Graph-Relational PSOATransRun Reasoners at RuleML.com.org

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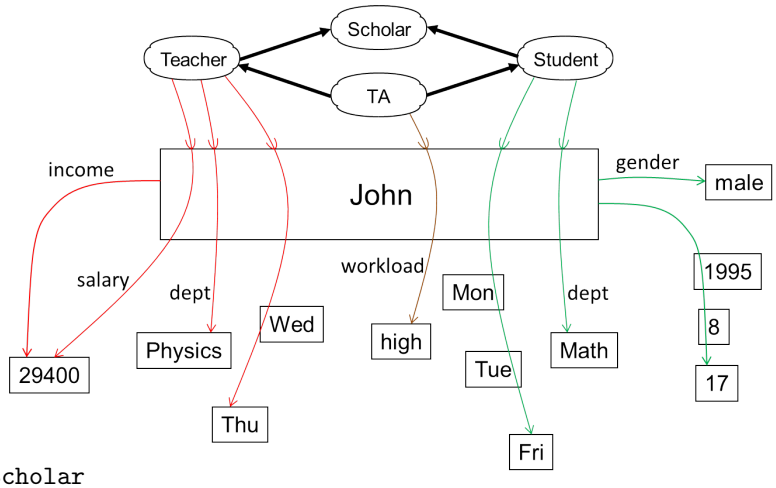
PSOA RuleML languages enrich multiple inheritance and multi-membership from classical object-oriented programs and databases to *perspectival* data & knowledge representation.

"Rich TA" example of graph-relational data with (in)dependent slots and tuples:




```
Teacher##Scholar                                                    % Taxonomy
Student##Scholar
TA##Teacher
TA##Student
John#TA(workload+>high)                                             % Data
John#Teacher(+[Wed Thu] dept+>Physics salary+>29400 income->29400)
John#Student(+[Mon Tue Fri] -[1995 8 17] dept+>Math gender->male)
```

Such factual data can be generalized to rule knowledge like `?o#TA(workload+>high) :- ...`, where querying by (non-)perspectival fact retrieval is generalized to rule-based inference.

PSOATransRun is the open (Java-)source reasoning framework for PSOA at RuleML.org, with translators to XSB & SWI Prolog's and TPTP's runtime engines (current release: **1.4.2**). Our test and use cases show efficiency advantages of dependent and tupled representations. These reasoners are to be complemented by one at RuleML.com, with advanced language-uniform UI (much beyond Web-based UI for earlier release: psoademo-chatty-cat.eu-gb.mybluemix.net). RuleML.com will support RuleML.org by reflecting the RuleML specification of PSOA languages.

PSOA use cases, efficiently realized with PSOATransRun, include Port Clearance Rules, Medical Devices Rules, and Air Traffic Control (ATC) Knowledge Base (KB).

psoa.ruleml.org/learn is a resource page on PSOA syntax, (query) semantics, and tools.

RuleML.com services *include general PSOA consulting (harold.boley at ruleml.com) as well as building customized PSOA KBs and training users (theodoros.mitsikas at ruleml.com).*