CoreOnto
:a semi-automated ontology building toolkit
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Abstract. Building ontology still largely depends on human annotation efforts. For example, protégé would be the toolkit for human annotators. Also, some researchers suggested automated tools, such as Text2Onto, for ontology building. However, these only-human or non-human efforts may not achieve an ultimate goal: quickly building large ontology with high quality. Therefore, we suggest a semi-automatic ontology building toolkit, CoreOnto. CoreOnto can generate an ontology structure by exploiting the triplet structure of a text sentence. At the same time, CoreOnto provides editing, visualization, corpus handling, annotation logging functions to help human annotators. This paper proposes a demonstration of CoreOnto that may be a solution to meet both quality and speed of the ontology building.

Keywords: ontology building, ontology toolkit, ontology visualization

1 CoreOnto – building ontology by human and machine efforts

Building ontology is a critical task in developing the semantic web. Thus, semantic web developers and ontology engineers used various ontology building toolkits, such as protégé or Text2Onto. These ontology building tools can be classified in two types. First, there are tools for human ontology annotators. Protégé is a widely used tool to support the human annotation effort. On the other hand, Text2Onto is a tool for automatic ontology generation from a corpus. As the logics and purposes of the two types are different, the users' goals are different. For instance, the users of the human annotation helper tool expect ontology with a better quality than a machine generated ontology. In contrast, the users of the automatic ontology generator want larger ontology than the human annotator created. However, this conflict between the size and the quality should be resolved to achieve a usable ontology by semantic web services and systems.

Therefore, we need a new toolkit to meet the above requirements. We propose the demonstration of such a tool, CoreOnto1. Figure 1 describes the work-flow of ontology building. This work-flow demonstrates how the automated ontology building algorithm and human annotation efforts work together to build a higher quality ontology quicker than the case of using only human efforts. As in Figure 2, CoreOnto has an integrated workbench in Eclipse style, a detailed log analyzer, and

1 CoreOnto is available upon request to kschoi@world.kaist.ac.kr. This work is supported by Institute for Information Technology Advancement (IITA), Korea (A1100-0601-0102)
an interactive Treemap/Concept network viewer. Furthermore, we have open APIs to support the semantic web and ontology developers.

Fig. 1. Ontology building work-flow by using CoreOnto.

Fig. 2. Screen captures of (top-left) integrated workbench, open APIs are available for the functions in the workbench, (top-right) Treemap visualization, (bottom-left) log analyzer, (bottom-right) concept network visualization.

2 http://cspublic.kaist.ac.kr:8080/Ontologyapi/WebSupport/