

ABSTRACT

An Optimization of University Course Timetabling using Case-Based Reasoning and Graph Coloring

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University Course Timetabling (UCT) has a very challenging task to satisfy a set of stated objectives for students, lecturers, courses, rooms, and times to the highest possible extent. These objectives including the constraints must be assigned into the timeslots. This study attempts to solve the UCT problem by combining a Case-Based Reasoning (CBR) method and a Graph Coloring result. These two methods will solve satisfy the corresponding constraints, CBR to satisfy the soft-constraints and Graph Coloring to satisfy the hard-constraint. Combining these two methods has been implemented in this UCT system, which is an automated timetabling system to provide the timetable with an optimal solution.

Keywords: University Course Timetabling (UCT), hard-constraint, soft-constraint, Graph Coloring, Case-Based Reasoning (CBR), Optimal, timetabling.