SUPPORTING PERSONAL NETWORKING THROUGH COMPUTER NETWORKING

Mildred L G Shaw & Brian R Gaines
Knowledge Science Institute
University of Calgary
Calgary, Alberta, Canada T2N 1N4
mildred@cpsc.ucalgary.ca, gaines@cpsc.ucalgary.ca

REPGRID-NET: A NETWORKING SUPPORT SYSTEM
RepGrid-Net is a computer-based message system that integrates conventional electronic mail and bulletin board facilities with repertory grid elicitation and analysis facilities to provide both unstructured and structured communications supporting the formation and operation of special interest networks. Users see a mail system in which special-interest networks are specifically supported. The coordinators of such a network provide a basic focus for it through statements of intent, topics and issues which are handled on a bulletin board basis. They also provide one or more kernel grids listing specific topics and the concepts which they apply to them. These kernel grids can be developed by others interested in the groups, using the stated topics and concepts, and adding to them. General similarities between grids are analyzed to provide a sociocnet of people with common viewpoints, and this may be used to access the mail system to communicate with them. Detailed comparisons of similarities and differences between viewpoints may be made, and individual concept structures can be analyzed.

SYSTEM OPERATION
Figure 2 shows a special interest group coordinator eliciting a grid concerned with topics at a conference on artificial intelligence. Conference topics, session names and the papers within related sessions all provide a good basis for kernel grids. The interface shown is the same as that used for further elicitation by others. Initial concepts are also chosen by the coordinator and used to focus the group activities. However, the discussion is open-ended since further topics and concepts may be added freely by others, and the analysis takes these into account.

The system is implemented on a network of Macintosh computers coordinated through AppleTalk access to an AppleServe file server. Figure 1 shows the overall systems architecture. The message sub-system is written in HyperCard and is conventional in its operation.
GROUP ANALYSIS AND COMPARISON

Socio is a program in RepGrid-Net that analyzes pairs of grids to determine similar views on topics and similar use of concepts. As shown in Figure 5, it enables a socionet to be generated for set of grids on the same topic with the links showing the capability for understanding. This network analysis is continuously available for all the special interest groups. Someone can join a group by having a grid elicited as previously described and then looking at the network analysis to see where their viewpoint fits in relative to the others. The graph produced is interactive. Clicking and shift-clicking on nodes selects them and a popup menu then offers a variety of alternative actions, such as seeing a detailed comparison of the grids, analyzing them individually, or entering the message subsystem to send a message to those selected.

Fig.5 Socionet derived from individual grids in which the arrow shows the capability for understanding

It is very simple for users to move between the mailer and the special interest group sub-systems. A newcomer can log in, find out what special interest groups exist, browse through them looking at the networks, the grids, or their analyses. He or she can elicit a grid to participate in any special interest group, analyze it, compare it with the others, and see where it fits in the network. At any time during this process the user can send messages to other participants or to the bulletin boards associated with the special interest groups. The user can escape just as easily, leaving a grid in a partially completed state and come back later to complete it. The overall system is highly non-modal and intended to support, not pressurize users.