

Review on Secure E-Learning using Data Mining Techniques and Concepts

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Abstract - This paper introduces an evaluation of E-learning platform. This platform based on data security and learner flexibility. Data mining methodologies helps learner to learn fluently and flexibly. Now in days each individual expects just-in-time learning, using e-learning platform we can fulfill this requirement of learners. To make this platform more flexible learner can communicate with respective faculty, advisors, etc. It is platform where learning through discovery can be possible because of interactive media.

Keywords: *E-learning, Effective communication, secure learning data.*

I. INTRODUCTION

Learning is based on information or knowledge and communication technologies. The E-learning is the latest technology of learning which is getting much more popular in academicians. E-learning technology has multiple data formats which make fluent and flexible learning to learner. Today's world there is no end for learning either it may be for academicians or professionals at this situation e-learning may play effective role for just in time learning.

This E-learning platform comes up with huge data as student records, learning courses record, course materials. Course material are having in the form of textual data like journals, books etc and in the form of visualizations like mp4 videos. To make more convenient to learner it has communication media with the respective course guide, or faculty, due to communication between learner and faculty e-learning platform provides virtual classroom to each individual learner at his own place, on his own convenient time. E-learning can able to reduce learning costs, motivate employees, improve flexibility of course delivery, it expands the capabilities of the business, it make learning available anytime, anywhere.

II. LITERATURE REVIEW

In recent generations there are multiple learning platforms available on internet. This paper has been included reviews on previously published papers, journals, sites etc. The review has given idea of skeleton to improve e-learning platform.

In[1] Francesco Maiorana, Angelo Mongioj, and Marco Vaccalluzo published A data mining E-learning Tool: Description and case study which has included report on four year teaching experience in an information system course for students in management engineering. In that courses data mining techniques were taught as part of course. This paper introduces tool for learning the analysis of data using data mining techniques. It also included a case study which presented in the field of customer switching prediction.

In[2] Dr. P. Nagarajan, Dr.G. Wiselin Jiji proposed technology is implemented for Online Educational System (E- Learning). They introduces educational system which lies within three principal activities: Design, Implementation and proper post- implementation assessment. They had proposed a general formulation of model as well as a framework for finding patterns , which improves the online education system for both learner and teacher or faculty.

In [3] Devaji Mahanta, Majidul Ahmed published paper "E- learning Objectives , Methodologies, Tools and its Limitations". This paper discusses on various E-Learning objectives, methodologies and limitations of E-learning tool. They has been focused mainly on both synchronous and asynchronous methodology. This paper has mentioned limitations in particular traditional campus learning, design issues and other communication issues. Finally the paper suggests that synchronous tool should be integrated into asynchronous environment to allow for any-time, any- where learning model and also remarked that E-learning need to improve from various barriers.

In[4] Felix Castro, Alfredo Veligo, Angelo Nebot, Francisco Mugica published journal on applying data mining techniques to e-learning problems. This paper aims to provide snapshot of current position of research and applications of data mining methods in E-learning System. From the standpoint of the E-learning practitioner they provide a taxonomy of e-learning problems to which data mining techniques have been applied. Systems adaptability to students requirement and capacities.

In [5] Baker M published journal the roles of models in artificial intelligence and education research. In that author establishes the research opportunities in AI an education on the basis of education process : models as scientific tools , are used as means of understanding and forecasting sum respect of educational solution.

In [6] Chu K, Chang M, Hsia Y proposed about association rules for classification they applied to e-learning have been investigated in the aria of learning recommendation system, learning material organization, student learning assessment.

In [7] Margo H, Tang T.Y., their paper describes about studies on how data mining technique could successfully be incorporated to e-learning environment and how they could improve the learning tasks were carried out.

In [8] Tavagrian D, Laypold M, Nolting K, Roser M, published journal which describes that Learning is social. They discussed about is e-learning the solution for individual learning? The frequent challenges which are battked with in our business milieau are sophisticated and unstable. Therefore people dialogue with other members of same organization or network globally to other organization. Community strongly contribute to the flow of tact knowledge.

In [9] Ajayi L.A according to that paper the use of facilities, involves various methods which includes systemized feedback system, computer based operation network, video conferencing, internet world wide website and computer assisted instruction. This delivery method increases the possibilities for how, where and when employees can engage lifelong learning.

III. PROPOSED SYSTEM

In today's lifestyle every task has been executed by help of internet. The online system or the internet facilities getting more popular as well as its becoming part of human lifestyle. Now in days every individual recommends that learning should at any-place and any-time, and this recommendation is resolved by E-Learning system. There are multiple E-learning portals are available like moodle.

The aim of proposed e-learning platform were:

1. Course data materials must be secure.
2. Allowing learner to register and enter into the courses.
3. Learning should be more easier, fluent and learner friendly.
4. Effective communication between learner and e-learn platform.
5. Offering help and feedback.

This system architecture is composed of the following main parts:

1. A web browser client
2. The IIS server (responsible for the communication between the web application and Oracle database)
3. Oracle Server (Has huge amount of databases)

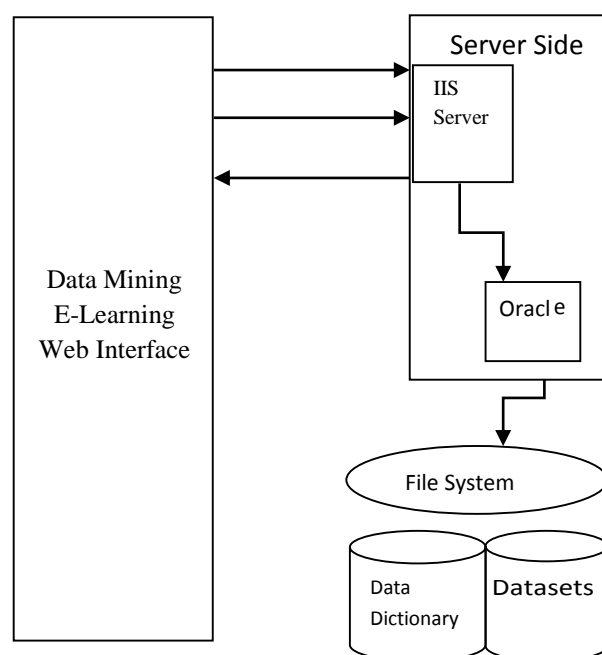


Fig 1. The E-learning platform architecture

The learner , using web browser, interacts with the e-learning application. The learner can register to the system for particular course Next step is learner recommended for textual study material and video study material so that learner can refer notes or learning material as per choice. Learner can learn easily, flexibly on any-time, at any-where

The method of data collection for reaction and learning can be built into the process much more easily, because learner can be remotely located, some of data collection are more difficult to use, such as focus on groups and direct observations of learner activities and assessments.

Learner tool functions include:

- a. Browsing course material: reading journals, pdfs, books , videos other resources.
- b. Collaboration and sharing: discussion forums.
- c. Self-testing and evaluation

It has digital library focuses on locating resources. It features usually includes browsing and discovering special collections. Special collection contains organized course materials representing unique treasure for interested users. The various limitations of e-learning can be categorized as technological limitations, limitations compared to traditional campus.

IV. CONCLUSION

E-learning course offerings are now plentiful, and many new e-learning platforms and systems have been developed and implemented with varying degrees of success. These systems generate an exponentially increasing amount of data, and much of this information has the potential to become new knowledge to improve all instances of e-learning. Data Mining processes should enable the extraction of this knowledge. Now implementing e-learning web interface can help to design courses more effectively , detect anomalies, inspire and guide further research, and help learners use resources more efficiently. The long term objective is that to create fully featured learning system for the learning environment.

V. REFERENCES

- [1] Francesco Maiorana, Angelo Mongioj, and Marco Vaccalluzzo(2012). Proceedings of the World Congress on Engineering 2012 Vol I WCE 2012, July 4 - 6, 2012, London, U.K.
- [2] Dr.P.Nagarajan1 . Dr.G.Wiselin Jiji(2010): Online Educational System (e – learning), International Journal of u- and e- Service, Science and Technology Vol. 3, No. 4, December, 2010
- [3] Devaji Mahanta, Majidul Ahmed published paper “E-learning Objectives , Methodologies, Tools and its Limitations” , ISSN: 2278-3075,Volume-2, Issue-1, December 2012
- [4] Felix Castro, Alfredo Veligo, Angelo Nebot, Francisco Mugica Felix Castro., Alfredo Velido., Angeloa Nebot., Francisco Mugia., “Applying Data Mining Techniques to e-Learning Problems” sci2u.ugr.es/keel/pdf/specific/capitol/ApplyingDataMiningTechniques.pdf
- [5] Baker M.: The Roles of Models in Artificial Intelligence and Education Research: A Prospective View, International Journal of Artificial Intelligence in Education 11(2000) 122-143.
- [6] Chu K., Chang M., Hsia, Y.: Designing a Course Recommendation System On Web Based On The Students Course Selection Records. In: World Conference on Educational Multimedia, Hypermedia and Telecommunications (2003) 14-21.
- [7] Margo H.: Data Mining in the E-Learning Domain. Computers & Education 42(3) (2004) 267-287.
- [8] Tavagrian D., Laypold M., Nolting K., Roser M., (2014). Is e-Learning the solution for individual learning? Journal of e-Learning, 2004.
- [9] Ajayi L.A. (2008), Towards effective use of information and communication technology for teaching in Nigerian colleges of education , Asian J. Inf. Technol 7(5):210-214.