Modeling tags and folksonomy enrichment

Our approach aims at leveraging social web practices with socio-technical systems including semantic tools carefully designed after an analysis of the knowledge exchange practices of online communities. Among these practices, social tagging is a promising and already successful means that consists in letting the members of online communities freely tag the resources they exchange.

However, folksonomies resulting from this practice have some limitations. The spelling variations of similar tags and the lack of semantic relationships between tags hinder significantly the navigation within tagged corpora. One way of tackling these limitations is to add semantics to the tagging assignments and to semantically structure folksonomies. This can help navigate within tagged corpora by (1) enriching tag-based search results with spelling variants or related tags to extend the search, or (2) filtering tags according to their use (personal task, topic of the resource, etc) or form (free tags, machine tag, meaning URI, etc.), or (3) hierarchically organizing tags to guide novice users in a given domain more efficiently than with flat list of tags or occurrence-based tag clouds.

Regarding the specification of tagging assignments, we propose a model, NiceTag, which addresses the conceptualization of tags in order to describe the diversity of form and use they can take on. NiceTag aims at describing tag actions primarily as a link between a tagged resource and a sign used to tag, this link being typed to take into account the diverse uses of a tag. The triple describing such tag actions are then encapsulated within a named graph that allow to type the tag actions and describe complementary dimensions.

The enrichment of folksonomies with semantic relationships between tags comes as a complement to the enrichment of tagging assignments with lightweight semantics as proposed by the NiceTag framework. To this regard, we propose an approach that consists in a synergistic combination of automatic processing of the folksonomy and user's contributions. This approach is grounded on a scenario-based analysis of the usages in order to integrate this process in user's everyday tasks. Unlike other approaches that rely on users' will to specify the meaning of each tag action, we propose to structure tags at the level of the folksonomy with a limited set of thesauri-like semantic relationships, thus minimizing user's involvement. However, we also propose to support multiple points of view from the start in order to let each user maintain his own semantic structuring of the tags. Our approach also include automatic processing of the tags in order to help each individual contributors by suggesting related tags, but also in order to assist the construction of a global structuring of the folksonomy from these contributions.

Much like folksonomies, our socio-technical system let each user maintain his own view while still benefitting from others contributions. As a complement to similar approaches, our approach support conflicting point of views all along the life cycle of semantically enriched folksonomies.