Review

On CRIKEY - A Temporal Planner Looking at the Integration of Scheduling and Planning

Summary

The writer starts by explaining what temporal planning is and the role of planning in Artificial Intelligence. He then proceeds to list several restrictions assumptions produced by Ghallab. He explains that a classical planning problems meets all the restricted assumptions, therefore it is clear that it is an unrealistic model that serves mainly as basis for extensions for other realistic models. After that the terms "PDDL", "State Space Planning", "relaxed Plan" and "GraphLan" are explained. To sum them up: *PDDL* is simply a domain and problem description language. *State Space Planning* is when a search algorithm performs the search in a space where each node represents a state of the world and each arc a state transition, *Relaxed Plan* is a plan that is generated while ignoring delete effects of actions and *GraphLan* is a plan generation technique.

The following chapter begins by explaining temporal planning again. The writer then shows us how temporal constraints are represented in *PDDL2.1*, which is also introduced in this chapter. The only way to get temporal information to a plan is through the use of durative actions.

Next we learn that CRICKEY has a predecessor, which had the same basic architecture for separating and solving the planning and scheduling problems independently. In some domains the predecessor would produce plans that the scheduler can't schedule and CRICKEY solves this problem. The CRICKEY planner itself was implemented in java using forward chaining heuristic planning. Afterwards the writer shows us the workings of CRICKEY. We learn how CRICKEY keeps track of of the different variables, detecting envelopes, the mini-scheduler and the scheduler.

Positive Feedback

- You managed to explain the mechanisms of CRICKEY without using pseudocode, which I personally find much better.
- The use of diagrams is very helpful.

Negative Feedback

Major

- Sometimes you dive way deep into the topic when explaining a term, although it is not always necessary. For example the section explaining temporal constraints could've been smaller in my opinion.
- The paper could be shorter.
- I would've loved to see a comparison between this algorithm and the state of art or an analysis of the efficiency of the algorithm.

Minor

- "existency a set of goal states" - I feel this sentence is missing something, existency of maybe? The word existency is also not commonly used at all. I prefer the word existence.
- "sequentialised" - I never saw this word before. I think you meant sequential.