Real and Virtual Art in Pushkinskiy
Digital imagery and presentation of cultural heritage of museums

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S W E D E N

Russia holds the immense cultural Heritage: there are 79 million 840 thousands objects in the funds of 2289 Russian Museums (by the end of 2004), and many of them have Computer Collection Information Systems useful both for internal purposes and for presenting the Museum Cultural Heritage in INTERNET.

But only less than 10 percent of the total funds volume have been digitized and can be made accessible for people in INTERNET. So, the main problem is to create and present the digitized text content and digitized images in comfortable form for users.

Russia seeks the solutions of this problem both through participation in International projects (UNESCO Information for All Programme (IFAP; the Sixth Framework Programme (FP6), European Community Commission) and in National projects; this report is dedicated to some examples of computer technologies we use in Russian museums.

The first models of the **Museum Collection Information Systems (MCIS)** were oriented "for internal use". Today the business proposals include two models of MCIS: KAMIS[1] and AIS-Museum[2]. Both of them satisfy the typical Museum claims and provide DB Collection creation, including text and digital images, reviewing, updating, expanding the information. MCIS provide all the technological operations the Curators need: effective Search Process, data access, automatic review of the Print-out Reports according to the Museum Instruction Demands (Acquisition Register, Inventory Cards etc.), transformation of the Output Data into Standard Form (Word, HTML etc.). But among the current system shortcomings, we are confronted with, I'd like to attract attention to the Laborious Manual Data Input: as a rule, this task has to be performed by the Museum staff.

1 www.kamis.ru
2 (www.givc.ru)

The unique technology of Retrospective Conversion[3] (RC) can be considered as a powerful instrument to overcome the extremely-high labor-intensiveness of the traditional documents-data digitizing process, carried out by museum staff. RC has been created by "Electronic Archive"

company together with leading Russian museums, libraries and archives; RC offers high-speed digitizing process working in "production line" mode. Many Russian museums use RC in there practice.

RC consists in scanning and conversion of documents with initial data from traditional media into the electronic form and includes some stages:

- *Analysis of the data array (Corporation expert comes to Customer, defines a problem, makes the detailed description of the documents for processing);*
- *Scanning (documents are converted into the electronic form):*
- *Processing (Retrospective conversion Centre specialists transfer the information from graphic images of documents into the database records).*
- *Database records' array creation and transferring into the museum' information system.*

During this procedure the output data array is subject to mandatory multi-step verification and it's formed according to the approved list of data base fields. Retrospective conversion has been successfully realized in a number of Russian museums.

Another example - Flying Lens Scanning Technology[4]. It is a sophisticated technology to create dogital images of super high quality. The most interesting element in the Flying Lens Scanning (FLS) Technology applied technology is a special optical adapter, which is placed on a standard digital camera between camera and lens and it ensures the object scanning. As a result, there is an ability to receive a number of digital frames with proposed intersections sequentially. A special software for fragments connection is used, As a result, digital copies meet the requirements of artworks attribution experts, and can be used for high quality graphic arts works production as well.

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3 www.elar.ru

[4] www.eposgroup.ru

One more example - VolumePhoto[5] **created by the EnterNetica** company – a newest 3D photo technology. Using it, virtual trips in exposition of museums could been created and presented in INTERNET or CD.

The above-mentioned facilities are in current use in many Museums all over Russia. The State Pushkin Museum of Fine Arts (Pushkinskiy) could be considered as an illustration in point.

Pushkinskiy is one of the major art collections in Russia. It was idea of Ivan Tsvetaev, the Moscow University Professor; to present for people art history from the ancient times to the New Age in plaster casts, pictorial and galvanic copies. The first stone laying happened the August 17, 1998, and the Museum was opened for public on May 31, 1912.

The Museum extended the collection for the first time in the period of 1920-th, when a great number of paintings of Western European masters were turned to the Museum from some private and state collections. From that time the Museum activity has been enlarged, and the Pushkin State Museum of Fine Arts represents today its famous collection for Russia and Foreign people. The exposition of the Museum includes a vast collection of plaster casts of famous sculptures (ancient, medieval and Renaissance), the famous collection of Egiptian Originals, and the collection of original works of art from all the Continents, including the unique French Painting Collection of the late XIX - early XX centuries (masterpieces of Monet, Renoir, Degas, Cezanne, Van Gogh, Gauguin, , Matisse, Picasso).

The Museum collection exceeds now 670000 artifacts, and less than a percent of it is accessible for public; at the same time, it is impossible to control the Museum Collection by traditional methods. Entering into the XXI age, the Museum tracks to the Open Information Society, and the Museum considers the main goal in two aspects: to improve the Collection Processing Technology for Museum Staff ("Internal Use"), and to create Contemporary Access to Cultural

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[5] http://www.volumephoto.com/

Heritage for Public ("Public Service"). It became evident the only way to cut the knot is to use the newest IT.

That is why from the beginning of 1990-th a series of IT projects to improve Museum activity have been fulfilled, for example:

- the Computer Data Base has been developed for some Museum departments (1990);

- five Museum buildings were united by the computer optical fibre network (1995);

- the top-level INTERNET put into operation (1996)

- "The State Pushkin Fine Arts Museum" CD-ROM and the Museum Site[6] in INTERNET have been published (1998);

- a contemporary Museum Collection Computer Managing System (KAMIS-Oracle) has been installed (2000)

- the Flying Lens Scanning Technology for high quality digital images creation have been used in restoration and publishing projects (after 2000);

- the virtual exhibition trip "Italy-Russia, Russia-Italy. From Dgotto to Malevitch" have been created by VolumePhoto and presented in INTERNET, (after 2003);

- using Retrospective Conversion, electronic copies of the Acquisition Register Books have been created;

- Sensor Kiosks and Demonstration Panels installed in the Private Collection Museum (2005).

The Museum Direction realizes the necessity of "revolutionary reforms" in Museum activity, following the shift in management approaches from "scientific management" to "people-oriented management", to transfer Museum into Cultural Center for production and dissemination of Knowledge. So, IT is considered as a very effective instrument to meet the challenge. The General Layout for the Museum Reconstruction and Evolution up to 2012, the Museum Opening Centenary, includes many projects; and some steps are realized already or will be realized soon: the Museum of Private Collections has been opened in new building on May

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6 (www.museum.ru/gmii)

2005; the Aesthetic Children Education Center has been opened on 17 January 2006; many other projects are under construction. All new buildings are supplied with the newest IT equipment.

IT will rank high among new and traditional methods and types of Museum activity, and newest technologies will be integrated into the Museum thoroughly. So, the "Plaster Casts Museum of XIX" will celebrate in May 31, 2012 the Centenary as the "Newest Cultural Museum Centre of XXI".