

6th International Conference on Smart Computing and Communications, ICSCC 2017, 7-8
December 2017, Kurukshetra, India

PCRS: Personalized Course Recommender System Based on Hybrid Approach

Zameer Gulzar^{a,*}, A.Anny Leema^b, Gerard Deepak^c

^aBSAR Crescent University, Chennai/India, zamir045@gmail.com

^bBSAR Crescent University, Chennai/India, annyleema@bsauniv.ac.in

^cChrist Univerisy, Bangalore/India, gerry.deepu@gmail.com

Abstract

The traditional system of selecting courses to carry out research work is time consuming, risky and a tedious task, that not only badly affect the performance but the learning experience of a researcher as well. Therefore, choosing appropriate courses in seminal years could help to do research in a better way. This Study presents a recommender system that will suggest and guide a learner in selecting the courses as per their requirement. The Hybrid methodology has been used along with ontology to retrieve useful information and make accurate recommendations. Such an approach may be helpful to learners to increase their performance and improve their satisfaction level as well. The proposed recommender systems would perform better by mitigating the weakness of basic individual recommender systems.

© 2018 The Authors. Published by Elsevier B.V.

Peer-review under responsibility of the scientific committee of the 6th International Conference on Smart Computing and Communications.

Keywords: Recommendation, Ontology, Knowledge Modelling, Personalization, E-learning;

1. Introduction

The key issue for today's learner is that they need tailored access to information based on the preferences and requirements. To overcome this issue Recommender Systems (RS) are used that analyzes the information

□ Corresponding Author
Email: zamir045@gmail.com

automatically according to the user preferences and most suitable one is presented in a large space of possible items [1]. To personalize information, recommender systems are used either to recognize a similar user or to identify particular objects of the user's interest. RS's prioritized the Information, related to items and provides user with meaningful recommendations as per their Interest. RS's are subset of information filtering concept having immense potential to help users in creating personal learning environment by identifying the most relevant and Interesting items from a large database then recommend it the user based on preferences and interest as shown in Figure 1.

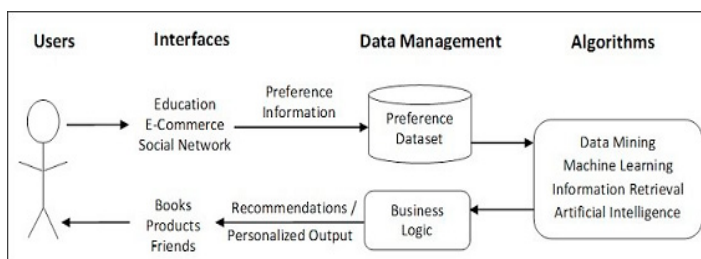


Fig. 1. General Recommendation / Personalization Process

Successful integration of recommendation system by online companies like Amazon, eBay, Flipkart etc impelled the research community to avail similar benefits in E-learning domain to recommend learning objects [2]. Learning objects are present in different forms that include Course objects, Content objects, information objects, reusable objects, nuggets, learning components, and units of learning [3]. Four categories of recommender systems such as Content-based, Collaborative, Knowledge-based and Hybrid systems based on how recommendations will be offered has been developed. Collaborative systems recommend items based on ratings with of similar users. On the other hand, content-based recommender systems propose items based on matching user profile. Knowledge-based recommender systems adopt techniques from artificial intelligence and check similarity between item and user. These systems use the deep knowledge about item features rather than user ratings. Furthermore, hybrid methods of combining the conventional recommender systems were proposed to mitigate the problems associated with individual recommender systems [4]. Nowadays, educational scenario is changing very quickly, new learning system trends are coming with new features but with the limitation of personalizing learning environment (PLE) using recommender system approach [5]. Since research scholars need courses from multiple domains they spend a lot of time to search courses from the curriculum. Integrating recommender systems in learning systems will be beneficial for both scholars and other learning tools by providing high potential to achieve personalization.

The aim of all recommender systems is to provide recommendation that will be favourably evaluated and accepted by its users. The objective of this study work is to design and develop a hybrid Recommender system that can be integrated to enhance the effectiveness of any E-learning system, to ease information access and to provide personalization to learners. The experimental results in this study show that using RS to choose courses performs well than traditional methods. The remainder of the paper is organized as follows: The next section 2 presents Literature survey, while as in Section 3 methodology is discussed. Section 4 will discuss the results. Finally, Section 5 will conclude the paper.

2. Related Work

This section shows an epigrammatic review of some of the relevant work on various approaches of recommender systems. Recommender systems made filtering of information easy and simple for its users because recommender systems use different information retrieving techniques to find and recommend items of interest to its users. Therefore, if a recommender system is able to recognize the intent and requirements that a user express in the form of queries, it can generate more valid recommendations.

In Google news, 38% of the total views are the result of recommendations; similarly 60% of the rented movies from Netflix come from recommendations and more than that Amazon sales percentage due to recommendations are 35%. Therefore, recommendation systems are considered an impending factor in business nowadays. But in education sector learners are still being provided with static and predefined patterns of learning courses, tasks, materials, objects in spite of the fact that learner differ in characteristics such as learning interests,

Download English Version:

<https://daneshyari.com/en/article/6900688>

Download Persian Version:

<https://daneshyari.com/article/6900688>

[Daneshyari.com](https://daneshyari.com)