E-learning Aspects of NODES Project

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Abstract. The NODES project aims at promoting the use, in adult training/lifelong learning, of multimedia knowledge, in order to facilitate competitiveness, employability and mobility of adults who are victims of the digital divide or of some of its components, such as distance, initial level of knowledge, language, and use of complex technologies. Our task in the project is studying the existing free or commercial licenses e-learning software. The aim of the investigation of these systems is surveying the most important functional features, modules, standards, and hardware and software requirements. After the comparison of the e-Learning systems by several methods, have to evaluate the most important parameters, which are suitable suggestion for the project management. These parameters were evaluated. Reviewing these parameters, our suggestion is the Moodle or the aTutor.

Keywords. E-learning, NODES, adult training, lifelong learning

Introduction

The NODES project aims at promoting the use, in adult training/lifelong learning, of multimedia knowledge, in order to facilitate competitiveness, employability and mobility of adults who are victims of the digital divide or of some of its components, such as distance, initial level of knowledge, language, use of complex technologies.

For going to the approach oriented towards "free" GNU/GPL licensed tools, beginning by the study of existing tools, with a license that enables the nearly free diffusion of the developed tools, respecting copyright.

We need to study the 'What is existing in GNU/GPL software in the NODES context. This paper summarizes the survey of the most important e-Learning systems (free and commercial) and their functional features, modules, standards, hardware and software requirements.

This document can be an input for the further steps. It tries to give information to select and develop a free licensed system for the several target groups.

The collected free e-learning systems

- **Moodle** is a course management system designed to help educators who want to create quality online courses. The software is used all over the world by universities, schools, companies and independent teachers. It is open source and completely free to use.

- **KEWL Nextgen** includes all the features that one would expect in a modern e-learning platform. It is a free software platform for e-learning developed by members of the project as well as other African developers.

- **DOKEOS** is an e-learning environment and course management web application and also a collaboration tool. It is free software released under the GNU/GPL, its development is an international, collaborative effort.

- **Claroline** is a free application (released under Open Source licence GPL) based on PHP/MySQL allowing teachers or education organizations to create and administrate

courses through the web. Developed from teachers to teachers and using online collaborative learning.

- **Segue** is an open source content management system designed for e-learning. It is a collaborative learning system, which is browser-centric and relies on hyperlinks to provide both site navigation and organization. Built into its interface is a customizable three level navigational structure.

- **Interact** is an open source Learning Community Environment. It is an Online Learning and Collaboration platform developed by the Christchurch College of Education, New Zealand. It is a free alternative to the likes of WebCT and Blackboard.

- **aTutor** is an open source system developing by PHP. It is allowing content developers to create reusable content that can be swapped between different e-learning systems. Content created in other IMS or SCORM conformant systems can be imported into aTutor, and visa versa.

The collected commercial e-learning systems

- **WebCT** has set the standard for e-learning systems in higher education. It is a leading provider of e-learning systems for educational institutions. Thousands of colleges and universities in more than 70 countries worldwide are expanding the boundaries of teaching and learning with it.
- **Blackboard** provides powerful capabilities that enable higher education institutions to improve student outcomes and enhance teaching and learning. This world-class software suite has become a mission-critical application at educational institutions around the world.
- **eCollege** provides a comprehensive outsource solution to support the profitable growth of online distance programs for publicly traded for-profit institutions, community colleges, and public and private universities.
- **K12** is developed by renowned and respected education experts including scholars, writers, teachers, designers.
- **Hyperwave** supports a variety of asynchronous and synchronous communication features for the participants (trainees, tutors, trainers). It has the following features : Info-board, Chat, Discussion forum, E-mail, Virtual classroom, using audio/video conferencing and application sharing.
- **Learn.com** is the worldwide leader in creating and projecting power on-demand e-learning with more than 50 million end users around the globe. This suite can empower several organizations to administer every aspect of its training and learning initiatives including the design, delivery, tracking, and implementation.
- **netDimensions** is a powerful, multilingual learning management system (LMS). This product is used by a lot of leading multinationals (HSBC, ING, ABN AMRO).
- **Wizbank Campus** is a complete e-Learning and Knowledge Management solution. China's first AICC certified e-Learning platform.
- **CompuPharma LMS.** The Lessons are multimedia based instructional units. They use a combination of text, graphics, animation and audio to present instructional material in an engaging and interactive way.
- **APEX Learning.** Each Apex Learning Online Course provides a complete scope and sequence and comprehensive online content.

- **Inquisiq** provides you with a robust tool for easily administering and delivering web based training content, assessments, and evaluations to a dispersed group of end users. Additionally, it provides powerful tracking and reporting functionality enabling you to track training progress and report test results of individuals and groups.
- **Learnwise** virtual learning environment, support the delivery and management of e-learning for higher and secondary education. Learnwise is based upon concepts from the University of Wolverhampton.

Comparison of the studied e-learning systems

This version of the study emphasizes the survey of the existing system. Our work was based on different studies, visiting Vendor's Web sites and different e-Learning service portals. On the Internet can be found a lot of information collection about e-Learning systems.
There is an interesting collection on Wikipedia (Virtual learning environment)

Another interesting EDUTOOLS site gives service for comparing different e-Learning products. The Course Management Systems was built to assist higher education in using a more rational decision making process to review the many options for a course management system. This site reviews each product by researching and describing more than 40 product features.
When considering several products and their features, the number of items to consider quickly adds up. Considering these facts, the site allows you to step through a number of processes to consider all the aspects of a course management system.

The CMS Matrix site is provided as a community service to everyone interested in looking for a means to manage web site content. You can discuss, rate, and compare the various systems available on the market today. This site works because of community involvement. This site provides service where you can select up to 10 content management tools to compare at once. You can narrow the scope of the matrix by searching for exactly the criteria you are looking for in a content management product. It gives different CMS Statistics (Most clicks, most views, and most compares, best rated by users)

These services can't give all information about e-Learning products and it might be incorrect. So we have to check the necessary information by vendors and/or developer team.

Suggested evaluation parameters (information) of the e-learning systems

After reviewing the listed free and commercial systems, have to take a suggestion for the evaluation parameters of the e-learning systems. These are:
- **System name and version information**
- **Licence** (Free/Commercial)
- **HW requirements** (minimum and optimum)
- **Client and Server platform**
- **Operation Systems** (Windows, Unix)
- **Languages (how many languages supported)**
- **Developer Platform** (for example: PHP-MySQL)
- **Functions/modules** (the usable modules of the e-learning systems)
- **User Interfaces** (The user interface functions as a type of dialogue with the user. That is

why the interface development process begins with a recommended strategy of analyzing the instructional goals, the needs of the user community, the implementation plan and the criteria for evaluating success.)
- **Standards** (based IMS, SCORM AICC, LOM, SIFA)
- **Accessibility** (it is very important view for the several target groups)

Conclusion

Reviewing the suggested parameters (information), it seems the Moodle or the aTutor can be suitable to realize the objectives of the project (we try to use only free - open source - eLearning product, because it can be developed).

References

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K12 http://www.k12.com/
Hyperwave http://www.hyperwave.com/e/
Learn.com http://www.learn.com/
NETDimensions http://www.netdimensions.com/products/ekp.php
Wizbank http://www.cyberwisdom.net/
Compupharma LMS http://www.compupharma.net/cpweb/index.asp
APEX Learning http://www.apexlearning.com/
Inquisiq http://www.icslearninggroup.com/products/inquisiq/
Learnwise http://www.learnwise.com/
IMS Series of XML Standards for e-learning (http://www.imsproject.org/)
SCORM http://www.adlnet.gov/scorm/index.cfm
A.I.C.C. Aviation Industry CBT (Computer-Based Training) Committee
    (http://www.aicc.org/)
LOM (Learning Object Model) (http://cloe.on.ca/)
Schools Interoperability Framework Implementation Specification (SIFA)
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