Intelligent based Multi-Agent Approach for University Timetable Scheduling System

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Authors:
Nicholas Oluwole Ogini, Noah Oghenefego Ogwara, Obeten Obi Ekabua

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Abstract

Consequently, in this paper, timetabling problem usually leads to conflicts of interest and requires both compromise and cooperation from the participant involved to solve this problem. The proposed system uses three agents: agent 1, 2 and 3 to negotiate the scheduling of courses for both lecture and examination time table. Each agent negotiates for resources according to class size and venue capacity during time tabling generation. This combinatorial problem is both NP-hard and NP-Complete. Previous researches concentrates in solving the problem using genetic algorithm (GA), Artificial Intelligence (AI) and meta-heuristic. The solutions provided are domain specific and the approach adopted in this paper, is through the use of intelligent based multi-agent system which satisfies both hard and soft constraints by improving the time and space efficiency. The system implementation uses Visual BASIC.net by adopting the object oriented analysis and design methodology approach.

References


Index Terms

Computer Science
Information Systems

Keywords

Intelligent system, time efficiency, multi agents, timetable scheduling, NP-Hard Problem, NP-Hard Complete.