Planning historical development review

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This is a short review about popular AI planning and Search development, highlighting the relationships between them and their impact on the field of AI.

1. **St**anford **R**esearch **I**nstitute **P**roblem **S**olver(STRIPS) ia the first major planning system. STRIPS is automated planner developed by Fikes and Nilsson, 1971 in SRI international[1]. STRIPS is the base for most of the languages for expressing automated planning problem instances in use today; The impact of STRIPS is such great in terms of representation language[2]

2. The **P**roblem **D**omain **D**escription **L**anguage(PDDL) was introduced as a computer-parable, standardized syntax for representing planning problems and has been used as the standard language for the International Planning Competition since 1998. [3] PDDL is developed by Ghallab et al. in 1998 and inspired by STRIPS and Action Description Language(ADL)[4]. Unlike STRIPS, PDDL has no delete list - instead of deleting (on a b) one simply asserts (not (on(a b)). If an action's effects does not mention a predicate P then the truth of that predicate is assumed unchanged by an instance of the action.[5]

3. **P**artial-**o**rder **p**lanning(POP) dominated 20 years of research since 1970's. Yet the first clear formal exposition was TWEAK, a planner that was simple enough to allow proofs of completeness and intractability of various planning problems. POP fell out of favor in the late 1990s as faster methods emerged. Then Nguyen and Kambhampati suggest that a reconsideration is merited, their REPOP Planner scales up much better than GRAPHPLAN in parallelizable domains and is competitive with the fastest state-space planners.[6]

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[1] Richard E. Fikes, Nils J.Nilson(1971), 'STRIPS: A New Approach to the Application of Theorem Proving to Problem Solving'.
[2] Stuart J. Russell, Peter Norvig(2010), Artificial Intelligence : A Modern Approach
[3] Stuart J. Russell, Peter Norvig(2010), Artificial Intelligence : A Modern Approach
[4] Stuart J. Russell, Peter Norvig(2010), Artificial Intelligence : A Modern Approach
[5] McDermott, Drew et al. (1998), PDDL - The Planning Domain Definition Language version 1.2
[6] Stuart J. Russell, Peter Norvig(2010), Artificial Intelligence : A Modern Approach