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A Study on Communication Tool for Conversational Awareness

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In this thesis, we discuss awareness support for the Text–based Conferencing System. Recently Internet is widely used as the structural foundation which is to realize various forms of communication. Especially the Text–based Conferencing System realized on HTTP is rapidly getting popular because of its feasibility of establishment and participation, and less band–width occupation, many communities have been formed there. In these communities, socially–oriented communications occupy most of them. Not only accurate transmission of intensions and information but also consideration for others and social relationship which is formed gradually by keeping a continuous conversational relationship, are regarded significantly same as on social communications in the real world. However, as a disincentive factor of socially–oriented communications on the Text–based Conferencing System, the lack of information related to conversational situations are pointed out.

In many other awareness researches, Conferencing System with reality–oriented awareness by high–quality audio or movie devices are constructed as one of the ways to solve this problem. In our research, we focus on the Text–based Conferencing System which has already become popular. And then aim at construction of "Conversational Awareness Supporting Environment" which supports awareness in conversational situations by extracting awareness information from the messaging history and visualizing them for the users. The visualized objects are information related to the conversational situation such as conversational relationships, conversational activities and contents of conversations. As the method of visualization we expand a circle diagram, which is widely used as a visualization method of organizations in the network analysis. We integrate these information and display in the virtual three dimensional space.

In this system we implemented the server with CGI in Perl and the client as JAVA Applet in order to make it usable in the same environment as usual running environments of the Text–based Conferencing System.

In the evaluation we considered about the system's influence on formation and keeping of socially–oriented continuous conversational relationships from quantitative aspects and qualitative aspects. As a quantitative evaluation we verified the frequency of establishments and continuances of the conversational relationships. As a result, we were able to observe 18% of the increment of the frequency of establishments and 49.5% of the one of continuances. As a qualitative evaluation, we verified the degree of recognition of conversational relationships, conversational activities and contents of conversations related to conversational situations, and adequacy of the visualization with the questionnaire. Eventually we were able to prove the efficiency about recognition of conversational relationships and conversational activities. In respect of contents of conversations, the results showed efficiency conditionally. About adequacy of the visualization we could obtain supportive results. We confirmed the usability of this system from these results.

As our future work, we should evaluate the system more precisely and improve the awareness support system for contents of conversations.