Preface

The PlanSIG workshop is (usually) a yearly forum where academics, industrialists, and research students can meet and discuss current issues in an informal setting. We especially aim to bring together researchers attacking different aspects of planning and scheduling problems, and to introduce new researchers to the community. In recent years the SIG has attracted an international gathering, and we continue to welcome contributions from around the world.

Topics of interest of PlanSIG include (but are not limited to):

- Algorithms: Novel planning and scheduling algorithms.
- Applications: Empirical studies of existing planning/scheduling systems; domain-specific techniques; heuristic techniques; user interfaces for planning and scheduling; evaluation metrics for plans and/or schedules; verification and validation of plans and/or schedules. Application examples of real world problems are particularly welcomed.
- Architectures: Real-time support for planning/scheduling/control; mixed-initiative planning and user interfaces; integration of planning and scheduling; continuous planning systems; integration of planning/scheduling and Fault Detection Isolation and Recovery (FDIR); planning and scheduling in autonomous systems.
- Artificial Intelligence and Operations Research: Comparative studies and innovative applications combining AI and OR techniques applied to scheduling and/or planning.
- Constraint-based Planning/Scheduling and Control Techniques: Constraint or preference propagation techniques, variable/value ordering heuristics, intelligent backtracking/RMS-based techniques, iterative repair heuristics, etc.
- Coordination Issues in Decentralised/Distributed planning/scheduling: Coordination issues in both homogeneous and heterogeneous systems, system architecture issues, integration of strategic and tactical decision making; collaborative planning/scheduling.
- Environmental and Task Models: Analyses of the dynamics of environments, tasks, and domains with regard to different models of planning and execution; verification and validation of domain models.
- Formal Models: Reasoning about knowledge, action, and time; representations and ontologies for planning and scheduling; search methods and analysis of algorithms; formal characterisation of existing planners and schedulers.
- Intelligent Agency: Resource-bounded reasoning; distributed problem solving; integrating reaction and deliberation.
- Iterative Improvement Techniques for Combinatorial Optimisation: Genetic algorithms, simulated annealing, tabu search, neural nets, etc. applied to scheduling and/or planning.
- Knowledge engineering for planning: Domain construction tools and techniques, knowledge elicitation, ontology development.
- Learning: Learning in the context of planning and execution; learning new plans and operators; learning in the context of scheduling and schedule maintenance.
- Memory Based Approaches: Case-based planning/scheduling; plan and operator learning and reuse; incremental planning.

- Planning/scheduling under uncertainty: Coping with uncertain, ill-specified or changing domains, environments and problems; application of uncertainty reasoning techniques to planning/scheduling, including MDPs, POMDPs, Belief Networks, stochastic programming, and stochastic satisfiability.
- Plan Recognition: Techniques for identifying plans, actions, and goals, and particularly the connection between such techniques and traditional planning approaches and representations.
- Reactive Systems: Environmentally driven devices/behaviours; reactive control; behaviours in the context of minimal representations; schedule maintenance.
- Robotics: Motion and path planning; planning and control; planning and perception, integration of planning and perceptual systems.

The workshop received twelve submissions which have all been accepted. Ten of those have been included in this volume.

January 2017

Lukáš Chrpa
Simon Parkinson
Mauro Vallati
(Chairs)

Organization

Chairs

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Simon Parkinson   University of Huddersfield, UK
Mauro Vallati   University of Huddersfield, UK

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