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Survey on Techniques for Keyword Aware Service Recommendation

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ABSTRACT: Service recommender systems have been made clear as of great value instruments for making ready right recommendations to users. In the last ten years stage, the amount of persons getting goods from store, services and connected knowledge has grown quickly, giving in the great sized facts observations hard question for public organization recommender systems. As an outcome of that, old and wise public organization recommender systems often have pain of from scalability and inefficiency problems when processing or observing such great-scale facts. In addition, most of having existence public organization recommender systems present the same ratings and putting in line of services to different users without giving thought to as different users' desires, and therefore fails to meet users' made for a person needed things. Here KASR implemented on Hadoop to improve its scalability in the big data environment and Map-reduce parallel processing using distributed computing with cf algorithm. The sentimental analysis is helping to improve accuracy on the users' preferences. By using various parameters with sentimental analysis the recommendation system will help to improve its performance on live data.

KEYWORDS: Hadoop; CF algorithm; big data; Recommendation System; Keyword- Aware Service; Distributed Computing; Sentimental Analysis; Map-Reduce

I. INTRODUCTION

A. BACKGROUND

Big data is the great sized growth and availability of the data, this data can structured, unstructured and semi-structured data. In today's life, the growth of the data is increasing because of internet. Big data refers the data set which beyond the capacity of current technology. Increasing data may require more accurate analyses, this may lead to more confident decision making and better decision can result greater operational efficiency, reduced risk and cost reductions. It is the management challenge for the IT companies. For that challenge provisioning the hardware and software solutions is one of the big challenges.

The online service providing application, there Big Data tendency poses heavy impacts on service recommender systems. The growing no of alternative service recommendation system in which users' preference has become important issue. The service recommendation system have been shown the valuable tools for providing appropriate recommendation to the user and helps the users with services overload.

B. MOTIVATION

The companies capture large scale information about providers, customers and the operations making on that information. The rapid growth of services, customers and online services has facing critical challenges of service recommendation. Most existing service recommendation system such as Hotel Reservation System and the Restaurant guides presented the rating of the services to the new user same recommendation as per the past ratings. They didn't considering different preferences without considering the requirements of the new user.

Motivated by these observations, in this paper 1) KASR: The Keyword Aware Service Recommendation method based on the User Based Collaborative Filtering (CF) Algorithm. 2) In Keyword Aware Service Recommendation (KASR), keyword of previous users extracted from their reviews to give the better preferences. Depends upon various recommendation methods the keyword can be extracted for making the ratings.



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The remaining of the paper is organized as follows. Section II presents the Related Work. Section III describes the Proposed Algorithm. In Section IV Acknowledgement and Section V states the Conclusion and Future Scope.

II. RELATED WORK

In [3] author analysing the different item based recommendation generating algorithms as well as look into different types of techniques for computing item-item similarities and different techniques for obtaining recommendation from them. The k-nearest neighbour approach provides better performance and better quality than user based algorithm. In [4] author is giving personal level recommendations to the user for their trip. They keep track of the photos which they were clicked from various locations and depend on that they can give the recommendation to the user on personal level. They didn't consider the group level preferences for computation and this is the limitation of the travelling system. In [5] author presents the Keyword-aware Optimal route Search System (KOSR), which efficiently answers the KOR queries. To find out the route which covering a set of user-specified keywords, a specified budget constraint satisfied, and the objective of that route is optimized. KOSR provides browser-based interfaces for desktop and laptop computers and provides a client application for mobile devices as well. The result shown, KOSR is able to process the KOR queries effectively and efficiently over both data sets. In [6] author analyse the issues occurring when service recommender system implements in large data sets. It splits the services to the users and mainly focused keywords from the users for preferences. For generating keyword recommenders from the previous user preferences here using Hybrid Filter Algorithm. The result shown here on Real-World datasets and reduce the processing time from large datasets. In [7] author solving the challenges of the existing system, like it provides same result to the users based on the evaluation and ranking or rating service. By using the collaborating filtering and porter stemmer algorithm it gives the suitable recommendation to the user. Here Personal Recommendation System is considered users preference and necessity. This is using the Hash map technique for faster keyword search for selecting correct reviews and indexing method also used here for eliminating the articles like a, an, the etc. In [8] author is giving recommendation for the social networks. Here the user is getting embedded with each other in the network. It is providing the accurate and personalized recommendation to the user. Each and everything is based on the network so the human being is facing difficulty for these types of interface. In [9] author is studied of various techniques. There are three types of CF techniques such as Memory based technique, Model Based Technique, Hybrid Based Technique. i) Memory Based Technique- which system based on the memory that is using the memory based technique. ii) Model Based Technique- If the system needs particular model for computing then the model based technique is using. iii) Hybrid Based Technique- Hybrid based technique is the combination of the Memory based technique and Model Based Technique. In [10] author studying the survey on Service Recommendation Technique, there are various recommendation technique such as Content based, Knowledge Based, Social Network Based, Context Awareness based, Group Based, Keyword Aware Service Based Recommendation. These recommendations are based on the any one of the collaborative filtering technique. It is improving the scalability and the accuracy of the traditional systems. In [11] author is studying about the sentimental analysis which is basically known as the opinion mining analysis. This analysis is used for computing the positive and negative reviews from the user. And based on the analysis, it provides the proper result. This survey is only about for how to apply sentimental analysis on the Keyword aware Service Recommendation for getting appropriate result. In [1] author is studying the Keyword Aware Service Recommendation, which is using for different types of domain thesaurus. And in KASR it will recommend the service by their previous and current reviews of the user for Hotel Reservation. Here keywords are used to indicate the users' preferences. The previous preferences of the user will be considered here for giving the appropriate service recommendation. It is using in Travelling recommendation, Hotel reservation, Online Shopping etc, and because of that it is in the traditional way. In [12] author examining the recommendation services based on various techniques like content, collaborative, knowledge based etc different techniques. Based on this technique, it is providing correct recommendation to the user by using sentimental analysis, for analysing the negative and positive reviews. It is using user based collaborative filtering. Here using more than one keyword to give the preferences. Thus highest rating value is recommended first also here ranking also changeable.

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III. PROPOSED ALGORITHM

This section describes the details of implementation of system as follows-

A. SYSTEM FRAMEWORK:

Overall working keyword aware service recommendation system can be described efficiently by using the following steps which is described below Fig. 1.

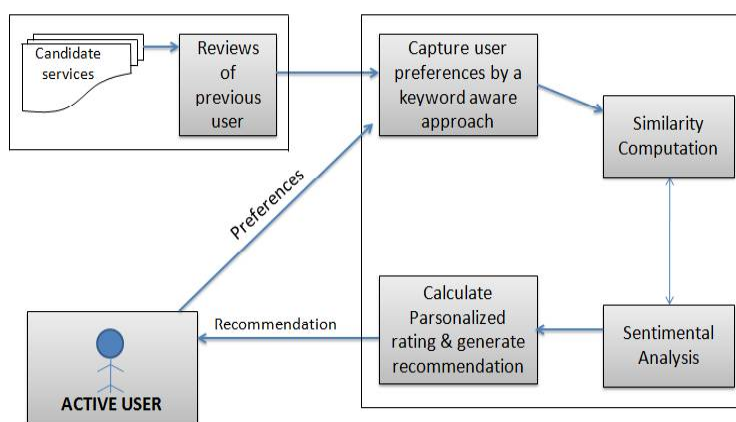


Fig 1: System Architecture

The above Fig. 1 shows that the working of recommendation system. The recommendation to the active user given depends on the previous users reviews. The appropriate recommendation to the active user is giving after completing the similarity computation and performing the sentimental analysis. In the sentimental analysis the recommendation is giving to the user based on few parameters by computing it.

Following steps are performing for generating the recommendation, these steps are as follows:

- Capture users preferences
- Similarity computation
- Sentimental analysis
- Recommendation by calculating personalized rating

B. WORKING OF PROPOSED ALGORITHM

Steps:

Step 1: Capture Users Preferences

In the KASR the preferences will be captured by two steps: a) preferences by active user and b) preferences by previous user.

a) Preference by Active User

The active user will give his/her preference by selecting the keyword from a Candidate-keyword list. The active user should also select the keyword which having importance degree of the keyword.

b) Preferences by Previous User

The preferences of previous user can be extracted for a candidate service according to the candidate keyword list and domain thesaurus.

Step 2: Similarity Computation

It is the second step is to identify the reviews of previous user who have similar choices to an active user by finding neighbourhoods of the active user based on the similarity of the preferences.

By using two computation methods giving recommendation to the user can be performed. The methods are as follows: a) Approximate Similarity Computation method and b) exact similarity computation method.



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a) Approximate Similarity Computation

Here comparing the similarity and diversity of sample sets, jaccard coefficients, is applied in the approximate similarity computation.

b) Exact Similarity Computation

A cosine based approach is applied in the exact similarity computation and it is similar as vector space model in information retrieval.

Step 3: Computing Sentimental Analysis

In Similarity computation it considered the previous and active user's preferences for computing appropriate recommendation, like wise in sentimental analysis it categorise the positive and negative reviews of the previous users. Because of sentimental analysis the system works in more efficient way. In proposed system by using various parameters like systems speed, efficiency, scalability, accuracy etc will be computing on live data for better recommendation performance.

Step 4: Generate Recommendation by Calculating Personalized Ratings

The recommendation would be generated to the user by calculating similarity of the active user and previous user. Finally a personalized service recommendation list will be presented to the user and the service(s) with the highest rating(s) will be recommended to him/her.

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V. CONCLUSION AND FUTURE WORK

As per the literature survey and intensive analysis it has been found that the service recommendation system works accurately on the basis of sentimental analysis. It helps to compute negative and positive reviews of the previous user. By using few parameters here we can improve efficiency of the recommendation system and this motivates the researcher for further research that how to deal with the live data for recommendation.

REFERENCES

1. Shunmei Meng, Wanchun Dou, Xuyun Zhang, and Jinjun Chen, Senior Member, IEEE, 'KASR:A Keyword-Aware Service Recommendation Method on MapReduce for Big Data Applications', IEEE Transactions On Parallel And Distributed Systems, Vol. 25, No. 12, December 2014.
2. Priya P. Sharma, Chandrakant P. Navdetti, 'Securing Big Data Hadoop: A Review of Security Issues, Threats and Solution', International Journal of Computer Science and Information Technologies, Page No. 2126-2131, Vol. 5 (2), 2014.
3. Badrul Sarwar, George Karypis, Joseph Konstan, and John Riedl, 'Item Based Collaborative Filtering Recommendation Algorithms', ACM, 10, May 15, 2001.
4. S. Saranya, S. Sivaranjani, G.Surya, A. Ramachandran, 'Individualized Travel Recommendation by Mining People Ascribes and Travel logs Types from Community-impartedted Pictures', IJCSIT, Vol. 5920, pp. 1685-1687, 2014.
5. Xin Cao, Lisi Chen, Gao Cong, Jihong Guan, Nhan-Tue Phan, Xiaokui Xiao, 'KORS: Keyword-aware Optimal Route Search System', ICDE Conference IEEE, pages 1340-1343,2013.
6. J. Amaithi Singam and S. Srinivasan, 'Optimal Keyword Search for Recommender System in Big Data Application', ARPN Journal of Engineering and Applied Sciences, VOL. 10, Issue No. 7, APRIL 2015
7. T.N. Chiranjeevi, R.H. Vishwanath , 'PRS: personnel recommendation system for huge data analysis using porter stemmer', ICTACT JOURNAL ON SOFT COMPUTING, VOLUME: 06, ISSUE: 03, April 2016
8. X. Yang, Y. Guo, Y. Liu, 'Bayesian-inference based recommendation in online social networks', IEEE Transactions on Parallel and Distributed Systems, Vol. 24, No. 4, pp. 642-651, 2013
9. Xiaoyuan Su and Taghi M. Khoshgoftaar, 'A Survey of Collaborative Filtering Techniques', Hindawi Publishing Corporation, Advances in Artificial Intelligence, Article ID 421425, 19 pages doi:10.1155/2009/421425, 2009
10. Yamini Nikam, M. B. Vaidya, 'Survey On Service Recommendations Techniques', IJARIII, Vol-2, Issue-1,2016
11. Khushboo R. Shrote, Prof A.V.Deorankar, 'A Survey on Sentiment Analysis Based Keyword Aware Service Recommendation for Big Data', International Journal of Innovative Research in Computer and Communication Engineering, Vol. 3, Issue 10, October 2015
12. Khushboo R. Shrote, Prof A.V.Deorankar, 'Sentiment Analysis Based Hotel Recommendation System' ,Indian Journal of Research, Volume 5, Issue 4, April 2016.