SUMMARY OF Ph.D. DISSERTATION

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Title

A Study of Support Functions for Active Knowledge Sharing and Discussion on an Electronic Bulletin Board

Abstract

This paper proposes the use of a function similar to voting in order to resolve problems regarding inactive exchange of opinions and incompleteness of discussions that are caused when discussing and sharing information on an electronic bulletin board. This paper empirically shows that the proposal can be effective, especially when the electronic bulletin board is used by a group with users in a small to medium scale that they can recognize mutually.

An electronic bulletin board is a communication means that stores texts input by users onto a server, so that other users can browse postings and post their responses whenever they want. With the development of Content Management Systems (CMS) based on Web technology, such electronic bulletin boards can easily be established, and have come to be actively utilized aiming for knowledge sharing and holding discussions among small groups. However, there is a problem with such small groups. The lack of users who post their opinions may provide less effective information, resulting in knowledge not being actively shared. Additionally, another problem is that holding discussions on an electronic bulletin board could make it difficult to reach a conclusion, and it is hard for an examination to become multilateral.

In this study, we have attributed the above mentioned problems to the characteristic of a bulletin board in that a user who posts his opinion cannot know the response of readers who do not post their opinion. To solve these problems, we have considered that it would be effective to transmit information in a way that lessens psychological pressure for readers who do not post opinions. Focusing on the voting function as a potential means, we have proposed several methods by expanding the voting function so that this function can be applied to any posts at any time. In addition, we have aimed to empirically clarify that these methods would be effective under certain conditions. The following three findings were obtained by this study. First, in the experiment with the aim of knowledge sharing by exchanging questions and answers in a smaller group, postings related to the purpose of the group then became interactive, namely knowledge sharing was actively conducted, when readers voted subscribing their names. Second, in the experiment to hold discussion to resolve cognitive differences within a smaller group, tags were used to clarify the viewpoints made by posters, and voting was conducted on those viewpoints. When voting was conducted, the discussion between users having different viewpoints became active, and many constructive (good) actions so that user can try to reach agreement positively were observed. Third, in the experiment with the aim of knowledge sharing, readers voted without subscribing the names. In addition, in the experiment of holding discussions, readers voted for postings without using tags that clarify viewpoints. In each of cases, the effect of improvement was small, or to the contrary, negative effects were observed.