

5th European NKOS WORKSHOP, ECDL 2006
Proposal for presentation

**A tentative typology of KOS:
towards a KOS of KOS?**

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The NKOS community has had a longstanding aim to describe the different kinds of Knowledge Organisation Systems, as relevant to networked terminology services, and relate them to similar knowledge schemes in other information disciplines. An initial taxonomy of KOS was one of the first items posted on the NKOS website. However progress since then has been sporadic and there is a need to further advance this agenda. This proposal aims to take some further steps down this route. The presentation will review and delineate different types of KOS and discuss appropriate roles for KOS in the Semantic Web. It will attempt to build on previous NKOS work in this area, in particular by discussing use contexts for KOS at a level high enough to allow some rough comparison with other disciplines contributing to the Semantic Web.

The presentation will review previous work in this area. Some KOS characterisations have been developed in the revised BSI 8723 and NISO Z39.19-2005 standards. Related standards but developed for different purposes have been developed by the Natural Language Processing community. An extensive review of KOS was conducted by Gail Hodge (2000) for the Digital Library Federation, which resulted in a draft KOS Taxonomy posted on the NKOS website. This work was further discussed at the 2001 NKOS Workshop at Roanoke. In particular, Soergel outlined key components and characteristics of KOS and described some different applications of KOS. There has been discussion in the NKOS community on the need to discuss different use contexts and intended purposes of KOS. For example, the very basic distinction between *classification* and *indexing* is important but sometimes conflated or misunderstood. Both processes assign descriptors or tags to information resources. Both can involve hierarchical arrangement of concepts in a KOS. However, classification seeks to group similar items together, whereas indexing seeks to bring out the differences between items, in order to help distinguish them during search. While the structure of a classification system and a thesaurus may be fairly similar, in that both consist of hierarchical structures of concepts, they will differ in the exhaustivity and specificity of their application to information items. Within the information sciences, Information Retrieval applications tend to have a slightly different approach to taking advantage of KOS resources. From the perspective of other disciplines, KOS-type structures are often applied for quite different purposes in Natural Language and AI applications. New 'social tagging' applications have emerged with related structures (folksonomies) and operations but again with slightly different intended contexts of use.

There has been interest in applying the vast legacy of KOS systems in some Semantic Web circles (as evidenced by this workshop's programme). For example, LIS-based KOS systems might be combined with AI-based ontology systems by leveraging domain KOS to help build extensive ontologies. Progress has been made in standard representations for some common KOS, at both the scheme semantic organisation level and the concept ID level. However, as evidenced by some SKOS list discussion, there

is also confusion when comparing information science KOS and ontologies, as to respective purpose and use contexts. Ontologies are sometimes discussed, without significant reference to their real world application. There is a danger that the (mostly implicit) rationale behind LIS-based KOS may not be fully understood in (some) Semantic Web developments.

The presentation will revisit the KOS taxonomy proposed by Hodge. Here KOS are largely considered by their structure, complexity and types of relations. The presentation will (tentatively) seek to extend this by a consideration of KOS purposes and contexts of use, resulting in a typology of KOS according to different aspects (facets), rather than a single enumerated taxonomy. It will go on to briefly consider various types of ontology and attempt an initial comparison of (some of) the use contexts of KOS and ontologies. It will conclude by seeking to make an argument as to a role for knowledge-based interactive tools with informal knowledge structures in the emerging Semantic Web.

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