RESEARCH REVIEW

Historical developments in the field of AI planning and search

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STRIPS (Stanford Research Institute Problem Solver)

STRIPS is an automated planner and it was firstly developed by Nils Nilsson and Richard Fikes in 1971, the name later on was used to refer to the formal language of the inputs to the planner. STRIPS was developed as the planning component for the software used in the Shakey robot project which one of the early major breakthroughs of Artificial intelligence. In addition to the language behind this planner was very influential as it is still used nowadays and it is called the “classical” language.

PDDL (Problem Domain Description Language)

It was introduced in 1998 by Drew McDermott and it was an approach to standardize Artificial Intelligence planning languages. It was influenced by STRIPS and ADL and it became the standard planning language for the international Planning Competition since 1998. PDDL is proposed to express the “physics" of a space, that is, the thing that predicates there are, what activities are conceivable, what the structure of compound activities is, and what the impacts of activities are.

GRAPHPLAN

In Artificial Intelligence there needed to be an algorithm to search the problem space to find the solution , GRAPHPLAN was developed by Avrim Blum and Merrick Furst in 1995 and it takes a problem as input but it should be expressed in STRIPS and it produces a plan for reaching the specific goal. It first constructs the planning graph with the mutexes between the stats and actions and then while finding an optimal solution we sort these mutexes out to find the right one.

References

Stuart J. Russell, P. N. (1995). *Artificial Intelligence: A Modern Approach.*

A. Blum and M. Furst (1997). Fast planning through planning graph analysis. Artificial intelligence. 90:281-300.