A FRAMEWORK FOR CHOOSING APPROPRIATE OPEN SOURCE LEARNING MANAGEMENT SYSTEM

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ABSTRACT

Fast evolving of e-learning technology has inspired teachers to adopt Learning Management System (LMS) as a platform for distance learning activities. LMS is a system used to plan, create, implements and assesses certain learning objective and majority of LMSes are web-based. Dozens of LMS product existence, either commercial or open source has provide wide choices for teachers in selecting the best LMS that suits their need. Since commercial LMSes are costly and not many teachers are willing to spend to have it, open source LMSes has become the credible substitutes to these commercial LMSes. However, based on the observation, whenever open source LMS is mentioned MOODLE will appear in most of the teachers mind.

Implication of this, teachers often find themselves altering their needs to suit the LMS, not because it is the right thing to do, but because it is the only choice preferred by them. Selecting the appropriate LMS should starts with identifying the learning objectives and strategies in order to find the suitable open source LMS that will suit initial and subsequent requirements.

Therefore, this paper intends to propose a framework or guideline in selecting appropriate open source products. The framework was developed based on experience, research and literature review done. This paper will also introduce some potential open source LMSes and its features that might be helpful in identifying the potential open source LMS that suits our learning objectives requirement. The features are identified by exploring the respective LMS's test site.

Keywords: **Distance Learning, Learning Management System, open source**

INTRODUCTION

Fast evolving of e-learning technology has inspired teachers to adopt Learning Management System (LMS), also referred as Learning Content Management System (LCMS). LMS is an application used to plan, create, implement and assess certain learning objectives and majority of LMS products are web-based (Black, Beck, Dawson, Jinks & DiPietro, 2007). LMS provides teachers a way to create and deliver content, monitor students' participation and assess students' performance. It also provides students with the ability to use interactive features for distance learning such as forum, chat and more. LMS has now become the primary web based application for designing and delivering e-learning in most of the educational institutions (Georgouli, Skalkidis & Guerreiro, 2008).

Implementation of the commercial LMS can be expensive, sometimes beyond the reach of institution or individual teachers. Due to this, a freely available open source (OS) application has become the credible substitutes to these commercial LMSes. Open Source LMSes does not only provides free license, but the application can be openly distributed and shared, so is the source code that allows anyone to develop extensions, plug-ins, and fixes to software issues (Caudill, n.d.).

Currently, there are dozens of OS LMS products and the list is growing. Apparently, MOODLE appears to be the most preferred OS LMS nowadays (Salma Kuraishy & Mohammad Ubaidullah, 2009; Mitchell & Ruiz, 2006; Kaminski, 2005). Nevertheless, there are other credible OS LMS products as well. There is no 'one-size-fits-all' OS LMS, each of them has its own strength that suit certain learning objectives and weakness that make them less suited to certain learning objectives. OS LMS products are works in progress and shows great promises, it represents the leading edge of a revolution that will literally change the landscape of technology in education for years to come (Adkins, 2006).

OS LMS: HOW TO CHOOSE?

This part of paper will propose a framework or guideline for teachers in determining the best OS LMS that suits their needs. The framework was developed based on experience and literature overview done. Five suggested steps of the framework are as follows:

Set the Objective

Choosing appropriate OS LMS should starts with identifying and developing learning objectives. Identifying the learning objectives is important in order to find the right OS LMS that will suit initial and future requirements. It is also important in fulfilling the demands of teachers and students simultaneously (Tick, 2006). Among the aspects that need to be considered in developing the objectives are number of students, the target learners, their learning preference, their location, the resources available, assessment method and delivery method ("How To", n.d.).

List the Features

Once the objectives have been decided, list all the features or applications needed in the OS LMS in order to achieve these learning objectives. Among the common features or sometimes referred as module are Users Enrolment, Privilege Settings such as Admin, Instructor and Learner, Content Development, Content Access, Assessment, Communication, Announcements, Upload, Download, e-Mail, Calendar and so on.

It is also important to prioritize the features requirement in a range from high to low. High-priority requirements are absolutely necessary for the OS LMS to meet within the initial implementation. However, low-priority requirements are 'nice to have' and can be delayed indefinitely ("How To", n.d.).

Study OS LMS Products

Referring the features listed; do study on the profiles of each potential OS LMS products. Information can be gained from their official or support web sites. Additional information can also be gained from research and comparison reports that can be found in abundance on the internet. Along the process, any OS LMS that did not fulfil the high-priority requirement should be dismissed from the consideration. Hardware and additional software requirements, operating system platform, storage capacity, programming language and database supported are also important aspects that need to be looked into throughout the study. Finalize the study by short-listing all the potential OS LMSes for the following testing process.

Download and Test

It is important to thoroughly examine and test multiple OS LMS product before making final decision. Among the important aspects that need to be tested are simplicity, stability and processing speed of the respective OS LMS. The respective OS LMS can be downloaded for free from their official or any other download sites. It is recommended to do the testing on personal computer configured to work as a web server. It is also necessary to test it in local network (intranet). From the testing process done, teachers can also explore and familiarize their selves in operating or using the OS LMS product that surely will be helpful during the actual implementation.

Upload and Implement

Once the decision has been made from the testing process done, the actual implementation is often very simple. The first requirement is to have a hosting space available. It can be our own web server in the institution or outsource it by purchasing a hosting space from any Internet Service Provider (ISP). Do study on the compatibility of the hosting package with the OS LMS before deciding the ISP. The second step is uploading the OS LMS to the server by using any FTP client. The final step is setup the application accordingly based on the knowledge gained from the previous testing process done. Finally, it's ready to implement.

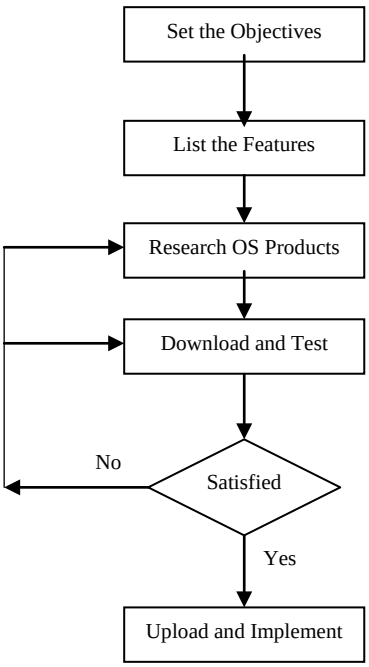

Figure: 1
Framework for Choosing Open Source Product

OS LMS: WHICH TO CHOOSE?

This part of paper will introduce some credible OS LMSes that might be helpful in choosing the right OS LMS product. The study was done by exploring the respective OS LMS test site with concentration was only on studying the features available. Therefore, this is not a comparison study. The credibility is decided based on availability of OS license, release of stable version, support service, documentation, in English language and SCORM compliant. SCORM (Shareable Content Object Reference Model) is a XML based framework used to define and access information about

learning objects so they can be easily shared among different LMS ("Shareable Content", n.d.).

Dokeos (www.dokeos.com)

The Dokeos is easy to use with user-friendly interface. This OS LMS is suitable for small institution and individual teacher or instructor. Consist of four main modules namely Learning Management, Oogie Rapid Learning, Accurate Reporting and Video Conferencing. Learning Management consist features such as Authoring Template, Test Authoring, Learning Path Building, SCORM Content Import, Coaching Interaction, Survey, Portal Administration and Community Extension.

Oogie Rapid Learning is a module that can convert the Power Point and Open Office Impress presentation into a web based SCORM compliant courses.

Accurate Reporting will produce accurate SCORM compliant reporting in terms of score, progression, time per module and so on.

The report can be printed or exported to Excel. Video Conferencing is for virtual meeting and virtual classroom for live training session. Documentation is also available.

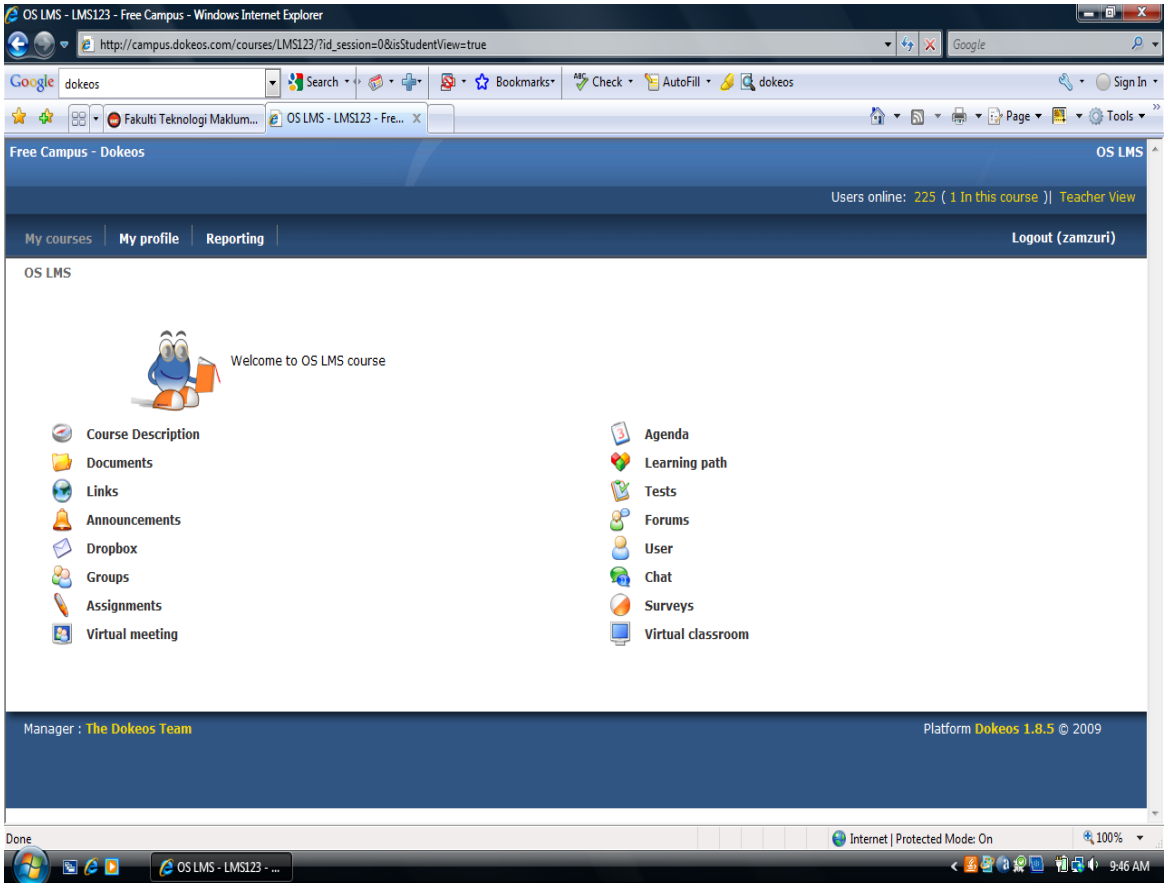

Figure: 2
Test Site of Dokeos

A Tutor (atutor.ca)

The ATutor provides easy interface and navigation. Thi OS LMS is suitable for small and medium institution. Consist of three privilege mode that is Administrator, Teacher and Learner.

Among the features or modules available are Announcement, Assignment, Blog, Chat, Content Track, Course e-mail, Course Tools, Directory, File Storage, Forum, FAQ, Grade book, Poll, Learner Support Tools, Links, Profile Pictures, Reading List, Site-Map, Statistics, Syndicate Feeds, Test and Survey and Search. Module and Theme library are also available.

Various types of module are available to add extra functionality. The user can also create their own module and share with others.

Different look and feel can be applied using themes. The user can create costume themes by altering the template file and style sheet of an existing theme. Documentation is also available.

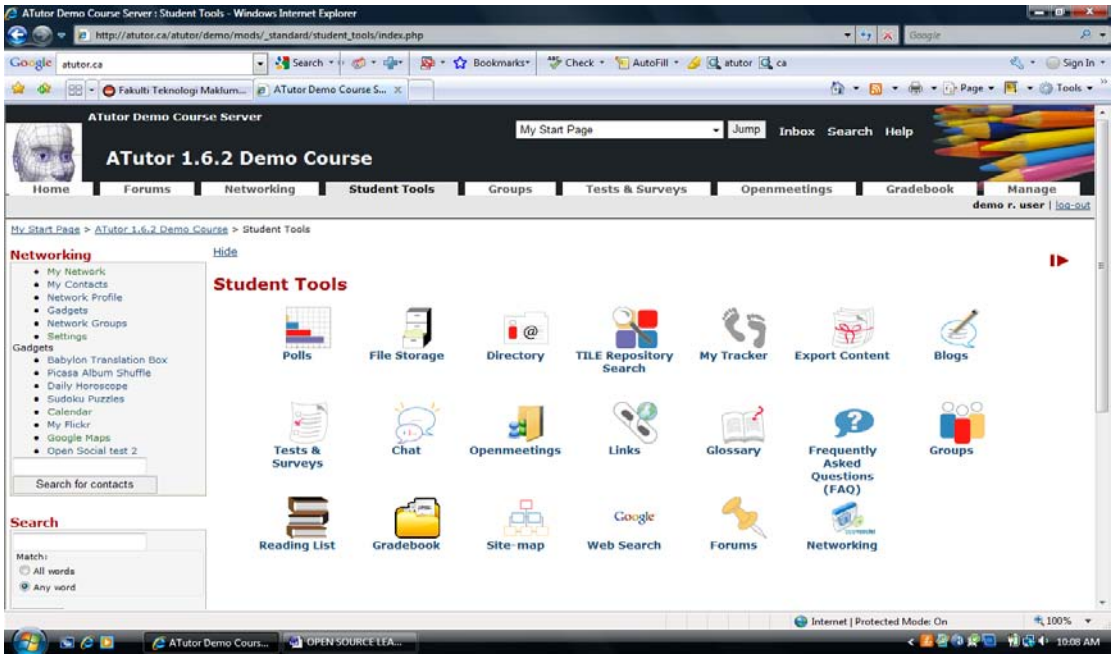

Figure: 3
Test Site of ATutor

Claroline (www.claroline.net)

The Claroline is easy to use with user-friendly interface and navigation. This OS LMS is suitable for small institutions and individual teacher.

The Claroline platform is organized around the concept of spaces related to a course or a pedagogical activity. Each space provides a list of tools that enable to create learning contents, manage training activities and interact with the students.

Among the tools or features available are Course Description, Agenda, Announcement, Document, Exercise, Learning Path, Assignment, Forum, Group, User, Wiki, Chat and extra features for teacher or administrator that are Edit Tool List, Course Settings and Statistics. The documentation is also available.

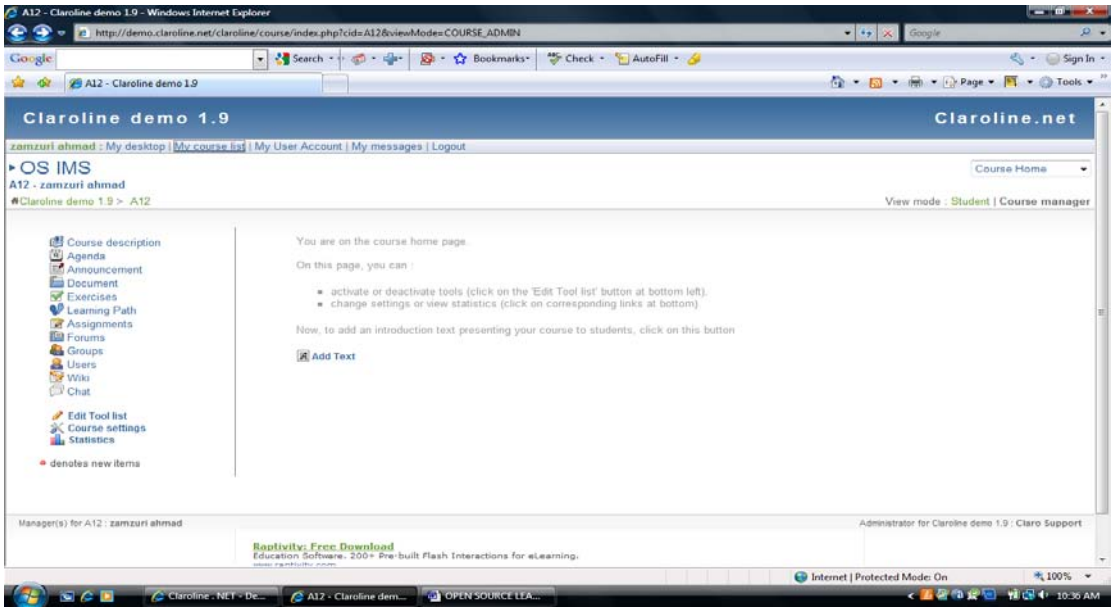

Figure: 4
Test Site of Claroline

Sakai (sakaiproject.org)

The Sakai is an OS LMS designed by educators for educators. It is suitable for medium and small institutions. Provide easy interface and navigation but might be a bit complicated for newbie. Once the installation has been done, the user can create new accounts from the gateway page. Every user in Sakai including Admin has a private site called My Workspace. From here the user can manage their personal and private information.

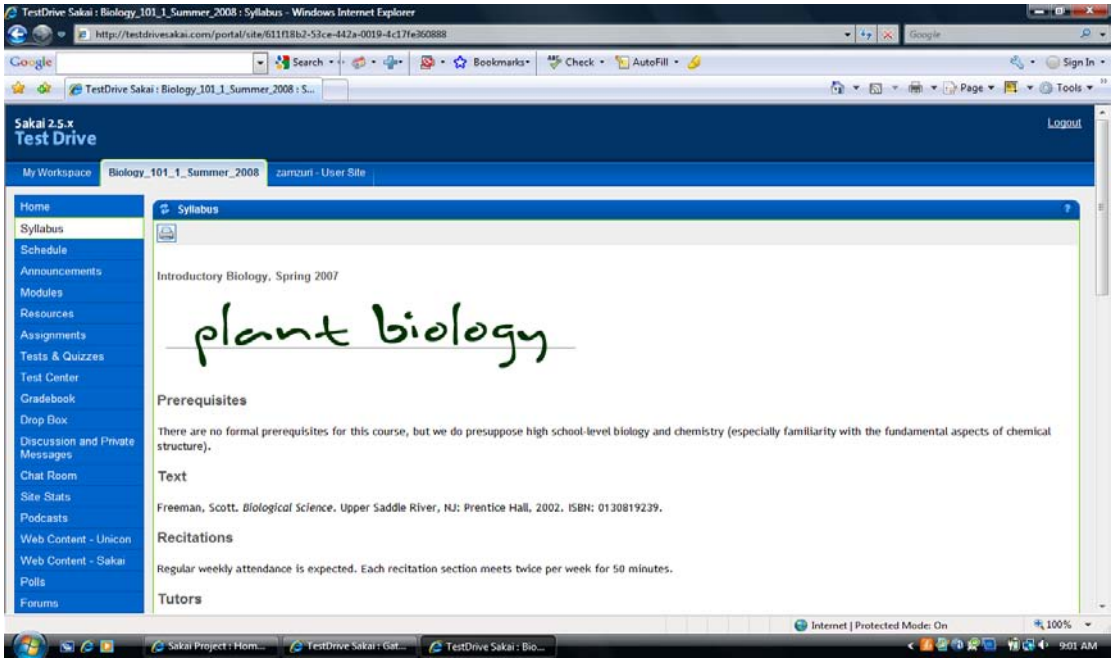

Figure: 5
Test Site of Sakai

Also from the My Workspace, new worksite or course site can be created using the worksite setup tool. The worksites will be displayed in tab form at top of the page. Among the features available in the worksite are Syllabus, Schedule, Announcement, Resource, Assignment, Test and Quiz, Gradebook, Drop Box, Discussion and Private massage, Chat Room, Site Stats, Poll, Forum, Mailtool, Blog and Presentation.

DotLRN (dotlrn.org)

The DotLRN provides easy interface and navigation but might be a bit complicated for newbies. Suitable for small, medium and large institutions. After the installation, the admin have the privilege to create Departments, Classes, Subjects, Users and other institutions properties. There are three different roles of users that are Professors, Staffs and Students. Among the features available are Assessment, E-mail, Calendar, Curriculum, Homework Dropbox, Gradebook, File Storage, Forum, News, Photo Album, Survey, Syllabus and Slide Presentation.

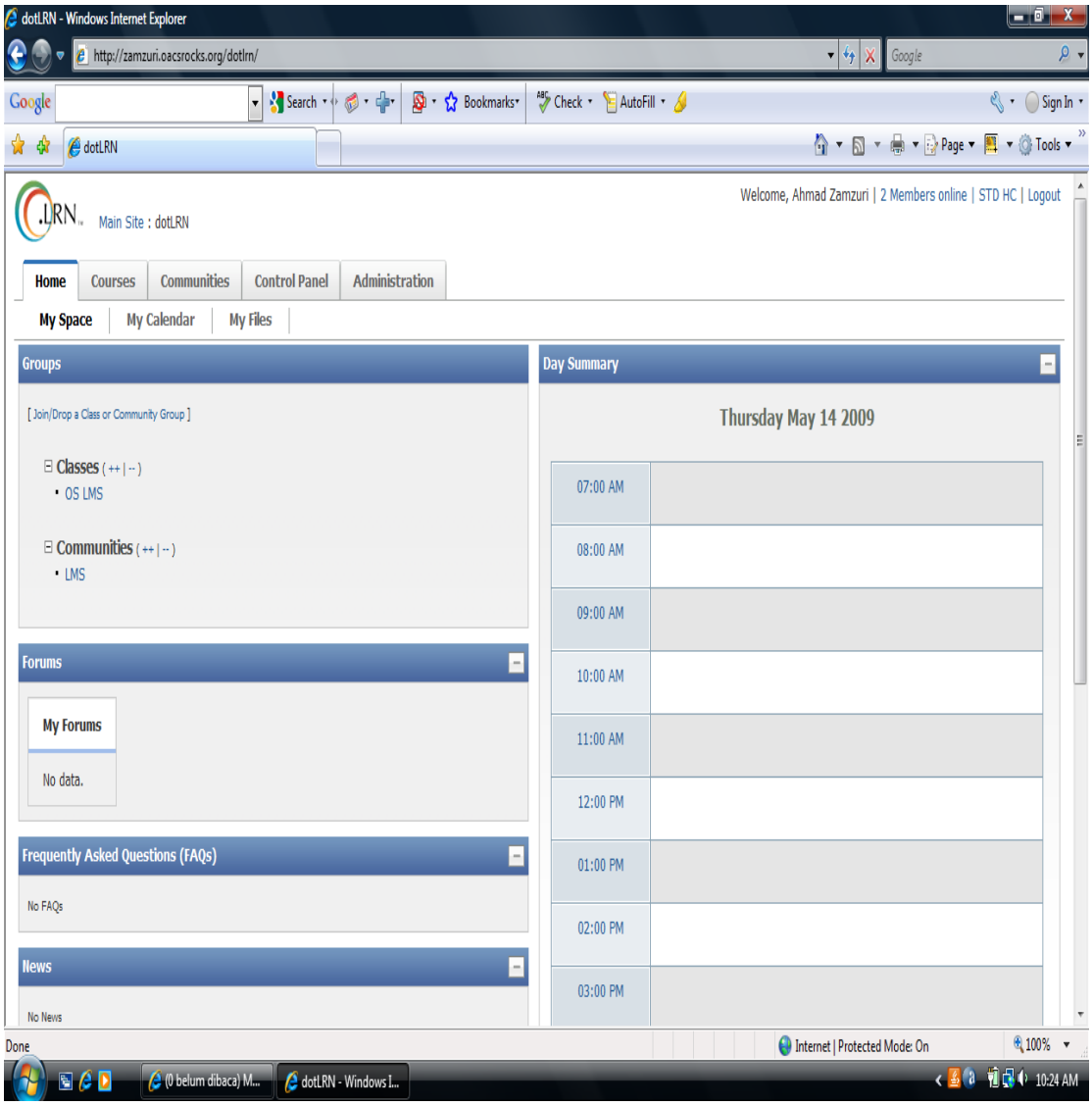

Figure: 6
Test Site of DotLRN

OLAT (www.olat.org)

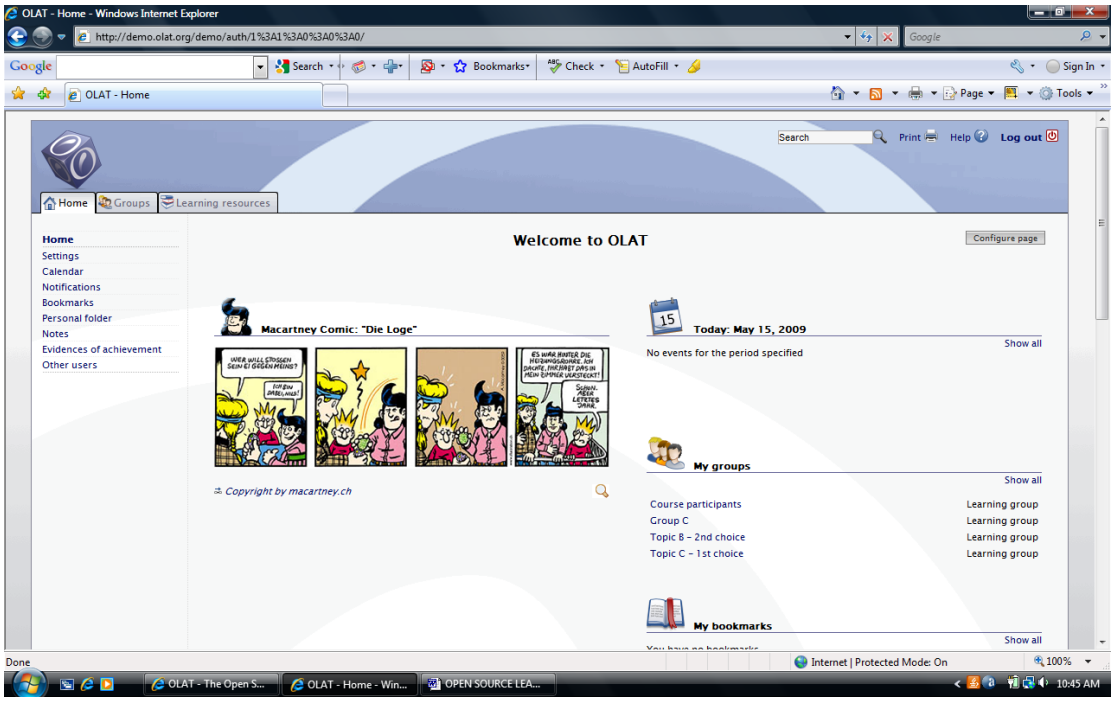

Figure. 7
Test Site of OLAT

The OLAT provides easy and simple interface and navigation. Suitable for small and medium institutions. Consist of three privilege mode that is Admin, Course Author and Student. Each user is provided with personalized authoring and learning environment. They can also configure their own home portal. Among the features or application available are Calendar, Notification, Book Mark, Personal Folder, Notes, Group, Catalogue, Search, Course, Test, Questioner, CP Learning Content, SCORM Learning Content and Wiki.

CONCLUSION

All the above suggested OS LMS are among the credible products that can be setup with minimum fuss and easy to use. With the framework or guideline in choosing appropriate OS LMS product proposed and some basic insight of the credible OS LMSes, it is expected to change our assumption that MOODLE is the only credible OS LMS available for our purpose.

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