Report

Influence of Early Automated Planning Systems in Artificial Intelligence

STRIPS (Stanford Research Institute Problem Solver) was an automated planning system developed by Richard Fikes and Nils Nilsson in 1971 at Stanford Research Institute International^. It was the first major planning system designed as the planning component for the software of a project at SRI. Its control structure was based on the **General Problem Solver** ^, which was a state space search system that used means-ends analysis. Deciding whether any plan exists for a propositional **STRIPS** instance is PSPACE-complete. Various restrictions can be enforced in order to decide if a plan exists in polynomial time or at least make it an NP-complete problem.^

The representation language used by **STRIPS** has been far more influential than its algorithmic approach*. **ADL** (Edwin Pednault 1987), Action Description Language is an automated planning and scheduling system mainly created for the purpose of robots^. It was observed that the expressive power of **STRIPS** was susceptible to being improved by allowing the effects of an operator to be conditional. Thus it can be considered as an advancement to the **STRIPS** language as it made it possible to encode more realistic problems by relaxing some of the restrictions posed by **STRIPS** such as it enabled the use of negative literals too^.

The **Planning Domain Definition Language** (Drew McDermott, *et. al 1998)* ^ is an attempt which was inspired by the above languages in order to standardise **Artificial Intelligence** planning languages. It was introduced as a computer parsable, standardised syntax language for representing planning problems and has been mainly used in International Planning Competition^. There have been extensions of this language and the current version is **PDDL 3.0**, which includes plan constraints and preferences.

Sources :

1. ^ Wikipedia
2. *. Artificial Intelligence: A Modern Approach by Russell and Norvig