University-level Automated Course Scheduling by Integrating AI Technique and Group Decision Support System - the Precedi

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ABSTRACT

Computing university course schedules is very hard. Course scheduling is basically a multiple constraint satisfaction problem, in which the determination of a solution is NP- complete. The approaches oriented to operations research simplified the problem to facilitate mathematical model building and to reduce computation time. The AI/expert-system- oriented approaches took advantage of powerful configuration tools and supplied reasoning methods, but did not completely solve the conflict problem between multiple constraints. Via literature review and system analysis, this research proposes simple heuristic rules to guide ""generate, test and debug"" strategy to automate ng. A prototype system has been developed, tested and evaluated. Course-scheduling by heuristic rules can reduce computation time significantly. And the huristic rules themselves are easier to understand than mathematical models.

Keywords : course scheduling ; constraint satisfaction problem ; operation

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