Survey on Personalized E-learning System

Karan Venupure, Sonal Chitare, Chandra Ranjan, Meghana Lokhande

Dept. of Computer Engineering, PCET'S Pimpri Chinchwad College of Engineering, Savitribai Phule Pune University, Pune, India

ABSTRACT: E-Learning is transfer of skills and knowledge by the computer and network enabled. It includes out of & in classroom educational experiences with the help of technology. Early E-Learning systems are based on computer based learning& training often which attempted to replicate autocratic teaching styles where the role of the e-Learning systems was to transfer knowledge, as opposed to this systems developed later which were based on computer supportive collaborative learning which encouraged the shared development of knowledge. Nowadays, it is an increasing trend to create virtual learning environment.The courses offered by the learning environment are interactive. Many employers and learners cannot attend a class on time. Travelling makes the learning process expensive & disruptive. E-Learning environment is revolutionizing the learning world without any boundary. The resources are available always, and any computer having Internet facility can use the system. E-Learning having range over a number of subjects & has many features.

KEYWORDS: E-learning, existing system, web tools, services of personalized, metadata.

I. INTRODUCTION

E-LEARNING systems are becoming increasingly popular in educational due to the development of web-based information and new communication technologies. The rapid growth of e-learning systems has been changed due to the traditional learning behaviour which presents a new situation to students, i.e. learners which greatly supports and enhances learning practices online. It's difficult to learners to find their activities according to their criteria due to numerous kind of activity. Due to these type problems, an e-learning recommended as to develop personalized e-learning systems. The motivation of this study is to develop a recommendation approach to support learners in the selection of the most appropriate learning activities in personalized e-learning environment.

E-learning systems has two types according to their application environments: one is a formal setting in which e-learning system includes learning offers from educational institutions (e.g. universities, schools) within a curriculum or syllabus framework and another one is, an informal setting which described in the literature as a learning phase of so-called lifelong learners who are not participating in any formal learning and are responsible for their own learning pace and path [1].

In this paper, we are taking survey of e-learning systems which already exist. It is described in section II. In section III, we describing architecture of personalized e-learning systems. The proposed system of our papers is described in section V and in section VI; the conclusion of this survey is mentioned.

II. LITERATURE REVIEW

The literature survey about the IEEE papers or journals papers are described in table1:

Sr.No	Title	Survey
1	Jasminka Mezak et.al, "Personalization of e-activities using Web 2.0 tools and ELARS (E-learning Activities recommender System)".	Using recommender system for personalization of activities and combining LMS with Web 2.0 tools make our courses at the Department of Informatics and Faculty of Teacher Education challenged and much more interested.
2	Lidia Flotia et.al, "Using Semantic Negotiation For Ontology Enrichment in ELearning Multi Agent Systems".	Using ELOE, each agent of a MAS-based e-Learning system can separately improve its own ontology by using semantic negotiation, simultaneously it can access to the global ontology to have a view of the terms used by all the other agents. Only if the agent does not find in the global ontology the appropriate term, it will use a personal term that probably will lead to a new semantic negotiation process.
3	Rahim Moeina et.al, "Evaluating and ranking the learning components of entrepreneurial skills based on a hybrid approach of the M-Learning technology and TOPSIS method".	The study aims to create a tool to examine the learning of entrepreneurial skills via m-learning. An educational system to evaluate and enhance the learning of entrepreneurial skills and the creativity and innovations of the learners has to analyze the involved components. It also revealed that motivation, self-confidence and participation have the highest effect on learning of entrepreneurial skills.
4	Mohammad Alshammari et.al, "An E-Learning Investigation into Learning Style Adaptivity".	They indicate that adapting instructional material according to learning style yields significantly better learning outcome and learner satisfaction than without adaptation.
5	Susan Elias et.al, "Learning Object Recommendation for an Effective Open E-Learning Environment"	The learner can rates the content after working on the learning object and this rating is used to learn the aptness and the learner's preferences.

TABLE 1: LITERATURE REVIEW

III. ARCHITECTURE OF SYSTEM

System architecture is represented in the figure.4.0. The core activities in e-learning environment:

- **The access interface**: provides an integrated interface through which readers, writers / teachers of colleges can access, upload, download or modify data with authority.
- **Services**: Various services, like as, users personal service and notice given by teachers, documents of course or uploaded documents by teachers, etc. are provided by providers.
- **Knowledge base**: This is the basic element and the essence of architecture. It is a warehouse where metadata and rules of inference, and learning contents and course information, user profiles information's are stored. Benefits of this storage are:
    - (a) it is easier to a separate description of metadata which stored in a database and it takes a less space to store it,
    - (b) The point of view may vary according to different authors to use the same materials which mean that it is possible to have different descriptions of educational materials and according to different contexts.

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

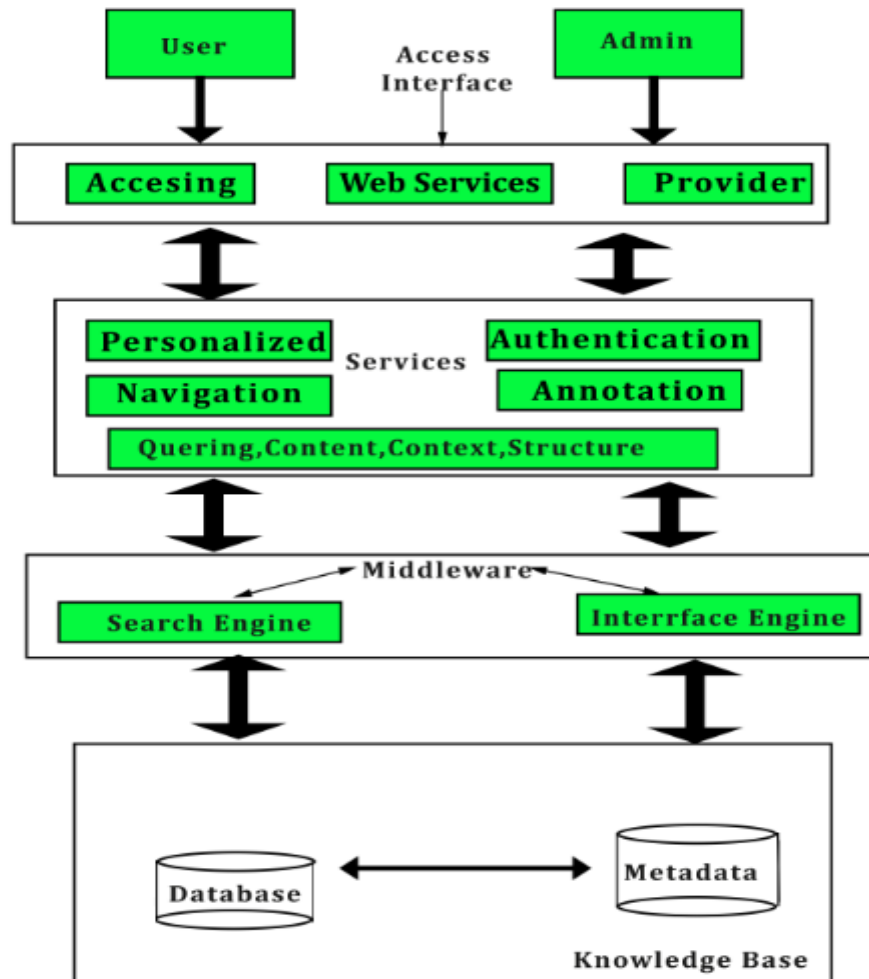**Vol. 3, Issue 11, November 2015**

Figure 1. Architecture of personalized e-learning system

- **Search Engine**: It provides the Colleges with the methods of querying the knowledge base. Search engine is used to search the keywords in database.
- **Inference engine**: In this, the result of searching keyword is combined and given to users as answer of their queries. The history of this search is stored in metadatabase

The main activities in personalized e-learning environment are to provide information of the learning contents, and access that content by readers and writers through the query and browsing through the browsers at any time anywhere.

IV. PROPOSED SYSTEM

The goal of the system is to increase the interaction between teacher and student. In this paper the personalize services is to provide services like documents (pdf, text, docx), video according to user's interest. So that users get relevant data and history of that data and hit count of that data is generated automatically. According to maximum hit count, we provide additional data to the user, so the personal services are maintained in personalized system.

The data is available on our system is search by technical keyword only and retrieval technical information of that keyword.

The architecture of this system is explained in *Section III*.

V. CONCLUSION

The purpose of this paper to demonstrates a new personalized e-learning system which overcomes disadvantages of existing e-learning system and increase the interaction between the teachers and students. Due to this, student can access the data which is uploaded by teachers or admin at anytime and anywhere. We can also track student's progressions and his interest on particular domain by maintaining history of the data and hit count of that data.

VI. FUTURE SCOPE

E learning has rapidly evolved from a thing of the future to a practical approach towards the education system. It will be an extremely useful for classroom teaching tool and self-study platform. With the rise of virtual reality technology and augment reality solutions, experimental subjects, skill-based learning and military training will come to depend more heavy on e-learning solutions. Various education technology providers are also hinting towards the mobile learning solutions (also known as m-learning) which is the advanced stage of education technology in future. i phone and face time based online tutoring has also become popular and is being termed as i-learning platform.

REFERENCES

[1]   Jasminka Mezak et. al., "Personalization of e-activities using Web 2.0 tools and ELARS (E-learning Activities Recommender System)", MIPRO 2015, 25-29 May 2015, Opatija, Croatia.
[2]   Rahim Moeina et.al.,"Evaluating and ranking the learning components of entrepreneurial skills based on a hybrid approach of the M-Learning technology and TOPSIS method", 978-1-4799-6065-1/15 (c)2015 IEEE.
[3]   Susan Elias et.al,"Learning Object Recommendation for an Objective Open E-Learning Environment", 978-1-4799-1823-2/15 (c) 2015 IEEE.
[4]   Lidia Flotia et.al,"Using Semantic Negotiation For Ontology Enrichment in E-Learning Multi Agent Systems", 978-1-4799-8870-9/15 (c) 2015 IEEE.
[5]   (Mohammad Alshammari et al., "An E-Learning Investigation into Learning Style Adaptivity", 1530-1605/15 (c) 2015 IEEE.
[6]   Hamidreza Mahroeianr et al., "An analysis of web-based formative assessment systems used in eLearning environment", 978-0-7695-5009-1/13 (c) 2013 IEEE.
[7]   J. Quemanda and B. Simon, "A use-case based model for learning resources in educational mediators," Educational Technology and Society, Vol. 6, pp. 149- 163, 2003.
[8]   Shabina Dhuria et.al.,"Ontologies for Personalized E-Learning in the Semantic Web", (IJAENT), ISSN: 2347-6389, Volume-1, Issue-4 March 2014.
[9]   Y. Sure et al., "Methodology for development and employment of ontology based knowledge management applications," ACM SIGMOD Record, Vol. 31, pp.18-23, 2012.
[10]   Nikita Joshi ,"Semantic Web-driven e-Learning System", Vol. 31, No. 4, July 2011, pp. 213-216 (c) 2011, DESIDOC.

BIOGRAPHY

Mr. Karan Venupure is a student in the Computer Engineering Department, Pimpri Chinchwad College of Engineering, Savitribai Phule Pune University. He is doing Bachelor of Engineering in Computer Science (BE) degree in 2016, Pune, MS, India.

Mr. Chandra Ranjan is a student in the Computer Engineering Department, Pimpri Chinchwad College of Engineering, Savitribai Phule Pune University. He is doing Bachelor of Engineering in Computer Science (BE) degree in 2016, Pune, MS, India.

Miss Sonal Chitare is a student in the Computer Engineering Department, Pimpri Chinchwad College of Engineering, Savitribai Phule Pune University. She is doing Bachelor of Engineering in Computer Science (BE) degree in 2016, Pune, MS, India.

Mrs. Meghana Lokhande is a Assistant Professor in the Computer Engineering Department, Pimpri Chinchwad College of Engineering, Savitribai Phule Pune University.