Study on Information Recommendation of Scientific and TechnologicalAchievements Based on User Behavior Modeling and BigData Mining

Abstract

- This paper brief introduces the source, the concept and characteristics of big data of scientific and technological achievements. The methods and techniques of big data analysis are reviewed.
- The process of providing personalized service based on user behavior modeling and big data mining is analyzed. The information recommendation service of scientific and technological achievements based on big data analysis is discussed.
- Combined with the characteristics of personalized service in big data environment, the construction strategy of user behavior model is proposed. The model building method and the personalized service scheme are given at the end.

Existing system

- the rapid development of science and technology, a large number of scientific research outputs data are accumulated in the process of scientific research, such as scientific papers, patents and software copyrights, research reports.
- The information search, analysis and services become more and more important, and on this basis, some application oriented special databases are formed, such as library of scientific and technological achievement, library of scientific and technological talent, library of scientific research project.

Disadvantages

- The information search, analysis and services become more and more important, and on this basis, some application oriented special databases are formed, such as library of scientific and technological achievement, library of scientific and technological talent, library of scientific research project.
- The scale of these data is becoming larger and larger, and the structure is becoming more and more complex, and the requirements for deep analysis and mining of data are becoming higher and higher. These rich data resources show great reference value for mining and decision making through association and integration.

Proposed system

- the expansion of network information access channels, information acquisition becomes more and more easy. For huge amounts of information of scientific and technological achievements, the traditional search has been unable to meet the needs of users.
- Researchers are exploring the use of data mining, analysis and visualization tools, provide dynamic tracking, customized push, theme research, strategic decision-making research in-depth professional information service for users.

Advantages

- perspective of the data scale, it is generally considered that the data size more than petabytes is called big data. From the perspective of techniques and methods, traditional database techniques and methods can't deal with massive or unstructured data sets, which are called big data.
- From the perspective of application value, big data is the sum of the massive data analysis of multi-source heterogeneous cross the associated domain generated by the decision-making process, business model, scientific paradigm, life style and concept of disruptive changes based on morphology.

Hardware Requirements

- Processor :Intel Pentium IV 1GHz
- RAM :256MB (Min)
- Hard Drive :5GB free space
- Monitor :1024 * 768, High Color inch
- Mouse :Scroll Mouse(Logitech)
- Keyboard :104 keys

Software requirements

OS	:	Windows XP/7/8
Front End	:	Visual Studio 2010/ netbeans 7.1
Back End	:	SQL Server 2005/ heidisql 3.2
Browser	:	Any Web Browser

conclusion

- This paper studies the ontology modeling of user behavior and combined with big data mining technology, provides a personalized service scheme for users to recommend information of scientific and technological achievements. In this study, different processing logic is designed for "login" and "retrieval".
- When users log in, the system uses user's explicit interest ontology terms as retrieval words to achieve recommendation, it can get higher recognition from users. When users search in the system, it indicates that users have deeper knowledge needs. Then the system recommends the retrieval results of the ontology terms based on the data mining algorithm to the users, it can meet the user's implicit needs.
- This design scheme that based on user behavior ontology model, combining explicit interest and implicit demand to implement personalized recommendation can help users to gain information of scientific and technological achievement accurately that they are interested in.

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