

WEB PRESENTATION OF INFORMATION OF A LIBRARY BY MEANS OF A CMS

Esmeralda Hoxha, PhD Student

Department of Informatics Engineering/ SHPAL Pavaresia, Vlore, **Albania**

Abstract

The time we live in is the information era, which is characterized by a variety and massiveness of information as a result of the publication of a large number of books and evolution of the Internet. In support of this issue comes a centralized management system library. So in this paper will be designed and implemented a management system for the use of the library information in the form of web interface. The paper is aimed to build a system which is manageable from the administrator, this one has the exclusive access right on changing of information that system carries. That will be accomplished through Web interfaces of AHF medical library (Albanian Health Fund), which will be under the care of the Administrator and available for any visitor.

Keywords: Library, Administrator, CMS Systems, Web, MySQL, PHP

Introduction:

If we refer to the physical viewpoint, the library is a building in which are stored information resources and environments are provided study environments for the readers. The library is connected to the institution where it is constructed. This relates to the content of information that it retains. In our concrete case, it is a library built at the Faculty of Medicine as a result it provides literature in the field of medicine and welcomes students and specialists in this field. The project that will be applied to this library will consist in creating web interfaces through which will be facilitated the access of information by the readers as well as manner of managing information resources by the library administrator. The innovation that will result by this organization of information will be its computerization and structuring in a way which put an end to the manual research of the sources of information. The bibliography includes a variety of information sources such as books, articles. medical web sites, tapes, CDs etc ... Each source of information in the bibliography presents through information of citation (p.sh author, date of publication title, etc ...) which depends on the type of source.

The purpose of this paper is to design and implement a resource management system that carries information libraries in the form of WEB interfaces using CMS systems (content management system, Drupal v6) which are installed on a Web server (WAMP) and provide a dynamic interface which constantly provides opportunities for change. The system should meet these specifications:

- The system should be designed so as to allow only the administrator to have access to information resources management. He has the right to perform various transactions such as manipulation of the DB, changes of the interface appearances, adding information to the site blocks etc.
- Ordinary users will not have access to the interface, for those interfaces will be given otherwise read-only
- Interfaces must have very flexible components for ordinary users.
- The administrator must have an account through which enter into system by "Login", "username" and "password"
- All the services through which be built the system must be licensed and free.

Conception

Given the above specifications we are able to make a general scheme in relation with the design of the system. We must first build a "user-friendly" and independent interface in relation to its location, regardless of where the system is installed. Secondly we need a web server and a suitable programming language as a platform for all operations carried out. Then, third will use a CMS (Content Management System), which provides dynamism to change web interface adapted to the requirements of the administrator. In the figure below is presented conceptual general view.

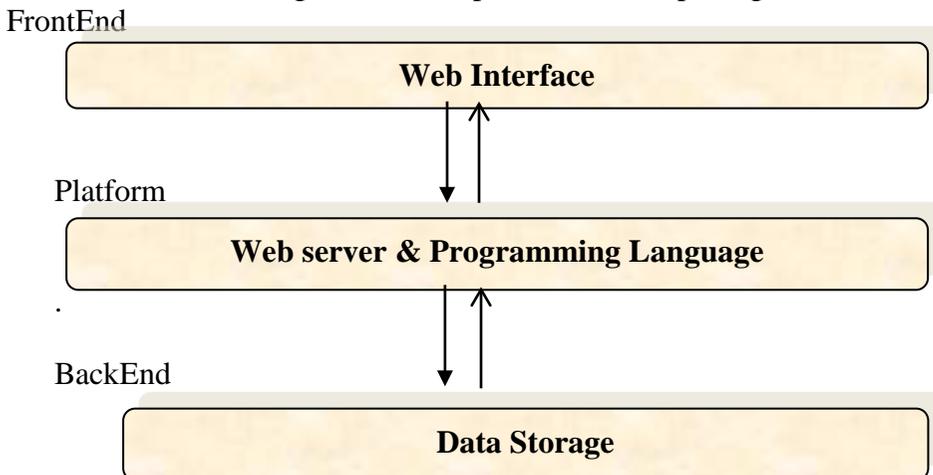


Figure 1 Conceptual general view

Data Storage.

We have available the phpMyAdmin interface which manages the database written in MySQL but in our case we have created a special editor called "category" that allows data input manually according to certain criteria. When we agree to make online interface at first will be created the Database in MySQL and will become the relationship of the database with interface. The conceptual Scheme (logical scheme) describes the relations between components as readers, sector, book etc. It describes the data stored in terms of data model of the DBMS. In a relational DBMS the conceptual scheme describes the relations that are stored in a database. Eg we have entities like the book, the reader and the relations that exist between them. Each group of entities and relations could be described as relation reporting the conceptual schema as follows:

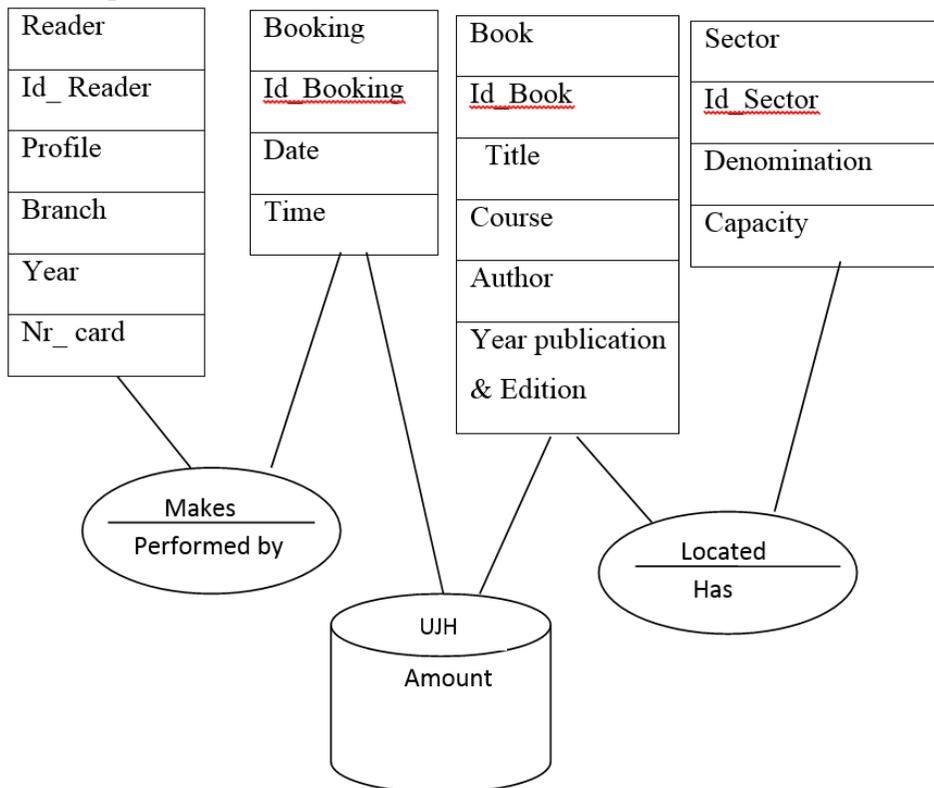


Figure 2. The Conceptual Database Model

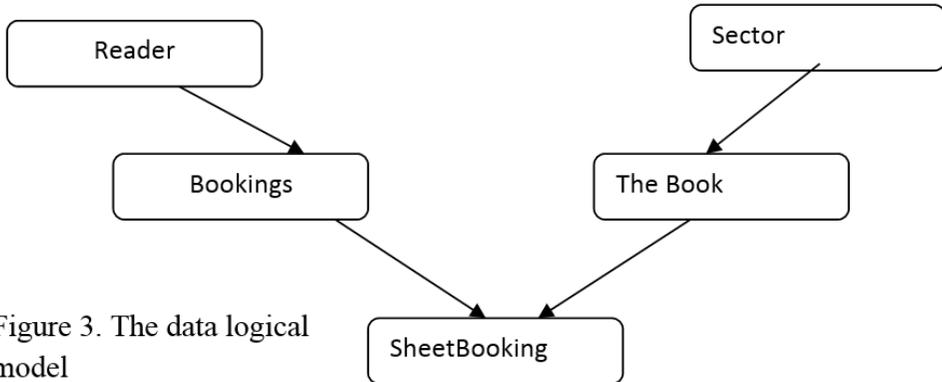


Figure 3. The data logical model

Relational model of data

Reader (**Id_Reader**, E_M, Profile, Branch, Year,Nr_ card)

Booking (**Id_Booking**, Date,Time, #Id_Reader)

Sector (**Id_Sector**, Denomination, Capacity)

Book (**Id_Book**, Title, Course, Author, Year publication & Edition, Id_Sector)

SheetBooking(**#Id_Book**, **#ID_Prenotimi**, Amount)

The platform

After we have chosen then will choose the WebServer Apache and PHP as the programming language. This choice is made for the reason that these three components working very well together with Linux. As Web server will choose the WAMP package which contains the latest versions of Apache, MySQL and PHP.

PHP is a very scripts widespread language and is adapted very well with the Web. it provides special classes of function for many technology including MySQL, XML, XSLT and session management, offers facilities to learn and is very powerful also. Therefore we will use as an ideal programming language for our project. As a CMS will used Drupal, the last version 6.

The projection

The designing stage are given at figure 4:



In this section will be explained the design of the system. The figure below gives the sequence of actions that must follow the system designer. Meanwhile the scheme presented in the figure below gives a more detailed presentation in relation to system design.

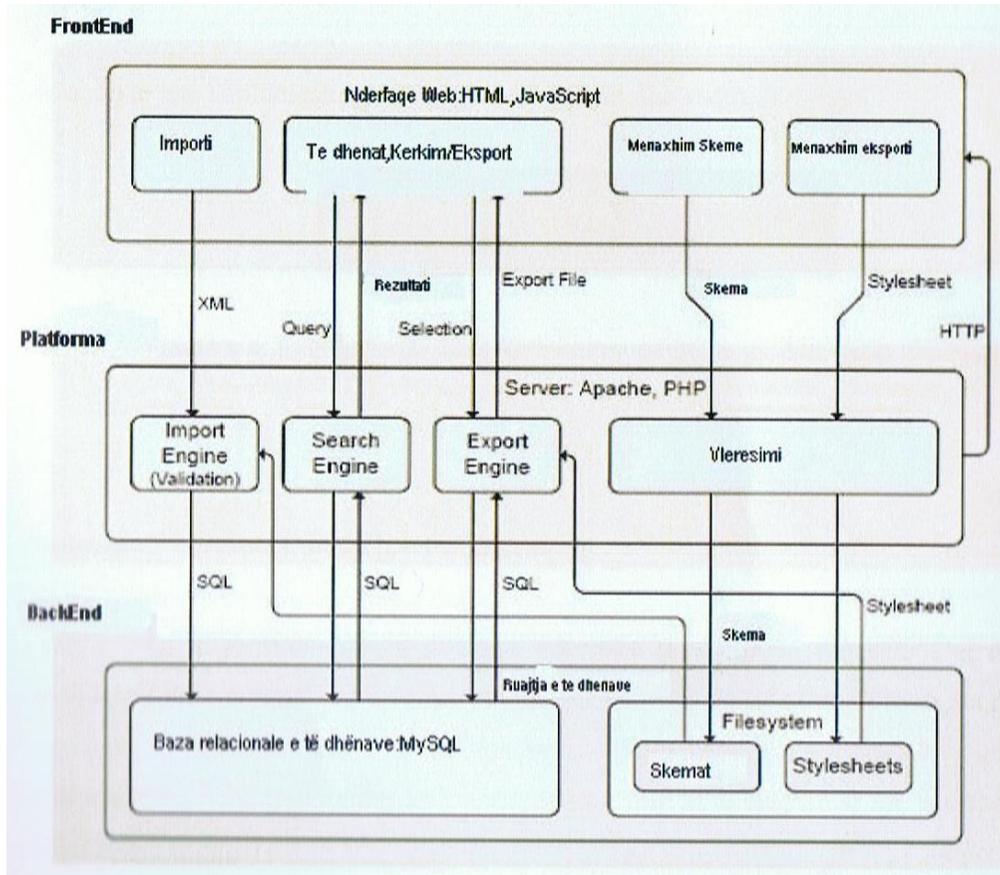


Figure 5 Detailed Architecture of the System

Information resources management system (web interface) should contain the following components.

Data stored in the database will be requested through a search engine web interface or through the Library component of the menu, therein is another search engine designed, which will convert the "query" to search of web interface into SQL query for database, and gets the results and presents them in the web interface.

The system will be applicable in two languages, English and Albanian. So the interfaces will have components in Albanian and English.

Users

The system makes the difference between a normal user and system administrator. Most of the users are normal user, which means that they do not have the rights to manipulate the information stored. But they simply do research of materials that need and get relevant results. Unlike the users the administrators have more enhanced rights. The user begins its work by establishing an account with a username and password. While the administrator through a sector in the system has available to own the different components which allow him to: constantly change the appearance of the interface, to make the update of database etc...

The platform & Implementation

WebServer

As a local web server will be used WAMP server, which is a machine in Windows that includes within Apache, MySQL and PHP. In our case we will Downloading the version 2.0c of this server. After downloading the appropriate guidelines are followed. Everything is automatic. WAMP package contains recent versions of Apache, MySQL and PHP. The WAMP server functionality is complete and very simple to use. When you install WAMP server will create a root directory "root" htdocs (c: \ Wamp \ htdocs). If we want to apply a project that can be a web completed interface or a content management system, we must care that the files can be unzip and copying them into the root directory.

CMS (Content Management System)

CMS is in the form of blank web interfaces which fills the various components from the Administrator. Scaffolding includes a database to store the content, skills and authentication of user sign-up, a calendar of events, etc.. Benefits from the use of a quality CMS are too visible. Using the build WTSIWYG editor, users give their contribution on the content defeat the web interface. The designs of the database and optimization issues are already resolved. The general View of a site can be changed continuously by choosing, and all CMS have different build terms at the disposal.

Drupal is one of the most popular CMS and is gaining a higher popularity because summarizes all the above features, adapts to PHP through which it can process or change the appearance of the web interface.

To execute Drupal PC must be present several components:

- A web server
- A database server
- A scripts language called PHP .

After these three components are installed and verified may proceed with installation. For more about the installation steps you can see on this site: <https://www.drupal.org/documentation/install>

Administrator's Guide

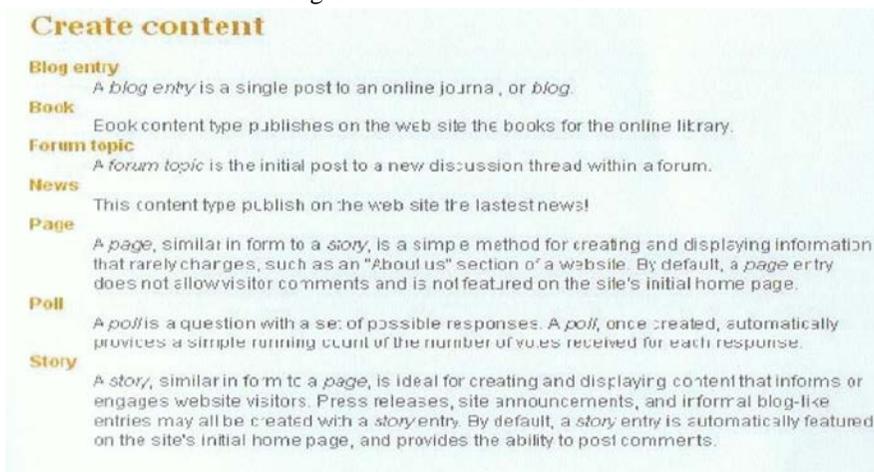
The administrator will follow these steps in filling of the web interface:

- Decide what view will have this interface taking care about the color, menu positioning, information of blocks and the content of "homepage".
- To install and configure the modules required to perform the above operations
- Structure the Library information by the respective categories and such a form that it is more flexible to use.

In the interface created will be a block called library, which is "owned" of the administrator. The administrator emerges from the block giving log out and can return again by completing Username and Password in his account. A common user will not have these rights to re-enter.

Option *create content* plays an important role in the creation of the database data as well as in the creation of other components of the page elements.

Figure 6. "create Content" Bloc



Create / content / book, which is equipped with an editor that inserts the data into the database, then introduces books together with the information on these areas: Title, Author, Edition, Reservation, Description. for creating this editor need install and activate the respective modules called "view" and "category". The following figure shows a case of a query application in the menu library.

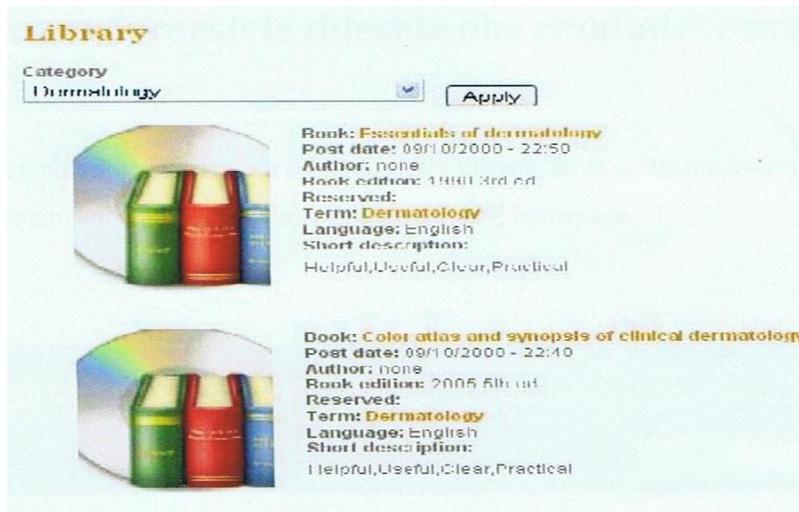


Figure 7. A case of a query application in the menu library

The administrator in this way can create blocks in interface, install the appropriate topics, and create menus and other element which regulates the appearance of the web interface in the most possible quality. Editor that has every component allows making appropriate modifications. Drupal interface has several default installed modules which enable performing basic operations, for more complex actions we add other modules. These modules make it possible to increase the images on the site, activating the URL categorization of literature etc... After activating the module administrator begins to fill the site. The following are achieved results, which can be seen by any visitor of the web interface.



Figure 8. "Homepage" of web interface

The most important component of the menu bar is the Library. The uniqueness of this menu is in terms of projection. It is in the form of a really well-structured database where any visitor can easily ask for library books of Figure.9 Library menu view

Technical documentation

In this part we will put some parts of the code and what do they realize:

1. Block.tlp.php - for creating blocks:

```
<div class="<?php print "block block-$block->module"?>"
id="<?php print " block block->module-$block->delta";?>"><?php
//added if contition to eleminate emty block header tags
If(-$block->subject) {?><h2 class="block-title"><?php print
$block->subject?></ h2><?php?><div class="content""><?php
print $block-content? ></div>
```

2. Search-theme- node. Creates the search interface component

```
?php if(isset($search['extra_field'])):?>
* <div class="extra_field">
* <?php print $search['extra_field'];?>
* </div>
* <?php endif; ?>
*
* To check for all available data within $search, use the code
below
*
* <?php print '<pre>'.check_plain(print_r($search, 1)).
'</pre>';?>
* @see template_preprocess_search_theme_form()
*/
?>
<div id="search"_form; ?>
div>
</
```

Conclusion

The purpose of this article was to implement a web interface that was also in the form of a management of resource use of information that maintains the library. The result is a web interface which has vital components that realize key functions. The interface is designed having intention to:

- To structure in a quality and flexible manner the information resources of the library.

- To have a dynamic nature, i.e. be subjected to changes in compliance with the requirements of the administrator.
- Interfaces will be under the care of the administrator who through a block called "Library" will constantly change the content of the user interface.
- Be independent of the system where is installed. The interface is installed in a portable PC, Windows XP system with 1.6GHz processor parameters and 1Ghz RAM.
- To have such an informative nature about the activities and all matters pertaining to the library.
- The created menus have informative character and allow the visitors to contact the administrator.
- The search results are generated by a high speed by reducing the time of the research operations.

I think there are many interesting opportunities to further improve the system with additional features. The design and implementation process helped us to know more closely and to familiarize with a variety of different technologies.

References:

Felix Hauser, Philip Schaffhauser: Database-driven XML-enabled Bibliography Management System Diploma Thesis DA-2003.05 Winter Term 2002/2003

<https://www.drupal.org/documentation/install>

<https://www.drupal.org/project/drupal>

<http://www.w3school.org/>

https://books.google.al/books/about/PHP_5_MySQL_Programming_for_the_Absolute.html?id=hrLWz0XzpWkC&hl=en