An Evaluation of Open Source Learning Management Systems According to Learners Tools

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Learning Management System (LMS) is the main element of the internet-based education. In parallel to this, these studies in this area are increasing. The aim of this research is to evaluate the current existing Open Source Learning Management Systems in the market. For this, seventy two Open Source Learning Management Systems have been subjected to a general evaluation. After that, among them the eight, most demanded software, were chosen: Atutor, Bazaar, Bodington, Claroline, Coursemanager, ILIAS, Moodle and Sakai. Those software chosen were investigated in detail according to features of the Communication Tools, Productivity Tools, Student Involvement Tools, respectively. Software have been evaluated by being members of websites, using demo programs and in accordance to the features of given at the internet website.

***Keywords*:** Learning Management Systems; Open Source; Online education; e-learning; collaborative tools

Internet has become global communication tool to reach effective communication and information within this information age. Internet becomes more important in the education sector like whole areas. Especially, e-mail, discussion groups and chat are using for communication in education.

Distance education is becoming more important in today's connected world. Universities and schools are supplementing traditional classroom-based learning with electronic learning management systems (LMS) – software designed to deliver on-line education. There are many advantages to setting up a learning management system in both academia and industry. Any organization that needs to teach people can use a LMS. [5]

LMS typically offers a wide variety of tools to make a course more effective: an easy way to upload and share materials, hold online discussions and chats, give quizzes and surveys, gather and review assignments, and record grades. In other words, it is a suite tool to enhance teaching by taking advantage of the internet without replacing the need for the teacher [2]

With a LMS, you do not need any Web design skills, all you need is the ability to write and teach your ideas using images, text, or any media on the Internet -- there is no software to buy or install. Just go to any computer, open a Web browser, and make changes to your site. Some LMS's also works well for those with old computers, slow Internet connections, and older browsers. All you need is PHP -- an HTML scripting language -- installed on your system, and you are ready to go. [6]

The purpose of this study is to evaluate the Learners Tools current existing Open Source Learning Management Systems.

Method

In the study, literature review method was used. Seventy Two (72) Open Source Learning Management Systems have been subjected to a general evaluation in the internet. After that, among them the eight, most demanded latest stable versions software, were chosen: Atutor 1.5.2, Bazaar 7.11, Bodington 2.6.0,

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Claroline 1.7.1, Coursemanager 2.4, ILIAS 3.5.5, Moodle 1.5.3, Sakai 2.1.0. Those software chosen were investigated in detail according to features of the Learners Tools, which are Communication Tools, Productivity Tools, and Student Involvement Tools. The features which they have were explained. Evaluation scale has been taken from edutools.org web site and has been implemented after the approval by expert people. Software have been evaluated by being members of websites, using demo programs and in accordance to the features of given at the internet website.

Findings

All software's are open source software. Open source software, which means you are free to download it, also you can use it and modify it.

1- Communication Tools

1.1 Discussion forums

Atutor: Topic, author, post date, and activity level can be sort by threads. Forums can be viewed by thread. Student can enable or disable notification by e-mail when replies are posted. An administrator can share discussions across courses, departments or any institutional unit.

Bazaar: Instructors can create separate forums for small groups. Groups can be open to public or only selected students. Instructors can limit discussions to specific time posts. Teacher can be delete posts also posts can include attachments an image or URL. Wanted forums can be saved or printed for offline reading. Students and teachers can enable or disable notification by e-mail when replies are posted. Forums can be viewed by date, by thread, by title, by groups, by topics and by author.

Bodington: Instructors can create separate forums small groups. Groups can be open to public or only selected students. Students can be creating groups if instructor gives permit them.

Claroline: Forums can be viewed by date. Instructors and students can enable or disable notification by e-mail when replies are posted.

Coursemanager: Forums can be viewed by date by author or by thread. Posts can include URL. Instructors can create separate forums for small groups.

ILIAS: Instructors can create separate forums for small groups. Forums can be viewed by date, answer. Students can be creating groups if instructor gives permit them. Groups can be open to public or only selected students. Posts can include attachments.

Moodle: Forums can be viewed by date, by author, by thread. Posts can include attachments an image or URL. A discussion forum includes a formatting text editor like Microsoft word tools. Students may receive posts to the discussions forums as daily digests of subject lines or whole posts as e-mail.

Sakai: Posts can include attachments an image or URL. Forums can be viewed by category and by thread.

1.2 File Sharing

Atutor: Students and instructors can upload projects, images or any files to a shared library. Students can share content from their personal folder with others.

Bazaar: Students can upload files to a shared folder. Students can share content from their personal folder with others. Instructors and students can edit their text files in their folder using a browser. Instructors can upload files to the students' folders. Students can share files using the internet message tool.

Bodington: Student can submit assignments using drop boxes. Instructors can upload files to the students folders.

Claroline: Students can upload files to a shared folder and the other students can download it.

Coursemanager: It does not support file sharing.

ILIAS: Users can upload files in the discussion forms and others can be downloading them.

Moodle: Students can submit assignments using drop boxes.

Sakai: Students can upload files a shared folder and after they can download all the contents of a folder. Instructors and students can edit their text files in their folder using a browser. Students can submit assignments using drop boxes. Instructors can upload files to the students folders.

1.3 E-Mail

Atutor: It provides internal e-mail service. Students and instructors can use the internal e-mail feature or instant messaging tool to communicate with other enrolled students.

Bazaar: It provides internal e-mail service. Students and instructors can use the internal e-mail feature to e-mail others. Students can attach files. Students use a searchable address book to e-mail others. Students can compile multiple messages into a file to be saved or printed.

Bodington: Students must have an external e-mail address.

Claroline: Students must have an external e-mail address. Students can use the internal e-mail feature to e-mail individuals.

Coursemanager: Students can use the internal e-mail feature to e-mail others. Students can attach and archive files.

ILIAS: It provides internal e-mail service. Students can use internal e-mail feature to e-mail individuals and groups. It supports the delivery of internal mails to external e-mail addresses as well.

Moodle: Students must have an external e-mail address. It does not provide e-mail service.

Sakai: Instructors and students must have an external e-mail address.

1.4 Chat

Atutor: It provides chat tool for messaging. It is PHP-based and students can see who else is online within their courses or group. It creates archive logs and instructors.

Bazaar: It provides a basic chat tool that Internet Relay Chat (IRC) for real-time user exchanges.

Bodington: It does not support chat tool.

Claroline: It provides a basic chat tool. The system creates archive logs for all chat rooms.

Coursemanager: The system has a chat tool that supports private rooms.

ILIAS: ILIAS offers an internal news system, chat. Students can see who else is online.

Moodle: It provides a chat tool that supports images. It creates archive logs for instructors. Instructors can share logs with students. Students can see who else is online within their course. Instructors can schedule chat using the course calendar.

Sakai: It provides a basic chat tool that creates archive logs. Users can create new rooms. Users can see who else is online within their course.

2- Productivity Tools

2.1 Bookmarks

Bazaar and ILIAS supports bookmarks that students can create and categorize bookmarks in a folder.

2.2 Help

Atutor: It provides an online course to help students and instructors, learn how to use the system.

Bazaar: It provides an online guide. It covers how access the system help.

Bodington: It support help desk.

Claroline: Students and instructors can download manuals on site. These manuals have been written by members of the Claroline Community.

Coursemanager: It provides an online guide.

ILIAS: It provides a student manual.

Moodle: Students can access context sensitive help.

Sakai: It provides an overview of features and students can access context sensitive help. Students can use search tool in the online help.

3- Student Involvement Tools

3.1 Group work

Atutor: Instructors can create group activities, and assign group leaders to create and manage groups.

Bazaar: Instructors can create groups. Each group can have its own shared group presentation folder, group e-mail list, chat room, group notice board, polls, journal areas, group homepages and editing of a document.

Bodington: Instructors and students can assign students to groups. Each group can have its own discussion groups, assignments, activities and assessments. Bodington have Group Communication Rooms that a room where a group of people can communicate asynchronously by posting messages. Messages are threaded and it is possible to monitor activity.

Claroline: Instructors can create groups. Each group can have its own discussions forums and file exchange.

Corusemanager: Instructors can create groups. Each group can have its own discussions forums.

ILIAS: Instructors and students can assign students to groups. Each group can have its own discussion forum, file exchange and chat room.

Moodle: Instructors can assign students to groups or the system can randomly create groups.

Sakai: Instructors or students can create groups through the use of distinct “project” sites, separate from the main site.

3.2 Student Community Building

Atutor: Students can create study groups. Students from different courses can interaction system wide using shared discussion forums.

Bazaar: The system allow user to create collaborative spaces for students.

Bodington: The system allows users to control access to certain areas and documents. It lets user create usernames for external collaborators working on projects. Committees can create their own private areas to hold minutes prior to publication.

Claroline: Teacher can create study groups. Once uploaded there, their documents can be published to the public area of the course website.

Coursemanager: The system does not allow to users to create any type of group.

ILIAS: Students can send e-mail to their groups, use a shared chat space and notice board, and share material privately within the group.

Moodle: Moodle has a large and diverse user community on main site.

Sakai: Students can create project sites. It includes a calendar, announcements, e-mail list and discussion forum.

3.3 Student Portfolios

Atutor: Students have personal and public folders that can be shared with other students, group members or teachers.

Bazaar: Students can create a home page for themselves. It allows user to create electronic Portfolios.

Claroline: Students have a public folder for displaying their work in every course in which they are enrolled.

Coursemanager: The system does not allow to users to create any type of student portfolios.

Moodle: Students have a home page that includes their personal information and their photos. It may include discussion forms.

Sakai: Students can create home pages that include their photo, personal information and links to websites.

Conclusion

All Learning Management Systems in this research, includes discussion forums. Teachers can create separate forums for small groups in some of these software's. Some software's are not sent a notification by e-mail when replies are posted. With the discussion forms, users can support feedback easily. The file sharing is supported by the whole software's, except Coursemanager. The best file sharing is supporting by Baazar in these Systems. Students can share files with the others. Whole software's must support the file sharing. Some software's does not support internal e-mail service yet, so users must take e-mail service from other hosts. If the software supports internal e-mail service, user not need to any other systems.

Whole software's support the bookmarks, except Claroline and Bazaar. Characteristics of bookmarks, obtain the easiness to the user. With bookmarks, users know what were studied. Whole software's support the calendar, except Bodington. Properties of the best calendar; Calendar can be used by teacher and student and can show deadline and important dates. Atutor support the helpdesk and online courses about the using of software. Other software's includes online manual for help. If the software has not a help desk, it is meaningless to use because, nobody can use the unknown properties.

Collaborative learning is supporting in whole software's. Nowadays, there are a lot of techniques and method, for contemporary education. One of these the collaborative learning, which is support to the group work. Nowadays, Portfolio systems are very important. LMS's in this study, Atutor, Bazaar, Claroline, Moodle and Sakai Systems support the portfolio system. All systems must support the portfolio systems. Students can find easily previous projects and homework, etc. with the portfolio system. With this system, teachers can easily understand what student learned.

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