ACTIVATING THE DISTANCE LEARNING SYSTEM

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Abstract: In this study, the basic elements of the distance learning management system will be explained. It will provide basic information about Moodle, a distance learning management system running on a web browser. It will be emphasized that the Moodle education system, an open source remote learning management system, is a very popular educational system. The creation and generalization of a distance learning management system that can be activated on a cloud computing system running on a server will be practically explained. As a result, it will be explained that the server infrastructure required for the installation of a distance learning management system which can be accessed from any environment where the internet is available can be easily obtained by the cloud computing system. In a very short period of time, a distance learning management system with full features in terms of training infrastructure may become operative. The main aim is to express that the remote learning management system, which will meet the educational needs of people without face-to-face training, is easily applicable.

Keywords: Distance education, Moodle, BigblueButton, Moodlecloud, Live Conference Systems

Introduction

With each passing day, information technologies are developing and becoming an integral part of our lives. It has now become very easy to obtain information with mobile phones, tablet computers, desktops or laptops. Education opportunities have also had its share from this technology. Distance Education, which has an infrastructure based on Internet technologies, has been accessible to everyone. Educational institutions, voluntary organizations, private firms and many other institutions can enjoy the training they want to offer to their trainees independently from the place. A learning management system (LMS; Learning Management System) can be prepared in a very short time due to the expansion of the distance education system and the development of Internet technologies.

In this study, the basic elements of distance education system are explained. Basic information about Moodle, a distance learning system based on Internet technologies, will be given. Creating and managing a distance education system that can work on cloud computing system will be explained in practice. In this way, a separate cost expenditure will not be made for the server infrastructure required for the operation of the distance education system. In a very short time, the full-featured remote education system will be able to work.

The main aim is to express that the distance education system that will meet the educational needs of the students who do not have face to face education is easily applicable and to provide the necessary attention to the subject.

1. Distance Education

Distance education is a modern education system in which students and instructors are not required to attend the school or education institution, live, video, audio and interactive courses are taught in a virtual environment. It is a type of education which is completely independent from time and place. Distance Education System, for those who have not completed their education by entering the intensive pace of business life, and who cannot go to the universities they have gained in distant cities due to financial difficulties, provide the education they want in very favorable conditions.

In the Distance Education System, both instructors and students do not come to any educational institution or any designated place for education, they do not leave their country or city to attend classes. Everyone registered to the program at any point in the world, on the road, travel, vacation, business trip and so on. With a portable computer with a wired or wireless Internet connection, they can effectively participate in the classroom in virtual classrooms or follow the registered trainings.

Virtual lessons, such as blackboard, PowerPoint applications, videos, case studies, multimedia tools, animated texts and many current educational tools are used as in formal education. Students who cannot participate in the

course on time or want to follow again can access the courses recorded in the archive at any time, regardless of the time and space limitation, they can follow the courses at their own time and place. Especially with the development of open-source software philosophy, open-source live course server systems such as BigBlueButton have made virtual lessons much more effective.

The Distance Education System also provides serious opportunities for disabled students. Students with disabilities who do not have an associate, bachelor or master's degree due to transportation problems have the opportunity to attend classes under the same conditions as the other students.

Courses in the distance education system can be performed in a virtual classroom environment. Academicians and students can connect to the system from any environment with internet connection and participate in class. In the virtual classroom environment, academicians can tell the lesson, use the blackboard and even share the applications on their computer with the students. Students can also be connected to the lesson with audio and video, ask questions and make file sharing. Concurrent courses can be recorded, and then all students can follow that course any time they want.

1.1. Learning Management System (LMS)

LMS is software that runs on web browsers designed to perform remote training activities. In English, Learning Management System is produced from the first letters of the words. The basic tasks of learning management systems, presenting learning material, sharing and presenting learning material, managing lessons, taking homework, taking exams, providing feedback on these homework and exams, organizing learning materials, keeping students, teachers and system records, creating reports.

The LMS may consist of many contents.

Registration component: It is the component that takes the basic information about the participants in the education by including the individuals who will participate in the education and training activities. Many websites have very similar features with the sign-up screen.

Content presentation component: The component with the management-based features required for all teaching and learning activities.

Course component: This is the component where the students will have access to the contents of the education and training, access to the course resources and other course contents.

Testing and evaluation component: It is the component in which the evaluation (examination) to be performed as a result of the learning and teaching activity is prepared and applied.

Reporting component: It is the component that provides the learning, teaching and system administrators the data related to the entire education and training process based on various criteria.

With the SCORM technique, which paves the way for interactive training, students can receive self-education. SCORM is a standard for e-learning based learning management systems. SCORM, which is named after the first letters of the Sharable Content Object Reference Model, refers to the reference model for shareable content objects. Mobility has been adopted to standardize features such as reusability.

Fixed presentation content, animated animations, videos, sound recordings, quizzes and many more educational contents can be found in a SCORM package. Although the process of preparing these packages requires technical knowledge, the basic computer usage and the Internet literacy of a tutorial with SCORM objects has become very easy with the appropriate software. Articulate, Adobe Captivate software to create these objects can be easily. SCORM is an interactive environment created with web technology.

The most common open source learning management systems are listed below;
- Moodle (http://www.moodle.org)
- Sakai (http://www.sakaiproject.org)
- ILIAS (https://www.ilias.de)
- Atutor (http://www.atutor.ca)

The most common commercial learning management systems are listed below;
- Blackboard LMS (http://www.blackboard.com)

- Alms (http://alms.com.tr)

1.2. Moodle LMS

Moodle is an acronym for the "Modular Object-Oriented Dynamic Learning Environment". Moodle; It is a free, open source, object-oriented, dynamic distance education system.
The Moodle current version is Moodle 3.5.2+. Moodle is able to run under MySQL and PostgreSQL database systems and in any environment that supports PHP language. Moodle, Apache + Php + Mysql trio provides a fast and effective LMS service.

The official site is http://www.moodle.org. Http://download.moodle.org address can be used to download the installation files. The installation stages are quite simple.

2. Cloud Computing System

While it is not known exactly when the term cloud computing is known (Estimated 1950s), this concept is the most generic name given to the Internet-based information services that can be shared among users by using the server computers and similar devices connected to the Internet. It is about the provision of services to be taken by using software at minimum level without the need for service infrastructure by the user. Cloud computing provides services based on three basic models. These are Software as a Service, Platform as a Service, Infrastructure as a Service.

With cloud computing, data, applications and many other information services are stored in the server systems of the provider or organization. Ease of use is one of the great benefits. Google Drive, Microsoft OneDrive, cloud services are the obvious. With mobile, tablet, laptop or desktop computer access, data can be accessed continuously wherever an Internet connection is available. While cloud computing has good sides, it also has bad sides. The presence of data in a server system that is unaware of the user can lead to unpredictable results if the trust agreement is compromised. For example, cloud computing is one of the bad results that the country has cut off its support on a country or company basis. In terms of security, countries must have their own cloud computing server systems.

3. Moodlecloud Lms

Moodlecloud is a system that enables the most current version of Moodle LMS to be put into service on a cloud system. This system is available at http://www.moodlecloud.com. The server needs for which the LMS is needed in the specified system are provided from a publicly available server pool on the cloud. In this way, a full-featured LMS can be created very quickly. For this, the server software does not need to be installed and configured on user computers. In addition, there is no need for a separate study for server maintenance and configuration services through the creation of LMS in the cloud system.

With Moodlecloud, a full-featured LMS can be created in minutes. The free version includes the following features;

- Current latest version of Moodle LMS
- Free BigBlueButton (Virtual Lesson / Conference Server) use
- Up to 50 Users, 200 MB disk space, Basic themes and add-ons,
- One Moodle site per phone number at account creation,
- Up to 10 user live lessons with BigBlueButton (Virtual Lesson)

3.1. Creating a Distance Learning System from Moodlecloud

You will see the steps to create an LMS via Moodlecloud in below;
Step 1; A new account is created by accessing http://www.moodlecloud.com. Switch to free account creation pages.

Step 3; The code entered in the mobile phone and entered a strong password is set for access to the LMS management. In the final screen, the LMS has become available in the cloud system. You can now log in to the sample LMS at https://education1.moodlecloud.com. User name is "admin".

Conclusions

Distance education systems provide facilities for those who want to receive and give education. As mentioned above, it is clear that an LMS can be created in a very short time. Every trainer or person with Internet usage information can create this system immediately. Distance education is an education system that can be used effectively in primary, secondary, high school and university education.

Educational institutions, trainers have a great task in this regard. It is necessary to bring this education method together with the students as soon as possible. In this system, where the necessary infrastructure is an excuse, as mentioned above, the LMS will be ready at a very low cost. It is our greatest hope that the instructors and administrators who are able to see that the future education system is a distance education system is urgently transitioned to these education systems.

References

https://www.teknologweb.com/lms-nedir, (Access Date: 10.06.2018)

https://www.apereo.org/projects/sakai-project , (Access Date: 13.07.2018)

https://confluence.sakaiproject.org/display/DOC/Sakai+11+System+Requirements, (Access Date: 13.04.2018)

https://azure.microsoft.com/tr-tr/overview/what-is-paas, (Access Date: 16.07.2018)

OF M., (2017, Kasım), Scorm Nesneleri İle Etkileşimli Eğitim, International Conference on New Horizons And Education, Proceedings Book Volume 3, ISSN:2146-7358, 64-72