Initial Notes for the W3C's *Basic Principles for Managing an RDF Vocabulary* Contribution

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This document presents initial notes on possible DERI, NUIG contribution to the W3C SWD *Basic Principles for Managing an RDF Vocabulary* document. Main sections (according to the draft at `http://www.w3.org/2006/07/SWD/wiki/VocabMgtDraft`) affected:

- **3. Articulate your Maintenance Policies**
- **4. Identify Versions**

General relevant background and plans of the contributors:

- research in dynamic ontology lifecycle [3]
- special emphasis on:
  - ontology learning in data-intensive domains
  - (mainly learned) ontology integration [2] into laymen-oriented collaborative framework for ontology development [1]
  - resolution of issues resulting from the above two points – mainly using ontology versioning, alignment, negotiation, merging, reasoning (e.g. dynamic inconsistency resolution), automatic evaluation, etc.
- during the year 2007 (final KW year), planned initiation and realisation of an industry transfer of the lifecycle implementation (currently in progress) and related technologies (mainly in the bio-medicine domain)

1 Articulate your Maintenance Policies

General issue – coverage of the use-case when the users are ontology developers, at least to some extent, at the same time (scientists, librarians, etc., using their expert domain knowledge when developing "their" ontology by means of user-friendly and laymen-oriented interfaces).

This is somehow outside the usual dichotomy of developers/users, nonetheless, this use case could be in our opinion very practical with growing adoption of wiki-like [4] and other collaborative interfaces [1] for ontology development.

Preliminary notes on other more specific maintenance issues to be possibly added:

1. some material on collaborative development – how to negotiate, accept/reject and document changes in a distributed collaborative environment

2. some material on how to incorporate automatically extracted knowledge in a "best" way (if neede at all) – perhaps partially in line with a "protocol" proposed within the previous point

2 Identify Versions

Preliminary notes:

1. as one of the "technical" examples, describe the versioning policy in a reference implementation, the SemVersion system [5]

2. develop a general recommendation in the sense of the following: manage the changing identifiers (URIs) in consecutive versions in a lexically coherent way, if possible – it allows to link the different versions of the same concept/relation by automatic means (more easily), alleviating the end user effort

3. think about the term descriptions version management – not only URIs change - this could be even more important in case of vocabularies where direct "human-readability" is crucial

4. perhaps add also more theory-based content – in line with the planned KW "theoretical" deliverable, covering (1) logical background of ontology change and (2) reasoning (C-OWL supported) with different versions of an ontology; more specifically:

    - *what* should be identified (e.g. encoded into the versioned ontology) by the developers in this respect
    - *how* it should be done (which syntactic constructs to use, etc.) in order to allow users to efficiently and clearly (unambiguously) use the vocabulary even if it changes

References

[1] S. Kruk, J. Breslin, and S. Decker. MarcOnt initiative. Líon Deliverable 3.01, DERI, Galway, 2005.

[2] V. Nováček, M. Dabrowski, S. R. Kruk, and S. Handschuh. Extending community ontology using automatically generated suggestions. In *Proceedings of FLAIRS 2007*. AAAI Press, 2007. In press.

[3] V. Nováček, S. Handschuh, L. Laera, D. Maynard, M. Völkel, T. Groza, V. Tamma, and S. R. Kruk. Report and prototype of dynamics in the ontology lifecycle (D2.3.8v1). Deliverable 238v1, Knowledge Web, 2006.

[4] S. Schaffert, A. Gruber, and R. Westenthaler. A semantic wiki for collaborative knowledge formation. In *Proceedings of Semantics 2005*. Trauner Verlag, 2006.

[5] M. Völkel and T. Groza. SemVersion: RDF-based ontology versioning system. In *Proceedings of the IADIS International Conference WWW/Internet 2006 (ICWI 2006)*, 2006.