

Listing 3: Example of a property with annotation Embedded.

```
<owl:ObjectProperty
  rdf:about="#hasProduct">
  <serin:embedded/>
  <rdfs:domain
    rdf:resource="#SellProposal"/>
  <rdfs:range rdf:resource="#Product"/>
</owl:ObjectProperty>
```

For its turn, when it needs to insert/update data in a host, the client agent can send the request with correct information because the data schema is already known. This can contribute to improve performance requirements.

6. CONCLUSIONS

This article describes an approach to provide integrity constraints to semantic data services. This approach adheres to the local closed world assumption.

This proposal is a step towards building a web of interconnected data that is available for writing. It allows clients to persist data in hosts databases without violating the established integrity constraints.

We have introduced a set of new annotations reaching those used in the semantic interfaces that describe the semantic data services. These annotations provide an integrity constraint analogous to the constraints found in relational data models. This mechanism allows SDS to validate the data that they process.

Our implementation for this proposal¹ uses Java language and the Jena framework. This implementation was evaluated against other data service proposals. Some related works use the closed world assumption without adopting semantic Web standards. Other proposals have adhered to the Semantic Web but they still presents some challenges regarding the data write permission to the web services clients. SDS fills some gaps observed in these studies.

As future work, we intend to include a mechanism for access permission for data writing. Other possible studies are: the construction of data access concurrency control; transaction control; and the definition of URIs to run parameterized queries, e.g. paging and selection filters.

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8. REFERENCES

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¹An working example may be seen at <http://opendataserin-unifor.rhcloud.com/>.