Preface

Since 1992, the International Conference on Artificial Intelligence Planning and Scheduling (AIPS) has been held every other year, alternately with the European Conference on Planning (ECP). From 2003 on, these two conferences will be joined into the International Conference on Automated Planning and Scheduling (ICAPS), leaving the sixth AIPS in 2002 as the final exemplar of its species and making the transition towards the 13th ICAPS.

Within the ten years of existence of AIPS conferences, the field of AI planning and scheduling has made considerable progress in terms of the theoretical understanding of the fundamental problems, of different planning methods, of algorithms and systems, and of applications of all these. What is now called "classical planning," largely dominant in the generally accepted body of planning knowledge in 1992, is nowadays very well understood in theory. Algorithms for different variants thereof exist that outrun by orders of magnitude the ones known in 1992. The planning systems contest that accompanies AIPS since 1998 has contributed to this development by providing common domain description languages and benchmark problems, thereby making progress operational to some degree.

"Nonclassical" planning issues like planning under uncertainty, learning and temporal planning were of course known in 1992 — many of them in fact since the beginnings of the field in the early 1970s — and they were present in the 1992 AIPS. However, the approaches to many of them were largely tentative at that time or covered only by singular or preliminary theories, approaches, and systems. A systematic analysis of complexity and decidability issues in planning had only just begun at that time.

By 2002, considerable knowledge and experience has been achieved concerning these planning topics, new results make novel approaches to classical and nonclassical planning problems appealing, facilitating to plan in real and realistic domains. Yet, diversity is still characteristic for the field, and it shows in this proceedings volume. Clustering the state-of-the-art technical papers for AIPS 2002 was, as would be expected, a hairy and somewhat subjective matter as scientific progress seldom respects neat a-priori taxonomies. The clusters that we have formed from the 32 accepted out of 92 submitted papers reflect nicely this diversity, the wide spectrum as well as the deepening of the field when compared to 1992:

- Methods, representations and algorithms for planning are examined in different varieties.
- Analytical, theoretical, and empirical studies have been developed for many of these varieties.
- Quite a number of approaches are motivated by applications of very diverse types.
- Many of the papers are focused on or include in some form temporal planning or scheduling.

The latter point is particularly interesting. The bonds that should ideally exist between AI-based plan synthesis and OR-based task scheduling have been pointed out since long, but not much technical work has been done in the past to make them real, although it is obvious that their combination leads to highly relevant approaches and systems. Now, temporal planning comes into focus in various forms. The development of a temporal extension of the PDDL planning domain description language, used for the AIPS 2002 planning system contest, is an illustration of these concerns.

So, after all these years, AI planning and scheduling is a lively research area. This impression was underlined at the conference by the presence of a large percentage of graduate and PhD students among the participants, including authors or co-authors of accepted papers. Generous grants for scholarships from PLANET, the European network of excellence for planning, from AAAI, NASA, and RIACS have helped make possible these participations. We can see no better way for keeping a research field alive than attracting young researchers. We wish the ICAPS conference series starting from 2003 a healthy development, just as AIPS has had in the past ten years.

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