**VISIO**

**A VISUALIZATION ONTOLOGY**

Formalizing and Sharing Knowledge in the Field of Visualization

The Visualization Ontology (VISO) aims at formalizing knowledge from the domain of visualization, in order to make it usable by machines and allow exchange between tools and users.

**MODULES**

VISO is modularized into seven ontologies (Fig. 1). The most important parts are GRAPHIC (formatting terms such as Visual Attributes, Visual Structures), DATA (allowing to characterize data variables and structures) and ACTIVITY (being concerned with the human aspects of visualization, i.e. Tasks, Actions and Operations). SYSTEM, USER and DOMAIN allow to describe the context and domain of a visualization. The FACTS module formalizes constraints and rankings (e.g. of visual means) that have been described in literature and makes this knowledge available to tools. An example use case that illustrates how these modules are used in combination is shown in Fig. 2.

**USE CASES**

Although VISO is developed for the use in semantic visualization systems, it could also be used to:

- Classify visualizations
  - improve search for visualizations and papers
  - discover "under-researched" areas

- Offer knowledge for visualization design systems
  - machine-readable and "understandable"
  - based on semantic web standards and shareable

- Consolidate vocabulary used in the field
  - clarify synonyms, homonyms, term overlap

**CALL FOR PARTICIPATION**

As ontologies represent shared knowledge, we encourage other researchers from the field of visualization to discuss the terms we chose for the initial version of the ontology, in order to yield a both broadly accepted and logically consistent knowledge base. You are welcome to contribute to the VISO development process by criticizing, suggesting new extensions or joining the developers. Please visit:

- [http://www-smt.inf.tu-dresden.de/viso/](http://www-smt.inf.tu-dresden.de/viso/)

An alpha version of VISO is online:

- [http://purl.org/viso/](http://purl.org/viso/)