Towards a Usable Group Editor for Ontologies

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Abstract. Ontologies represent a shared understanding of some domain of interest. Therefore, tools to develop ontologies have to support this sharing in some way. However, current tools lack support of this important aspect, if they tackle it at all. Beyond this, each interactive system cannot be limited to its utility but must also make sure that this is provided in a usable way. However, current ontology editors mostly make the impression of research prototypes, thus not caring too much about this aspect. These two problems are crucial: If we don't support collaborative ontology development, produced ontologies will always lack being product of a social process. Also if the tool support lacks usability, the ontology engineering community cannot expect to spread their ideas to a wider non-expert audience. Therefore the PhD thesis in process tries to tackle these problems and to advance the state of the art. It combines these two aspects as they intervene with each other thus making an integrated approach more promising. The improvements will be thoroughly evaluated with regard to both utility and usability.

Ontology development is a collaborative effort [1]. Although a number of tools like e.g. [2] support this idea, these approaches never really reached maturity.
Ontology development is also an interactive task, thus tool support can't be limited to utility but has to be sufficiently usable as well. Unfortunately current tools have a clear lack in this respect.
The combined existence of these two problems makes ontology development at present-day a cumbersome task. This is a major issue as it makes hardly sense to talk about the potential and the exploitation of ontologies as long as the basic step of their creation is so poorly supported.
The focus of the PhD thesis in progress is to advance the state of the art by tackling both the collaborative and the usability aspects. Respectively, the evaluation of the approach will concentrate on both usability and collaboration support. User tests as well as heuristic evaluations will be performed.
Integrating high usability and sufficient collaboration support into a single ontology editing environment has driven this research in the direction of ontological, groupware, and usability engineering. The overlap between these areas shapes the domain of this thesis.

The three foci of the thesis are applied to each other. In the respective sections, requirements are identified and matched against the current state of the art. Among others, **OilEd** [3], **Protégé** [4], **OntoEdit** [5], **Ontolingua** [1] **CES** [6] and **Quilt** [7] are considered.

Design principles to be followed are elaborated. Successively, the architecture components are addressed.

As proof of concept, a reference implementation will be provided. The tools are selected before the actual realization is addressed.

It shall be evaluated if the state of the art could really be advanced. Both collaboration support and usability of the developed tool have to be considered for this purpose.

The here described PhD thesis will show how the current state of the art of ontology editors can be improved by allowing for collaboration and increasing overall usability. The approach will be prototypically implemented. This prototype again will be evaluated thoroughly.

The prototype implementation is a currently ongoing endeavor. Main future work is to realize the collaboration support and to setup and run the user tests.

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