

**十一、研究計畫中英文摘要：**請就本計畫要點作一概述，並依本計畫性質自訂關鍵詞。

(二) 計畫英文摘要。(五百字以內)

In the last decade, many data mining techniques have been proposed for fulfilling various knowledge discovery tasks in order to achieve the goal of retrieving useful information for users. Various types of patterns can then be generated using these techniques, such as sequential patterns, frequent itemsets, and closed and maximum patterns. However, how to effectively exploit the discovered patterns is still an open research issue, especially in the domain of text mining. Most of the text mining methods adopt the keyword-based approach to construct text representations which consist of single words or single terms, whereas other methods have tried to use phrases instead of keywords, based on the hypothesis that the information carried by a phrase is considered more than that by a single term. Nevertheless, these phrase-based methods did not yield significant improvements due to the fact that the patterns with high frequency (normally the shorter patterns) usually have a high value on exhaustivity but a low value on specificity, and thus the specific patterns encounter the low frequency problem. Pattern Taxonomy Model (PTM) is a pattern-based method which adopts the technique of sequential pattern mining and uses closed patterns as features in the representative. PTM uses the strategy of mapping discovered patterns into a hypothesis space and solves the low-frequency problem pertaining to the specific long patterns. However, information from the negative examples has not been adequately evaluated during the phase of concept learning in a PTM-based system. The discovered patterns then need to be evolved by exploiting such information. Therefore, this project aims to develop an effective and efficient approach for pattern evolution for overcoming the aforementioned problem. The proposed system will be examined by conducting the real knowledge discovery tasks and the experimental results will be compared to those of other existing methods.