

Scheduling Meetings by Agents

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Abstract

The Scheduling of Meetings of multiple users is a real world problem that was studied intensively in recent years. Most former studies used a simplified version of the problem as a benchmark for evaluating constraint satisfaction and optimization algorithms. The present paper investigates the variety of aspects that need to be taken into consideration in order to design a realistic model for representing and solving meetings scheduling problems (MSPs). The proposed model represents the multiple components of the real-world problem in terms of their utilities and costs and enables the use of constraints optimization algorithms to solve MSPs. A central component of the proposed model of MSPs is a mechanism to balance the trade-off between competitive and cooperative environments. Agents solve the problem by balancing the global (e.g., cooperative) optimum against typical self-interests of users. These are represented in the model by the quality of the resulting personal schedule. The experimental evaluation of the features of the proposed model uses a complete optimization algorithm and an alternative Local Search Algorithm which produces a high quality (but not necessarily optimal) solution in a reasonable time.