ANALELE UNIVERSITĂȚII
"EFTIMIE MURGU" REȘIȚA
ANUL XVI, NR. 1, 2009, ISSN 1453 - 7397

Ladislau Augustinov, Emanuel Zgârdea

E-Campus using Open Source

This paper presents the benefit implementing a modern electronic platform for education into high school. Using the new IT technologies and web based learning portals contribute to efficiency the training and study.

1. Introduction

First must be clarified the difference between open source and free software. The „open source" (OS) concept is often misunderstood as „free software" but not all programs are „open source" and not all „open source" are free software. Open source, such as the name tell us, give a free access to de cod source, so that the users can consulting and modify how they needs. These modifies transform the program into a different software.

The more solution in open cod source are free, but there are also some trade solution, where their modify is exposed to some condition. The different between them come out from the license under which the program is sold. The free programs used a commercial license and the open source software are accompanied by a GPL type license (« General Public License ») or a LGPL type license (« Lesser General Public Licence »), MPL type licens (« Mozilla Public Licence ») or BSD type license (« Berkeley Standard Distribution »).

Implementing a program open source offers us one net benefice in front of the traditional software:

- high qualitative program
- better reaction speed.

More advantage present using open source systems:

- independence from the provider company;
- stable, good tested;
- transparency for all option and tools;
- null license cost – acquisition and ownership are chipper in front of the commercial systems.

Implementing a modern electronic platform for education into high school represents a strategic decision for College, Faculty and University. Significance of eCampus and eLearning rising up in the last years because of high developments study from technologies and electronic portals, as well a Europeans reform and rules impose in academic circle.

The eCampus is a newest generation learning platform that moves beyond simply training to building high professionalism.

Learning programs can be rapidly developed using eCampus, that interweave with e-learning courses, online meetings, chats, web discussions and training e-assignments. ECampus also integrate the activities of learners, coaches and managers.

The eCampus can be figured out as a virtual campus – a web – based learning system and central management for students and faculty. E-campus offers courses, communication tools, testing features and access to many teaching and learning resources.

A professional eCampus-Portal is developed with a integrate Typo3 - CMS (Content Management System), Koha - LMS (library management system) and Moodle - VLE (Virtual Learning Environment).

2. TYPO3 - Advantages CMS (Content Management System) open source Enterprise Analysis level.

TYPO3 is a free Open Source content management system for enterprise purposes on the web and in intranets. It offers full flexibility and expendability while featuring an accomplished set of ready-made interfaces, functions and modules.

A CMS permits an organization to manage unstructured information during all the life cycles: creation, storage, management, distribution, publication and archive.

Therefore, teaching and learning, services and infrastructures, their integration and, last not least, the organization university as a whole have to be re-aligned and re-adapted.

Typo3 is marked trough flexibility, complexity and stability. Their architecture is structured of many levels that confer to build complex applications:

- Back-office (Admin), invest all development tools to building and manage the CMS;
- Front-office (Website), is the publication and distribution interface;
- The Core, represent the system basic component which is permanent expand by professional programmers;

- The Extensions, are high quality system components made available by Typo3 Community;
- The Server is based of Apache, PHP and MySQL architecture.

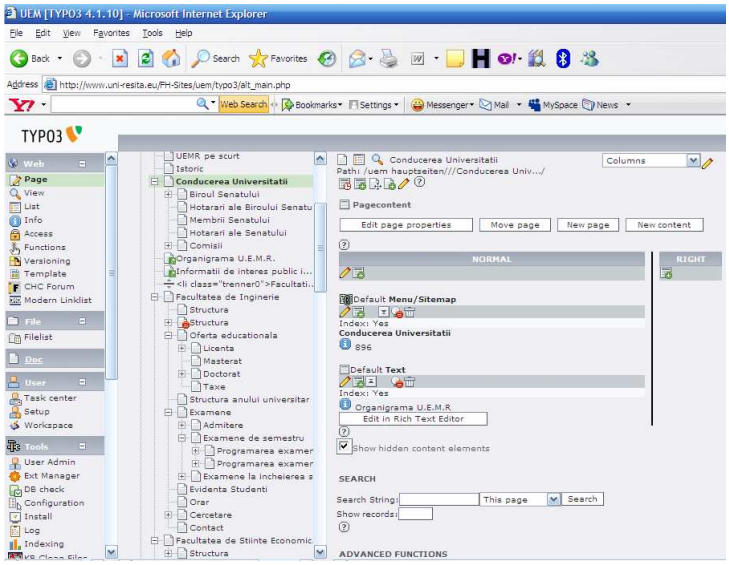

Figure 1. Typo3 backend interface from CMS implemented in University "Eftimie Murgu" Reşiţa.

3. Moodle - Learning Management System (LMS).

Moodle is a Course Management System, also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a Free web-based application that educators can use to create effective online learning sites. The Moodle code is clearly written in PHP program language, under a GPL license very easy to modify to suit our needs.

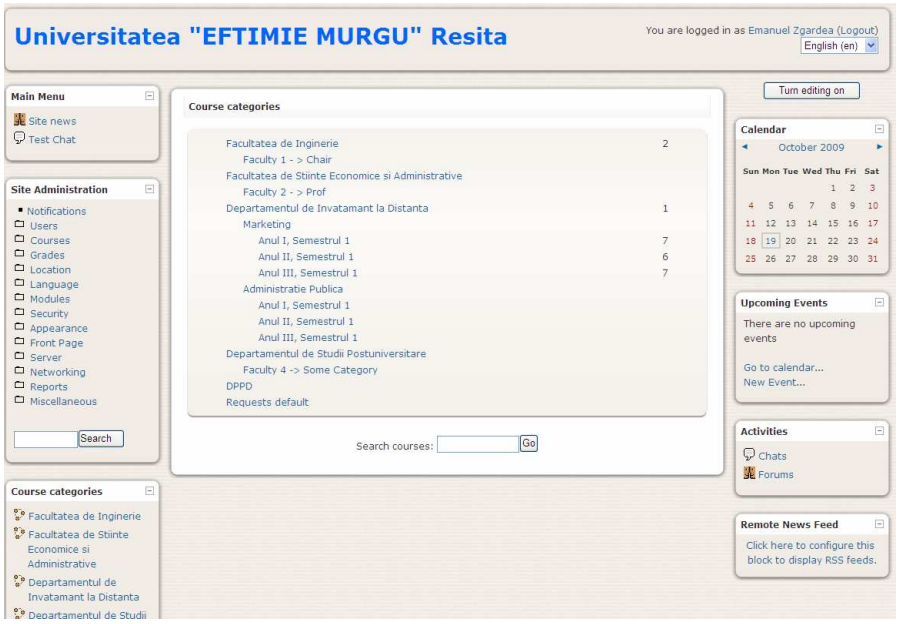

Figure 2. Moodle customized for University "Eftimie Murgu" Reşiţa users.

Moodle is an active and evolving product endowed with many tools and features for creating online dynamic educations web sites for their students:

- Overall design;
- Site, user and course management;
- Assignment Module;
- Chat, choice and forum Module;
- Journal and resource Module;
- Quiz and workshop Module;

4. KoHA, the Integrated Library System.

KoHA is an integrated library system (ILS) and was the first open source ILS also known as a library management system (LMS), is an enterprise resource

planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed system which is intended to manage all the information and functions of a business or company from shared data stores.

KoHA manage a collection of sources, resources, and services, and the structure in which it is housed; it is organized for use and maintained by a public body, an institution, or a private individual.

KoHA is a full-featured open-source integrated library system:

- Simple, clear interface for librarians and members (patrons);
- Customizable search;
- Circulation and borrower management;
- Cataloguing module with integrated Z39.50 client;
- Full acquisitions system including budgets and pricing information (including supplier and currency conversion);
- Simple acquisitions system for the smaller library;
- Ability to cope with any number of branches, patrons, patron categories, item categories, items, currencies and other data;
- Serials system for magazines or newspapers;
- Interlibrary loan;
- Reading lists for members;

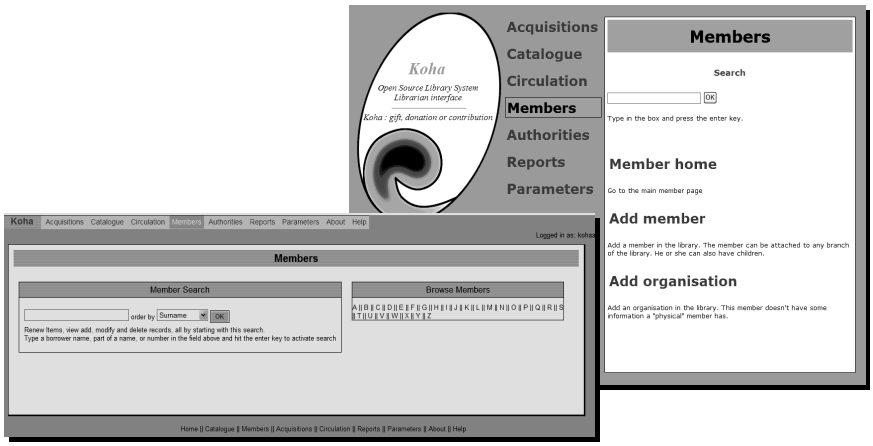

Figure 2. **KoHA ILS - interface.**

References

[1] Augustinov L., Amariei D., Ardai M., *KoHA Informatics System – Web support for modern virtual libraries.* The 7th international conference on library and information science BIBLIO 2009 – libraries in a changing world: June 4th – 5th, 2009, Braşov, Romania, Editura Universităţii "Transilvania", 2009.

[2] Philip Keeling, Dan Randow, *Chartered cyber course*, Chartered Accountants Journal, February 2005

[3] H.D, Weckmann, S. Engert, *E-Campus – a Strategy for the Transition to the E-University,* International Conference on Multimedia and ICT in Education. 22 – 24 April 2009, Lisabon, Portugal.

[4] http://www.kohadocs.org/.

[5] http://www.moodle.org/.

[6] http://www.typo3.net/index.php

Addresses:

- Eng. Ladislau Augustinov, "Eftimie Murgu" University of Reşiţa, Piaţa Traian Vuia, nr. 1-4, 320085, Reşiţa, l.augustinov@uem.ro
- Ec. Emanuel Zgârdea, "Eftimie Murgu" University of Reşiţa, Piaţa Traian Vuia, nr. 1-4, 320085, Reşiţa, e.zgardea@uem.ro