose a profession in a related field such as art history. Therefore, the goal of this project is to create tours which are tailored to the individual interests of these visitors. These tours would be found in the form of files, accessible on the museum website. It is important that they enhance the visit of tourists at the museum, enabling them to view a range of artwork with a cohesive theme within a comfortable, self-guided tour. For example, if guests are interested in fashion, then with the help of their personal mobile device they can choose a self-guided journey to exhibits with this theme. Each exhibit would be accompanied by a short, original and emotional text which reveals several unique or curious facts. Consequently, this ensures the visitor is adapted and oriented within the museum, creating a comfortable, welcoming environment. Obtaining such emotionally-tinged information draws the visitor into the culture of the Hermitage and its complex and diverse world. Thus, this individualized, non-

traditional approach to visitor service creates a positive impression on visitors to the museum.

Participants in the project will gather information about any 10-20 objects (for example, cats in paintings, cats in sculpture, cats in the palace museum and so on) according to their taste, creating a response to the object (this could take the form of a short, informative piece about the object, a poem, a personal impression…) and marking the location of each on a map of the museum. This mini-tour does not strictly regulate the order of visiting each point of interest on the map, but prompts visitors by numbering each object. It also indicates the amount of time necessary to complete the tour. Consultation during the creation of the points of interest will be provided by the specialists and employees of the museum, who will also help optimise the route that the tour takes. The depiction of the tour route on the map of the museum and the development of a template for the file will be created by volunteers and computer designers. The final product- a PDF file- will be accessible on authorized mobile devices such as tablets, smartphones and e-readers. A selection of files will be available on the website with an indication of the theme of the tour, an abstract from the text, the length of the tour as well as the language. The more options the better, with the theme "On taste and colour". The possibility to share information with our visitors over the internet lies in the very ideology of personal networking technology (Charter of human rights… 2012). In addi-

tion, the data provided in the author's publication would be protected under the domain of the museum's website. Through participation in the project, it is possible for visitors to display their knowledge and express themselves and their individuality. From our standpoint, looking at our exhibits from a fresh point of view allows us to see them in a different light.

During spring vacation, the children's contest "Discover Hermitage!" took place. Students have proposed a route through the galleries and gather their "collection" with the help of a camera. Submissions differed by age group and theme. For children visiting from the school's club in the centre, including numerous students studying art history in rotational classes, it would be possible to display their creations. The winning submission was chosen by its popularity- whether from a head count, or from data gathered from the contest website. The contest took into account only one "vote" for each entry ticket. Participants in the contest are advised to seek support for their submission from classmates, family and friends. In this manner, we hope to draw the attention of the adult audience too. Furthermore, this project will lead up to the celebration of the State Hermitage's 250th anniversary in 2014, and the massive accumulation of tours will be a great present for the numerous guests of the museum. In this manner, we hope the word "Hermitage" will be accompanied not only by the word "museum", but also by "great anticipation".

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