

ABSTRACT

Thesis Title : The Development and Efficiency of Book Index Database
: A Case Study of English Medical Textbooks

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The purposes of this research were : (1) to analyse design and develop Book Index Database by using CDS/ISIS program ; (2) to develop an application program for converting the scanned book index entries into Book Index Database by using OCR and Foxbase programs ; (3) to evaluate efficiency of Book Index Database ; (4) to evaluate users' satisfaction with the Book Index Database. This research studied the patterns of index entries in order to develop an application program for converting the index entries which had been scanned by a scanner and converted to text using the OCR software to Book Index Database. The publications used as samples for database creation were 40 English medical textbooks from the Residency Library Department of Surgery, Faculty of Medicine, Chulalongkorn University. The population of this study consisted of 42 residents from the Department. Fifty percent of the population,

comprising 21 residents, were randomly selected as subjects of the evaluation efficiency of the database and user satisfaction using a specially designed questionnaire.

The process and result of this research can be summarized as follows :

1. Creation of the Book Index database using CDS/ISIS program to keep index entries scanned from the text. The data were separated into 2 types, bibliographic and index entries.

2. Developed bdex.prg, an application program using Foxbase plus version 2.0 to convert the line-by-line index pattern, the one commonly used in scientific literature. The index was scanned and converted by OCR into ISO 2709 form which was ready to be imported into the CDS/ISIS database.

3. The results of the efficiency evaluation were as follows : searching the Book Index Database uses less time and produces more search results than searching directly from the Back-End-Index ($p < .01$) . The recall value and precision value are correlated ($r=.685, p < .01$). The average recall and precision ratios were 84.35:100 and 78.95:100.

4. The level of satisfaction of the database users was at a high level ($\bar{X}=4.43$).