International Journal of Advanced Trends in Computer Applications
www.ijatca.com

A Survey on Movie Recommendation System

[1]Gurpreet Singh, [2]Rajdavinder Singh Boparai
[1]Research Scholar, Computer Science and Engineering Department,
Chandigarh University, Mohali, Punjab (INDIA)
[2]Assistant Professor, Computer Science and Engineering Department,
Chandigarh University, Mohali, Punjab (INDIA)
[1]gur92reet@gmail.com, [2]rajdavindersinghboparai@gmail.com

Abstract: *In today's era, movie is considered to be important part of their lives. Movie will turn out to be an activity for the people in which they are engaged frequently. Movie recommender system has developed into a popular area for research. A superior movie recommendation method should be capable to involuntarily notice preferences and make playlists accordingly. In this survey paper, we have given brief introduction of movie recommendation system, recent work in movie recommendation system and conclusion.*

Keywords: *Recommendation systems, Applications, Movies recommendation system, Approaches, survey.*

.

I. INTRODUCTION

In past few years, internet and its user's growth have been increased and many community behaviours are modified in several domains. In visiting the attractions, the net has invented the electronic tourism (e-tourism). In last decades, internet has become the one of the most popular source of obtaining any kind of information such as books, video, movie, music and many more. Lower costs of hardware and advance in knowledge has led to a fast expansion in video. The huge amount of movie is available these days which make it very difficult for users to discover them and they enjoy hence it can be important to sort out the movie which are pertinent to every user. Generally, the website of tourism, only offer the vital information like booking. But these types of websites are not able to persuade their client and also will not competent to support in their searches. Obviously, difficulty and extent of e-tourism products could roll into matter due to which users that cannot appear whole records in order to choice the appropriate goods for them. Recommender system has ability to offer the information from easily reached data which are pertinent for the particular user. Therefore, challenge now is to direct and arrange the million of movies. Meanwhile, the progress of recommender systems offers a huge possibility for business to combine the clients who are fascinated in movie. At the meantime, these sites present a unique platform to take back information for user studies. It not only can express sentiment, but also it can adapt a listener's mood.

II. LITERATURE SURVEY

Kim Mucheol et al. [1] described an interactive RS. This paper projected a theoretical model and sample of the projected interactive movie RS. This proposed method constructs adapted suggestion of movies in online community systems. The presented method develops the grouping conscious community network model which is considered as the approach that is capable to confine the dynamics of socially-mediated information communicated in communal networks. This proposed replica may examine the fondness of user methodically and which can show the quick and constant change in social network.

Noguera et al. [2] proposed a mobile 3D-GIS hybrid RS for tourism. In this paper, dimensional GIS architecture is designed and implemented in the RS. This RS grants tourists to take advantage from novel characteristics such as a 3D map-based interface. Evaluation of user experience is also presented in this work.

Nanou et al. [3] described some problems associated to the presentation of recommendations in movie domain. The present work shows the survey of former techniques and other popular RS which are focused on user opinion and approval. In this paper, different methods have been compared. The most effective method related to the user opinion and approval is "planned outline" and the "textbook and videotape" interfaces, as a strong constructive association was also originate between

client opinion and approval in all experimental situations.

Ruotsalo et al. [4] presented a mobile RS. In this work, SMARTMUSEUM has been discussed. This system employed semantic network speech in the form of facts illustration. Ontologies are basically used to make connection between semantic break, sensor inputs, and user profiles. An information retrieval framework is used in the RS to get suitable content for mobile user. Its result indicate that the system is capable to meets the user requirement.

Sharma et al. [5] this paper reviewed the several approaches used for RS. Approaches may be categorized into three parts CF, Hybrid Recommendations and Content Based recommendation. Also this paper describes the merits and demerits of the recommendation approaches. Furthermore, problem occurs in RS also discussed in this paper.

Tekin et al. [6] proposed distributed online learning in social RSs. In this work, things which are suggested to the user depends their query. Also item are suggested according to the background history of things which was bought earlier, its gender, and age. In this work decentralized sequential decision making is considered.

Beel et al. [7] introduced the architecture of the RS and four datasets. The components like crawling PDF, generating use model etc are included in the architecture of the system. Moreover, the architecture including content based recommendation for calculating purpose.

Ante et al. [8] presented some novel concepts which helps in choosing the information to use. It also helps to choose the technique for recognizing which appropriate information give the discrepancy ratings rely on the statistical rating. The testing is done on the real dataset of film which carry 12 individual pieces of contextual information. The simulation result demonstrated that difference in the forecast of ratings which are found as appropriate by this proposed technique and one which was found as inappropriate, spotted to the significance of the power study and the merits of the presented approach in the case of a small dataset.

Chapphannarungsri and Maneero [9] presented a multidimensional approach. Moreover, an advanced RS has been presented which gives good quality of recommendations. Additionally, a method has been proposed for Multiple Criteria approach which can change the means of weighting to be more appropriate and also unease about the occurrence of the selection film features. The Multiple Linear Regression is applied to do Multidimensional technique which can study the related information of client characteristics. The result indicates that the proposed method gives more precise results than the current Hybrid RS.

Colombo et al. [10] proposed a system named RecomMetz, which includes mobile RS which depends on the context-aware knowledge. This proposed system is in the free time domain only for movie show times domain and is rely on the Semantic Web technologies. The results indicates, the competence and effectiveness of the RS

George et al. [11] presented the mixture approach rely on content-based and CF. This technique is employed in film RS. The presented approach offers experimental evaluation of the amalgam technique to the existing techniques of collaborative and content-based filtering and which provides the helpful conclusions upon their act.

Huttner and Joseph [12] presented a review on the algorithm of power RSs. The last element of this work center on the Netflix Prize and detects the significant algorithm in the competition as a result: an incremental method to get the SVD of a mostly-blank matrix.

Fernandez et al. [13] presented a RS for the users who are going to the movie hall or theaters. The proposed method makes use of the Slope One algorithm for calculating the specific prophecy and the Multiplicative Utilitarian Strategy as a replica to suggest to a whole crowd.

Yoshii et al. [14] represented a mix recommendation method and this method is based on incrementally trainable probabilistic model. This mix recommender method is the grouping of collaborative and content-based techniques. This anticipated method prevails over the troubles among suggestion precision and variety of suggested artist. CF approach may be employ e-commerce sites, cannot suggest non berated pieces and offers a fine range of artists. On the other hand, content based approach will not offer exactness as faith on heuristic that means customers favored parts is of same musical content. In order to get the superior accuracy and precision, probabilistic generative model has been used which combines the collaborative and content-based data. The result indicates that the proposed system gives high amount of accurateness still after the new consumers were included.

Sobhanam et al. [15] described a solution for the cold start problem. RSs basically are dynamic information filtering systems. The proposed approach suggested only those objects in which the client is paying attention. The sites execute RSs using CF, content based or hybrid

techniques. This system may have other troubles such as sparsity and over specialization. Cold start problem is that issue in which client cannot able to draw the inferences for items for which it do not have adequate information.

Hirakawa et al. [16] architecture of a tourist support information system has been presented in this work which including VR contents. Moreover, a novel system has been proposed for collecting contents repository and training data to build area specific recommendation engine on the tourist support system.

Rattanajit et al. [17] presented pseudo ratings which is relying on multi criteria and also focuses on the related information as multidimensional. The Naiumlve Bayes approach has been applied for doing the pseudo rating depending on multi criteria. This approach has been used to categorize the multi criterion of client's preferences. The multi regression is useful to examine the appropriate information of client in order to include multidimensional. According to the evaluation of experiment, the RS is created on movie domain known as Modernize Movie and demonstrates that the multi criterion pseudo ratings and multi-dimensional client report increase the worth and accurateness of recommender outcome.

Odic et al. [18] presented comparisons between two techniques. These two techniques are: the pertinent evaluation from the consumer assessment and the pertinent finding with statistical testing on the rating data. By utilizing these two methods, it can be observed that is it possible for the user to forecast which circumstance manipulates their choice and which technique guides to superior recognition of the pertinent appropriate information.

Li and Yamada [19] in this paper, inductive learning algorithm has been proposed and this algorithm is then applied to the recommendation process. In this work, decision tree has been constructed instead of using user-user similarity. This decision tree shows the user preference. It can be said that suggestions are performed by decision tree categorization. The results show that the presented technique is appropriate for the explanation of very large-scale issues and high-quality suggestions can be estimated.

Christakou et al. [20] a clustering technique has been proposed which is depending on semi supervised learning. In this paper, presented approach is utilized to create a system for recommending movies which merge collaborative and content based information. The presented system is checked on the Movie Lens DS, providing recommendations of high precision.

Symeonidis et al. [21] proposed 'MoviExplain', a movie RS in this paper which goes far away from just recommending movies. It achieves both perfect and justifiable recommendations, providing the ability to a user, to verify the reasoning behind a recommendation.

III.CONCLUSION

Movie Recommendation systems proved themselves to be a best solution for addressing problem of the information overload. They help in taking choices by preserving time and energy. Future work will focus on enhancement of the existing methods and algorithms used so that the recommendation systems predictions and recommendations quality can be improved.

References

[1] Kim, Mucheol, and Sang Oh Park, "Group affinity based social trust model for an intelligent movie recommender system", *Multimedia tools and applications* 64, no. 2, 505-516, 2013

[2] Noguera, José M., Manuel J. Barranco, Rafael J. Segura, and Luis Martínez, "A mobile 3D-GIS hybrid recommender system for tourism", *Information Sciences* 215, 37-52, 2012

[3] Nanou, Theodora, George Lekakos, and Konstantinos Fouskas, "The effects of recommendations' presentation on persuasion and satisfaction in a movie recommender system", *Multimedia systems* 16, no. 4-5, 219-230, 2010

[4] Ruotsalo, Tuukka, KristerHaav, Antony Stoyanov, Sylvain Roche, Elena Fani, RominaDeliai, EetuMäkelä, TomiKauppinen, and EeroHyvönen, "SMARTMUSEUM: A mobile recommender system for the Web of Data", *Web semantics: Science, services and agents on the world wide web* 20, 50-67, 2013

[5] Sharma, Meenakshi, and Sandeep Mann, "A survey of recommender systems: approaches and limitations", *Int J InnovEng Technol. ICAECE-2013*, *ISSN*, 2319-1058, 2013

[6] Tekin, Cem, Shaoting Zhang, and Mihaela van der Schaar, "Distributed online learning in social recommender systems", *Selected Topics in Signal Processing, IEEE Journal of* 8, no. 4, 638-652, 2014

[7] Beel, Joeran, Stefan Langer, BelaGipp, and Andres Nürnberger, "The Architecture and Datasets of Docear's Research Paper Recommender System", *D-Lib Magazine* 20, no. 11, 2014

[8] Ante, Marko Tkalcic, Jurij F. Tasic, and Andrej Kosir, "Predicting and detecting the relevant contextual information in a movie-recommender system", *Interacting with Computers*, 2013

[9] Keittima Chapphannarungsri and Saranya Maneero, "Combining multiple criteria and multidimension for movie recommender system", in *Proceedings of the International MultiConference of Engineers and Computer Scientists*, vol. 1, 2009

[10] Colombo-Mendoza, Luis Omar, Rafael Valencia-García, Alejandro Rodríguez-González, GinerAlor-Hernández, and José Javier Samper-Zapater, "RecomMetz: A context-aware knowledge-based mobile recommender

system for movie showtimes", *Expert Systems with Applications* 42, no. 3, 1202-1222, 2015

[11] Lekakos, George, and Petros Caravelas, "A hybrid approach for movie recommendation", *Multimedia tools and applications* 36, no. 1-2, 55-70, 2008

[12] Huttner, Joseph, "From Tapestry to SVD: A Survey of the Algorithms That Power Recommender Systems", 2009

[13] Fernandez, George, Waldemar Lopez, Fernando Olivera, Bruno Rienzi, and Pablo Rodriguez-Bocca, "Let's go to the cinema! a movie recommender system for ephemeral groups of users", In *Computing Conference (CLEI), 2014 XL Latin American*, IEEE, pp. 1-12, 2014

[14] Yoshii, Kazuyoshi, Masataka Goto, Kazunori Komatani, Tetsuya Ogata, and Hiroshi G. Okuno, "An efficient hybrid music recommender system using an incrementally trainable probabilistic generative model", Audio, Speech, and Language Processing, IEEE Transactions on 16, no. 2, 435-447, 2008

[15] Sobhanam, Hridya, and A. K. Mariappan, "Addressing cold start problem in recommender systems using association rules and clustering technique", In *Computer Communication and Informatics (ICCCI), 2013 International Conference on* IEEE, pp. 1-5, 2013

[16] Hirakawa, Go, Goshi Satoh, Kenji Hisazumi, and Yoshitaka Shibata, "Data Gathering System for Recommender System in Tourism", In *Network-Based Information Systems (NBiS), 2015 18th International Conference on* IEEE, pp. 521-525, 2015

[17] Rattanajit banjong, Nutcha, and Saranya Maneeroj, "Multi criteria pseudo rating and multidimensional user profile for movie recommender system", In *Computer Science and Information Technology (ICCSIT) 2009, 2nd IEEE International Conference on* IEEE, pp. 596-601, 2009

[18] Odic, Ante, Marko Tkalcic, Jurij F. Tasic, and Andrej Košir, "Relevant context in a movie recommender system: Users' opinion vs. statistical detection", *ACM RecSys*, 2012

[19] Li, Peng, and Seiji Yamada, "A movie recommender system based on inductive learning", In *Cybernetics and Intelligent Systems, 2004 IEEE Conference on* IEEE, vol. 1, pp. 318-323, 2004

[20] Christakou, Christina, Leonidas Lefakis, Spyros Vrettos, and Andreas Stafylopatis, "A movie recommender system based on semi-supervised clustering", in *Computational Intelligence for Modelling, Control and Automation, 2005 and International Conference on Intelligent Agents, Web Technologies and Internet Commerce, International Conference on* IEEE, vol. 2, pp. 897-903, 2005

[21] Symeonidis, Panagiotis, Alexandros Nanopoulos, and Yannis Manolopoulos, "MoviExplain: a recommender system with explanations", In *Proceedings of the third ACM conference on Recommender systems*, pp. 317-320, 2009