DEVELOPING AN INTERNET APPLICATION FOR THE PUBLISHING HOUSE "ST. IVAN RILSKI"

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ABSTRACT: The article describes the design and creation of an Internet application which provides Web based access to specialized mining literature, reference books and guides, and more.
The developed information system allows the addition, editing, selective search and extraction of specialized mining materials from the database.
Its technical functionalities are based on open-source software. The server language used is PHP, and the MySql relational database was used to implement the database of printed publications.

Keywords: Internet application, Web-based access to printed publications.

РАЗРАБОТВАНЕ НА ИНТЕРНЕТ ПРИЛОЖЕНИЕ ЗА ИЗДАТЕЛСКА КЪЩА "СВ.ИВАН РИЛСКИ"
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РЕЗЮМЕ: Статията описва проектирането и създаването на Интернет приложение, което предоставя Web базиран достъп до специализирана минна литература, справочници, ръководства и др.
Разработената информационна системапозволява добавяне, редактиране, селективно търсене и извличане от базата данни на специализирани учебни материали с минна насоченост.
Техническите ѝ функционалности са реализирани на основата на софтуер със свободен достъп (open-source). Използваният сървърен език е PHP, а за реализацията на самата база от печатни издания е използвана релационна база данни MySql.

Ключови думи: Интернет приложение, Web базиран достъп до печатни издания.

Introduction

Modern education requires continuity and responsibility for everyone, it is a major factor for social and cultural integration. Accessibility of information is one of the most important conditions in developing and cultivating of the new educational trends, providing feedback at all levels in the education system.

The main purpose of the Internet application that presents Web-based access to specialized mining literature, manuals, guides, etc. is precisely to provide easier access to information that students at the University of Mining and Geology "St. Ivan Rilski" (UMG) and interested professionals could use in a variety of situations in their present and future professional activities.

Providing such better access to specialized information would contribute to better awareness, would enhance the quality of training students and will be a valuable tool for the work of specialists in the field of mining and moreover it has contemporary relevance in today's world of high technologies.

Basic functional blocks of the system

The proposed information system is implemented with functional blocks such as:

✓ Portal that provides entry access to a remote data base for a distributed search;
✓ Allows database search;

✓ Dynamic generation, processing and retrieval of textbooks, study manuals, monographs, and real-time mining guides.

The developed system also allows:

✓ Working with distributed databases – i.e. providing the possibility to work with databases located on a server.
✓ Differentiation of access - the system allows access for users with different authorities;
✓ Verification and control - the system is required to be able to collect statistics on user inquiries;
✓ Simplicity in service - the system provides users with easy access interfaces to the information;
✓ The services provided by the publishing house of the UMG "St. Ivan Rilski" are provided in the appropriate electronic form;
✓ Allows users online access to information about the updates of the application.

System architecture

Figure 1 illustrates the architecture of the application, which has three separate logical hierarchical levels.
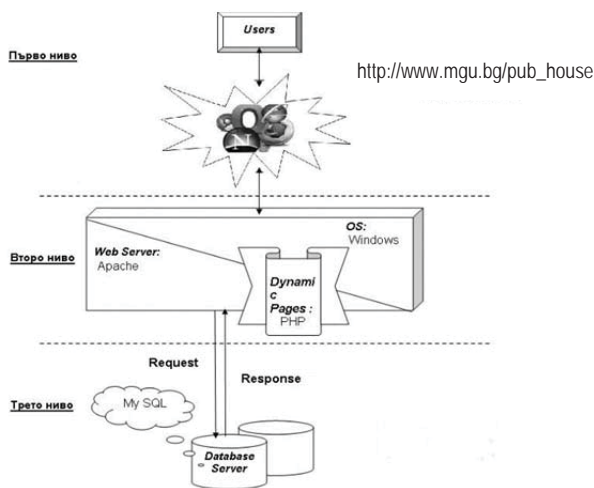

Fig. 1. Application architecture

For realization of the first function level – the customer (in the figure it is indicated as Users) – is used as an ordinary web browser (such as Internet Explorer or Google Chrome, Mozilla), which connects to the main server-part of the application. In this part of the information system the communication is done by http protocol.

The second level is developed on the Windows operating system and is implemented through the web server that serves the information system that dynamically generates and provides information. Upon a user request, the server starts a processing program (PHP) that generates an HTML page in real time. The Apache webserver is selected and as a processing program is used PHP interpreter for programming modules on the part of the server.

The third level is the database level. It is implemented through MySQL database. The MySQL server is very fast, powerful and easy to use. It is designed to manage and maintain large database much faster than existing solutions and has recently been used very successfully in environments with high productivity requirements. The specific database contains six separate tables. They contain detailed information about the users and administrators of the information system, as well as detailed data about the authors and the scientific literature, published by UMG "St. Ivan Rilski ".

Modules of the information system

The information system allows users to perform a selective search on certain criteria and administrators to add and edit, process and retrieve information on mining guides, reference books and textbooks.

The logical links in the information system are implemented through the php, javascript, jquery and html programming languages and are presented in Figure 2 (Hristov, 2014).
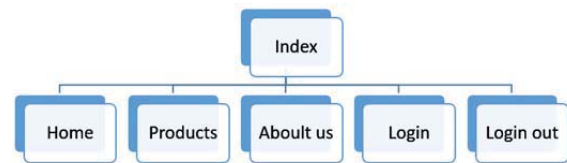

Fig. 2. Logical links of the information system

The records of the database information system of UMG Sv. Ivan Rilski`s Publishing house are stored in six tables, which are: autors, autors' books, books, users, lib, genre in database lib. Figure 3 shows a table scheme of the database.
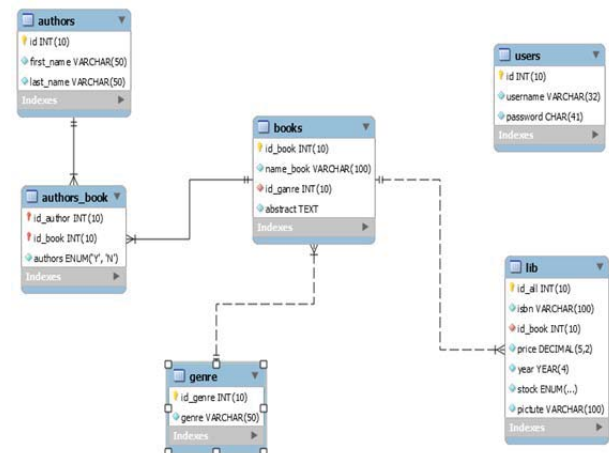

Fig. 3. Scheme of database tables

Figure 4 shows the main page of the application that contains links to all submenus Home, Products, About Us, Contacts, Login, LogOut. A web page has been created that allows interactive entry of new literature and new authors, but there is no set field, it is only for administrators because of security measures.

Fig. 4. Cover page of the application

Figure. 5 shows the Products web page, which shows the most searched materials in the information system.
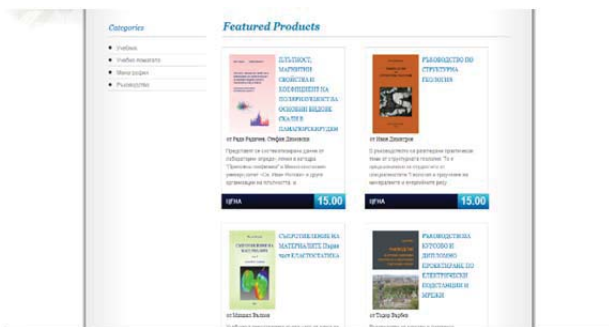

Fig. 5. Products Page

Figure 6 shows About Us web page, which provides detailed information about the Publishing house of UMG "Sv. Ivan Rilski", about the activities, capabilities and benefits of using our services.

Fig. 6. Web page About Us

In Fig. 7 is presented the Contacts page which presents all possible ways of contacting the Publishing house at the University of Mining and Geology
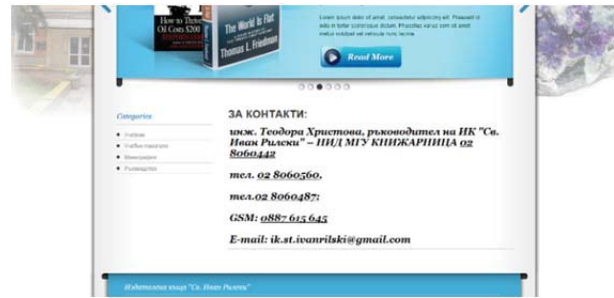

Fig. 7. Web Page Contact

Figure 8 presents a log-in form for users and administrators of the information system. It contains two fields for username, password, and login button.

Fig. 8. Login form

In Fig. 9 is represented the Insert web page which contains an interactive form for implementation of new materials from system administrators. It should be noted that it is hidden from users due to security measures.
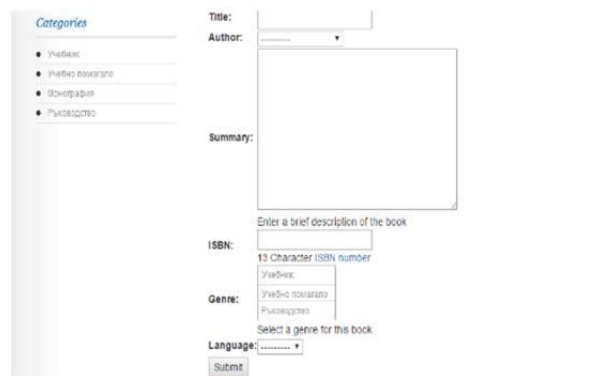

Fig. 9. Form for implementation of new materials

Conclusion

One of the most important features of Web based access to specialized mining literature, manuals, guides, etc., is the provision of easy access to sources related to the specific subject of mining. The aim of this application is to raise the level of awareness, respectively the quality of knowledge of specialists, trained or already working in this field, to familiarize them with the most up-to-date studies and developments related to the earth sciences.

Ultimately, the effectiveness of an educational or informational technology is proven in the process of practice. It is necessary to use the application to determine its efficacy and applicability in a real educational or scientific environment. An eventual screening of opinions and attitudes among specialists would contribute to optimizing the application and would give a very good feedback on its implementation in practice.

We believe that Web-based access to specialized mining literature, manuals, guides and more is a useful product that could be applied well in practice and would increase the level of awareness and qualification of the specialists. Its great advantage is its focus on young people due to its electronic positioning, as well as its uniqueness in terms of specialized mining application.

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