Social Learning through Learning Management System (LMS) in India

Satish Kumar,

Information Scientist,
ARIES, Nainital, U.K.
Email – sklisc@gmail.com

Anil Kumar Mishra,

Senior Technical Assistant 'B',
CVRDE, DRDO, Avadi, Chennai
Email – anilmlis@gmail.com

ABSTRACT

In today's world, there is a lot of information around us, the only thing required is having the means to access, assess and use it. Library and information professionals always play a crucial role to make the users informed and knowledgeable and to support the teaching, research and institutional programs. Digital technologies are revolutionizing the practices of teaching and learning at scientific and research institutes all around the globe. With the emergence of the Internet and web technologies, these institutions are passing through the new innovations which are increasingly exploring the potential use of learning technologies to cater to the ever-growing demands of flexible teaching.

In this information age, people find out quickly, they write blogs, share and review their learning with one another in "social-enabled learning environments". This calls for striking the traditional LMS from the static, one-way flow of knowledge from LMS to user to a more collaborative, active, inclusive approach where users contribute and partake in their knowledge. The basic idea of this paper is to critically evaluate and describes the market analysis of Learning Management System (LMS) in India. This paper provides an overview to facilitate you decide if an LMS is right for your system. It will as well explore the strengths and weaknesses of open-source LMS solutions Moodle and Sakai.

Keywords: *LMS, Social Learning, Open Source, Moodle, Sakai, India*

Introduction

 A learning management system is a server-based or cloud based software program. It holds data about users, courses and content. A learning management system provides a blank space to read and teach without depending on the time and space limits. Learning management systems are too known as Course Management Systems (CMS), Personal learning Environment (PLE), e-learning courseware and Virtual learning Environments (VLE).

Today, more than 20 percent of Indian training organizations report that they have an LMS installed, but levels of satisfaction, return on investment, and effectiveness varies, making selecting the right tool for the situation a complex process.

In this environment, open-source LMS solutions have been steadily gaining ground on their commercial counterparts. Many of these open-source platforms got their start in academia, but they have made inroads into the government, non-profit, and corporate markets. Today, the top open-source LMS options provide:

- Feature-rich toolsets;
- Enterprise-class stability, scalability, and protection;
- A high level of command and flexibility; and
- Generally lower long-term costs than commercial alternatives.

This white paper provides an overview to facilitate you decide if an LMS is right for your system. It will as well explore the strengths and weaknesses of open-source LMS solutions overall, and Moodle and Sakai. These two are the most popular open-source LMS available today.

What is a Learning Management System?

 A learning Management System may be defined as: —A Learning Management System (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of e-learning education courses or training programs.[13]

Over the past decade or so, powerful software for managing complex databases have been combined with digital frameworks for managing curriculum, training materials, and evaluation tools. This technology is known as a **Learning Management System (LMS)**.

A learning management system (LMS) is an application that offers a comprehensive set of tools for educators to manage learning resources, administrative functions, assessments, and scoring. Some educators argue that because of evolving Web 2.0 applications, students can be better done by an

LMS alternative, a toolbox of web resources that might include social bookmarking tools, document sharing applications, social networking sites, timeline tools, and media options available in the cloud. Underlying this approach is the belief that students should get more conversant with today's technology tools because these skills will be useful in the workplace. As a result, some institutions have begun to offer LMS alternatives, and some instructors are using, these options to support their students' learning. The framework of an LMS alternative may offer the user a coordinating hub with a dashboard or other interface that gives easy access to selected web-based tools. Applications joined in this way provide a "cafeteria" approach that lets students and instructors to select tools according to form and task demands.

Almost a billion-dollar industry, LMS products and software allows systems to develop intelligent electronic coursework; and present it with unmatched reach and flexibility. It provides the users the power to manage its continued usage over time. An LMS offers an incredible balance between functionality and ease-of-use. It offers an easy, simple yet modern user interface.

LMS Design Pattern

These days Learning Management Systems is being embraced by many institutions to satisfy the demands and requirement. The users of LMS can be categorized into following:

The learners: They use the system for the educational process. The learners are the basic or the main users of LMS.

The instructors: The instructors are the teachers and the helpers who use the LMS to supervise, assist and evaluate the learners.

The administrators: The administrator can claim the backup of all the users of the system to maintain a tick on the proper operating status.
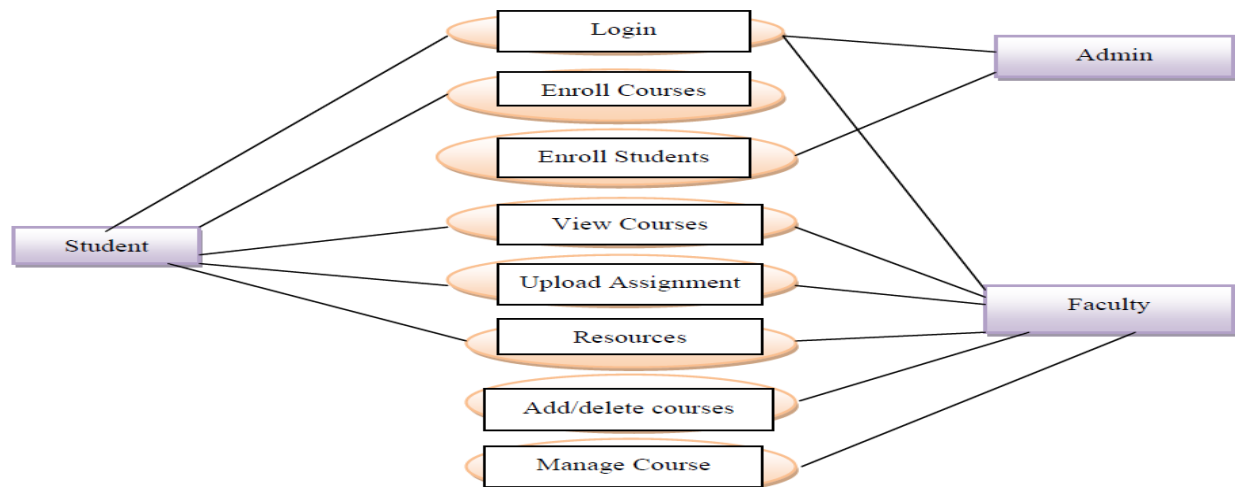
Fig 1: Use case diagram for LMS

How does it work?

LMS alternatives, span a wide range of tools and functions. The tools that staff members select as LMS alternatives are typically loose or low cost, easy to read and employ, and robust enough to affirm scholars and faculty without suffering from service outages or other bugs. Ideally, the LMS alternative might integrate with applications already in use on campus, via APIs or existing standards. In such a design, students could select from among the preferred applications to complete their assignments.

An LMS is a software application for the administration, support, tracking, and reporting of training plans, classroom and online events, e-scholarship programs, and training content. Traditional LMS, with its rigid, static architecture, was primarily used in the efficient distribution of learning content with small or no flexibility offered to instructors and end users, cutting its value and limiting its adoption in organizations. The key to the achiever of a training initiative therefore, in today's age would be the adoption of an LMS which can support active learning through collaboration and knowledge sharing.

Dynamic Learning Through Collaboration & Knowledge Sharing

In today's world, there is a great deal of information around us, the only thing required is having the means to access, appraise and use it. In this information age, people learn quickly, they write blogs, share and review their learning with one another in "social-enabled learning environments". This calls for striking the traditional LMS from the static, one-way flow of knowledge from LMS to user to a more collaborative, active, inclusive approach where users contribute and partake in their knowledge.

Social Learning

With the proliferation of social networks and widespread adoption of sites such as Facebook, Twitter and Linkedin, there have been a great demand to include similar tools to assist people make connections internally in companies. Since it is probable that your employees have integrated social networks into the way they think, learn and solve problems, the LMS must evolve from systems that simply automate teaching, scholarship, and research

collaboration to technologies that also facilitate, and even force, true learning. As there's a social component to learning, the next generation LMS
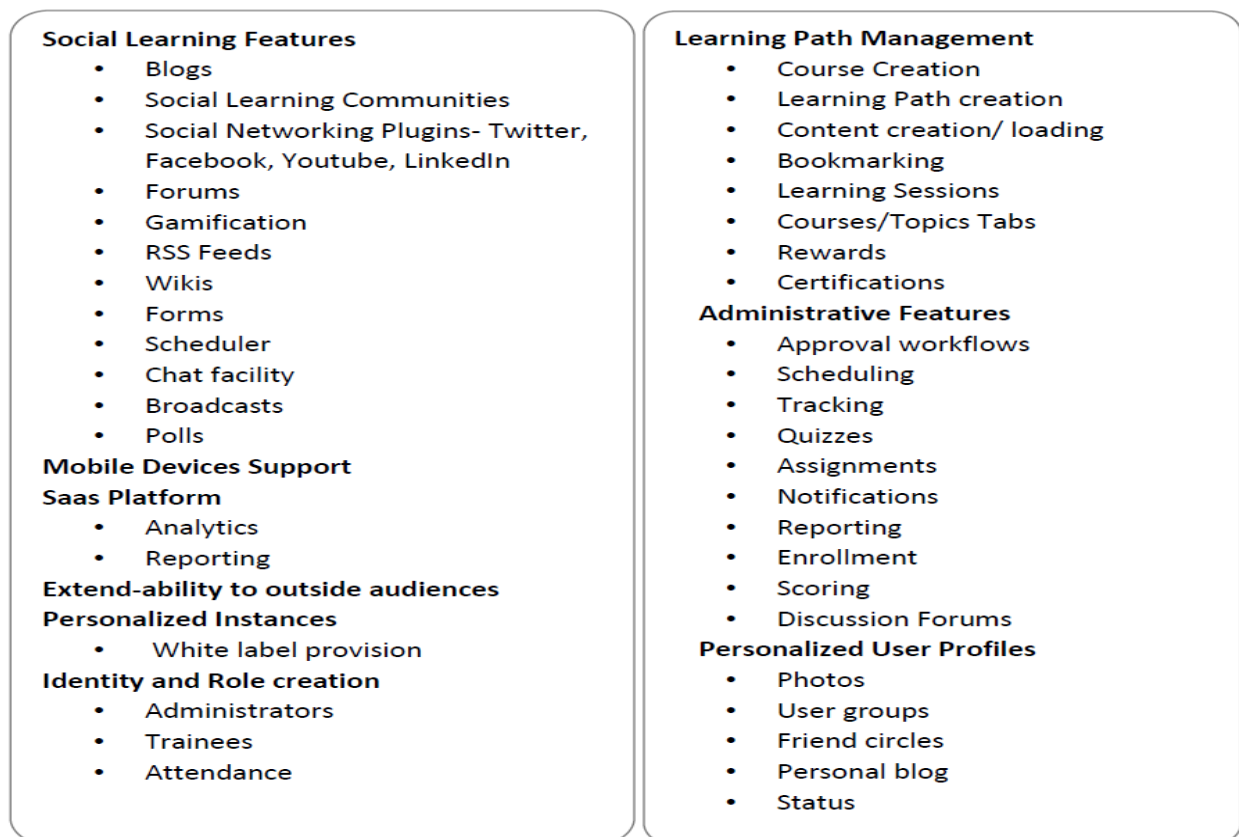
should be dynamic, knowledge-sharing, collaborative programs that foster informal learning, cross-divisional understanding and collaboration.

Benefits of a Socially-Enabled Learning Management System

> Interactive, informal methods of engagement aid in accelerating overall learning
> Keeps your employees updated and attuned to current trends
> Encourages creativity and thought leadership
> Engages high performers and puts them on a fast-track lane of development
> Richer, more collaborative learning experiences for all users aids in rapid adoption

Fig 2: Benefits of Social Leaning

6.1 At-A-Glance: Features

Social Learning Features
- Blogs
- Social Learning Communities
- Social Networking Plugins- Twitter, Facebook, Youtube, LinkedIn
- Forums
- Gamification
- RSS Feeds
- Wikis
- Forms
- Scheduler
- Chat facility
- Broadcasts
- Polls

Mobile Devices Support

Saas Platform
- Analytics
- Reporting

Extend-ability to outside audiences

Personalized Instances
- White label provision

Identity and Role creation
- Administrators
- Trainees
- Attendance

Learning Path Management
- Course Creation
- Learning Path creation
- Content creation/ loading
- Bookmarking
- Learning Sessions
- Courses/Topics Tabs
- Rewards
- Certifications

Administrative Features
- Approval workflows
- Scheduling
- Tracking
- Quizzes
- Assignments
- Notifications
- Reporting
- Enrollment
- Scoring
- Discussion Forums

Personalized User Profiles
- Photos
- User groups
- Friend circles
- Personal blog
- Status

Fig 3: Features of Social Learning

Overview of LMS

WEB 2.0 continues to influence the way we find, create and share information and ideas. It even influences the ways that we think about knowledge itself. Learning, education, and training continue to extend the reach of classrooms and training rooms by including a more organic, integrated array of learning experiences and support – available "anywhere, anytime, and just-in-time."

A LMS is a web-based application through which learning content is delivered and managed. An LMS is tied to on-line and off-line training, administration, and performance management and includes functionality for course catalogs, launching courses, registering learners, tracking learner progress and assessments. An LMS combines a front-end for the learner with a back-end for administrators and instructors. This LMS seamlessly displays, in a browser interface, real-time information drawn from a database. It also allows for competency-driven assessment and course associations. It integrates online quizzing and evaluation processes, permitting accurate, automated measurement and reporting.

Components of an LMS

There is no standard industry definition or published standard defining the components of an LMS, but several features are common:

- Creation of class rosters, control over registration processes, and the ability to create waiting lists.
- Uploading and managing of documents containing curricular content.
- Delivery of course content over web-based interfaces, most often allowing remote participation by the instructor or pupil.
- Creation and publication of course calendars.
- Interaction between students, such as instant messaging, email, and discussion forums.
- Methods of assessment and testing (like creating pop quizzes).

- Full training management system with easy to use reporting

LMS systems used in corporate training environments often have additional features that satisfy goals relating to knowledge management and performance evaluation, such as:

- Automatic enrollment and reminders for mandatory courses.
- Options for managing access, such as to approve materials or participation.
- Integration with human resource systems for tracking employment eligibility, performance goals, and similar corporate priorities.
- Control over access and class groupings according to a number of metrics, such as geography, involved in a particular project, or levels of security clearance.

Advantages of an LMS

Like several information technology innovations in recent decades, the Learning Management System is able to add a level of efficiency to an organization's learning system, with a number of other benefits as well, such as:

- Easily adapting and reusing materials over time.
- More choices for creators of curriculum, such as method of delivery, design of materials, and techniques for evaluation.
- Creating economies of scale that make it less costly for organizations to develop and maintain content, as they rely on third parties.
- Improvements in professional development and evaluation, allowing companies to get more value from human resources while empowering individuals with additional tools for self-improvement..

What are the implications for teaching and learning?

The use of LMS alternatives, encourages faculty and students alike to see learning as an evolutionary process where effective tools are emerging constantly. Such an environment prompts learners to become familiar with a genre of tools rather than any specific one. At the same time, faculty adoption of tools outside the LMS may induce institutions to take a fresh look at the LMS service they offer. In so doing, they may discover the advantages in providing access to a wide variety of tools that enable strong support of teaching and learning. The use of LMS alternatives may hold the promise of a more ***student-centric approach***, one that encourages students to reach across the boundaries of academic terms and learning disciplines and to see their education as a coherent whole that they can maintain using a range of applications. By going outside the LMS to use tools that allow for more student engagement, more effective collaboration, and more active learning in general, instructors could establish new expectations for the LMS. While some of the features they seek from the Web 2.0 world might never make it into the repertoire of most instructors, they may still help push the LMS to its next iteration.

LMS Market in India

The LMS market in India is largely un-penetrated valued at $4 billion and is expected to grow at a CAGR of 20%. Increasing Internet penetration, low existing coverage and rising demand are expected to develop this market strongly in the near future. This sector has attracted large investments and is slated to lead strong growth opportunities for the education sector.

The key factors leading to the growth of the LMS market in India include low education coverage, rising demand from various segments, growing personal computers and internet penetration, increasing government participation and convenience factors. A strong opportunity exists in the market due to low coverage of education in India. This, coupled with the fact that demand from other educational segments are rising, will drive the LMS market. Indian youth is technology-driven today and find e-learning to be especially appealing. For young working professionals with a desire to escalate their careers faster, LMS is convenient as they can pursue their degrees in their own space and time. But it was in the 90's that the E-learning industry came into focus. Since then, it has been able to attract several investments. In fact, the expected annual growth in India is predicted to be anywhere around 20%-25%.
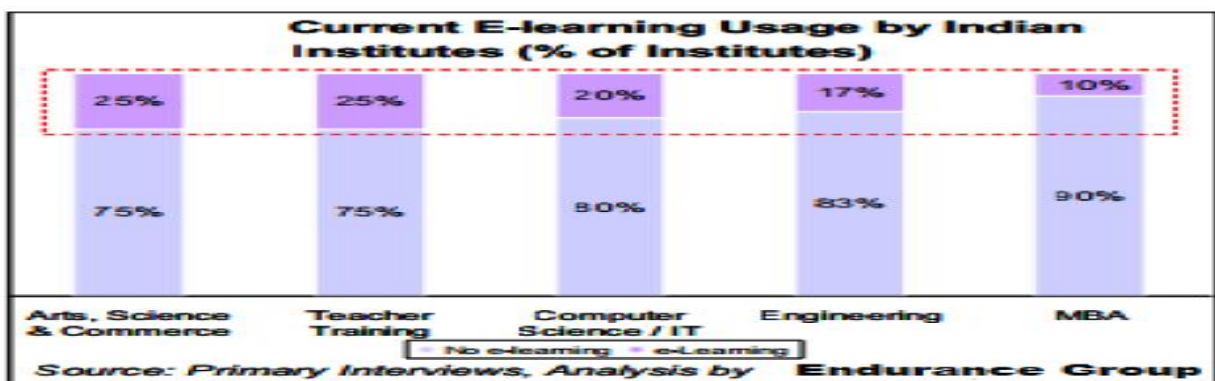
Fig 1: Current E-learning Usage by Indian Institutes (% of Institutes)

So far, the industry has really made an impact in the corporate segment where it is seen as a means of attaining business goals and motivating employees. However, users are now becoming more educated about its advantages and the industry is strengthening steadily. Indian Corporate houses can successfully integrate E-learning into their strategic plan, which can thereby improve employee ability and performance.

Key trends in the E-learning market includes PE/VC investments in e-learning segment, proliferation of E-learning devices, foreign universities offering online courses and focus on digital content for schools. Recently, the education sector has seen many PE/VC deals in E-learning segment on the back

of growing demand for digital content in schools and online courses. Moreover, online courses are now being offered by foreign universities and even E-learning devices have increasingly become popular.

In 2011, the Indian government decided to subsidize 12 million Aakash tablets at $35 per tablet opening up online learning to a vast number of Indians (800 million) who currently have no Internet access, but who do have mobile phones. The Aakash deal stimulated India's+ already burgeoning e-learning industry to produce content, programs, degrees and learner support for such students. In 2009 it is estimated the market size to touch $603 million by the end of calendar year 2012.
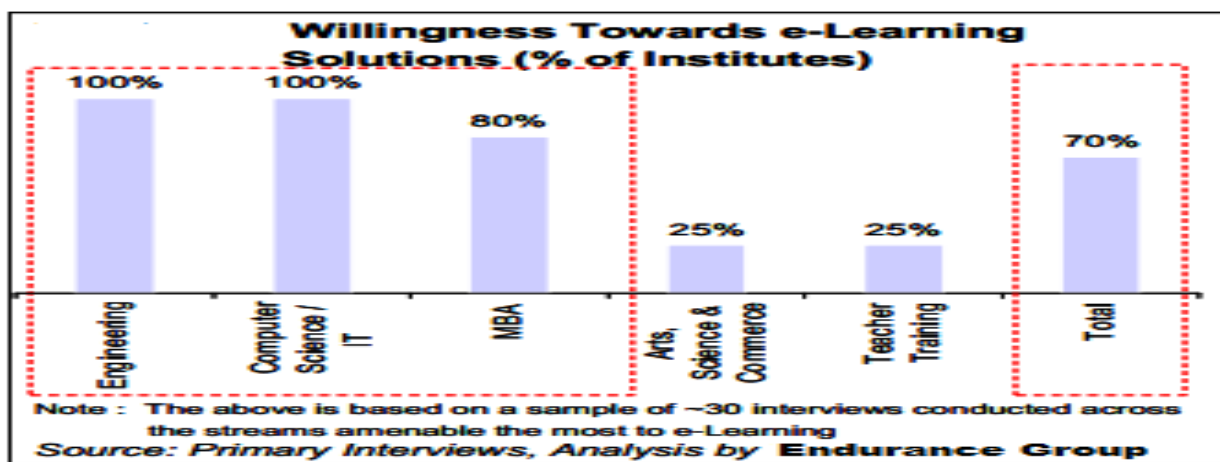

Fig 1: Willingness towards e-Learning in Indian Institutes

Up to now, most E-learning companies in India have been marketing externally, and have focused on corporate training and informal learning, but there are signs that this year the focus will be on providing E-learning products, services and programs for Indian students. English is widely used in Indian post-secondary education, and the move to OERs will enable Indian institutions to move quickly into online learning with what will be perceived as quality learning materials from reputable organizations (such as MIT).

Commercial LMS Leaders

- Blackboard/Angel/WEBCT
- Desire2Learn(1999)   – http://www.desire2learn.com/clients/higherEducation/
- Pearson's eCollege (2007)
- Edvance360 (formerly Scholar360)
- Jenzabar e-Racer (2009)
- SharePoint LMS by ElearningForce

Open Source Leaders

➢ ***Moodle (2002)*** – http://moodle.org/sites/

➢ ***Sakai (2004)*** – http://sakaiproject.org/organization-list

➢ ***Canvas by Instructure (2008)*** – Auburn University, BYU, James Madison, Rider University, University of Mary Washington, University of Utah, Utah State University

➢ ***LoudCloud (2010)*** – Stanford, CA Community Colleges, Harvard University Medical School, Grand Canyon University

➢ ***OLAT (1999)*** – Switzerland; the main OLAT installation is located at the University of Zurich (maintained by the Media & E-Learning Services of the University of Zurich) but used by more universities such as the University of Basel, the University of Bern, the University of Lucerne, the Swiss Federal Institute of Technology in Zurich and in Lausanne.

➢ ***Claroline (2001)*** – Columbia School of Law; founding schools in Belgium, Canada, Chile, France, and Spain

Best Learning Management System Defined

The best LMS solution is one in which all LMS components are considered within the total learning infrastructure of India such that maximum student success is ensured from both an institutional and System perspective. Aspects of these components within the framework of student success were assessed by the following attributes:

• Interoperability and Flexibility
• Cost effectiveness
• Support and Training
• Ease of Use
• Scalability
• Sustainability

Challenges of LMS in Inida

While LMS/E-Learning holds a large potential in India, there are numerous Challenges which need to be overcome for it to realize its potential:

• **Lack of subject matter experts**: Engagements for LMS/E-Learning may be specific to a particular subject / course. To make the content / instructional

design relevant and interesting, the eLearning custom content developer ropes in subject matter experts. It becomes challenging for the service provider to recruit or empanel subject matter experts for niche courses

• **Cultural Constraint**: The Indian mindset lays significant importance on human interface for teaching or training. Therefore, they find it difficult to accept an e-learning product replacing face-to-face interaction, partially or fully.

• **Lack of Government Thrust**: Most of the institutes that are government aided do not have enough budgets to afford e-learning. As there is a cap on the maximum fee that may be charged by these institutes, this extra cost of e-learning cannot be passed on to the students. Such institutes shall be able to adopt e-Learning only if there is enough thrust from the Government towards the same.

The **key challenges** identified are accreditation and recognition issues, expensive mode of education and lack of awareness and acceptance. There is still institutional resistance to online learning. Whilst the Aakash tablets have helped to stimulate the E-learning market it is important to remember the costs of Internet access and the lack of bandwidth in many rural areas. There is also a lack of attention paid to instructional design and learner support leading to high drop-out.
E-learning has many processes that can be outsourced. By the end of 2012, it is estimated that the Indian E-learning offshore industry will touch $603 million. At present, the industry employs more than 11,000 people and is estimated to stand at around $316 million in revenues.

Of course, in the education and training market, to be a part of the E-learning industry is working in a growing field. Even though the sector is facing its share of challenges, with emerging technologies and awareness, this year around, it will surely become a stronger one.

The Future of LMS

While still at a relatively nascent stage, LMS continues to evolve and adapt to new learning challenges and technological capabilities, including:

• New uses for e-learning content, ranging from the arts to marketing communications.

• Tighter integration into collaborative software platforms and messaging frameworks, such as GroupWise and Microsoft Outlook.

• Migration of data storage to network-based methods, commonly known as "the cloud."

• Further integration with talent management software systems.

Current trends in technology and business are favoring the increase of collaborative, web-based applications, user-oriented design, and other features that are often grouped together under the term "Web 2.0." By further inverting the traditional forms of interaction between instructors and pupils, and enabling a great amount of content to be created and managed more easily, the future of LMS appears to be a dynamic one.

Conclusion

An open-source LMS solution isn't right for every situation or customer. However, for higher education, many government agencies, small- and medium-sized businesses, and nonprofits, either Sakai or Moodle can be a great solution. Both have the scalability and capacity to handle large-scale installations for more than 200,000 users. Both offer rich feature sets, excellent administration and management tools, and enterprise-grade security.

Just as important, both platforms are managed by foundations with clear and intriguing product roadmaps. These ongoing development plans will let Sakai and Moodle capitalize on new developments in

Web and learning technology, such as the growth of social media.

In the end, deciding which solution is better comes down to your organization's needs. If customization, reporting and analytics, and collaboration are high priorities for your eLearning initiative, Sakai is probably your best option. If you're looking for ease of use, extensibility, and a wide base of other customers — as well as support and service vendors — Moodle may be ideal.

Regardless, open-source platforms have reached a level of maturity that make them worth evaluating if you're considering investing in a new or upgraded LMS. The benefits they offer in terms of lower costs and greater flexibility could make them a great solution for your organization.

With the improvement of Computer Assisted Learning, Learning Management Systems are gaining popularity as a convenient medium for delivering and managing teaching and/or training to the distance learners. It is noticed that Current LMSs are lacking in some functionalities for which they can be used by educational bodies. This paper tries to bring out those functionalities which can be incorporated in a standalone LMS to upgrade it into various educational bodies supporting LMS. The objectives of this work were, to study about LMSs and different modules of an already existing LMS, to explore extra functionalities to transform a generic LMS into an LMS that supports various educational bodies, and to propose a Framework for an LMS that can act as a learning management system for various educational bodies. The work is not complete in the true sense because some of the functionalities like receiving feedback from the participating educational bodies, processing of accounting information and calculating credit transferable to the individual educational bodies are yet to complete. Moreover, more flexibility in program flow is required. In the proposed framework all the fundamental modules needed to facilitate actions for a consortium are identified. However, there could be more investigations needed in different aspects of versatile operation of such a consortium LMS like, extra modules for identifying the best

content among the similar subjects, broadcasting any information from the participating universities, checking quality of the content etc, to incorporate quality of the services of the consortium. The future work will concentrate on these needs and extend the proposed framework to incorporate those modules. Moreover, we have tried to implement some of the proposed modules and functionalities. But functionalities like receiving feedback from the participating universities, processing of accounting information and calculating credit transferable to the individual Universities are yet to implement. These can be taken as future work.

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