



SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

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Solving the Course Scheduling Problem

Abstract

Course scheduling is a baffling and time consuming problem. Every large educational institution has to face. It is often considered that the course scheduling problem is hard, as hard as a NP-Complete problem. The problem of course scheduling algorithm has not yet been solved optimally even though there are tons of solutions based on various techniques, but all of them can solve it partially.

This thesis is dedicated to solve the course scheduling problem as it is faced when scheduling courses for the department of Computer Science at San Diego State University. The department has to spend several human-hours every semester to find a solution for the same problem. The solution proposed in this thesis is based on decomposing the problem to smaller problems and confronting them one after the other. Once all of them have been visited, the individual solutions are merged the global solution is weighed on the basis of a cost function.

The Course scheduling algorithm proposed in this thesis first allots resources to the courses. The resources are rooms and professors. The resources as well as courses have their constraint that need to be satisfied completely or partially. The second part of the algorithm is scheduling the courses to the time slots in a way that the constraints are satisfied. The next step is calculating the cost for this solution and then comparing it with previous solutions. The result of the algorithm is the course schedule with professor and rooms assigned.

Thesis Committee

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