A Survey: Over Different Technique for Web Service Recommendation Based On Location Aware and Personalized Collaborative Filtering

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Abstract-There are a large number of web services available which provides on demand and easy access to the user.so a recommendation system for these services are required that helps user to select optimal web services. In this paper a brief review over the technique which used to provide a recommendation system is presented. There are techniques like content based recommendation, knowledge based recommendation, demographic recommendation, collaborative recommendation is presented. This paper also presents different collaborative-filtering technique that provides accurate and efficient results. Reduce time complexity also.

Index Terms -Recommendation System, Collaborative Filtering, QoS (Quality of Service).

1. Introduction

Web services are software applications which provide machine to machine communication over internet. Web services use WSDL (web service description language), SOAP (Simple Object Access Protocol) for communication purpose. An architecture is shown below in figure 1.1, which shows brief overview of web services.

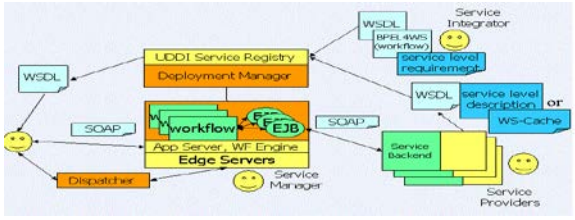

Figure 1.1:- An Architecture of web services

QoS are used as a parameter for selecting web services. There are many web services over internet so to select an optimal web service among these services is the biggest chalange for the user. Thus a recommendation system is required which suggest user about optimal web services. There are several techniques like content based recommendation, collaborative recommendation, knowledge based recommendation, memory based recommendation and model based recommendation and some other technique which used to provide prediction about web services. In this paper a description about hybrid technique for called collaborative-filtering is presented. In that technique combination of memory based technique and model based technique to gain accuracy and reduced time complexity for the user is presented. But this technique does not take time factor as a parameter for measurement that degrades performance of these techniques. For future work a technique to overcome such defects is desired.

Figure 1.2:- QoS for web services

A figure is shown above which shows QoS for web services.

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2. LITERATURE REVIEW

In [1], a location aware collaborative filtering technique is presented. This technique takes both user's location and web service to select similar results for the target user, also enhance the similarity measurement by using personalize influence for web service and user location. There are techniques like content based, link prediction based and some others are also used for web service recommendation but collaborating filtering provides simple and effective solutions. This technique uses QoS values for the prediction purpose. By the use of QoS values a similarity for user location and web services are presented. This technique does not provide solution which based over time factors for prediction.

In [2], a collaborating filtering based technique is presented. In that technique information of rating and profile contents are used to describe relationship among ratings and set of dynamic features are used to generate preferences then a recommendation is made on the basis of those features. This technique uses previous user's experiences for the measurement of QoS values for the users. This method takes bot prediction results of the user and services to provide a web service recommendation system.

In [3], a brief review over different techniques which are used for web service recommendation is presented. There are techniques like content based recommendation, collaborative recommendation, demographic recommendation, knowledge based recommendation and hybrid recommendation is presented. Collaborative filtering is one of most popular hybrid recommendation technique. There are many filtering techniques like user based filtering, web service based filtering technique memory based filtering, model based collaborative filtering and some other, which used to provide effective solutions for web recommendation.

In [4], a collaborative filtering based technique is presented. In that technique a recommendation system is presented which uses user location information and QoS values to make a cluster of user and service and provide results based on these clusters. In this technique combination of memory based and model based filtering is used to provide efficient and accurate results. And also reduce the time complexity of the previous methods.

In [5], a novel collaborative filtering technique is presented. In that technique QoS values are predicted and suggest web services to the user which is based on the historical QoS services of these services. Tis technique uses QoS records and user's location and Ip Addresses to predict web services to the active user. That improves performance of the whole recommendation process.

In [6], collaborative filtering technique is presented, which uses user location and optimal QoS values to predict web services to the active user. In this technique users' previous experience are user to rate web services and make a prediction based on these ratings that helps users to select optimal services.

3. CONCLUSION

Web services are the software application which provides machine to machine communication over internet. But there are a large amount of services are available thus a recommendation system is required to provide assistance to select optimal web service. There are techniques like content based recommendation, demographic recommendation, knowledge based recommendation, memory based recommendation and some others are presented in [3]. But these techniques are nit efficient to provide optimal solutions. Hybrid techniques called collaborative filtering and content based techniques gained popularity for recommendation system. This paper presents a brief review over the technique which used for web service recommendation system.

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