A Blackboard System for University Timetabling Based on Pattern Technology

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ABSTRACT

The timetabling has always been a necessary job for the administrative work of universities. It is a very complicated problem due to the consideration of many factors and restrictions. Although many computer-based solutions have been proposed in the literature, none of them can be universally applied to each department. In this paper, we analyze every factors and restrictions of the timetabling problem. And based on the pattern technology, we use the blackboard pattern as the system architecture to simulate the manual timetabling process and seek viable solutions. Furthermore, we propose a method of evaluating a timetable and use computer science and information engineering department of DA-YEH university as our experimental target. We also compare the results of our method and existing manual approach.

Keywords : Timetabling System、Object-Oriented、Pattern Technology、Blackboard Architecture

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REFERENCES

[1] 賴永進, 1994, 結合人工智慧技術與群體決策支援環境的 大專院校自動化排課系統-排課群體協商, 大葉大學電機 工程研究所碩士論文。