GernEdit: A Graphical Tool for GermaNet Development

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GernEdit

The main purpose of GernEdit (short for: GermaNet Editing Tool) is to support lexicographers in accessing, modifying, and extending the GermaNet data in an easy and adaptive way and to aid in the navigation through the GermaNet word class hierarchies. The editor acts as an interface to a relational database, where all GermaNet data is stored.

GermaNet

GermaNet is a lexical-semantic wordnet that is modeled after the Princeton WordNet® for English. It covers the three word categories of adjectives, nouns, and verbs and partitions the lexical space into a set of concepts that are interlinked by semantic relations. A semantic concept is modeled by a synset. A synset is a set of words (called lexical units) where all the words are taken to have (almost) the same meaning. Thus a synset is a set-representation of the semantic relation of synonymy, which means that it consists of a list of lexical units.

There are two types of semantic relations in GermaNet: conceptual and lexical relations. Conceptual relations hold between two semantic concepts, i.e., synsets. They include relations such as hyperonymy, part-whole relations, entailment, or causation. GermaNet is hierarchically structured in terms of the hyperonymy relation. Lexical relations hold between two individual lexical units. Antonymy, a pair of opposites, is an example of a lexical relation.

GernEdit’s Functionalities

- **Editing**: GernEdit provides a graphical user interface, implemented as a Java Swing application, which allows accessing, modifying, and extending the GermaNet data in an easy and adaptive way.
- **Navigation**: The editor aids in the navigation through the GermaNet word class hierarchies, so as to find the appropriate place in the hierarchy for new synsets and lexical units.
- **Search functionalities**: Several ways to search GermaNet are possible, e.g., direct searches for words or database IDs or lists with detailed filters of lexical units or synsets.
- **Replacement of outdated tools**: GernEdit replaces the traditional GermaNet development based on lexicographer files, which was error prone and time-consuming, by a user-friendly visual tool.
- **Internal consistency**: The editor facilitates internal consistency of the GermaNet data such as appropriate linking of lexical units with synsets, connectedness of the synset graph, and automatic closure among relations and their inverse counterparts.
- **Versioning**: An editing history makes it possible to list all modifications on the GermaNet data, with the information about who made the change and the state of the item before modification.

Collaborative annotation by several lexicographers working in parallel is supported.

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