論文の内容の要旨

論文題目　FACILITATING COORDINATION IN COMPUTER-MEDIATED SOCIAL INTERACTION
（コンピュータを利用した社会的相互作用における協調の促進）

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In large scale social interaction, coordination is often hampered by the gap between few active members and the remaining non-active spectators. Nonparticipation tends to dominate the group as it becomes larger, which makes it difficult to grasp intention of other members for making joint actions. In this dissertation, we propose to introduce prearranged set or series of social actions, social procedures, to computer-mediated communication. Fitting actions into a procedure can facilitate coordination, by making it easy for the members to participate in the action, to recognize ongoing action of others, and to predict what others are going to do.

Particularly, we focus on the three major barriers to active participation reported in literature, and propose computer-mediated social procedures to facilitate coordination. First, we consider the information overload in communication. People tend to refrain from participation when communication load go beyond their information processing capacities. To facilitate members to catch up with group attention, we designed a set of actions to share group attention in anchored conversation systems, based on the lock-on metaphor. Second, we consider the social aspect of nonparticipation. People may withhold their opinions or feel reluctant to criticize comments from others due to social pressure. While anonymity can encourage open and frank behavior, members may be discouraged by the weak impact of anonymous comments. To find a better balance between pressure and impact, we propose a communication protocol which combines anonymous and signed posting, based on a traditional social procedure, the round-robin signature. Third, we consider the lack of motivation to participate in social interaction. Unmotivated members increase as the group becomes larger, since it is more difficult for the members to feel their value of

contribution. To encourage unmotivated members to participate in group decision making, we propose a social procedure where members discuss the topic one-to-one.

By generalizing our experiences of designing individual social procedures, we identify general design principles to facilitate coordination in large scale interaction: (1) to ensure projectability, the system should be aware of and lower the major barriers to participation, (2) to maintain predictability, the system should provide a simple set of commands, and avoid complicated, black box, or overly intelligent behaviors, (3) to ensure group awareness, the system should use metaphors to integrate the social procedure into the user interface.