

Title	研究の特性情報を用いた研究者グループ生成システム について
Author(s)	高嶋, 秀和
Citation	
Issue Date	1997-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/1010
Rights	
Description	Supervisor:平石 邦彦, 情報科学研究科, 修士

On a Support System for Generating Research Groups using Characteristic Information of Researches

Takashima Hidekazu

School of Information Science,
Japan Advanced Institute of Science and Technology

February 14, 1997

Keywords: groupware, research group generating, specified information of researches, thesaurus.

According to wide spread of computer networks, there are increasing needs for communication through them in many companies. In addition, there are increasing demands for groupwares, a kind of computer softwares designed for improving productivity of office works. Groupwares provide environments for cooperative works, and support a group of people who works for some common tasks or goals.

Groupwares, such as group conference systems, information sharing systems, and environments for cooperative works, aims to increase quality of works by sharing information among members. Moreover, sharing information of member's conversation may cause intellectual inspiration. Therefore, such groupware is also useful for research activities.

From this point of view, there have been many researches that discuss groupwares for research activities. However, groupwares designed for office works are not very suitable for research activity, since researchers are usually working independently to achieve their own research aims.

On the other hand, researchers sometimes get intellectual inspiration by discussing with other researchers, and their research make a great progress. For this reason, many technical conference and workshops are held. One of the purposes of these conference is

to give researchers opportunities to discuss with many other researchers. Furthermore, cooperative researches may be organized from such discussion.

Cooperative researches may give intellectual inspiration to researchers. However, most cooperative researches are done still within existing organization or human relationship. In addition, the theme of cooperative researches are usually given in a top-down manner. Each member of the group is given his own role. Therefore, cooperative researches are not necessarily desirable for researchers who have their own aim of researches.

In this thesis, we propose a groupware that aims to support generating groups for cooperative researches. In the proposed system, cooperative researches are organized in the following way.

- Describing characteristic information of researches

First, each researcher describes characteristic information of his research. It is stored in a common database.

- Searching the database using characteristic information

Then, each researcher searches the database for other researches close to his own research.

- Making contact with researchers

Each researcher makes contact with researchers found in the previous step.

In cooperative researches, it is important to decide the theme of the research group. Keyword matching is insufficient for searching meaningful correspondence among research topics, because vagueness of keyword selection influences the result of searching.

Each researcher knows well about needs, motivation, aim, elementary technologies to be used of his research. We use these information on researches for searching relevant researches. These information are described in the following three categories: **needs**, **seeds**, and **elementary technologies**. Needs is the aim of the research, seeds is the result of the research which will be used for other researches as elementary technologies.

Using these information, each researcher can find researches relevant to his own research. Each researcher can cooperate with other researchers who have the same characteristic information. In the proposed system, the thesaurus is defined as an acyclic directed graph associating a keyword on each node. Arcs represent relevance among keywords. Every researches shares the common thesaurus. Keywords used for describing characteristic information of each research is selected from the thesaurus. If there is no appropriate keywords in the thesaurus, a new keyword can be added to the thesaurus.

Each researcher can search on the thesaurus in various conditions, such as specifying the kind of information(needs/seed/elementary technology) and distance on the thesaurus graph. The distance between two nodes of the thesaurus represents relevance of keywords associated with these nodes. Then the result of the search will be a candidate for a new group. If some candidate for research cooperation is found, researchers can propose to make a new group through some specified steps. Researchers who approve of making a new group will organize the initial group.

These ideas are implemented as a computer software. The system is implemented in a server-client style. The server program maintains thesaurus and research information, and each researcher uses a client program to search the thesaurus. Group communication will be administrated by mailing lists controlled by server program. We assume that communication within a group is done by character based communication in mailing lists. This is useful in storing the history of discussion.

We have proposed the system for generating groups by searching relevant research topics, and implemented as a groupware. Experiments have been done for some test cases, and we have verified effectiveness and problems of the proposed system.