

SYSTEM FOR PHD STUDENTS INFORMATION STORING AND CONTROL

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The paper presents the system needed to be developed and implemented, which to satisfy the requirements that supposed to allow the PhD students and the persons from the educational environment to store information, to view and analyze them. The system access have to be done using the Internet or a specific LAN network (easy accessibility), to be safe, easy to use, and to prove its usability into the educational process. The most advantages of the system are the mobility of users, the possibility to store all the information into a single place, simultaneously access to the information, and the possibility to process the information when it is necessary.

Keywords: PhD, student, web, software

1. INTRODUCTION

The system presented in this paper was developed during the last year for being used in the educational environment from the Transilvania University of Brasov, Romania. It's presented the architecture, developed and implemented, and the functional modules of the system.

2. PROBLEM STATEMENT

It was a problem with the old methods used for storing information and the possibility to access the information by the students or by the persons which are integrated into the educational environment. The solution adopted it's easy to develop and implement. It required some time for a better understanding of the requirements and for taken into consideration the special situations which could appear into the system using. The technologies adopted for development permit to integrate new modules into the system or to modify the existing modules.

3. SYSTEM PRESENTATION

The system's software is represented by 2 different applications which form together a client-server application. The communication between these applications is done using the HTTP protocol. The architecture of the system [1], the directions and the possibilities for doing the communication between components are represented in figure 1, presented below.

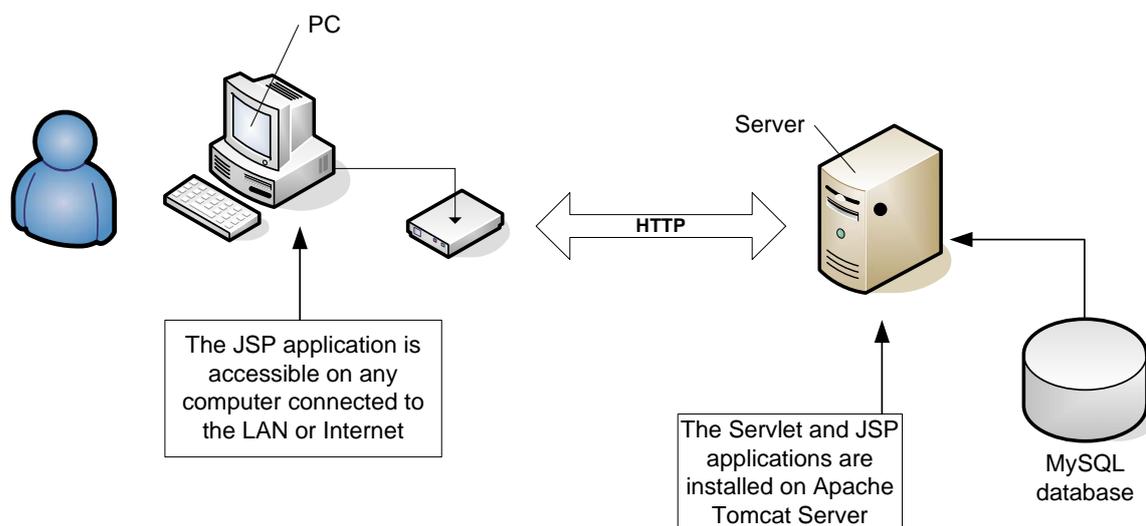


Fig. 1. Architecture of the system

One application (the Server side) is a Servlet application [2]. It expects requests from the Client applications; it processes the request, and sends back, to the application which sent the request, the corresponding answer. This application has also the role to analyze and process the data. The all data is stored into a specific structured database. In this system is used a MySQL database, but, it could be any type of database which have the same structure like the MySQL version. For using another type of database it is necessarily to have and a specific Java driver for it, required for being able to implement the JDBC [3]. The software tools used for developing of the system are free, so the cost of implementing the system is lower.

The second application, a web based application, was developed using JSP technology [2] in combination with HTTP [4] and Javascript languages, and AJAX technology [5]. The AJAX technology was very useful on the web pages which required repeated refresh of the data displayed. The most advantage of the JSP technology is the fact that the JSP pages are not compiled on the client side but on the server side. So, the Java environment is not required to be installed on the client's PCs.

The communication between the JSP application and the Servlet application is done using the HTTP protocol. It's a safe protocol which usually is not blocked by a firewall application.

4. FUNCTIONAL MODULES OF THE CLIENT APPLICATION

Because the system was dedicated to be used by a large number of users with different roles (for example students, teachers, secretaries) and with different access types at the functions available, an authentication mechanism was developed. The authentication mechanism determines if the user have access on the system and the role of that user. The users with the role of secretary have full access to all the functions of the system.

The first page, which is presented to the user when he enters on the system, is

presented in figure 2.



Fig. 2. Screenshot of the login page

If the authentication process is realized successfully it is opened a new page of the application. If the authentication fails a message of error is displayed to the user.

The new page opened presents a menu with items for every module of the application (figure 3). The user access the needed module by clicking the corresponding item of the menu. Different types of users will have access to different menu items.

Are developed specific modules for:

- insert and modify information about Phd students (personal information, information about the marks obtained at school, information about the stage of the thesis, etc.);
- insert and modify information about studied disciplines;
- insert and modify information about the teachers (personal information and information about the domain of teaching);
- create users which to access the system, for the Phd students and for

teachers (set a username and password);

- generate reports (it permits to generate and view different types of reports in Pdf format).

The screenshot shows a web browser window titled "Evidenta doctoranzi - Microsoft Internet Explorer". The address bar shows "http://127.0.0.1:8080/doctorat/lista_doctoranzi.jsp". The page content includes a header for "Universitatea Transilvania DEPARTAMENTUL DE DOCTORAT" and a main section titled "Lista doctoranzi". A sidebar on the left lists navigation options: "Secretar doctorat Dragoi Daniela Stefania", "Doctoranzi", "Discipline", "Conducatori stiintifici", "Utilizatori", "Rapoarte", "Modificare parola", and "Logout". The main content area displays a table with 10 rows of PhD student data.

Nr.	Nr. matricol	Nume si prenume	An inm.	Conducator stiintific
1.	1.03.2T.05.0100	ABAGIU SORIN FLORICA	2005	Prof. univ. dr. ing. Helera Elena
2.	1.02.2T.05.0184	ALBEANU MARIAN ADRIAN	2005	Prof. univ. dr. ing. Carabulea Andonie
3.	2.10.2T.05.0129	ALBU CRISTIAN TEOFIL	2005	Prof. univ. dr. Beldeanu Eugen
4.	1.03.2T.05.0108	ALECU SORIN CRISTIAN	2005	Prof. univ. dr. ing. Sisak Francisc
5.	2.10.2T.05.0132	ALEXA VASILE	2005	Prof. univ. dr. Beldeanu Eugen
6.	1.03.2T.05.0110	AMZOLIN RUJERO	2005	Prof. univ. dr. ing. Sisak Francisc
7.	1.01.2T.05.0016	ANDREI IONEL	2005	Prof. univ. dr. Candea Ioan
8.	1.01.1B.05.0013	APOPEI RAMONA	2005	Prof. univ. dr. Candea Ioan
9.	1.06.2T.05.0094	BACIU CLAUDIA ELENA	2005	Prof. univ. dr. Patachia Silvia Cristina
10.	1.06.2T.05.0084	BALAUCA ION	2005	Prof. univ. dr. Popescu Rodica Mariana

Below the table, there is a pagination indicator "Pagina 1 din 21" and a button "Adauga doctorand". The footer of the page reads "© Copyright 2005 - 2006 ~ Universitatea Transilvania din Brasov".

Fig. 3. Screenshot of the page which contains the list of PhD students

The most important module which presents many functionalities and a wide range of information is the section dedicated for the PhD students. The all information can be modified by the users which have access to this operation. The PhD students have access only to view the information and they can not modify it. In the figure 4 is presented one page which is part of this module.

Evidenta doctoranzi - Microsoft Internet Explorer

Address: http://127.0.0.1:8080/doctorat/modifica_doctorand.jsp?id=42

Universitatea Transilvania
DEPARTAMENTUL DE DOCTORAT

Modifica doctorand

Secretar doctorat
Dragoi Daniela Stefania

Doctoranzi
Discipline
Conducatori stiintifici
Utilizatori
Rapoarte
Modificare parola
Logout

Generale | Sit. an I | Sit. etapa II | Finaliz. teza | Prelungiri | Cheltuieli | Utilizator

Numar matricol: **1.08.2T.05.0114**

Nume: BUJDEI

Initiala tatalui:

Prenume: CATALIN

CNP: 1820217080077

Data nasterii: 17.02.1982

Telefon fix:

Telefon mobil: 0726-348517

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Domeniul fundamental: Stiinte ingineresti

Domeniul de doctorat: Automatica

Conducator stiintific: Prof. univ. dr. ing. Dan Stefan

Facultatea: **Catedra de Automatica**

Catedra: **Facultatea de Inginerie Electrica si Stiinta Calculatoarelor**

Anul inmatricularii: 2005

FORMA DE DOCTORAT

cu frecventa fara frecventa

bursa taxa

taxa scutit

ACHITAREA TAXEI

Fig. 4. Screenshot of one page of the module which contains PhD students information

The information about the students is very complex. For this reason it was considered necessarily to group the information on many pages and allow the user to have access to them by using a tabbed control. The connections, which exist between different types of information, permit to load the corresponding information when special events occur. The dynamic loading of the information was allowed owing to the Ajax technology.

Another important module is the module which permits to generate reports in

PDF format. It is the possibility to filter the information which will be written into the report. After the report is generated the PDF file could be viewed as many times as the user wishes and also printed. In this way the reports can be kept in electronic format or printed on the paper (for different situations).

5. FUTURE IMPLEMENTING

- a section which to permit the filtering and sorting of the information presented in all lists;
- a new module which to allow the authenticated users to send mails. In this way they will have the possibility to send suggestions or to present different problems to the administrator of the system.
- make the application compatible with all existing browsers.

6. CONCLUSIONS

The system of application is very useful into the educational process; make the work easier for the persons who use the information and permits access from all over the Internet. It is used in our University and it can be used in any University from Romania which respects the same rules into the education of the PhD students.

7. REFERENCES

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