Application of Electronic UDC in the Russian National Public Library for Science and Technology

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In Russia the most widely used library classifications are the national scheme BBK (Library Bibliographic Classification) and the UDC. BBK is more widely spread and is used for indexing literature in the Russian State Library, the National Library of Russia and many academic and public libraries. Both scientific and technical libraries apply UDC. Since 1963 the UDC classmark has been mandatory for all technical and scientific publications in Russia and the scheme is used by editorial offices of scientific and technical journals, scientific and technical information centres and scientific and technical libraries. From 1996 the UDC index has become mandatory for all publications irrespective of their subject area which is regulated by the Russian Standard "GOST 7.4-95 System of standards on information, librarianship and publishing".

The Russian National Public Library for Science and Technology (GPNTB - Gosudarstvennaya publichnaya nauchno-tehnicheskaya biblioteka Rossii) is the leading scientific and technical library in Russia. It has a long tradition of classifying literature according to the UDC which started back in 1963. For many years the Library provided support for classification by UDC and also assisted in the areas of research and information while also acting as a supervisor in the matter of indexing for the network of scientific and technical libraries of Russia and the USSR.

In 1997, after the decision to discontinue the traditional card catalogues, the GPNTB faced the acute task of using UDC in the environment of the electronic catalogue and the automated library system. To resolve this task the GPNTB generated and began to use the UDC database, on the basis of CDS/ISIS software. This database was based on the actual Russian UDC tables published by the Scientific and Technical Centre "Rector" as licensed by the UDC Consortium. It was a classification database produced using a standard, ready for use software package and it was the first machine readable version of UDC tables in Russia. Classification numbers and keywords, belonging to classification captions, were the main search elements in this database. The database was designed as a librarian's tool and was well suited for maintaining classification tables and searching using these tables. However, users were still lacking a special classification tool in the OPAC. In classification searches they could use only classification numbers, but for these cases they had to know the relevant numbers which would match their search request.

At the end of the 1990s the GPNTB also developed a special system for UDC maintenance which is still in use today. The system has browsing and all necessary retrieval facilities that support searching by classification numbers, keywords from classification captions, reference numbers and excluded numbers. It also possesses various tools for maintaining the classification: entering new records, batch entry, record correction and global correction and special checking routines.

At the beginning of the 2000s GPNTBin cooperation with the Association ELNIT created the UDC database presented in the IRBIS (the automated library system developed by the Association ELNIT and implemented in the Russian National Public Library for Science and Technology). This database provided a searching and browsing interface and is regularly maintained and updated. The current database content corresponds to the fourth printed edition of the Russian UDC tables and also includes updates of five Russian issues of Extensions and Corrections. All mentioned editions were published by VINITI

(All-Russian Institute of Scientific and Technical Information), a member of the UDC Consortium, during the period 2001 to 2009. The database includes over 137,000 classification records. Each record contains complete data from the printed editions: numbers, captions, extensions of captions, methodological instructions and examples, "see" and "see also" notes, related areas, areas of application, superordinate and subordinate numbers. Excluded and replaced numbers were also introduced in this new UDC database. Excluded numbers are accompanied by the date and the source for excluding. Included with the replaced numbers are the date and the source for replacing, and the replacing numbers.

The Association ELNIT also developed special automated systems with friendly interfaces which were focused on making the use of the UDC database comfortable and easy for librarians and users with browsing and searching facilities combined. The first system was designed for indexers/classificators, while the second one was aimed towards the library user.

1. Electronic UDC for the classifier

The system has three basic screens. The navigation screen provides navigation through the classification scheme (main classification tables and auxiliary tables) by facilitating travelling up and down along the branches of the classification tree and transfer from one classification number to another by "see also" and "see" references. A special UDC number window displays the full content of the classification record.

The search screen gives facilities for searching by classification numbers from main and auxiliary tables and by keywords. All the usual aids of searching are presented, such as Boolean operators (OR, AND, NOT) and truncation. There exists a special kind of search by the excluded UDC numbers. Search results appear in a special search results window. Any searched number from the search screen can be presented at the navigation screen within its hierarchy in the tables.

There is also a special construction screen which helps the classifier in number building – a workspace where you put numbers selected from classification tables and where you build a synthesized number for a document, which you classify. Figures 1-3 demonstrate the screens described above.

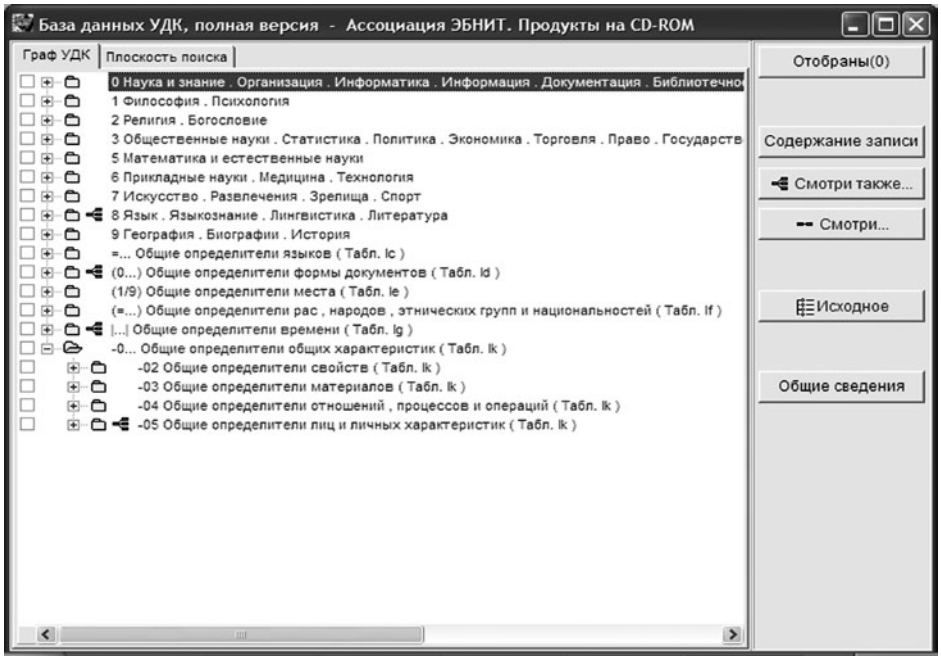

Figure 1 *- Navigation screen of the Electronic UDC aimed at indexers/classificators*

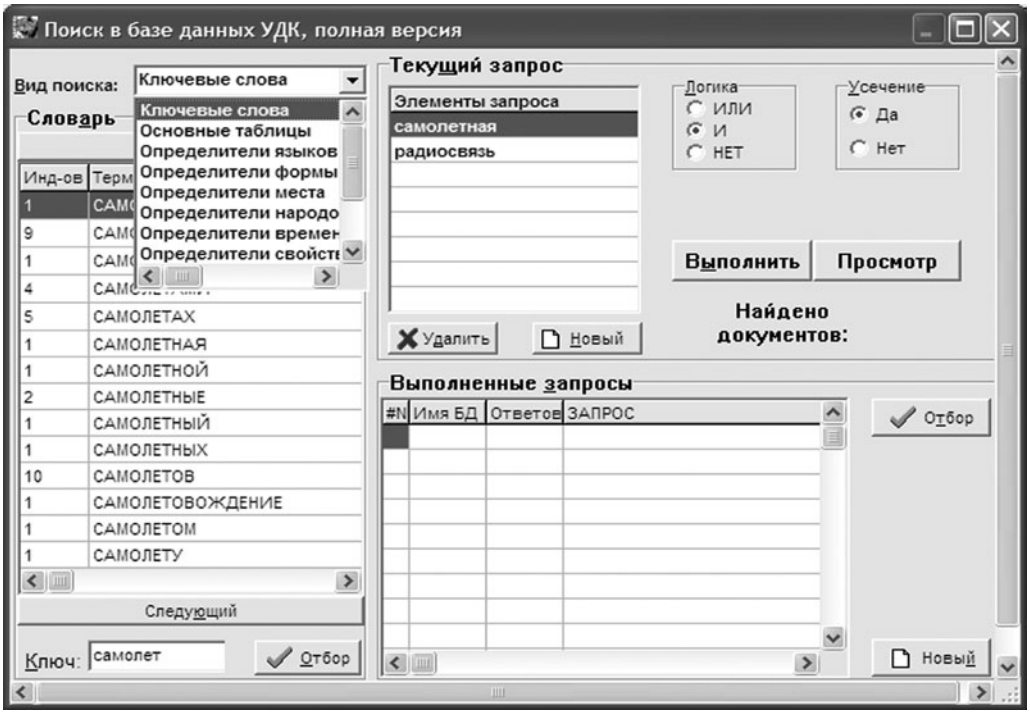

Figure 2 *- Search screen of the Electronic UDC aimed at indexers/classificators*

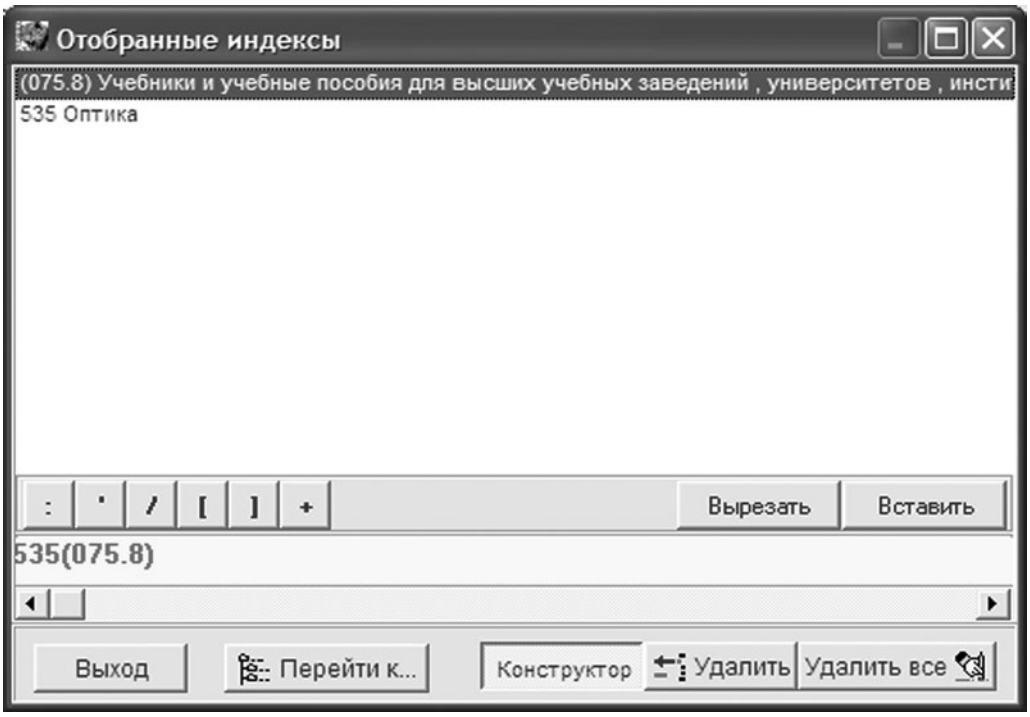

Figure 3 *- UDC number-building screen of the Electronic UDC for use by indexers*

The system enables indexers/classificators to search UDC tables quickly and efficiently, offers different ways to access UDC numbers and gives the facilities for interactive indexing and putting the synthesized UDC number into a bibliographic record produced within any automated library system. This system therefore contributes efficiently to the flexibility of indexing.

The system is distributed by the Association ELNIT according to the agreement with VINITI, a member of the UDC Consortium. The system exists in two versions: a CD-ROM based system, used separately, and a special UDC Classifier Module designed for users of the IRBIS automated library system. Besides the Russian National Public Library for Science and Technology, 285 libraries, institutions and organizations use the Electronic UDC for indexers/classificators in their practice.

2. Electronic UDC for the library user

The system provides searching in the library OPAC (based on the IRBIS Web module) based on the UDC scheme. All IRBIS users, that possess the IRBIS Web module and Electronic UDC for the classifier, can take advantage of this service too. It gives the library user the facilities to scan the classification tables and select the required numbers accompanied by the captions. A special image, which appears at the end of the caption (a magnifier), has a service function of indicating that documents classified by the corresponding number are available in the library OPAC. Besides the direct navigation through the classification scheme, the system supports the keyword search in the classification tables. Search results are presented for the user as a list of classification numbers and captions containing the searched keywords. The user can also look at higher and lower numbers for each search result which provides orientation in the classification scheme. A transfer by "see also" and "see" references is also available. The numbers ticked by the user are included in his or her query to the library OPAC. Figures 4-6 demonstrate the work of the UDC navigator in the OPAC of GPNTB (http://www.gpntb.ru).

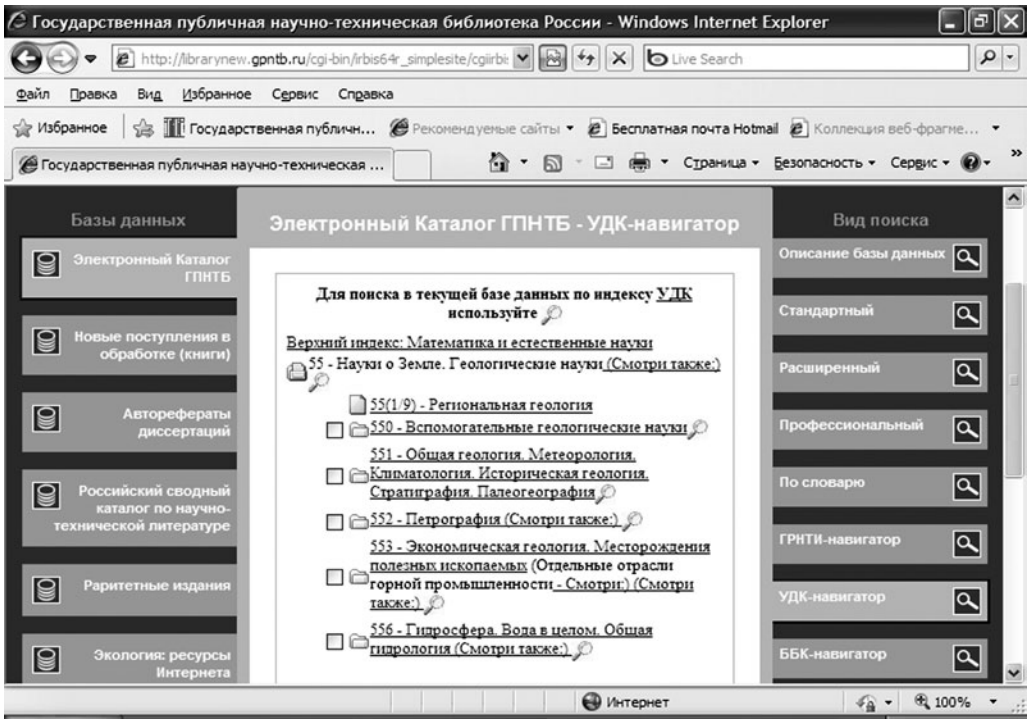

Figure 4 *- UDC scheme navigation in the UDC navigator in the OPAC of the Russian National Public Library for Science and Technology.*

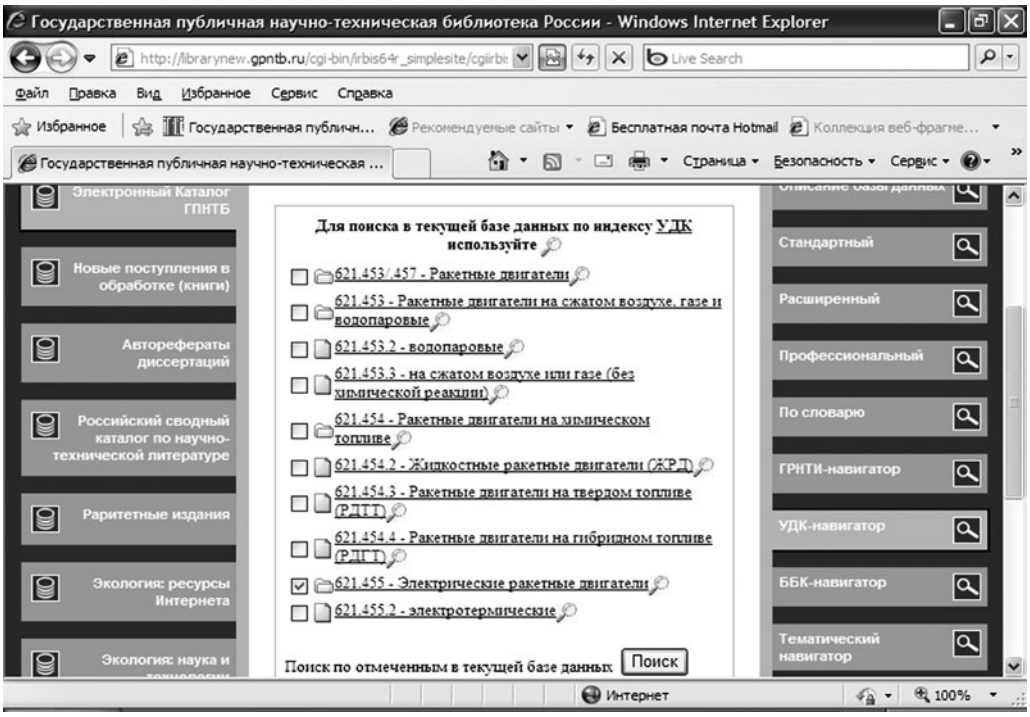

Figure 5 *- Results of a search for "rocket engines" in the UDC navigator in the OPAC of the Russian National Public Library for Science and Technology.*

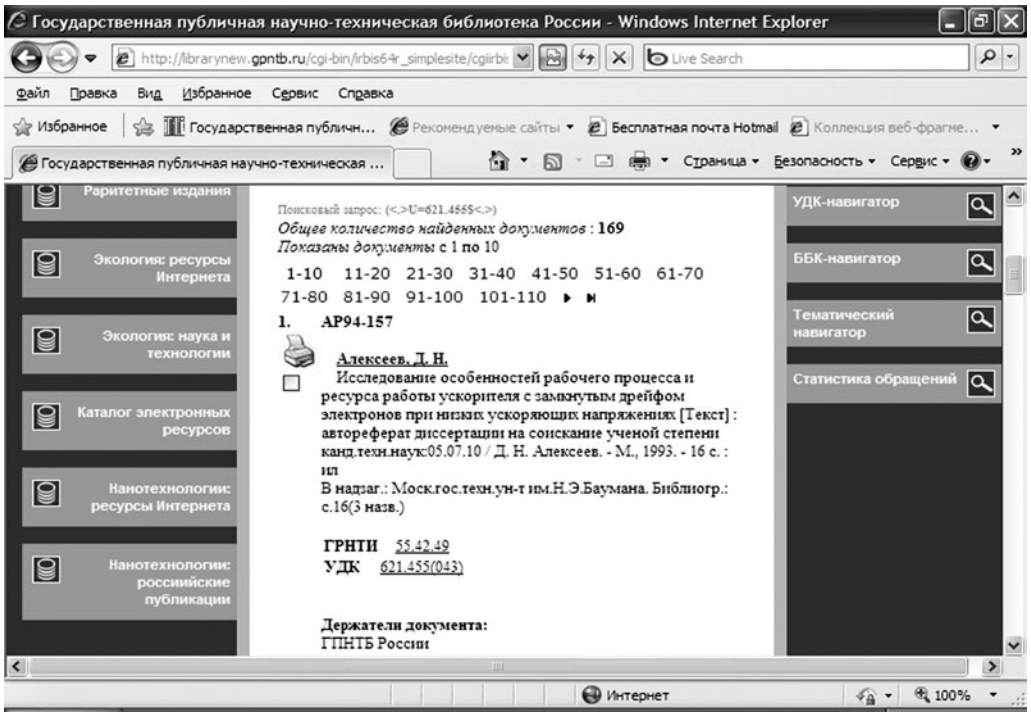

Figure 6 *- Results of a search for "electric rocket engines" (selected in the UDC navigator), see Figure 5 in the OPAC of the Russian National Public Library for Science and Technology*

When the UDC navigator was introduced in the Russian National Public Library for Science and Technology, the statistic data began to show a significant rise in UDC popularity as a retrieval language among library users. The statistics of an arbitrary library day (07.12.2010) are as follows: standard search (keywords) – 669 searches, advanced search – 133 searches, professional search – 43 searches, dictionary search (author, title) – 149 searches, UDC search – 685 searches. The user wants to have obvious and visual search facilities, and navigation through the classification scheme makes this possible. In addition, this navigation gives the user a good orientation in the required field of knowledge.