

The recent proposal SPIN takes this as a starting point to propose a modeling language over SPARQL. Its main ideas and features include:

- It uses ideas of object-oriented modeling in associating rules to classes; thus rules may represent behavior of that class, and may not exist on their own (though global rules can also be defined).
- It expresses rules by SPARQL CONSTRUCT, DELETE, and INSERT, and constraints using the SPARQL ASK construct.
- It provides abstraction mechanisms for rules using Templates, which in essence encapsulate parameterized SPARQL queries; and user-defined SPIN functions as a mechanism to build higher-level rules (complex SPARQL queries) on top of simpler building blocks.

As a proof of concept, the OWL2 RL rules have been expressed in SPIN. For example, the rule

$$C_2(X) \leftarrow C_1(X), \text{equivalentClass}(C_1, C_2)$$

can be represented in SPARQL as:

```
CONSTRUCT {
    ?X a ?C2.
}
WHERE {
    ?X a ?C1.
    ?C1 equivalentClass ?C2.
}
```