

IMPLEMENTATION OF OPEN SOURCE LMS SERVER USING FEDORA 24 AT CSMSS CHH. SHAHU COLLEGE OF ENGINEERING, AURANGABAD

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ABSTRACT

Most of the industries are relying on Instructor Led Training (ILT) for providing training to employees. Depending upon the nature of requirement ILT is used to deliver training on product, process or sales domain. ILT is based on traditional class room training, it has advantages and limitations as well. Few limitations or disadvantages of ILT includes predicting and measuring on job performance of employee after learning and during learning. Moreover it becomes expensive when it is required to train large size audience. The cost may incur for learning environment, travelling in case of geographical differences, instructor's cost, learning material cost and so on. In educational sector from kinder garden to higher level education, student needs to carry heavy educational materials such as Laptop, Books as well as ratio of digital literacy is lower as compared to other countries. The students who are learning through corresponding courses they don't get support of ILT as well as Library facility. Online examination is most important aspect but to develop online examination portal and training portal via traditional JAVA, C# PHP; it needs almost INR 4-5 Lac in India. In CSMSS Chh. Shahu College of Engineering they need an online portal where the faculties can deliver online courses, can upload needed educational material, can conduct online examination with detailed result and performance analysis, forum where students can discuss the problems to do so we have proposed a solution in which using open source products, we can deliver online courses and examination through a single portal free of cost. It minimizes the infrastructural costs, hardware cost, needs less time to configure, easy to deliver online courses, reliable, less down time and free of cost. Soto develop this portal we are using tools like Moodle 3.1, Articulate Engage, Quiz maker and presenter, IspringRiver, Talk Master, Converter Pro and QuizMaker and operating system Fedora 24.

Keywords: *Elearning, Fedora 24, Moodle, Open Source, WBT.*

I. INTRODUCTION

Currently to conduct an examination at in various universities papers are being used which is expensive and traditional way of delivering courses, many institutions hires online examination portal which costs for each student and there is no facility to deliver online courses and cannot upload nay educational material, there is no

forum and messaging facility available, no centralized server on any android application to deliver any notices or messages, need to use flash drives to data transfer and no proper way to analyze student performance and progress so we have proposed a solution where using Fedora 24 operating system we can install LMS authoring tool Moodle 3.1 where we can deliver online courses, can upload educational material, can track the students in activity on the portal, have messaging and forum facility and everything at the free of cost. To prepare online courses we will use around 12 software's that all would be open source so we don't need pay for anything. Everything in this portal will be customizable so we can design portal, its content as per the requirement. As we are using on open source tools so this has minimized the infrastructural cost and other costs.

II. INTRODUCTION TO E-LEARNING

E-learning is a way where we can learn any online courses through the electronics device, doesn't matter how the teacher and student is, it fills the gap [3]. It is a cost effective way of learning which can be used through the PDA's and another electronic device [1]. Many LMS tools are used to deliver the online courses such as Moodle, SABA and EDMODO [2].

III. OPEN SOURCE

Open Source is rapidly growing because it gives a way to customize the code and redistribute it under GNU. This gives a way to anyone to contribute in any open source project without any license or permit and can earn. Many MNC's are contributing to Fedora Project like Sales Force, Intel, Red Hat, Drop Box and JBoss.

IV. LEARNING MANAGEMENT SYSTEM AND TOOLS

LMS tools helps in delivering online courses through the online portal or we can configure it online like Moodle as per our requirement. Many LMS tools are available online like DOCEBO, DEMODO, Mindflash, Blackboard [2]. Moodle is free and open source tools whereas other tools like DOCEBO, Mindflash charges for its services. Many LMS have been designed as requirements and needs. SABA like authoring tools used to conduct online meeting and webinars [1].

4.1 Brief Introduction of all Authoring Tools

4.2 Fedora 24

Fedora is an open source linux operating system which developed by Fedora community from worldwide. Fedora is visionary sponsored project of Red Hat Inc. Fedora is highly customizable and free this is main reason why we are going to use this platform [5]. Fedora releases its new version after every six months till now it has 24 versions and roughly in February 2017 new version will be released, it provides support for wide range of other software's which are going to use [5]. Although it is linux and Command Line Interface based but now it provides rich Graphical User Interface [1]. 66 Billions users are contributing to this project worldwide via debugging, testing or by preparing the manuals for Fedora.

4.3 Moodle 3.1.1

Moodle is open source platform used in Learning. Moodle is also very highly customizable through the plugins, it also provides facility to accommodate the third party plugins and codes into the basic setup of Moodle [2]. Worldwide it has around 66 Billion users and it was developed in Australia by only 30 developers [2]. Moodle is available in many languages including manuals and docs [4]. Moodle supports other tools to integrate worth it to host courses. Articulate, iSpring and other LMS authoring tools are can be used to make SCORM courses. We can organize online forum and meeting in it [2]. Online webinars can be delivered through it also online meeting can conduct by the Moodle [1].

4.4 Articulate

Articulate is heavily used in E-Learning industry. It has many supporting products like Articulate Quiz Maker which helps in creating Online Examination Portal which can be delivered through the internet browsers [3]. Articulate Presenter is used to create animations in the courses [4]. We can provide voice over through the presenter so that user can read as well as listen to the courses this increases the inveracity between user and online courses [1]. It is also free and provides technical support very quickly so troubleshooting becomes very easy [1]. Community designs the articulate products and they have forum where they can provide platform to discuss the problem and queriesrelated to the articulate [3].

4.5 Spring

iSpring is alternative option in this project. It is usedto create a course in which surveys, online quiz and interactions can be used [2]. This makes user so busy that without uses command it doesn't work. It has many products like Water, Quiz Maker, Visual, TalkMaster, Screen Recorder, Slide Alloy, Cloudand Audio/Video Editor [4]. Highly based on animations which can be created using these tools, highly customized and well-structured and can play courses in any devices. It has built in features like audio/video editor, animation creator [1].

V. CONCLUSION

This project can minimize very high cost that might help in deploying other facilities in college. It has given option to the portal which they have hired and its need any maintenance cost or it doesn't need any administrator to take care of the server. Many online courses for all the branches including interactivities like video, animation and voice over can be added to the courses. All the tools are free of cost and fedora 24 can be used as base operating system. Students analysis can be done very easily because it provides detailed track and progress record. Online examination can be conducted on Moodle in SCORM format or sing its default format. It can minimize the cost, efforts and time and can give high results if utilized in proper manner.

VI. ACKNOWLEDGEMENT

We would like to express our cordial gratitude towards our Principal Dr. U.B. Shinde Sir for his guidance, and time to support. Making available the required infrastructure facilities.

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