

The Support Method of Contents Considering User Log Data

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Abstract. Currently, many people have an active network with others by using the internet environment. In particular, there is a scientific collaboration among scientists from various scientific fields made online. Collaboration in science is typically causes a problem of international cooperation. For effective international cooperation, we must identify scientist's majors and interest. Science and technology has a central role in shaping what count as international cooperation. These scientists need a place to share ideas with each other in order to cooperate. However, it is too difficult to gather them in one place and at one time. In addition, most social issues will be discussed and studied for a long time. To address this problem, this paper provides an approach that can solve the scientists involved in international cooperation. In addition, we developed a method based on collaborative filtering recommendation system. This system is recommended for scientists specializing in materials related to the issue. Our system is based ICKM framework. ICKM is a framework for networking among Korean all over the world.

Key Words: Science and technology issue, Scientist participation, S&T societal challenges, Collaboration

1 Introduction

The importance of international cooperation in science and technology is emerging rapidly in accordance with this transition to an open innovation system at the global level. The most important information for international cooperation is the information of past international cooperation partners. This information includes when, where and where someone met whom from other countries. The A research institute in Korea already has a MOU was signed between the B University in the United States, if unaware this fact, the two institutions will have to spend the budget and time for international cooperation when necessary. In order to avoid this problem, it must be managed personal and public the international cooperation information.

Currently, our country does not systematically manage the various international cooperation achievements of government, public institutions, and government-funded institutions. It is inefficient to generate similar or overlapping international cooperation achievements. To address these issues, we have built a system (ICKM,

International Cooperation Knowledge Maru) for sharing of results and information about international cooperation. ICKM system supports international cooperation information based on the user's information.

This paper is organized as follows. Section 2 introduces the ICKM (International Cooperation Knowledge Maru) framework. Finally, section 3 discusses the collusions and future research.

2 The framework for sharing of international cooperation information

The ICKM is the framework for sharing of international cooperation information. This framework provides the following international cooperation information.

- Business trip results: It includes the information caused by personnel interviews, MOU signed, and attending international cooperation. However, it does not include the information about simply attending a business trip.
- MOU(Memorandum of Understanding): It contains all the MOU, that is information resulting from the international cooperation.
- International cooperation planning and scheduling: It can be used the reference to international cooperation when planning future events. In addition, it prevents duplicate events held.
- Personnel or institution information related international cooperation: It provides information that people and institutions involved in international cooperation. To provide international cooperation and the relative history of the institution, it may enable more effective when excavations unearthed the agenda of international cooperation agenda in the future.
- Research institute information in another country: It provides more than 530 foreign institutions information belongs to 11 countries.
- Overseas offices of Korea: We provide information overseas offices established overseas in order to obtain information in Korea.

Figure 1 shows the relationship between the data provided by the ICKM. Personal information has relationship with business trip information, international cooperation plan, and MOU. It may provide a contact point with the international cooperation information.

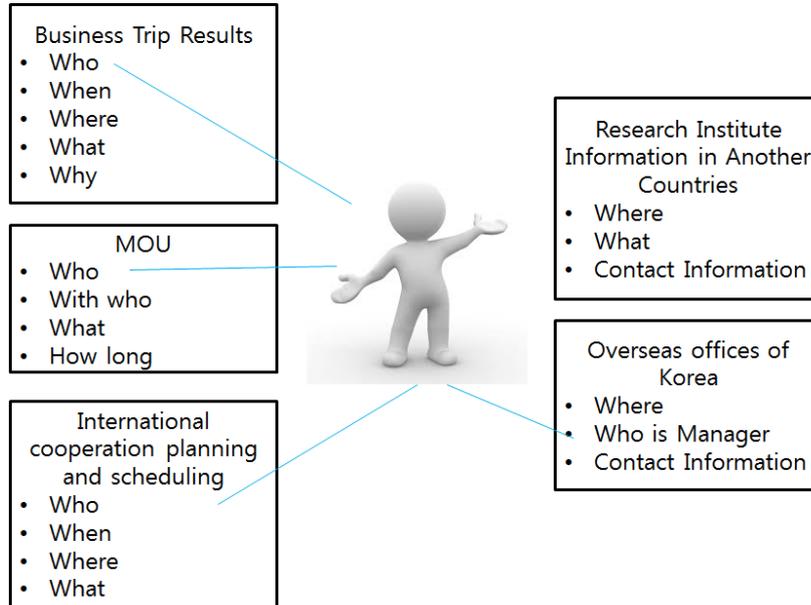


Fig. 1. International Cooperation Information Relationship

Fig. 2 and Fig.3 show the expert recommendation process. The experts recommended standard is the similarity and interesting value. The process of calculating the interest consists of three steps: leveling, time weighting, and weighting. The leveling procedure is to standardize the values of interest for the data. Time weight is high recent data. The last step is a step that can put the weights and if you remove depending on your needs.

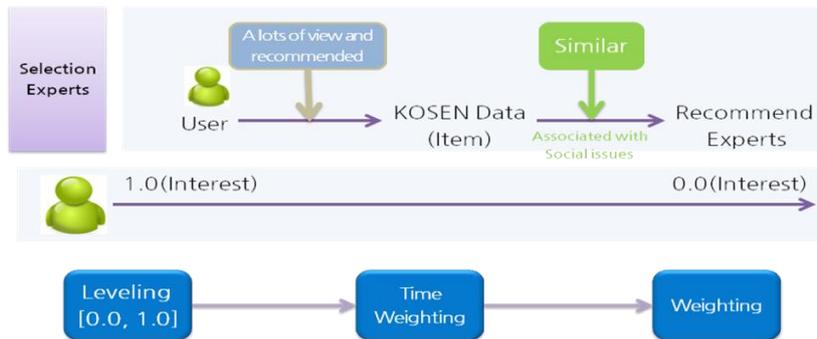


Fig. 2. Measure of Interesting of members

The system for calculating the degree of similarity and clustering professional having similar characteristics. Next, in the clustering, the degree of similarity between the item groups is measured.

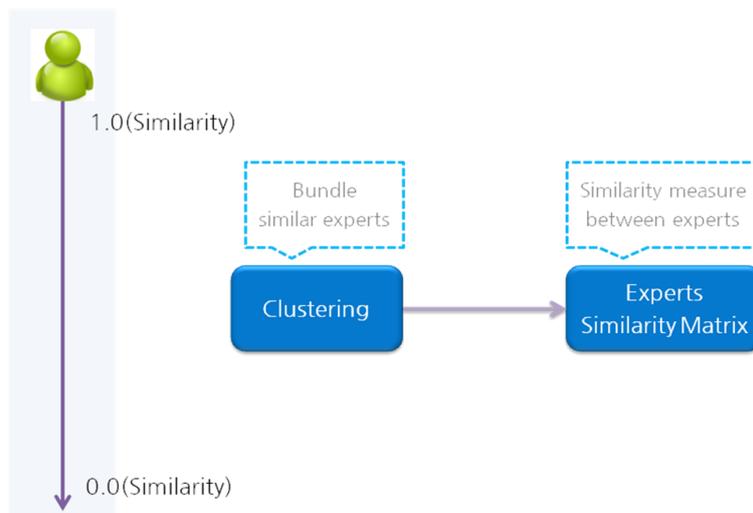


Fig. 3. Similar measure

After measuring all the similarity and interest, the expert system is recommended based on the cosine value between these.

3 Conclusion

We have described how to share international cooperation information for reusing these information. Our approach is the development framework supports a various international cooperation information. This system includes the recommender functions based on similarity and interesting value. The recommender function is used the item-based recommend algorithm. Currently, the system has been operating in ICKM framework.

In the future, we conducted the usability of the system, and then we plan to compensate for the system to reflect the result. We are expected to be made complementary to recommend how to operate and service policies.

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