

Shopper: Plan Interpreter Demonstration

Storyboard for ICAPS 2010 System Demonstration

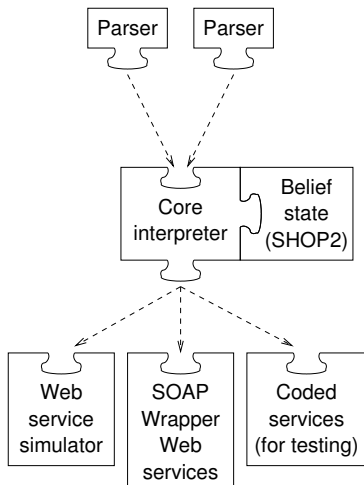
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We will begin with an overview of the system.

- Shopper interprets LTML plans. LTML is an extension of PDDL with:
 - Actions that have outputs.
 - Complex control structures (if desired).
- Shopper enables researchers to move beyond validation of plans to testing of plans.
- Shopper includes an easy-to-program simulator.



We will next illustrate basic system operation.

- Examples of LTML plans.
 - Zoom in on an operator — PDDL-like (LTML notation).
 - Web service markup.
 - LTML control structures
 - Linear classical plans.
 - Looping and branching plans.
- Demo of plan execution.
 - Web services accessed using SOAP.

Modeling Web Services in Simulation

We will then demonstrate the system's support for simulation.

Motivation:

- Working with real web services is not ideal for experimentation, debugging, etc.
- Most web services backed by databases: cumbersome to refresh, reinitialize when debugging plans.
- Shopper incorporates a simulator for the web services which incorporates a Prolog-style state model.
 - Belief state corresponds to the state of the world.
 - Hidden from the executing agent, whose belief state includes only what it is able to query and infer.

Demonstration:

- Illustrate excerpt of source behind service simulation.
- Plan execution against a simulated web service
 - Side-by-side comparison of agent's belief state vs. web services' actual state.

Summary: Why should you care?

We will conclude with a short summary of the system's contributions.

We have built an interpreter for an extension of PDDL.

- Incorporates a simple, very flexible simulator.
- Provides an easy framework for planning-related experimentation.
 - General, web service-friendly framework.
 - Extend plan evaluation from validation (e.g. VAL) to testing.
- Useful GUI debugging environment.