The Construction of a Curriculum Knowledge Repository by OLAP (On Line Analysis Process) Technique – Using Taiwan’s Digital Publishing Curriculum as a Case Study

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Abstract

Due to the fast rising of OLAP (On Line Analysis Process) and Data Warehousing techniques, lately there are significant breakthroughs in the development of the Decision Support System. As the data warehouse becomes huge and continues to expand exponentially, how to search and extract useful information from the Data Warehouse quickly and effectively becomes vitally important, and it is essential to construct a process of Knowledge Discovery in Database (KDD) to further improve the quality and efficiency of the Decision Support System.

The objective of this research study is to use the website of university curriculum established and maintained by the Ministry of Education (MOE, Taiwan) to find specific data population and construct a knowledge repository as a basis for the curriculum data analysis. The elements of course data derived from the knowledge repository were analyzed using the OLAP technique to identify the status and trend development in university curriculum. The knowledge based data search and curriculum analysis program could be a useful reference for the education policymakers in planning and improving of the course curriculum.

Taiwan’s Ministry of Economic Affairs has set a high priority in promoting Information Technologies and digitize data applications. It issued “The Guideline of Strengthening Digital Content Industry” in 2002. This research intends to use Digital Publishing Curriculum in Taiwan as a case study, Data Mining technique would be used to search, extract, transform and interpret the specific curriculum data from the MOE’s website, and then OLAP, and Data Mining methods applied to support the construction of the knowledge repository and analyze specifically the current status and trend development in Digital Publishing Curriculum.

Key Words: On Line Analysis Process (OLAP), Knowledge Discovery in Database (KDD), Digital Publishing Curriculum (DPC)