



OPTIMAL CAR DISPATCHING FOR ELEVATOR GROUPS USING GENETIC ALGORITHMS

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ABSTRACT—The car dispatching problem in an elevator group consists of assigning cars to the hall calls at the same time that car call are served. The problem needs to coordinate the movements of individual cars with the objective of operating efficiently the whole group. In this paper, we propose an elevator group control system based on a genetic algorithm which makes use of a novel fitness function to evaluate the individuals. The fitness function allows a quick execution of the algorithm. Tests are provided for various types of high-rise buildings to assess the elevator service performance. Comparative simulations show that our genetic algorithm outperforms traditional conventional algorithms developed in the industry. It is important to note that the algorithm is quickly evaluated allowing a real-life implementation.