

LODr – A Linking Open Data Tagging System

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Abstract. This demo paper introduces LODr, a service providing semantic-enrichment features for existing tagged content from various Web 2.0 services, based on the MOAT and Linked Data principles.

Key words: Web 2.0, MOAT, Linked Data, SIOC, Tagging

1 A proposal for semantically-enhanced tagging

While tagging is widely deployed on Web 2.0 websites, it raises various issues which have been largely studied and mainly consist in tags ambiguity and heterogeneity, as well as the lack of organisation between them [3]. While it may not be a problem regarding personal tagging, it becomes relevant when trying to discover and retrieve content that have been tagged by others. Our approach to solve these issues consists in letting people give meaning to their tags using URIs of Semantic Web resources, especially *reference* URIs from the Linking Open Data initiative [1]. This means modeling facts as: *"When I tag this picture 'apple', I mean http://dbpedia.org/resource/Apple_Records, i.e. the record label, not the fruit"*.

Such vision of semantically-enhanced tagging has been recently published through MOAT [5], which consists in (1) an ontology to represent relationships between tags and resources URIs, extending the Tag Ontology [4] and (2) an open-source and collaborative framework to define and share those relationships within a community and help people to bridge the gap between tagging and semantic indexing, without directly facing RDF modeling¹. This way of tagging content with URIs offer various advantages, as solving ambiguity and heterogeneity issues by dealing with machine-understandable URIs rather than words. Most important, it makes tagged data enters the Semantic Web, being inter-linked with other resources (DBpedia concepts, FOAF URIs ...), that can be used to retrieve and browse related content.

¹ <http://moat-project.org>

2 Introducing LODr

While our first experiments with MOAT have been done in a corporate context², we decided to extend the approach and implemented LODr – <http://lodr.info> –, a personal open-source application that allows one to re-tag his existing Web 2.0 content and weave it into the Semantic Web thanks to the previous principles.

LODr is thus not yet another tagging service, but a system that provide users a way to semantically enrich existing tagged data that have been created thanks to their favourite tools. The system is based on a set of wrappers (currently available for 5 different services including Flickr and Slideshare), that parse the RSS feeds of user's data, extract items and related tags and translate it to RDF using SIOC [2] and the Tagging Ontology. The data is then stored into a local triple-store and for each tagged item, the user can browse it and give meaning to its tags, using relationships that have been defined by the community, as depicted in Fig. 1. To ease the process of choosing the right meaning, human-readable labels can be displayed instead of URIs. When no URI have been previously defined or when existing ones do not correspond to the meaning of the tag in the current context, a new URI can be added, directly or using the Sindice search widget³.

As LODr is based on the MOAT principles, it requires interaction with a dedicated tag server that stores the relationships between tags and URIs for the community that uses it. While a default public server is available, a community can use the tool with its own tag server which might be useful, for instance, in a company. LODr is completely Semantic-Web based, and its RDF backend is powered by ARC2⁴. It features tagcloud and conceptcloud interfaces, different ways to browse items (all items, re-tagged items ...) and use Exhibit⁵ for faceted browsing. The whole template uses RDFa⁶, so that content can be easily discovered and crawled by dedicated semantic search engine. Moreover, as we wanted to offer value-added services to end-users, we wrote a dedicated Ubiquity⁷ command to discover tagged items when browsing the Web, e.g. to find all items linked to a DBpedia URI when browsing the related Wikipedia page.

Finally, as various *augmented-tagging* applications have been recently published, we think the originality of LODr resides in: (1) its way of linking tags and tagged data to existing Semantic Web resources, and not only relating tags together as in Gnizr⁸, which makes the application live in its own closed-world, (2) its ability to use any URI (e.g. FOAF profiles, Semantic Web conference corpus URIs) and not only DBpedia ones as in Faviki⁹, (3) its integration with existing Web 2.0 content, which does not require to subscribe to a new an independent tagging application, avoiding *social network fatigue* and (4) its complete

² <http://www.w3.org/2001/sw/sweo/public/UseCases/EDF/>

³ <http://sindice.com/developers/widget>

⁴ <http://arc.semsol.org>

⁵ <http://simile.mit.edu/exhibit/>

⁶ <http://rdfa.info>

⁷ <https://wiki.mozilla.org/Labs/Ubiquity>

⁸ <http://gnizr.com>

⁹ <http://faviki.com>



Fig. 1. Re-tagging a Slideshare item with LODr

Semantic-Web based interface and especially its RDFa output and SPARQL endpoint, which makes easy to integrate its data into other applications.

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