Creative thinking support system based on Text Mining

Shuzo Kaneko

School of Knowledge Science,
Japan Advanced Institute of Science and Technology

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Abstract

In this thesis, we propose our research to support idea generation with computer system.

Creative thinking process of human is located the most upward in problem solving process.Creative thinking process is divided into a process to generate fragments of ideas, called divergent thinking, and a process to arrange ideas, called convergent thinking.

Brainstorming is one of the most major methods of idea generation, following four rules of prohibition from criticizing, respect of quantity of ideas than quality, unrestricted thinking and encouragement of combination.When divergent thinking is done with more than one person, a new idea can be formed in the hint by the other people's idea.But, even when devergent thinking is done with more than one person, there is a problem that it is not an any further.

So, in this thesis, we propose a creative thinking support system in order to overcome these weak point. we use TextMining technique from the home page related to a considering theme when divergent thinking. Our system gives some hints as key word that is relates to the idea that was shown already by the user.

How to make a concrete system,first we convert the homepage related to the theme into text information, and resolve it into the key word by using the morphological analysis tool.Next, a key word database is made from the resolved key word, and some asocciation rules are formed by using algorithm for mining association rule used with DataMining.As for the rule, association is imagined easily is removed by the filtering, and a hint database is made.Visualization method for some hints to the user is done by calling it by CGI from the hint database.

In the evaluation of the usual creative thinking support system compare often two systems when it has a new function and when it lack a new function. But we made dummy system that it forms some hints at random, and evaluated our system's usability by comparison with dummy system.

In this paper, we proposed a new creative thinking support system that gave the user some hints that used TextMinig technique from the homepage which related to the theme.Then, evaluated by comparing a dummy system with our system.The result of the evaluation experiment, we proved it to be useful in divergent thinking.

In future, we list further inspection of our system's usability and integration with some convergent thinking system.