

KNOWLEDGE BASED RECOMMENDATION SYSTEM USING SENTIMENT ANALYSIS AND DEEPLARNING

K. Veera Kishore¹, G.Swapna², Baddi Karthik Reddy³, Chennoju Sai Kiran⁴, Soma Vamshi Krishna⁵, Chittipolu Akhil⁶, Bandela Nithin⁷

¹Associate professor, Department of CSE, Sri Indu Institute of Engineering & Technology, Hyderabad

²Assistant Professor, Department of CSE, Sri Indu Institute of Engineering & Technology, Hyderabad

^{3,4,5,6,7} IVth Btech Student, Department of CSE, Sri Indu Institute of Engineering & Technology, Hyderabad

ABSTRACT

Online social networks (OSN) provide relevant information on users' opinion about different themes. Thus, applications, such as monitoring and recommendation systems (RS) can collect and analyze this data. This paper presents a Knowledge-Based Recommendation System (KBRS), which includes an emotional health monitoring system to detect users with potential psychological disturbances, specifically, depressions and stress. Depending on the monitoring results, the KBRS, based on ontologies and sentiment analysis, is activated to send happy, calm, relaxing, or motivational messages to users with psychological disturbances. Also, the solution includes a mechanism to send warning messages to authorized a person, in case a depression disturbance is detected b the monitoring system. Additionally, subjective test results demonstrated that the proposed solution consumes low memory, processing, and energy from current mobile electronic devices.

1. INTRODUCTION

Recommendation systems have become very popular in recent and are used in various web applications. Modern recommendation systems aim at providing users with personalized recommendations of online products or services. Various recommendation techniques, such as content based, collaborative filtering-based knowledge based, and hybrid-based recommendation systems, have been developed to fulfill the needs in different scenarios. This paper presents a comprehensive review of historical and recent state of the art recommendation approaches, in modern recommendation system such as sparsity and diversity.

Software design is the process of envisioning and defining software solutions to one or more set of problems. One of the main components of software design is the software requirements analysis (SRA). SRA is a part of the software development process that lists specifications used in software engineering. If the software is "semi-automated" or user centered, software design may involve user experience design yielding a storyboard to help determine those specifications. If the software is completely automated, a software design may be as simple as a flow chart or text describing a planned sequence of events. There are also semi-standard methods like Unified Modeling Language and Fundamental

modeling concepts. In either case, some documentation of the plan is usually the product of the design. Furthermore, a software design may be platform-independent or platform-specific, depending upon the availability of the technology used for the design.

Use of ontology for knowledge representation in knowledge-based recommender systems for e-learning has become an interesting research area. In knowledge-based recommendation for e-learning resources, ontology is used to represent knowledge about the learner and learning resources. Although a number of review studies have been carried out in the area of recommender systems, there are still gaps and deficiencies in the comprehensive literature review and survey in the specific area of ontology-based recommendation for e-learning.

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2. IMPLEMENTATION

Internet has transformed the style of traditional ways of business, almost every company wants to create its own website for helping and doing their business. Since internet provides a very large market place hence every customer is faced with multiple choices. Suppose a customer looking to read a book without any specific area, there are many books of same variety, therefore customer spent a lot of time for searching relevant book. This feature of that web site is known as recommendation system. Some popular websites that are using recommendation are this is the era of I-way. The development of high-speed computing and huge storage devices change the working culture of human. Design and development of efficient system is one of the key areas of the recent researchers. If the software is "semi-automated" or user centered, software design may involve user experience design yielding a storyboard to help determine those specifications. If the software is completely automated, a software design may be as simple as a flow chart or text describing a planned sequence of events. There are also semi-standard methods like Unified Modeling Language and Fundamental modeling concepts. In either case, some documentation of the plan is usually the product of the design.

Furthermore, a software design may be platform-independent or platform-specific, depending upon the availability of the technology used for the design.

In this paper, we present a review of literature on ontology-based recommenders for e-learning. First, we analyze and classify the journal papers that were published from 2005 to 2014 in the field of ontology-based recommendation for e-learning. Secondly, we categorize the different recommendation techniques used by ontology-based e-learning recommenders. Thirdly, we categorize the knowledge representation technique, ontology type and ontology representation language used by ontology-based recommender systems, as well as types of learning resources recommended by e-learning recommenders. Lastly, we discuss the future trends of this recommendation approach in the context of e-learning. This study shows that use of ontology for knowledge representation in e-learning recommender systems can improve the quality of recommendations. It was also evident that hybridization of knowledge-based recommendation with other recommendation techniques can enhance the effectiveness of e-learning recommenders.

3. LITERATURE SURVEY

Recommender systems in e-learning domain play an important role in assisting the learners to find useful and relevant learning materials that meet their learning needs. Personalized intelligent agents and recommender systems have been widely accepted as solutions towards overcoming information retrieval challenges by learners arising from information overload. Use of ontology for knowledge representation in knowledge-based recommender systems for e-learning has become an interesting research area. In knowledge-based recommendation for e-learning resources, ontology is used to represent knowledge about the learner and learning resources. Although a number of review studies have been carried out in the area of recommender systems, there are still gaps and deficiencies in the comprehensive literature review and survey in the specific area of ontology-based recommendation for e-learning. In this paper, we present a review of literature on ontology-based recommenders for e-learning. First, we analyze and classify the journal papers that were published from 2005 to 2014 in the field of ontology-based recommendation for e-learning. Secondly, we categorize the different recommendation techniques used by ontology-based e-learning recommenders. Thirdly, we categorize the knowledge representation technique, ontology type and ontology representation language

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4. CONCLUSION

Content based and collaboratively filtering methodologies were looked into for recommender frameworks. Because of the restriction of the conventional suggestion strategies in achieving exact outcome a profound learning approach is started that will construct a model that learns distinctive highlights of clients and things consequently in this manner enhancing the in prescribing of things. With the use of profound learning strategies in demonstrating distinctive kinds of information, profound recommender frameworks is observed to be better in understanding the request of the client and furthermore for promote change in the nature suggestion.

Hence the wide assortment of recommender framework utilizing profound learning clears a path for a model move from conventional recommender. In this work, the intrinsic pursuit has been directed toward finding influential solutions for the data sparsity problem by effectively making full use of all rated and non-rated items. To meet this goal, three main new measures namely SMD, HSMD, and TA have been proposed. According to the findings of this study, the proposed similarity measures contributed overwhelmingly to maximize the recommendation accuracy. Besides splitting the evaluation process into the estimation process and etc.... Recommendation systems that utilize collaborative filtering or some elements of it require a learner to rate individual items

5. FUTURE ENHACEMENT

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HSMD, and TA have been proposed. According to the findings of this study, the proposed similarity measures contributed overwhelmingly to maximize the recommendation accuracy. Besides splitting the evaluation process into the estimation process and etc.... Recommendation systems that utilize collaborative filtering or some elements of it require a learner to rate individual items. In related literature both latent interaction metrics and direct ratings have been used for this to different degrees and, at times, in conjunction with each other. Constructs such as course ratings, course feedback forms etc. have been used to map learner's ratings with a course, this is a case of direct rating. However, there are cases when the platform has no constructs for direct learner ratings, or it is absent at the level of granularity the system works on. The MOOC platform that our approach works on has a direct learner feedback at the course level but no such construct for member course elements.

6. RESULTS

The knowledge-based hybrid recommendation system

discussed in this section is truly hybrid in the sense that it incorporates multiple approaches used in contemporary literature and improves upon them. The cold start problem is dealt with through the use of underlying knowledge in the form of ontology, the poor performance in finding similarity between learners with collaborative filtering in case of very large number of the same is dealt with learner clustering etc. usage data are recorded through a novel browser extension which is also used to provide recommendation pop-ups. The designed recommendation system can suggest course elements inside a specific MOOC and a way to navigate through them along with learning suggestions.

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