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An Intelligence Based E-learning Frame Work Based on User Preference

Gogula Bharathi.P[#1], Gopalakrishnan.T[#2]
[#] *Department of Information Technology, Bannari Amman Institute of Technology, Sathyamangalam*
[#] *Department of Information Technology, Bannari Amman Institute of Technology, Sathyamangalam*

Abstract — In bleeding edge days, to improve e-business, the locales are tweaked for each customer by cognizance their pastimes and conduct. The rule troubles of online use data can't avoid being information over-weight and their dynamic nature. In this paper, to address these issues dynamic recommender structure that uses web use mining strategies in pair with programming experts created for giving component proposition to customers in e-learning system that can be used for re-trying a website for each customer is proposed. The proposed dynamic recommender uses swarm knowledge from the searching behavior of a bluegill fish. It vanquishes the information over-weight by dealing with component practices of customers. This recommender system give record subjectively to the all customers considering their slant. The exploratory results show that the recommender structure can better handle dynamic behavior and consistency in customers eagerness than the routine group arranged filtering systems.

Keywords— Technology-Enhanced Learning(TEL) ,collaborative filtering (CF),case-based reasoning (CBR),Rule-applying collaborative filtering (RACOFI).

I. INTRODUCTION

Web mining refers to the use of data mining techniques to automatically retrieve, extract and evaluate (generalize/analyze) information for knowledge discovery from Web documents and services. Web data is typically unlabeled, distributed, heterogeneous, semi-structured, time varying, and high dimensional. E-learning has emerged as a new alternative to conventional learning to achieve the goal of education for all. The concept E-learning has numerous definitions and sometimes confusing interpretations. In our purpose we adopt a definition of E-learning as the use of Internet technologies to provide and enhance students' learning anytime and anywhere. One of its advantages is the learning method which can be more adaptive than conventional learning. Indeed, traditional learning based on "one size fits all" approach, tends to support only one educational model, because in a typical classroom situation, a teacher often has to deal with several students at the same time. Such situation forces each student to receive the same course materials, disregarding their personal needs, characteristics or preferences. Once the teachers learned to provide the detailed, structured instruction the students needed, the class productivity increased. Moreover, it is extremely difficult for a teacher to determine the optimal learning strategy for every learner in a class. And even if a teacher is able to determine all the strategies, it is even more difficult to apply all multiple teaching strategies in a classroom. In response to individual needs, personalization in education not only facilitates students to learn better by using different ways to create various learning experiences, but also teachers' needs in preparing and designing varied teaching or instructional packages. However, an important consideration is often being ignored or overlooked in accomplishing a personalized E-learning framework. This consideration concerns a whole-person understanding about key psychological sources that influence how individuals want and intend to learn online.

II. PROBLEM IDENTIFICATION

The existing approach has two main modules: an explicit attribute based recommender and an implicit attribute-based recommender. In the first module, a learner preference tree (LPT) is introduced to model the interests of learners based on the explicit multidimensional attributes of resources and historical ratings of accessed resources. Then, recommendations are generated by nearest neighborhood collaborative filtering (NNCF). In the second module, the weights of implicit or latent attributes of resources for learners are considered as chromosomes in a genetic algorithm (GA), and then this algorithm optimizes the weights according to historical ratings. Then, recommendations are generated by NNCF using the optimized weight vectors of implicit attributes. To find similarity between items and users in the usual attribute-based recommendation algorithms, an exact match between their attributes is necessary. This approach first leads to low accuracy when there is not adequate attribute information about users and items, and second, leads to the other well-known problem in recommender systems overspecialization and it is considered as one of the disadvantage. In response to the aforementioned problems, a new hybrid RS applicable for e-learning environments is proposed in

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this study. It considers two groups of attributes for learning resources including explicit attributes and implicit (latent) attributes. Explicit attributes, such as the subject and file size are known and can be extracted by experts, but implicit attributes are latent and can be inferred by historical ratings for recommendation like Count and Amount of time the page was used. Several hybrid recommender methods developed to combine the external (which we call explicit) features and historical rating data for higher predication accuracy. According to the experiment results reported, it is believed that both the features and the historical ratings have great value to estimate the predication function for recommendation. The advantage is Establishment of a new recommendation approach based on the explicit and implicit attributes of learning resources.

III. K MEANS CLUSTERING ALGORITHM

Clustering is an essential task in Data Mining process which is used for the purpose to make groups or clusters of the given data set based on the similarity between them. K-Means clustering is a clustering method in which the given data set is divided into K number of clusters. This paper is intended to give the introduction about K-means clustering and its algorithm. The experimental results of K-means clustering and its performance in case of execution time are discussed here. But there are certain limitations in K-means clustering algorithm such as it takes more time for execution. So in order to reduce the execution, time we are using the Ranking Method and Query Redirection. And also shown that how clustering is performed in less execution time as compared to the traditional method. This work makes an attempt at studying the feasibility of K-means clustering algorithm in data mining using different methods.

IV. CLUSTERING PRINCIPLES

Our approach is based on two criteria: one is on the queries themselves, and the other on user clicks. The first criterion is similar to those used in traditional approaches to document clustering methods based on keywords. We formulate it as the following principle:

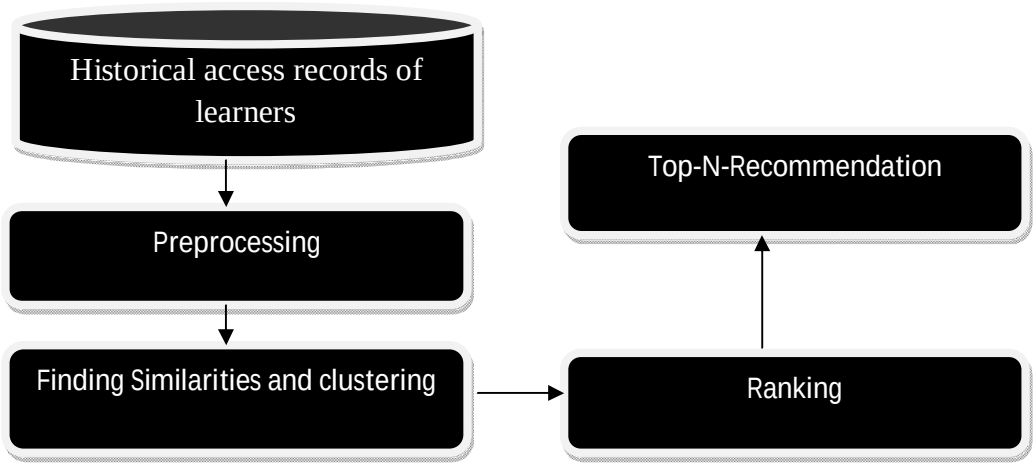
A. Principle 1 (Using query contents)

If two queries contain the same or similar terms, they denote the same or similar information needs. Obviously, the longer the queries, the more reliable the principle is. However, users often submit short queries to search engines. A typical query on the web usually contains one or two words. In many cases, there is not enough information to deduce users' information needs correctly. Therefore, the second criterion is used as a complement. The second criterion is similar to the intuition underlying document clustering in IR. Classically, it is believed that closely associated documents tend to correspond to the same query.

B. Principle 2 (Using document clicks)

If two queries lead to the selection of the same document (which we call a document click), then they are similar. Document clicks are comparable to user relevance feedback in a traditional IR environment, except that document clicks denote implicit and not always valid relevance judgments. The two criteria have their own advantages. In using the first criterion, we can group together queries of similar compositions. In using the second criterion, we benefit from user's judgments. This second criterion has also been used in to cluster user queries. However, in that work, only user clicks were used. In our approach, we combine both user clicks and document and query contents to determine the similarity. Better results should result from this combination.

V. SYSTEM ARCHITECTURE



The explosion of e-learning resources and the digitalization of a lot of conventional learning resources, it is difficult for learners to discover the most appropriate resources using a keyword search method. On the other hand, several research works have addressed the need for personalization in web-based learning environments. Researchers utilize recommendation techniques to resolve information overload in the new learning environment. Many systems need to react immediately to online requirements and make recommendations for all users regardless of ratings, history on visited resources, which demands a high scalability of a system.

VI. RELATED WORKS

A. *Preprocessing*

Data preprocessing is a data mining technique that involves transforming raw data into an understandable format. Data preprocessing prepares raw data for further processing. Data goes through series of step during preprocessing such as data cleaning, data integration, data transformation and data reduction. In this module, Words in Page, File Type and File Size are extracted. The snippets/id generated by a search engine which provides useful clues related to the semantic relations that exist between Documents. Snippets are useful for search because, most of the time, a user can quickly access the material by snippet .Using snippets as contexts is also computationally efficient because it obviates the need to download the source documents from the web, which can be time consuming if a document is large. It uses counts / Threshold based co-occurrence measures.

B. *Finding similarities Threshold*

The similarity threshold is a lower limit for the similarity of two data records that belong to the same cluster. In this module, an automatic method to estimate the page count and user view count, users history of access using web search engines with threshold. Accurately measuring the similarities Threshold between words is an important in web mining, information retrieval, and natural language processing. Web mining applications such as, community extraction, relation detection, and entity disambiguates require the ability to accurately measure the semantic similarities Threshold between concepts or entities. Based on the similarity threshold in the document the ranking takes place.

C. *Clustering and ranking prediction*

Based on the access of the user, the documents are clustered. They are clustered by checking those documents with their threshold. This kind of clustering makes it easy for the users further search and makes the search easy and fast. They are clustered by checking whether those documents match the same format which the user has accessed previously. By that way of grouping, only user interested document formats are been recommended to the users. This kind of clustering makes it easy for the users further search and makes the search easy and fast. This paper is intended to give the introduction about K-means clustering and its algorithm. K-Means clustering is a clustering method in which the given data set is divided into K number of clusters. The experimental results of K-means clustering and its performance in case of execution time are discussed here. But there are certain limitations in K-means clustering algorithm such as it takes more time for execution. So in order to reduce the execution, time we are using the Ranking Method and Query Redirection. And also shown that how clustering is performed in less execution time as compared to the traditional method. This work makes an attempt at studying the feasibility of K-means clustering algorithm in data mining using different methods.

It proposed two methods for learning resource recommendation and they are explicit attribute-based collaborative filtering (EAB-CF) like file type , size and implicit attribute-based collaborative filtering like page count, view count (IAB-CF). According to content-based filtering the implicit attribute-based collaborative filtering is based on user ratings on items are determined by the attributes of user and item corporately. In other words, if two items have similar attributes, the users would like to rate them similarly. On the other hand, if two users have similar attributes, they are more likely to choose the same items. In addition to the implicit attributes the explicit attributes can be inferred from rating data, to improve the quality of recommendations To improve the quality of recommendations, we create a hybrid of two methods by the weighted combination method. A linear combination of EAB-CF and IAB-CF is used for recommendation (EB-IB-CF).

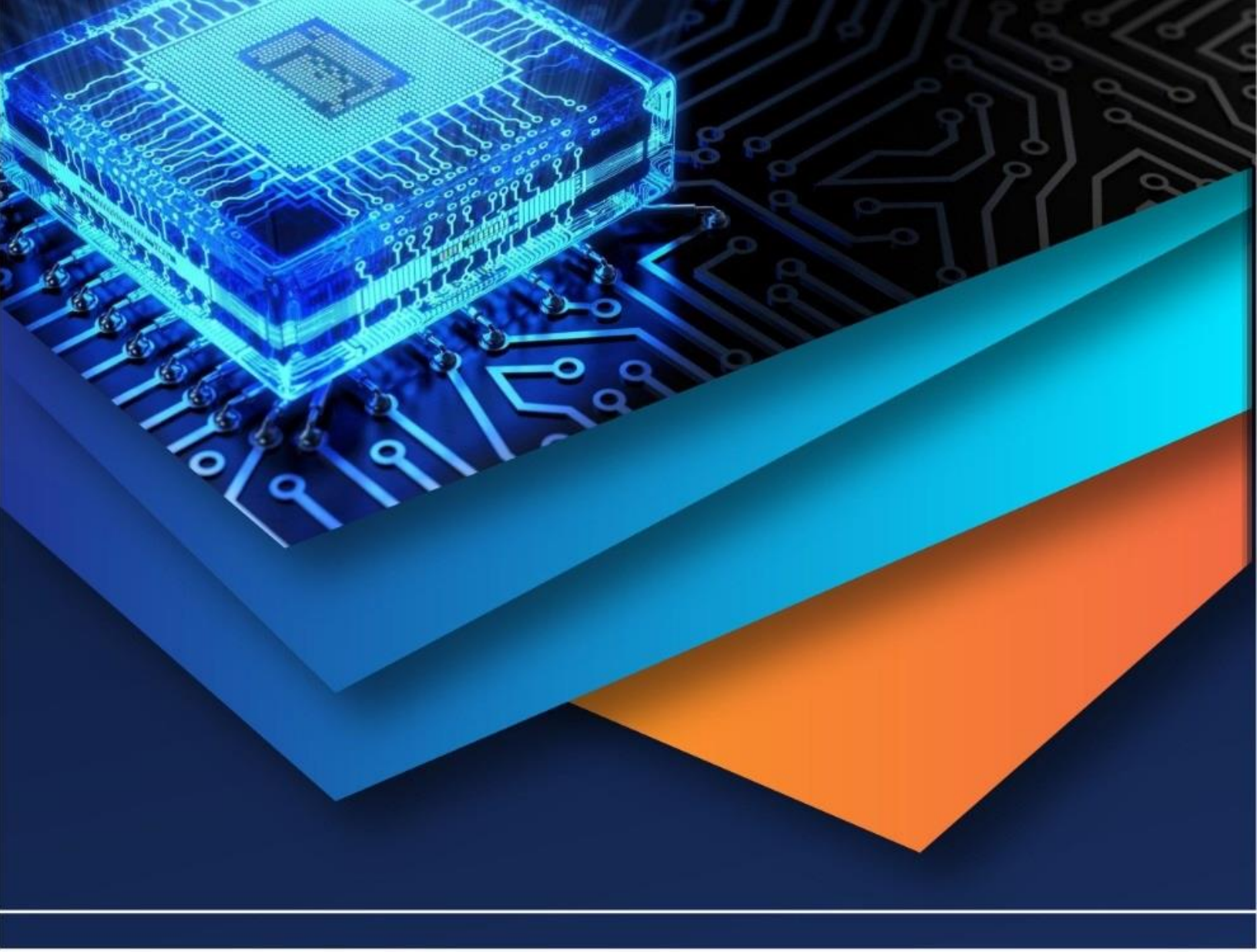
VII. CONCLUSION

Customized learning happens when e-inclining frameworks try purposeful endeavors to outline instructive encounters that fit the needs, objectives, abilities, and premiums of their learners. In this work, we led an examination on the impacts of understudy's brain science to enhance their learning execution. We propose a customized e-learning framework Learn Fit which can which considers the dynamic learner's identity. In this framework a few modules for identity acknowledgment and selecting fitting showing

technique are utilized to accomplish the learning. The outcomes show that putting the learner close to a fitting educating style coordinating with learner's inclination lead to change and make the virtual learning environment more charming. In spite of the fact that the creative methodology introduced in this article has shown is advantages, it likewise portrayed the restriction of real application. The significant trouble is to create four renditions of the same course to meet the personalization of learning procedure. At long last, the assessment results demonstrate that understudies comprehended the procedure and loved being included in it, in dislike the way that it was not a straightforward undertaking. At last, this present study's outcomes ought to be painstakingly translated as MBTI is one and only of numerous well known identity appraisal instruments and our methodology can be modified in a wide range of ways.

REFERENCES

[1] Mojtaba Salehi, Isa Nakhai Kamalabadi, and Mohammed B. Ghaznavi Ghoushchi, “An effective Recommendation Framework for Personal Learning Environments using a Learner Preference Tree and a GA,” IEEE Transactions on learning technologies, vol. 6, No. 4,2013
[2] M. Salehi, M. Pourzaferani, and S.A. Razavi, “Hybrid Attribute-Based Recommender System for Learning Material Using Genetic Algorithm and a Multidimensional Information Model,” Egyptian Informatics J., vol. 14, no. 1, pp. 67-78, 2013.
[3] Yi Li,Jian Wang,Lin Mei,”A Personalized Recommendation System in E-Learning Environment based on Semantic Analysis”, Information Science and Service Science and Data Mining (ISSDM), 6th International Conference on New Trends 2012.
[4] J. kay, “Lifelong Learner Modeling for Lifelong Personalized Pervasive Learning,” IEEE Trans. Learning Technology, vol. 1, no. 4, pp. 215-228, Oct. 2008.
[5] V. Kumar, J. Nesbit, and K. Han, “Rating Learning Object Quality with Distributed Bayesian Belief Networks: The Why and the How,” Proc. Fifth IEEE Int’l Conf. Advanced Learning Technologies (ICALT ’05), pp. 685-687, 2005.
[6] N. Manouselis, H. Drachsler, R. Vuorikari, H. Hummel, and R. Koper, “Recommender Systems in Technology Enhanced Learning,” Recommender Systems Handbook, P.B. Kantor, F. Ricci, L. Rokach, and B. Shapira, eds., pp. 387-415, Springer, 2011.



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