

**DEVELOPMENT METHODS AND ORGANIZATION OF WORK OF THE VIRTUAL MUSEUM FOR
AN INSTITUTION OF THE KRASNOYARSK TERRITORY**

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**МЕТОДЫ РАЗРАБОТКИ И ОРГАНИЗАЦИЯ РАБОТЫ ВИРТУАЛЬНОГО МУЗЕЯ ДЛЯ
УЧЕБНОГО ЗАВЕДЕНИЯ КРАСНОЯРСКОГО КРАЯ**

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***Аннотация.** Рассматриваются краткая характеристика музея образовательного заведения, цель создания данного проекта, методы разработки подобных информационных систем, способы тестирования и администрирования подобных решений, перспективы развития разработанного проекта для музея АК СибГАУ.*

Introduction. Nowadays there exist comparatively small museums and collections of scientific or educational purposes. The museum "Combat and labor glory" of Aerospace College at the Siberian State Aerospace University (SibSAU) is such an institution. Its collections and contents have value not only for the students, teachers and employees of the University and the College, but also for graduates, parents and other users who are interested in these collections. We reckon that a virtual museum can become a great tool to provide a quicker and easier access to the museum.

The project of the virtual museum for the Aerospace College of SibSAU was prepared within the frames of the graduation research paper. The main goal is to create a specific information system to manage the virtual museum and its collections, change and upload any materials with no IT experts involved and minimum staff needed.

The virtual museum also provides much more opportunities than an ordinary museum: it is possible to show an exhibition being restored or removed. The virtual museum can serve as a collection and exhibition, as a theatre and a playground, a creative centre and a place for master-classes. The teachers can use the e-museum at classes to organise independent work of the students.

To elaborate the project of the virtual museum we use the methodology to develop electronic museum collections, virtual museums and the museum website item search. The basic contents of the e-museum represent SibSAU history, main scientific achievements, the chronology of the key events, the biographies of the most

famous students, educators and specialists. The project also provides the solution for storage, safety and reaching any museum item online from any place in the world [1, 2].

Materials and research methods. There are programmes to develop a virtual museum: among them "Adobe Dreamweaver", "Front Page", "Nvu", "Web Builder", "Web Creator Pro", "Notepad++". "Nvu" and "Notepad++" (distributed for free); "Notepad++" is a popular software product. "Adobe Photoshop" or "CorelDraw" are used by experts for graphics [3, 4].

For the project of SibSAU museum we use "Notepad++". This programme is free, updated regularly, only 13.2 Mb and easy to install. The programme can be stored and transported on a flash-card, the interface is clear and easy to operate, and it possesses the number of functions. "Adobe Photoshop" is used for graphic design. The programme has user-friendly interface; web-designers prefer this programme to others due to its characteristics.

"HTML", "PHP", "JavaScript", "Java" and "CSS" are popular languages to create a web-site currently. "HTML" hypertext markup language is used to create a virtual museum in SibSAU, because this project is hard to be hacked as there is no database "MySQL" and a configuration file. "HTML" websites also work quickly [5].

Creation of any virtual museum as well as any web-site has several steps: 1) preparation; 2) web-design; 3) web-programming; 4) site layout; 5) placing the website on servers; 6) website promotion. The project is also tested to find the programming bugs and text mistakes before and after the website is uploaded. Testing period depends on project complexity, but usually it takes about a month.

Results. The virtual museum of SibSAU has a clear navigation system, tree-like structure, sections and pages in random sequence. The project has the following sections: 1) Home page that can be reached from any website section; 2) "News"; 3) "About the college"; 4) "About the museum"; 5) "Awards"; 6) "In memory"; 7) "Photogallery"; 8) "Honorable Workers"; 9) "Behaviour Rules"; 10) "Guest book". The website also includes the college contacts and information on the project developer. There are links to other museums of Krasnoyarsk and website forum based on "Borda.ru", a leading platform for forums and guest books.

Fig. 1 demonstrates the home page of the virtual museum of Aerospace College of SibSAU.

The home page project forum on "Borda.ru" service of the virtual museum of Aerospace College of SibSAU is provided in fig. 2.

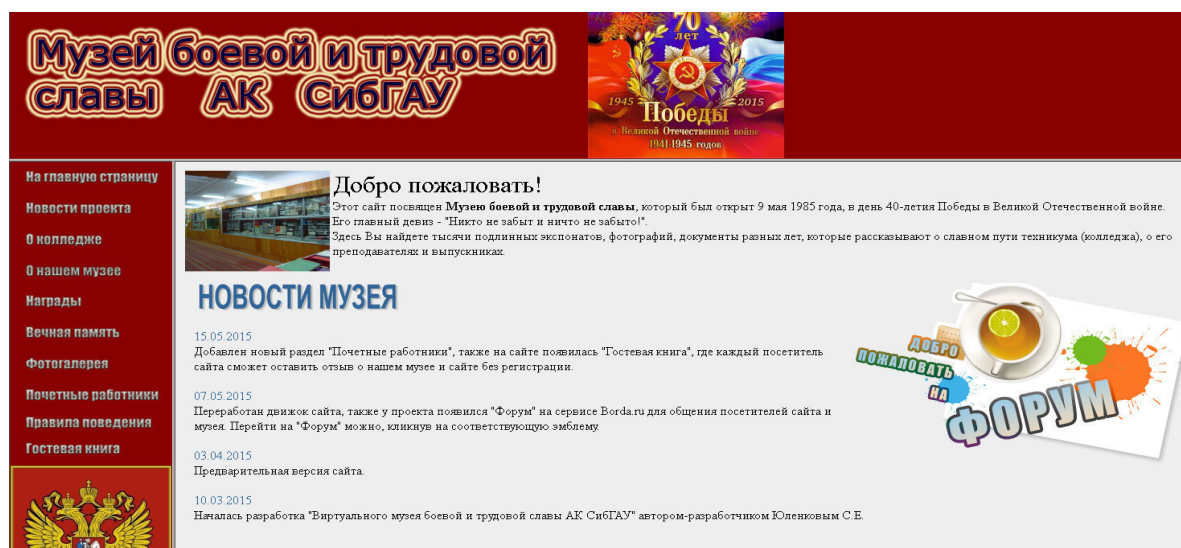


Fig. 1. The home page of the virtual museum of SibSAU Aerospace College

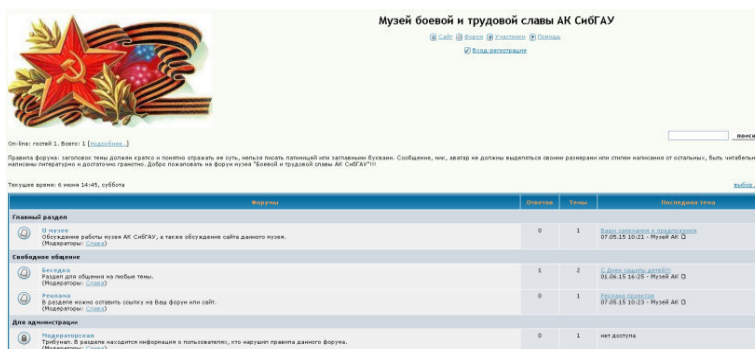


Fig. 2. The home page of the project forum on "Borda.ru" service of the virtual museum of SibSAU Aerospace College

Any virtual museum like any other website undergoes several testing steps. The project has functional testing when the web-developer identifies bugs, hyperlinks, the compliance of text with web-site pages. Then the HTML-pages are tested to optimize graphics, images and project's elements. To validate the website code and identify the bugs and problems it is possible to use the numerous specific sites such as <http://validator.w3.org>. To finalize the website is normally opened in different kinds of browsers such as "Internet Explorer", "Mozilla Firefox". The website has to be fully cross-browsing compliant. At the end the project is placed on the server of the educational organization.

To edit the website content we need to have file managed such as "CuteFTP". The programme is quite safe to provide an effective files exchange between a local computer and internet servers. Backup is provided for the project restoration, copying the files and the other hosting parameters. It can be created through hosting account or ftp-client using, for instance, "WordPress" plug-in or "Rsync" programme (for files and catalogues synchronization). If it is necessary to protect from copying the website text it can be done through adding a specific script that prohibits selecting and copying the text by hands. The links to museum site can also be added to the text as well as cross-posting of the website news and using project name in texts on the museum website.

Future research. The next step for virtual SibSAU museum website development and promotion is uploading the 3D images of the museum items or different virtual excursions (thematic, introduction tours, excursions in English, subtitled tours, voice audio tours), survey visitors of project have also to be created: applicants, graduates, guests, parents, foreign visitors on the basis of work modern CRM-systems, section "Interview" of impressions after visit the museum of Aerospace College of SibSAU for different purposes.

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