

E-learning using learning management system

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Abstract. Learning management systems (LMS) have become the mainstream technology underlying corporate training and the migration to e-learning. A great number of LMS provides integrated services such as the designing and development of on-line learning contents, the communication and collaboration between the learners and teachers, event scheduling, creation of test questions and test administration. LMS plays a key role in the e-learning environment.

Keywords: e-learning, learning environment, learning management systems.

Introduction

The methods of synchronous and asynchronous learning have got their own qualities and shortcomings. They supplement each other when they are used together. Therefore the blended e-learning method is most effective method. Blended learning means different things to different people [5]:

- to combine different modes of Web-based technology in a single learning program (live virtual classroom, and asynchronous collaborative work) [2];
- to combine various pedagogical approaches (for example constructivism, behaviorism, and cognitivism) to produce an optimal learning outcome with or without instructional technology;
- to combine any form of instructional technology (such as videotape, CD-ROM, Web-based training, film) with face-to-face instructor-led training;
- to mix or combine instructional technology with actual job tasks [4].

LMS is used to manage the course catalog and to link different types of e-learning activities together in order to deliver a blended solution. Learning management systems (LMS) and learning content management systems (LCMS) really have two very different functions. The primary objective of a learning management system (LMS) is to manage learners, keeping track of their progress and performance across all types of training activities. By contrast, a learning content management system (LCMS) manages content or learning objects that are served up to the right learner at the right time [9].

Lotus LearningSpace is a software product that provides a front-end user interface for managing, tracking, and delivering online courses. This software was installed in our university, Vilnius Gediminas Technical University, and use to create and delivery asynchronous online courses for students. LearningSpace does not offer services for satisfying specific instructional needs and automating (partially or fully) instructional

events. Therefore we started interesting in learning management systems [13]. We need to provide LMS functions to our system.

The university has been decided to migrate from our existing IBM e-learning environment, LearningSpace Forum, to the new IBM Lotus Learning Management System.

Learning management system functionality

A learning management systems primary function is to manage learner information, administration, and access to courses. It is most often referred to as the “learning portal” that links users with the various learning activities. In some cases, it is used to manage the course catalog and to link different types of e-learning activities together in order to deliver a blended solution [8].

An LMS often delivers the following functionality [10]:

- student enrollment,
- student administration,
- tracking management and information scoring,
- reporting,
- curriculum management,
- competency management,
- skill gap analysis,
- classroom-based training management,
- live virtual classroom management,
- sessions and learning activities scheduler,
- learning resource management,
- course catalog, including advanced search capabilities.

An LMS usually relies upon a standard HTTP server for delivery and uses a relational database system for its data storage. With the IBM Lotus Learning Management System, we can manage the entire learning process, plus all forms of learning – a comprehensive system with great flexibility. An LMS helps us accomplish these goals [5]:

- build the university learning environment;
- provide reporting and tracking for staff decision-making and student management;
- develop competency-based learning solutions to help increase productivity and reduce training costs;
- design blended learning solutions;
- streamline the university learning programs, delivering valuable training resources to students when needed.

Few LearningSpace problems and their solutions using LMS

Personalization

Problem. Students are involved in a number of courses, depending on the specific academic program they are involved in and their particular position. Correspondingly a professor might teach several courses. All users may access the courses they attend,

teach or provide teaching assistantship to, in varied ways. They may choose for example a specific course from a set of courses, and according to their login information, they will have the corresponding rights and privileges. Another problem is that if they have different roles in different courses, they have to follow different access structures [11].

Solution. The LMS user interface changes depending on the role of the user. Users have access to various tabbed pages of settings and commands. The number of tabbed pages that each user sees and what is on those tabbed pages depends on the roles that users have been assigned.

From the Home tab, students can create profiles for themselves to indicate what types of courses interest them. Students can also view a list of courses in which they are enrolled and courses they have completed. They can also view curriculums and certificates they are working towards, with a list of the courses required for each curriculum and certificate. Instructors can also view information about courses they are teaching and about live sessions they are scheduled to lead. In addition, they can change the dates of live sessions they are scheduled to lead and change the materials needed for live sessions [6].

Course announcements

Problem. In large LMS, users are involved with a number of courses and it is of paramount importance for them to see the announcements about courses that concern for example project delivery deadlines, on-line test dates, on-line lecture dates etc. This information must be visible in a place where the user is certain to see it independently of the task she/he wishes to perform when entering the learning environment [11].

Solution. From the Home tab, students can access their calendars to see what activities are scheduled for their courses and view communications that they receive from the system, such as confirmations of enrollments in courses.

Course creation and customisation

Problem. Students can access learning space courses from a Lotus Notes client (cross platform) or via WWW browsers via any platform. Instructors must design courses using the Lotus Notes Client. It is not comfortable for instructors.

Solution. In LMS administrators can add, modify, and delete courses, certificates and curriculums via WWW browsers. A course consists of lessons or units. In LMS, a unit can be:

- an activity,
- a classroom session,
- a virtual classroom,
- an e-learning course,
- a combination of the above.

Courses can be created in the authoring tool or in LearningSpace. Then instructors still must create courses and modify its content using the Lotus Notes Client. Live sessions are created with the authoring tool. Physical activities like labs, workshops, seminars or physical classrooms can either be created in LMS or with the authoring

tool. When creating blended learning courses the authoring tool is currently the only option.

Offline learning

Problem. Creating local replicas is especially helpful if student plan to work on a computer that will occasionally not be physically connected to the network. Otherwise online learning is not cheap. In LearningSpace students can create local Notes replicas of course databases on their computers only using the Lotus Notes Client [7].

Solution. The Learning Management System allows students to take courses without being connected to the network. Students can download the Offline Learning Client. The Offline Learning Client allows users to take course content offline. When working on a course offline, all course prerequisites and navigation features are fully functional for the student. Students can launch the Offline Learning Client installation via WWW browsers from the Home page [11].

Student tracking

Problem. In the e-learning environment instructors do not have a physical interaction with the students and thus cannot observe them and supervise their learning. LearningSpace provide tools for tracking the progress of students. But the instructors do not know whether the students have studied the appropriate learning resources, practiced the on-line exercises, collaborated with their colleagues in their projects, or read the announcements for a course.

Solution. System administrators, students, course instructors, course administrators, managers and user administrators can all run reports for different reasons. The Reports module lets them generate summaries of student, course and resource (vendors, instructors, rooms) information in report form. These reports provide detail on the following [6]:

- course catalog information,
- student and course enrollment,
- course progress,
- available resources,
- miscellaneous system information.

In LMS instructors can create reports to do such things as track student progress, view a class roster, view the teaching schedule, and view how far a student has progressed in a specific curriculum. Instructors can schedule reports to run automatically at specific times or create reports manually at any time.

Conclusions

The Learning Management System is a highly flexible and scalable product. By dividing features among multiple components and incorporating various third-party applications, the LMS enables a customer to configure the system in many different ways, as dictated by business needs.

One of the advantages of the Learning Management System is that it lets organizations take advantage of existing applications, such as LDAP directory and LearningSpace. The combination of all these different technologies makes the LMS appropriate for almost any training needs.

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REZIUOMĖ

R. Kulvietienė, G. Kulvietis, I. Šileikienė, J. Stankevič. Mokymo valdymo sistemų vaidmuo e-mokyme

Mokymo valdymo sistemos (MVS) – tai sparčiai besivystančios technologijos, skirtos e-mokymo organizavimui ir valdymui. Dauguma MVS sistemų leidžia kurti ir palaikyti e-kursus ir jų turinį, palaiko bendravimą ir bendradarbiavimą tarp studentų ir dėstytojų, leidžia tvarkyti tvarkaraštį, kurti ir administruoti testus, palaiko visus e- mokymosi metodus.

MVS sistemos vaidina pagrindinį vaidmenį šiuolaikinėse e-mokymosi struktūrose.