

Privacy Preserving Location-Aware personalized web service recommendation using Web Application

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Abstract: The privacy preserving based on the users and data providers privacy and awareness. The web service recommendation is based on past QoS experiences and locations of users. This work aims to hide the user's private information from Recommender Server, Privacy Server, and other users. It also predicts the missing QoS for query user without knows any private information to service providers. The private information includes user's locations, QoS values, similarities among the users, the QoS predictions. Service users are usually not experts on Web service evaluation. Moreover, it is time-consuming and impractical for service users to evaluate all the Web service candidates, since there are a lot of Web services in the Internet. Users' QoS experiences depends on their geographical locations and therefore, location information effects in Web service recommendation. The main goal of the proposed protocol is to hide users' private information from Recommender Server (RS), Privacy Server (PS) and other users while performing any computation. The proposed framework consists mainly of two stages: privacy-preserving user filtering based on location and Web Service recommendations.

KEYWORDS: Recommender Server, Privacy server, Quality of Service, Geographical Location, Filtering, Web services, Data Provider.

1 Introduction

Web service recommendation is a process of proactively discovering and recommending suitable Web services to end users. In order to predict Web Services for a user, user preferences, user location and web service possessions must be measured, similar QoS which has remained measured as a main factor in service selection. QoS contains reply period, value, accuracy, etc. Amongst these assets some values like response time, etc. must be measured at the client side in order to get accurate feedback from the end user's point of view, which results in obtaining accurate results. Some QoS factors like reliability needs to be calculated by observing for long period of time. For the recommendation system it becomes difficult to get QoS data for all the services due to huge number of web services. These problems are overcome by giving personalized predictions to the user based on past user experiences or the feedback data. And the users can select the service which gives them optimal performance. Despite the fact that a location-aware Web service recommender system is a great tool to find a suitable and more accurate

services for a user, a huge drawback is that this relies in their security and privacy threat to users' personal information and also for Web service Providers. The private information consists of the QoS values and geographical location information. Moreover, to generate an effective Web service recommendation, users need to provide as much as information they can since the more data available to the server, the more accurate recommendations can be generated.

2 Proposed approach

The more factors that are available to the service providers, the more accurate predictions can be generated in the existing system. Those factors are privacy sensitive and therefore it is risky to disclose them to service providers. To address this challenge, the paper develops a privacy-preserving protocol to predict missing QoS values and thereby providing Web Service recommendations based on past QoS experiences and locations of users. The main goal of the proposed protocol is to hide users' private information from Recommender Server (RS), Privacy Server (PS) and other users while performing any computation. The

proposed framework consists mainly of two stages: privacy-preserving user filtering based on location and Web Service recommendations.

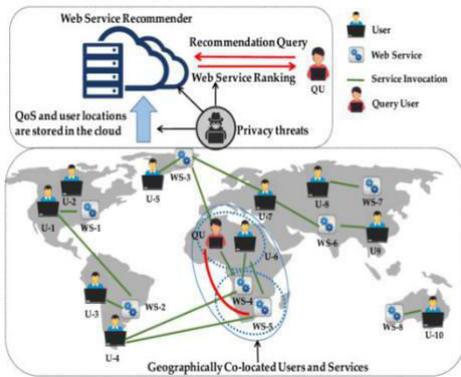


Fig 1: Architecture for Privacy preserving location-aware.

2.1 User Profile generation The module help to create the User profile on this system to adding thier own experience and data based on service required by the service requester which details used for authentication to finding the data originality

2.2 Queries

Query module getting a request from the users to finding the location based details. The query stored on the database and the details searched and fetched based on the keywords included in the queries. The queries also maintained for the future record for improving the system services.

2.3 Query processing

- a. The location based details stored on the database by the service provider.
- b. The query based the data searched on the database based on the datamining concepts.
- c. The recommended path provide by feedback based and history of query services.
- d. The user feedback useful to filtering the services and short path.

2.4 Admin Management:

a. Data set

The admin who can maintain the data stored on the database of user profiles and queries, services on the query by the searcher. If there is any unwanted details found by the admin the profile strictly removed from the website.

b. Web Services

The services monitoring by the admin and the services, the usages of application. The efficiency of application can improved based on the result of application.

3 Conclusion

In this paper, the privacy preserving based on the users and data providers privacy and awareness. The web service recommendation is based on past QoS experiences and locations of users. This

work aims to hide the user's private information from Recommender Server, Privacy Server, and other users. It also predicts the missing QoS for query user without knows any private information to service providers. The private information includes user's locations, QoS values, similarities among the users, the QoS predictions. Service users are usually not experts on Web service evaluation. Moreover, it is time-consuming and impractical for service users to evaluate all the Web service candidates, since there are a lot of Web services in the Internet. Users' QoS experiences depends on their geographical locations and therefore, location information effects in Web service recommendation.

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