SUMMARY OF Ph.D. DISSERTATION

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Title

電子辞書を用いた発想支援システムに関する研究

Abstract

Demand for system supporting human creative thinking is increasing nowadays. In the creative engineering field, although many methods to give a person a trigger that extends idea have been proposed, few methods are implemented on machine except for KJ method. Recently, electronic dictionaries with large-scale knowledge have been developed. However, most of the studies using electronic dictionary are for natural language processing.

Concerning these problems, this study attempts to investigate which method is suitable for the creativity support system using knowledge databases. And it attempts to implement new creativity support systems using large-scale knowledge database based on suitable methods. In this paper, two new creativity support systems are proposed; one of them supports human symbolic creativity thinking, and the other supports human paternal creativity thinking.

Chapter 1 is the introduction and describes the research motivation and issues.

In chapter 2, the results of investigation which method is suitable for creativity support system are described.

In chapter 3, a new creativity support method based on combination of morphological analysis method and modified input-output method is proposed. This new method can support human general creativity thinking. And a creativity support system based on this method using electronic dictionary is implemented. This system supports human symbolic creativity thinking.

In chapter 4, a new creativity support system using electronic dictionary based on KJ method is proposed. This system can extend human visual imagination. Although many systems based on KJ method support human symbolic creativity thinking, it can support human paternal creativity thinking.

Computer experiments show effectiveness of these proposed systems. Chapter 5 is the conclusion of this paper.