

Research review

1. STRIPS:

This was the first major planning system. It was designed as a planning component of the software for Shakey robot project at SRI. It was a state space search system. The most important influence of STRIPS was that it led to the development of PDDL (AIMD Edition 3). The Shakey robot provided context for the development of A* search algorithm (STRIPS, a retrospective by Fikes and Nilsson).

2. Linear planning was solving a problem by decomposing it into sub problems and solving each sub problem. Linear planning was used in the 1970's; this however was soon discovered to be incomplete, so there was a need for plans that could perform different actions from different sub plans. The solution to this was goal-regression planning. In regression planning the nodes are goals defined by sets if assignment to features, and edges correspond to actions. Here the start node is the goal, hence it is called regression planning. The goal-regression planning was used in the famous WARPLAN planner.(reference http://artint.info/html/ArtInt_207.html)

3. SAT and constraint satisfaction, many problems have too many states to be considered one by one. In such a case factored representation allowed for easier representation of states. SAT are low consumers of memory and can be executed with memory requirements in linear in length of the plan.(reference <https://users.ics.aalto.fi/rintanen/planning.html>)