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Building a New Internet Chat System For Sharing Timing Information

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Use of computer communication tools has been increasing recently because of the spread of computer network. These communication tools like E-mail, BBS(Bulletin Board System) and Chat systems can be classified broadly into two groups from the viewpoint of synchronicity: E-mail and BBS are asynchronous, while chat systems are synchronous. Chat system users are increasing dramatically as a real-time conversation system. However, standard chat systems have problems due to lack of timing information. The purpose of this study is to build a new system which alleviates these problems. Our research cycle consists of three stages: firstly to build a new system, then to do some experiments on its effectiveness, and to improve the system.

To tackle the problem of lack of timing information, we have built a system which has the following two functions: 1) function of making typing state visible; 2) floor holding function at the start of typing. We used two-way ANOVA to evaluate the effectiveness of the system: the new system functions as factors; the length and the number of turns as dependent variables. In addition, we conducted questionnaire surveys of users' evaluation of the system from effectiveness of the new functions to the easiness of using the system.

The evaluation results showed that the system with each new function significantly increases the number of the turns, which might indicate the effectiveness of the new functions for smooth communication. The survey results showed that the system with both new functions significantly different from that without them concerning 1) the easiness of

adjusting the timing of utterances and the smoothness of conversations, and 2) the easiness of using the system.

Lack of the timing information causes users to make utterances which are not relevant to those in adjacent turns. For this problem, we have also implements the functions of enabling users to explicitly signify relevant utterances and displaying relevant utterances in the same color. The survey results confirmed the usefulness of these functions, but also pointed out the need for the improvement of the interface design.