

Improved Content Personalization in E-Learning using MQACP

V. Vijayalakshmi

Assistant Professor, Dept of CSE,
Christ College of Engg. & Tech,
Pondicherry, India.

I. Shamili

Final Year M.Tech, Dept of CSE,
Christ College of Engg. & Tech,
Pondicherry, India.

D. Sundaranarayana

Final Year M.Tech, Dept of CSE,
Christ College of Engg. & Tech,
Pondicherry, India.

Abstract—Data Mining is a process of identifying invisible patterns and relationship within data that can help for decision making. E-learning is a tool which supports teaching and learning using a computer web technology. The main aim of the E-learning is to provide exact content to the well known student's profiles and preferences and also to specific the better content for each student. In this paper we proposed the comparison of techniques and algorithms which used in the system to improve the student knowledge level and academic progress, but the quality of e-learning service is low and so there is a lack of interaction among e-learners. The proposed System deals with a comprehensive metadata quality pledge method, specifically the (MQACP) Metadata Quality Assurance Certification Process. The basic of this method is to propose a set of methods that can be deployed throughout the lifecycle of a repository to ensure that metadata generated from content providers are of high quality. This system deals with Metadata quality assurance certification process to improve the high quality of learning object in digital repository and proper identification of metadata labeling. We measured the resulting metadata quality to certify that the anticipated improvement in metadata quality actually took place.

Keyword—Content Personalization; E-learning Planning; Intelligent E-Learning System; Educational technology.

I. INTRODUCTION

E-learning is the use of electronic instructive technology in knowledge and education. The development of e-learning systems and online courses has made instructive objects broadly available by students of changing ability, backgrounds and manners. An important necessity of the current e-learning systems is the personalization that is a role able to adapt the e-earning content or serves to the customer profile. The personalization

Includes how to find and filter the studying information that suits the user preferences and wants a most important part of instructional plan and e-learning growth is to know the behavior of learners. This way, an e-learning experience can be created that offers the most benefit for the learners and ensure that every component of the e-learning course is helping them to reaching their objectives and goals.

Personalized content in E-learning can particularly improve the learning routes personalization in an almost transparent way to the user. The fundamental thought is to build a powerfully-related and planned leaning route capable of fulfilling each student's profile. The proposed System deals with a comprehensive metadata quality pledge method, specifically the (MQACP) Metadata Quality Assurance Certification Process. A digital repository is a method for supervising and storing digital content. Repositories can be focus or institutional in their centre of attention. Placing content into an institutional repository enables employees and institutions to supervise and maintain it, and thus gain maximum value from it.

A repository can support explore, learning, and executive processes. Repositories use open principles to certify that the content they contain is available in that it can be sought and recalled for later use. The use of these approved international standards permits mechanisms to be place high which classify, store, retrieve, import and export the digital content inside the repository. The basic idea of this method is to propose a set of methods that can be deployed throughout the lifecycle of a repository to ensure that metadata generated from content providers are of high quality. We supported the metadata creation process throughout the different phases of the repositories involved by setting up the MQACP.

During each level, we evaluated the ensuing metadata quality to attest that the expected improvement in metadata quality essentially took Place. The results showed that the MQACP was successfully adapted to the latest contexts, with smallest amount adjustment desired, through related outcome formed and also with comparable costs. We Can also determine high Quality assurance methods

II. LITERATURE SURVEY

For checking metadata documentation quality that will have an optimistic outcome on the resulting quality of the metadata records of a given group of repositories. Our Proposed Metadata Quality Assurance Certification Process that can be applies in several domains with proven effectiveness.

PAPER NAME	YEAR	EXISTING	DISADVANTAGE	PROPOSED	ADVANTAGE	TECHNIQUE	ALGORITHMS
E-Learning and Intelligent planning: Improving Content Personalization	Feb 2014	1.Adjacency Matrices 2.Integer Programming Constraints Satisfaction Models 3.Neural Network 4.Soft Computing Methods	To Monitor and Adapt the learning object of each learning route against unexpected contingencies	The myPTutor approach	The planning Techniques helps to bridge the gap between the e-learning necessities and the student Content Adaptation	Case-Based Planning Technique	-
A Generic Model of student-based Adaptive Intelligent Web-Based learning Environment	July 2013	"One Size-Fits All"	Low Quality of e-learning Service	Personalized search engine	1.Improve the Quality of e-learning Service 2.To Achieve the Student learning goals effectively	Intelligent e-learning System	Inherited Adaptive Object-Oriented Structure of the Course Material
E-Learning Using Data Mining	2013	Educational Data Mining (EDM)	Lack of Interest in Education Data Mining System	Data Mining in E-learning	1.Improve corporate the learning task 2.Successfully incorporate to e-learning environment	Visualization Technique	-
Quality Assurance of e-learning Processes	June 2011	Numerous initiative have been developed on QA in Education	Low Quality of e-learning	QA Methodology	Increasing the Quality of e-learning	Quality Assurance	Grade Correspondence cluster analysis
Applying case-Based Planning to personalized e-learning	2011	AI Planning	Sequence of learning Objects (LO)	Approach to Automatically extract information from the LO	Allow the best learning routes for each student profile and course objectives	Case-Based plan Merging technique	Learning object Algorithm
Planning and Execution in personalized E-learning Setting	2011	Adjacency Matrics, Integer Programming Model, Neural Network and AI Planning	Execution of the learning routes, check its progress and act when discrepancies appears	Adaptation Approach (Plan Stability)	Reuse the original Route as much as possible and adapt /replan	LPG-ADAPT,LPG & SGPLAN6	-
Data Mining For Individualized Hints in e-learning	2010	Educational Data Mining (EDM)	Resulted in a high Drop out of Participants	Dynamically tailored hints for users	1.During the challenge in the form of hints and easier access to notes 2.hinting system were evaluated through a large scale participants	Cluster difficulty ranking	K-means algorithms
Discovering student preferences in e-learning	2007	"Filter" or "Sort"	Not paying too much attention to student preferences	Adaptive Machine learning system	User can make a better use of it	Stretch-Text techniques	IB algorithm
E-Learning Process Characterization using Data driven Approaches	2007	Electronic Learning Environment	Lack on Interaction of Learners	Learner's Profile Characterization	Improving the Flexibility and Authenticity of the Learners and cost Benefits Ratio	Data driven Approach	Frequent Episode Discovery Algorithm(FED)

In intelligent planning Antonio Garrido and Lluvia Morales rescues a victorious technique called myPTutor is a combined effort to take improvement of Artificial Intelligence planning techniques in the adaptation of sequences of Learning Objects to pedagogic and students' necessities[1]. In [5, 6] Ivan Serina prove that the imminent is a real valuable to increase the stability of the education course as well as to increase the performance and quality of the education routes. The most important intention of intelligent e-learning environments is to get better students' learning progression by generous higher educational techniques, so that intelligent learning environments are supported on different pedagogical approach and theories that have been originated in the education field [2, 3] Nedhal A. M. Al Saiyd, Intisar A. M. Al-Sayed and Shima Abd Elkader Abd Elaal recommended the suitable architectural design for the growth modules of intelligent and contented with the intelligent Web-based learning environment about the effectiveness and competence. Zbigniew Mrozek [4] a quality assurance system (QA) had better to make sure the Necessitates is satisfied. Similarly the significance of fundamental guarantee plus learner perceptions, Increase in Educational facility, and also improves efficiency of E-learning system. In [7] Anna Katrina Dominguez, Kalina Yacef, James R. Curran well again Higher average mark achieved from user who be permissible with preventative hints to put off future mistakes. In [8] Cristina Carmona, Gladys Castillo, Eva Millán brought in an adaptive learning user model aimed at

discovery out the student's preferences about the educational materials terminate Time, such model is actually appropriate in e-learning systems so as to require to "filtering" the large intensities of information available, and so users can build a better use of it. Silvia Rita Viola [9] recommended the approaches used for learners' profiles characterization. significant the value of the learning system used by learners in Learners' profiles characterization in both the area by means of deference to different ways of non linear navigation. By comparing all techniques and algorithms is shown in survey table [10] those techniques and algorithms which used in the system to recover the student knowledge level and academic progress, although the quality of e-learning examine is low and so there is a lack of interaction among e-learners.

III. EXISTING SYSTEM

Data mining extract the data as of the e-learning content in order to adjust, stores, reprocess and to select the righter learning method according to the student's profile and preference. By applying the myPTutor techniques [12] they have suggested how to monitor and adjust the studying objectives of every education routes against surprising contingencies.

The techniques comprise of 4 steps. The First one is Knowledge Extraction consist Automated techniques of information technology to mine their necessary features. Second one is the Solve Problem It involves the usage of a

smart planner to discover a plan or education path. Third is Execute & Monitor the implementation of the education path inside a LMS that supports supervising.

We assure whether the actual state meets the awaited state. If a disagreement is noticed, that is if changeability happens on the route implementation, we apply plan-validation technique to assure if the path is quiet possible. The last and final one is Repair/Adapt the plan it requires fixing or adjusting the plan to make it executable again. The drawbacks found in the existing system is the explanation of the contents is not sufficient and the quality of the produced metadata records is not in high quality.

IV. PROPOSED SYSTEM

The Present System proposing a complete metadata quality assurance technique, namely the Metadata Quality Assurance Certification Process (MQACP). The fundamental estimate of this technique is to propose a set of methods that can be deployed during the lifecycle of a repository to ensure that metadata generated from content providers are of high quality. This method handles with Metadata quality assurance certification process to improve the high quality of learning object in digital repository and proper recognition of metadata labeling. We evaluated the resulting metadata quality to certify that the excepted improvement in metadata quality really took place. The main advantages of proposed system it gives Accuracy, Correctness, Completeness, and Appropriateness of Metadata labeling. The automated mechanisms of measuring information quality that can easily be scaled up and maintained. The metadata quality is an integral part of any digital repository project and a critical success factor.

V. OVERALL ARCHITECTURE

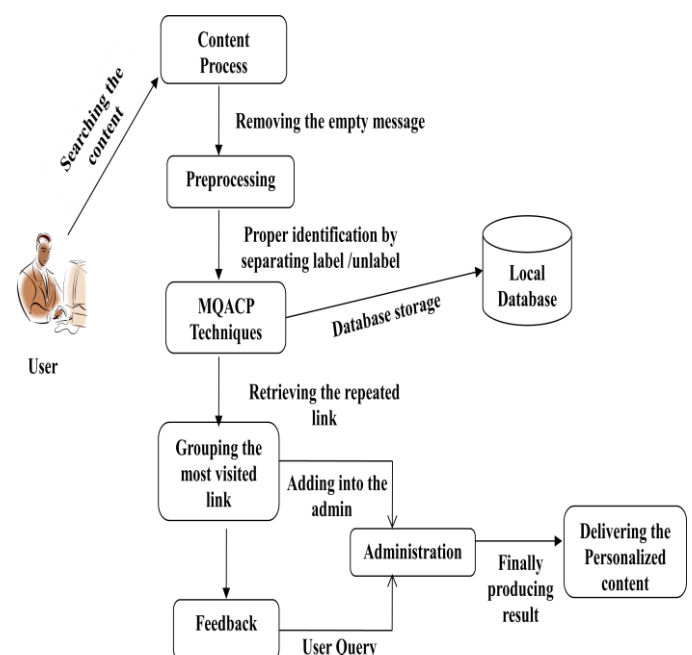


Fig 1: System Architecture

VI. ALGORITHMS

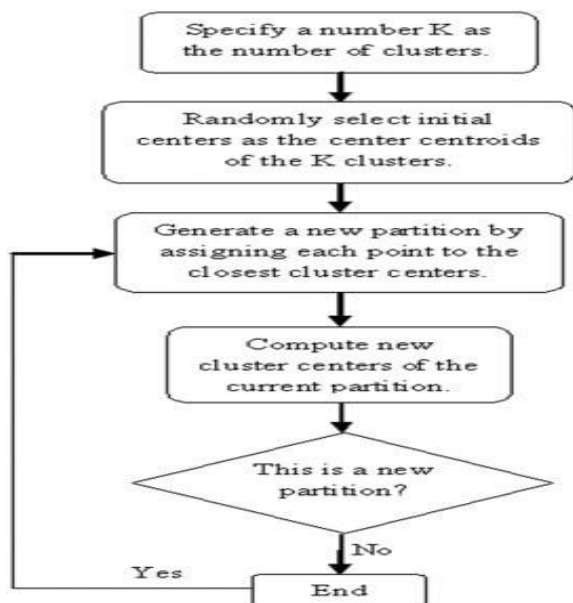


Fig 2: K-Means Clustering Algorithms Flowchart

VII. MODULES DESCRIPTION

In [11] MQACP method personalized to the contents, with lowest adaptations required, and moreover with equivalent expenses. Metadata lies at the spirit of each digital repository plan in the logic that it determines and causes the explanation of digital content stored in the repositories. Metadata permits content to be successfully stored, managed and retrieved but also conserved in the long-term. Although the large significance of metadata in digital repositories, solitary that is broadly established, examines specify that what is defined as metadata quality is comparatively low in nearly events of digital repositories [13]. Metadata superiority is freely defined as suitability for purpose meaning that low quality of metadata means that metadata cannot complete its principle which is to permit for the retrieval of resources, management and successful storage. In present low metadata quality conducts to useless searches for content, no more resources which make them unseen to the aimed user, which is the customer of each digital repository.

The present thesis approaches such problem by suggesting a broad metadata quality pledge method, specifically the (MQACP) Metadata Quality Assurance Certification Process. The basic idea of this thesis is to suggest a set of methods that can be deployed all over the development of a repository to assure that metadata generated from content providers are of high quality. These methods have to be direct, simple to apply with important outcome. They also have to be adaptable with minimum effort so that they can be used in different contexts easily. This set of methods was described systematically, taking into account the actors needed to apply them, drawing the tools required and significant the expected outcomes.

VIII. CONCUSLION

Modern courses in remoteness education center of attention on exhibiting digital contents on LMSs and on covering such contents as learning objects labeled according to SCORM standards. The aim of these standards is perhaps to sell, exchange among platforms and/or schools, or else just entrée the contents distantly and all of these by using LMS-based environments. subsequent this thread, in this paper we have presented a general system implemented on top of Moodle that facilitates the use of “generic” GUIs to build up, incorporate and manage the alteration system based on intelligent planning. The preparation tools do not permit us to personalize the learning paths, other than in addition to carry out, observe their advance and adapt them when unexpected contingencies are found.

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