

# Historical Developments in Planning and Search

## STRIPS

STRIPS (Stanford Research Institute Problem Solver) was first developed by Richard Fikes and Nils Nilsson while working on a project called “[Shakey the Robot](#)” at the Artificial Intelligence Center of Stanford Research Institute (now called SRI International). STRIPS developed from the need to be able to model a problem solving program which could create action plans from a given initial state that would reach a goal state. STRIPS was important for the foundational work it created in preparing the way for other action planning languages to derive from.

## ADL

ADL (Action Description Language) was developed in 1987 by Edwin Pednault. STRIPS is insufficiently expressive for some real domains <sup>1</sup>. ADL is considered an extension to STRIPS as modifications and adjustments were made to allow for more expressive way of modeling certain scenarios. In addition, in the world of STRIPS, if something is not explicitly defined then it is assumed explicitly *False* (closed world assumption). In ADL anything not explicitly defined is considered *Unknown*, rather than explicitly *False* (open world assumption).

## PDDL

PDDL (Planning Domain Definition Language) is an attempt to standardize Artificial Intelligence planning languages. It was first developed by Drew McDermott in 1998. The major change in approach it took from STRIPS and ADL is that it separates the model problem into 2 parts. The first is the *domain description* and the second is the *problem description*. In this way several *problem descriptions* can be attach to the same *domain description*. The combination of the *domain description* and *problem description* then become the inputs to the AI planner.

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1. AIMA - Chapter 11, page 378