Implementing Adaptability in E-Learning Management System Using Moodle for Campus Environment.

Prof. S. M. Patil¹, T. D. Shaikh²

¹Dept. of Information Technology, Bharati Vidyapeeth College of Engg., Navi Mumbai.
²Research Scholar, Dept. of Computer Engg, Bharati Vidyapeeth College of Engg, Navi Mumbai, India

Abstract— Today, e learning technologies is becoming perfect complement to open and distance learning, allowing communication with students beyond their traditional places of learning. In this paper we are using e learning management system in moodle environment to facilitate integrated teaching management in our campus. The main focus to enhance effectiveness in traditional learning process. this paper describes the steps in development in e learning management system in campus wide environment with proper security features. After the practical implementation for one year long time we concluded that this system can effectively facilitate knowledge sharing, information communication, resource management between teachers and students as well as building framework for network courses.

Index Terms—Adaptive e-learning system, CMS content management System, e-learning management system, Integrated Teaching, LMS learning management system, MLE Moodle learning environment, GPL General public license, LAMP Linux Apache Mysql PHP , LTSC

I. INTRODUCTION

The past twenty years have seen a marked increase in research around e-learning and web based teaching at various levels. Learning management system are widely encountered in daily activities of education by computer means. Learning management system are integrated systems that support no of activities perform by teachers and students during e-learning process. Teachers use LMSs to develops web based course notes, Assignments, quizzes, also communicate with students .It mostly focuses on more learner centered activity for remote learners. These system provide no of advantages as anytime ,anywhere access, Improved motivations ,resource sharing, opportunities for independent learning. It can used in many types of environments as in Education ,Training and development. We can enhance Moodle modular structure by creating plug-ins for specific new functionality and adopting it to existing infrastructure.

II. IMPORTANCE OF MOODLE SYSTEM

The acronym MOODLE stands for Modular object oriented dynamic learning environment.

It is open source software under GNU public license which is software package constructed with fully ritualized cloud environment. It is open source system under GNU Public License and it is also known as a Course management system, Learning management system, Virtual learning system. It mostly focuses on more learner centered activity for remote learners. Moodle draws on best in class enterprise gear (VM ware Net app, Dell, Cisco) , plus specialized configuration to construct a platform that is scalable , manageable and highly available. It supports automated peak load management that automatically scales resources up and down to suit load prior to load balancing problem Moodle learning environment is an out box mobile learning system that is widely implemented on open source systems for learning management process.

Moodle technology starts with traditional LAMP stack . It’s non disruptive release cycle living on the cloud means that moodle can deploy small or large code updates to all their clients at same time. But having these technical capability does not mean it is match with needs of academic Institution. The moodle 2.x platform was designed with open architecture of APIs which offers documentation to help developers become familiar with Moodle core process, coding guidelines , peer review as well as integration into moodle git repository . Moodle community also contributes hundred of plug-ins that enhance moodle with specific capabilities such as Activities , Resource types, Online quizzes ,Graphical themes ,Authentication for users, Content filters. Integrated learning outcomes provides instructor tags learning activities with imported instructor generated outcomes. Outcome reports provide rich analysis of usage and gaps. Customization of moodle works actively with clients to provide code reviews of plug-ins that are generated from clients , vendors or community. Because these plug-ins are integrated into our cloud build and can be reused in other client configurations , higher level of stability and security is required of contributions. Moodle has different contributed modules as Forums , e-assessment, SCORM, Web quest, document management system.
III. IMPLEMENTING ADAPTABILITY IN E-LEARNING MANAGEMENT SYSTEM

An e-learning system is considered to be adaptive if it is capable of monitoring the activities of its users, adopting to user requirements, interpreting their activities, adjusting with user needs also Adaptive learning system have to dynamically adjust the learning management process which consists of content discovery, adaptive course delivery, an adaptive interaction among users as well as adaptive collaboration.

Adaptive e-learning system focuses on adapting the courses to individual characteristics of students that provide better advantage over other Learning management system. Adaptive quizzes, Intelligent solution analyzers, adaptive class monitoring systems and adaptive collaborative systems to perform their functions efficiently. We are creating adaptive e-learning systems and their incorporation into educational system with level of engagement from all users in the systems. such system provide better adaptive functionality that is not fitting into traditional learning process.

Modules and Plugins

III Steps to configure your MOODLE server:

A] Prerequisites to configure your server

For Moodle Learning Environment is an extension to moodle 2.6.x package that we are going to implement on Community Enterprise Operating system server Edition 6.5.

so, prerequisites of moodle as
Operating system : CENT O.S. 6.5
Moodle Package : Moodle 2.6.1.tgz
Scripting Language : PHP 5.4.4
Database : Mysql 5.5.31 or Postgresql 9.1
Server: LAMP (Linux ,Apache , Mysql ,PHP which can be installed from command line interface)
yum install lamp-server

B] Installing Cent O.S.

Download and burn an Cent O.s. 6.5 server CD to bootable CD.
Start Computer and boot from CD
Select install to hard drive
Select your language .country and keyboard layout
Select Basic Storage devices
Select manually configure and set an IP address
(or autoconfig)
Enter your Host name and configure your Network
Select Location
Set Root Password
Select Type of installation
Choose application to install
Select application of your choice
Installation is complete reboot system

C] Installing the packages:

In first part we have to set an IP address and proper host name for your server , which will be used for further moodle site implementation .for this installation we need direct Internet connection to your PC

i] Installing mysql

Now we start from installing mysql-server database.
yum install mysql-server mysql.
After , installation start the mysql-server database
> service mysqld start
And then change your mysql login password .see the following command
> mysqladmin -u root password
Create database with privileges is as follows at mysql prompt.
> mysql>grant all privileges on moodle.*to 'moodleuser'@'localhost'identified by moodle database password
> mysql>flush privileges
> quit

ii] Installing Apache and PHP:

> yum install httpd -y
> service httpd start
> chkconfig httpd on
> yum install php
A documented version of httpd.conf configuration file is installed automatically in /etc/httpd/conf.d directory
A web server usually uses port 80 , which is apache default
Check the service if it is running or not
> Service httpd start

iii] Installing Moodle 2.6.x package:

Installing the Moodle 2.6.x .tgz package from command line interface and put it in /usr/src folder
> yum install moodle-2.6.1.tgz
and put it in /usr/src folder
> cp moodle-2.6.1.tgz /usr/src/
> cd /usr/src/
Check whether file is present or not
> ls
> tar -zxvf moodle-2.6.1.tgz
Then move folder to /var/www/html. see following command.
> mv /usr/src/moodle /var/www/html
change the ownership of moodle folder. see following command
> mkdir /var/moodle
> cd /var/moodle
Create data folder under /var/moodle. See following command.

> mkdir /var/moodle/data
change the ownership of the moodle folder.
> chown -R apache:apache /var/moodle/
Apply read write permission to /var/moodle and /var/moodle/data
> chmod -R 755 /var/moodle/

If we want others to be able to execute and read the file but not change it, you can set the read and execute permissions and turn off the write permission with digit 5(101). In this case you use the octal digit 755, having binary equivalent of 111 101 101

> chmod -R 755 /var/moodle/data/
And then change current directory to /var/www/html/moodle
> cd /var/www/html/moodle/
Then copy config-dist.php of /var/www/html/moodle folder as config.php
> cp config-dist.php config.php
Now, edit this config.php file
> gedit config.php

Finish the installation through a web browser http://localhost/moodle.

iv] Allow to access to your moodle from other computer
This installation will only work from localhost only.
To make it accessible from other hosts we must edit the config.php file.
Open the config.php with gedit and make changes as below
About .......... lines down you see following line
$CFG->wwwroot='http://IP address of your server/moodle';
and use CTRL+O to save file

iv] Finishing the installation
Now visit your Moodle web server with web browser and log-in as admin.
And then access your moodle from web browser by typing
http://IP address of your server/moodle;

DJ Enabling Moodle Access:-
Log in as Admin with User name and password.
Go to front page and click on the button “Turn editing on”(Upper right)

IV. CONCLUSION
The Project developed by us in order to evaluate the planning, design and execution of all teaching resources as lectures, laboratory experiments using moodle learning environment. This paper emphasis on efficient and dynamic use of m-learning management tool in campus wide environment using MLE Moodle as learning management system with enhanced security features. Our project is emphasized on developing open source learning management tool that allow balancing of dynamic overload in Moodle LMS thus adopting a proper management of educational network and focus on further educational goals.
Acknowledgment

The author is like to thanks to all other colleagues involved in the e-learning management project for the co-ordination and the support provided.

REFERENCES
