Challenges and Prospects of Using Open Source E-Learning Tools in the Digital Environment

Abstract

Information Technology is one of the trend changer tools and it covers all the sectors under its clutch. Education sector was also witnessed a vital change within its teaching techniques and a shift had been observed from traditional learning to E-learning. Information Technology provides an open opportunity to learn anytime, anywhere. E-learning is a platform where one can share, learn, and manage their knowledge and skills by taking guidance of the professionals, and to get the right information whenever they need it. In current scenario there are number of software systems available in the market that provide distance learning as well as various mode of learning materials. This software is accessible in both the forms in commercial and in the form of open source software (OSS). Moodle, e-class, e-pathshala are some of the Open source software that has been increasingly gaining worldwide popularity in e-learning system. This paper highlights how the open source tools can empower e-learning.

Keywords: E-learning, Open Source Software, Learning, Online Learning.

Introduction

Education trends are gradually changing by using more and more computer technology. Several institutes have developed the idea of the virtual classroom; under it an instructor was deputed at a central place by using audio/video equipment and arranges to teach real-time classes in several satellite locations. E-Learning is a type of Technology supported education/learning where the medium of instruction is through computer technology. It can be CDROM based, Network-based, Intranet based or Internet based. It can include text, video, audio, animation and virtual environments. Some other terms frequently interchanged with e-Learning include, on-line learning, online education, distance education, distance learning, technology-based training, web-based learning. In the last decade a dramatic changes has been detected in Higher Education. It can be describe in terms of increased access to education, lifelong learning, increased choice in areas of courses and the personalization of learning. Technology is acting as mediator between instructors and learners.

The use of the open source tools as an educational delivery medium provide students with the opportunity to develop an additional set of communication, technical, teamwork and interpersonal skills that mirror the business environment in which they will work. Students may react differently to the online learning environment, depending on their own level of understanding and attitude and off course their e-connectivity. Online collaborative teams face many challenges due to the lack of face-to-face communications or shared social context. With a variety of information and communication technologies, it is very important yet challenging to select and utilize appropriate medium for different tasks. For ensuring that users in the near future as well as the longer term have access to the best available applications, these Open Source software applications is been built on open standards.

Defining the terms

Learning

"The delivery of a learning, training or education program by electronic means is called E-learning. It involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material." (Derek Stockley 2003)

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Open Source Software

"Open source promotes software reliability and quality by supporting independent peer review and rapid evolution of source code. To be certified as open source, the license of a program must guarantee the right to read, redistribute, modify, and use it freely." Open Source Initiative (http://www.opensource.org/)

Prospects in E-Learning

Information technology has shown a vast route to explore the thoughts in every sector but with reference to learning a lot of experiments were done to ease the teaching learning process.

Flexibility

E-Learning can be done in a very short span of time that can easily fit around one' daily schedule. Unlike public scheduled and in-house learning, one doesn't have to dedicate its entire day for it. The available material is in form of set of learning, normally divided into modules, with a deadline in which to do them in. This way, if one want to do all of the learning in one day as one can work better this way.

Mobility

E-Learning can be done on laptops, tablets and phones – it is a convenient and transferable method. Learning can be done on the train, on a plane or any other time that could normally be wasted or a slag to time for any one. Whilst used to be confined to the classroom, the whole world can now be your classroom.

No need to move

E-Learning can be done wherever you have a device capable of doing so. Therefore again you can fit it in to your schedule, but also save money on the cost of travel to the institute. E-Learning takes these costs away completely.

Cost Effectiveness

E-Learning tends to be the much cheaper option because you don't need classrooms and lecturers every time. The presence of instructor and student is not necessary for teaching learning process. It also reduces the cost of books and document using duration teaching.

Adaptability

E-Learning courses aren't confined to be fixed to try and suit the needs of the majority. If you feel you already know a particular area well and don't need to spend an hour on it again, then you can skip over it and concentrate that time on something you feel you need to work more at. Everyone is able to learn at their own pace – a massive factor that only E-learning can provide for.

Techno Friendly

E-Learning is fast becoming a more and more popular method and with it, so has the investment into how to improve it further. The computer based nature of training means new technology is being introduced all the time to help with the learning. Different apps are helping to further reinforce the learning whilst forums can be used to greatly increase the amount of interaction and engagement between learners. This is only going to improve as time goes on as well.

Global Coverage

The students can receive the same content regardless of their location, and in many cases, their nationality. Therefore if you wish to provide the same content or have your student understand and use common methodology, E-learning is a useful way of ensuring this happens with ease and reduced cost.

The Challenges of E-Learning

Uncontrolled Learning

it is considered that without any fixed schedule one cannot easily stick to the topic and had a number of detachable thing by them. Even in the time of procedure learning it becomes difficult to express one in front of audients. It creates complications.

Low Attraction

It somehow fails to develop interest of the students especially those fellows who are less attentive. It became very important to collect attention of every audients and can serve as per their need and satisfaction. With the taste of different subclasses it becomes very difficult to judge their needs.

Inaccessible Method of Learning

E-learning can be taken as co-centered method of teaching and learning as the audients are allowed to interact in a limited manner. On the other hand the audients feel free in face to face learning pattern and can get fast answer of their queries.

Access of Technical Involvement

From the starting to the end of e-learning, it needs a up to mark technical assistance. It can also be said that without e, e-learning will vanish or it will become worthless. In the simple view the whole e learning is based on technology. Now the thing is that every single event in e- learning platform needs full flagged equipment's to perform.

Computer Systems Are Required

The base system to make e-learning alive is a computer set. It became tough to set a basic level e-learning station in rural or needy areas, where there is no electricity, electronic or friendly surrounding for e-learning. Even now it is not under everyone's pocket to buy and learn.

Open Source Learning Management Tools

Open source can be defined as a source that are freely accessible and anyone can get a view of the respective material uploaded in the network. For providing a user friendly platform in network or in internet a learning management system has been developed that creates approachable environment. A Learning Management System is an essential tool for e-Learning and there are a variety of different Open Source Learning Management Systems that are dynamic and flexible. Some popular open source e-learning tools are as follows-

Moodle

Moodle (Modular Object-Oriented Dynamic Learning Environment) is free source e-learning software, commonly known as a Course Management System, Learning Management System, or Virtual Learning Environment (VLE). Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content, and is in

continual evolution. Moodle has several features considered typical of an e-learning platform, plus some original innovations (like its filtering system). It features dashboards, learner tracking, and multimedia support. This open source Learning Management System also gives the ability to create mobile-friendly online courses and integrate third party add-ons. For those who want to sell their E-learning courses to the masses, Moodle has paired with PayPal to make the checkout process simple and straightforward. One of the standouts of this tool is the user community. Unlike many other open source LMS solutions, you can get answers to pressing questions almost immediately by accessing the online support database, and download pre-made E-learning courses that can save you the time and trouble of creating them from scratch. It's worth mentioning that Moodle may be a bit more complicated for new users, but mastering the tool is well worth it if you want total design freedom.

ATutor

it was a landmark among various Learning Management Systems as it focuses on different types of learners; even this system contains special features through which blind learners can also easily access it. This system got its existence in the end of the year 2002. This Learning Management Systems is very friendly to handle and consist of multiple beneficial and convenient features that explore it as a most popular system. It was equipped with a numbers of tools that ease and increase the speed of E-Learning course along with the development process; on the other hand it also provides E-Learning assessment tools, file backups, analytics, and poll integration.

Eliademy

This open source Learning Management System is completely free for educators and e-Learning facilitators, but a small fee per user is charged for the Premium version. It features E-Learning course catalogs, E-Learning assessment tools, and even a mobile Android application for educators who wish to develop mobile learning modules for their on-the-go audiences. E-Learning facilitators can simply upload and share the E-learning course with their audience immediately, as long as the learners have shared their email addresses.

Dokeos

Dokeos is an open source online learning tool which provides all the features needed for e-learning and blended learning management. Dokeos is a company dedicated to open source Learning Management Systems. Its main product is a SCORM-compliant open source learning tool used by multinational companies, federal administrations and universities. Dokeos operates on a professional open-source business model based on open code, community development, professional consulting, quality-assurance services, and subscription-based customer support. Dokeos implements a mix of instructional design and social/constructivist approaches. It was built corresponding to the traditional instructional design, and its structure is very close to traditional teaching but extends this base by providing tools that encourage constructivism (forums,

blogs, wikis, chat, file exchange, personal messaging, etc.). The instructional design generally improves the simplicity of use by using known teaching strategies and allowing teachers to extend on this known base by adding social tools step by step.

Desire2learn (Brightspace)

Desire2Learn is one of the a world best online services provider that supports organizations in developing E-learning systems. It also enable teaching and learning environments that inspires ones view, Mission-Vision, Branding and pedagogical approaches. It covers a smart share in the market and is associated with various learning institutes like schools, higher education, organizations, government bodies, and other entities. Desire2Learn offers a platform to the customers that avail them by meeting their needs as well as serves best to get learner-outcomes. Desire2Learn is featured with standard tool that helps customer faster course development, easy alliances with content sharing mechanism.

Sakai

The Sakai Project's aim is to create a unique course management system or Learning Management System that both competes with and complements commercial systems. In addition to the course management features, Sakai is intended as a collaborative tool for research and group projects. To support this function, Sakai includes the ability to change the settings of all the tools based on roles, changing what the system permits different users to do with each tool. It also includes a wiki, mailing list distribution and archiving, and an RSS reader. Sakai's software tools are designed to help instructors, researchers and students create websites on the web. For coursework, Sakai provides features to supplement and enhance teaching and learning.

Forma LMS

It is developed for critical gap analysis of the data; it enabled comprehensive analytics and reporting. It consists of multiple features that can provide certificates, competency management support and also avail with a wide range of tools required in virtual classroom management like time scheduler, calendar etc. Mostly **Forma LMS is an** open source Learning Management System that was developed preferably for corporate training programs, it also provide a surrounding as online community, through which one can enquire, gather advice, tips, and tricks to use open source tool.

ILIAS

This open source Learning Management System holds the distinction of being the first open source LMS that is SCORM 1.2 and SCORM 2004 compliant. It's flexible, versatile, and scalable, which are all major selling points. In fact, ILIAS is one of the few LMS tools that also double as a full-fledged collaborative E-learning platform, as you can communicate with your team and share documents all in one place. It's absolutely free of charge for all E-learning developers and organizations, as well as educational institutions, regardless of the number of users. If you have hundreds, or even thousands of users, this can save you a bundle, as many paid LMS options charge by user.

Opigno

Opigno does not disappoint when it comes to features. Certificates, class calendars, online forums, E-learning authoring tools, E-learning assessments, and video galleries are just some of the highlights. This open source Learning Management System is based on Drupal. Thus, you have the ability to manage your virtual training program, track learner skill development, and integrate e-commerce using just one tool. Opigno also offers online surveys, instant messaging, and chat, which makes it a great feedback and collaboration tool.

OLAT

OLAT is an online course provider system that offers learning and teaching with ones ease of time and place. It was designed basically for the educational public institutions like universities, academies or colleges but with its specific features it was also used by other organizations. Some of the extra ordinary familiar assessment tools like social learning integration, and learner home pages make it differ from commonly used Learning Management System. It embraces features like class calendar, email notifications, E-learning course bookmarks, storage, and certificates. It allow the user to make their own communities and share E-learning courses and can make their own comprehensive E-learning course catalogs.

E-College

It is a platform that was fully devoted to the educational institutes, it hosts and develop E-learning software applications and thus support colleges, universities and virtual schools to manage themselves. E-college is one of the most popular learning management systems that were used by the educational institutes for convening and managing online courses for students associated to them.

Conclusion

A new teaching approach is presented for effective teaching through open source tools. These tools are developed to solve difficulties faced by students in learning different course. Use of E-learning confirms that students are going through the concepts, along with it engagement of animated audio/videos help in easily understanding and recalling, even with the help of real time questionnaire the learner can be made attentive. Thus by improving efficiency of classroom teaching and offering a new method of teaching-learning for a mathematical subject like DSP, reduces the effects of diversity at curriculum level and improves individual's interest in the subject. It can be concluded by the study that ideal classroom experience should be amalgamated with E-learning so that everyone can prepared for their complete participation and no one slows down the rest of the class. Further by integrating the course contents in open source tools, enables a teacher to assess and track each of the student's progress. This is simply not possible in a traditional classroom environment constrained by time and space. Some students are likely to be left behind.

Today it is estimated that there are already more than 250 providers of commercial Learning Management Systems. In addition, there were recently identified more than 40 open source LMS offerings (some of the most well-known are Moodle, OLAT, Desire2Learn and SAKAI). For ensuring that users in the near future as well as the longer term have access to the best available applications, these Open Source software applications is been built on open standards.

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Web Links

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