Abstract

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Automatic Generation Of University Timetables: An Evolutionary Approach

an educational timetabling is a multi-dimensionalhighly constrained problem. generating educational timetables manually often involves numerous rounds of changes before they can be satisfactory. usually such a process takes several days,often the quality of the timetables is compromised due to pressure to release the timetables on time. automatic generation of timetables then seems to be an attractive to manual approach. but this approach is not without problems. in fact, most timetabling problems are np-completemost researchers are interested in investigating efficient algorithms for solving the problem. in this paper, a university timetable problem formulation is introduced followed by recent approaches for solving the problem. after that, a genetic algorithm (ga) is presented to efficientlyeffectively solve the problem. the proposed ga has a flexible representation that handles all the college timetables at once. it incorporates repair strategies to always guarantee the creation of a feasible timetable which satisfies constraints that must not be broken. the algorithm is implementedapplied to create timetables for the college of computing at the arab academy for sciencetechnology (aast) in egyptit shows promising results.