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VISON: Software Visualization Ontology

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Supervisor
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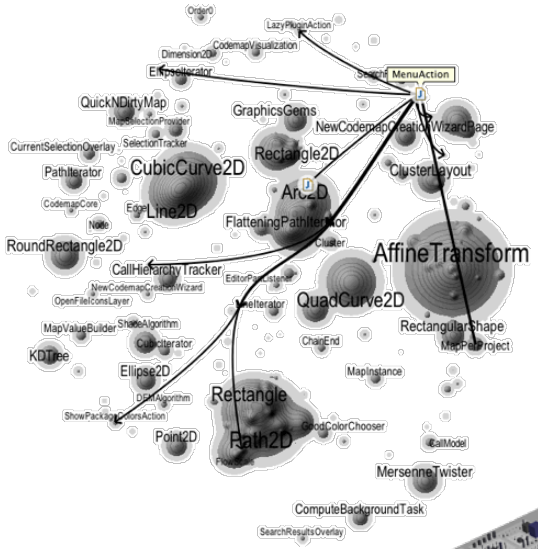
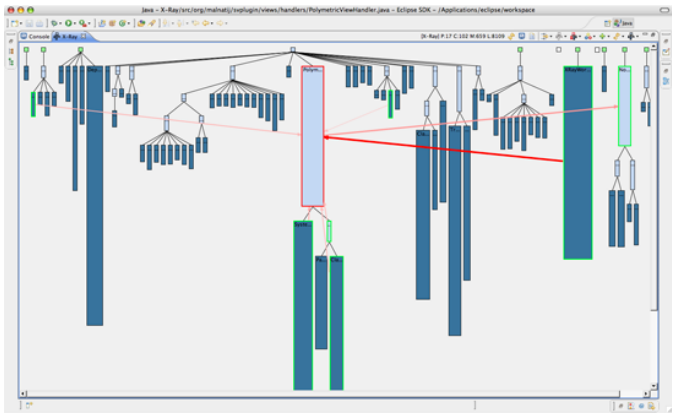
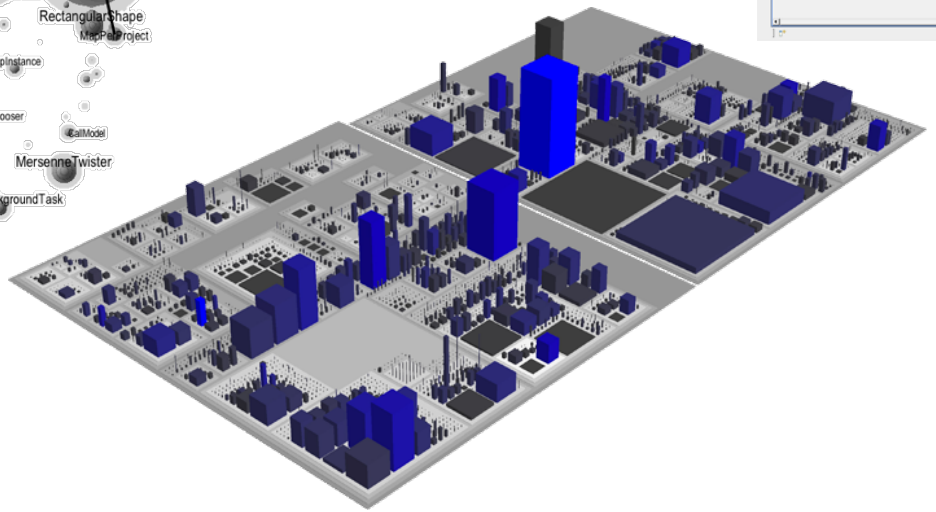
What is the purpose of software visualization?

Software visualization is the use of interactive computer graphics techniques to augment the user's capabilities to analyze software data.







How can we choose an appropriate tool for the particular task?

Choice of a software visualization tool is based on a lot of attributes:

- target data type
- available medium
- engineering task
- visualization techniques used
- which kind of users can apply it
- etcetera..

How can you find the right thing, taking into account all features at once?

What is an ontology and why do we need it?

Ontologies - explicit formal specifications of the terms in the domain and relations among them.

Tom Gruber, 1993

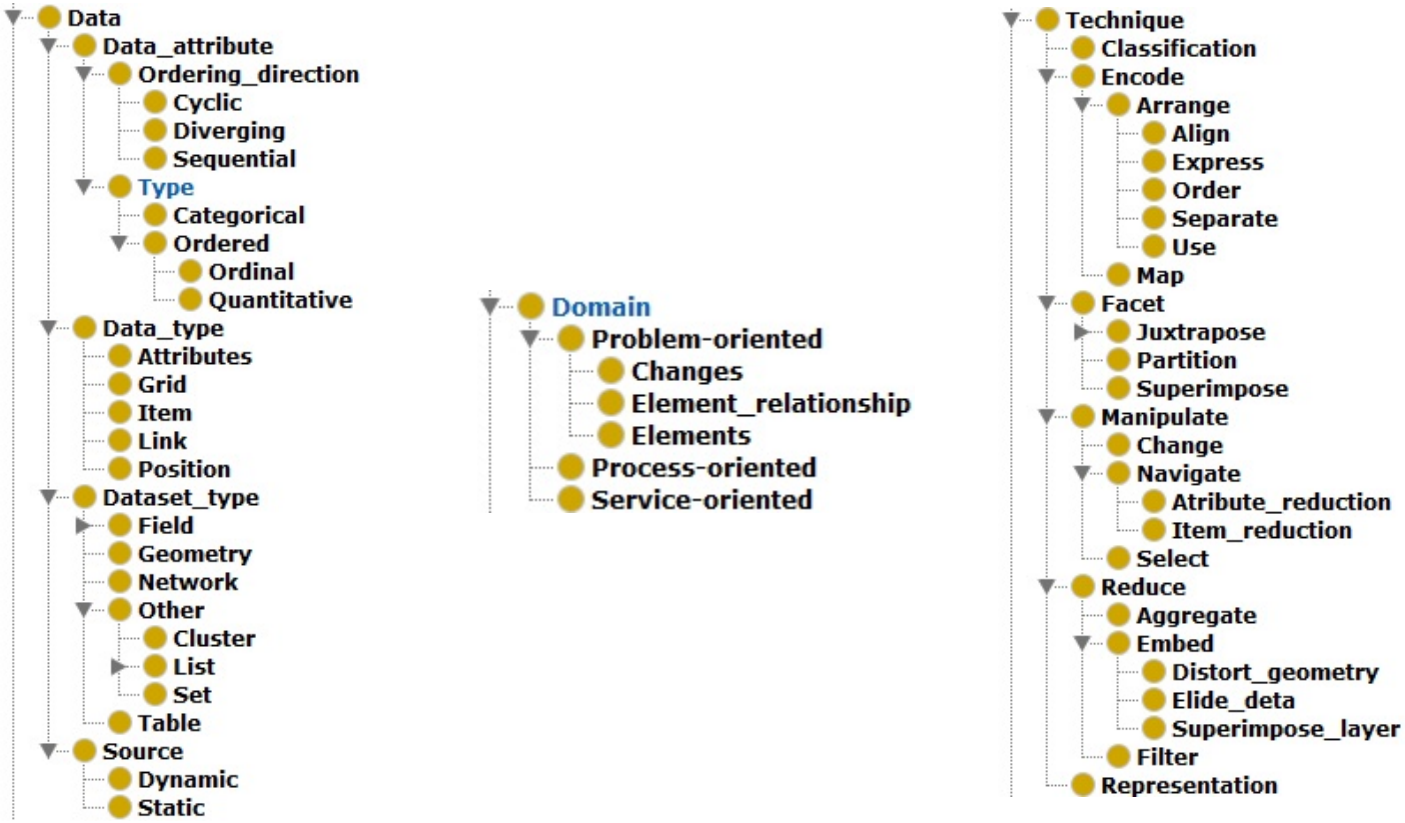
Ontologies promote to:

- share common understanding of a domain;
- reuse of domain knowledge;
- make domain assumptions explicit;
- separate domain from the operational knowledge;
- analyze domain knowledge.

Data source

- 377 papers
- published in SOFTVIS/VISSOFT venues
- paper year 2002-2017
- 89 software tools with description (information about at least one useful feature)

Information about input data, domain and technique



1. LaToza, Thomas D., and Brad A. Myers. "Hard-to-answer questions about code.“, 2010
2. Fritz, Thomas, and Gail C. Murphy. "Using information fragments to answer the questions developers ask.“, 2010
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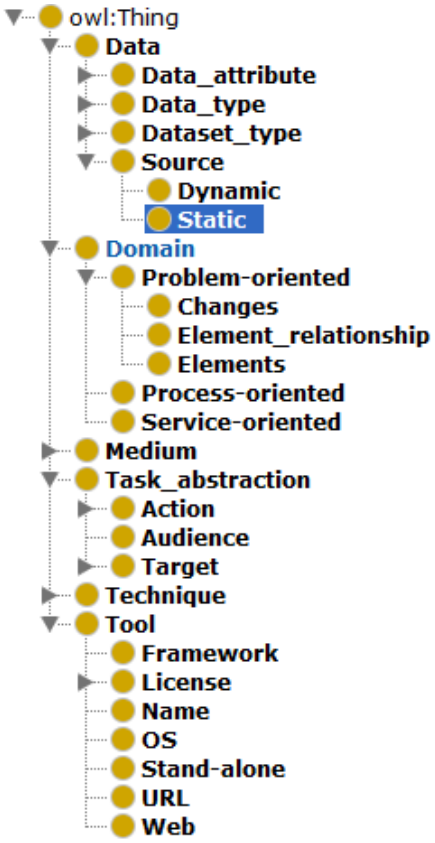
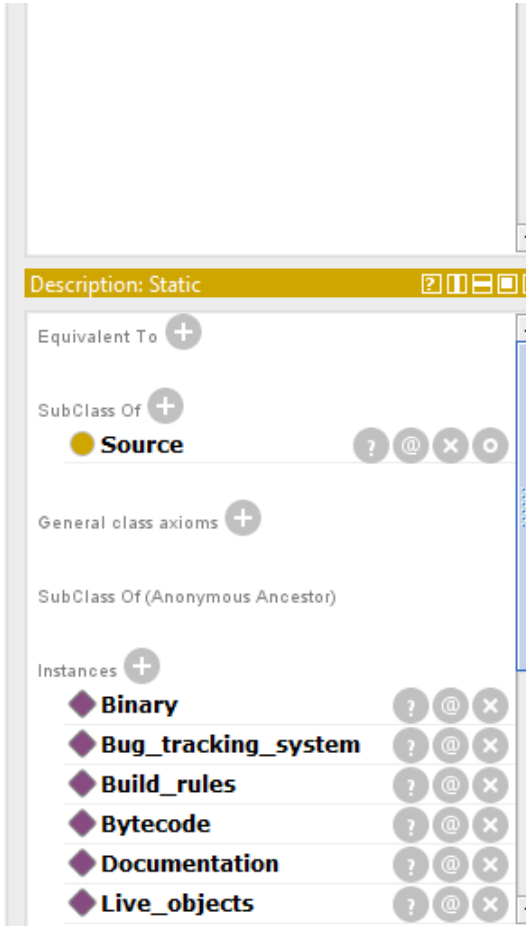
Other useful features for a particular issue

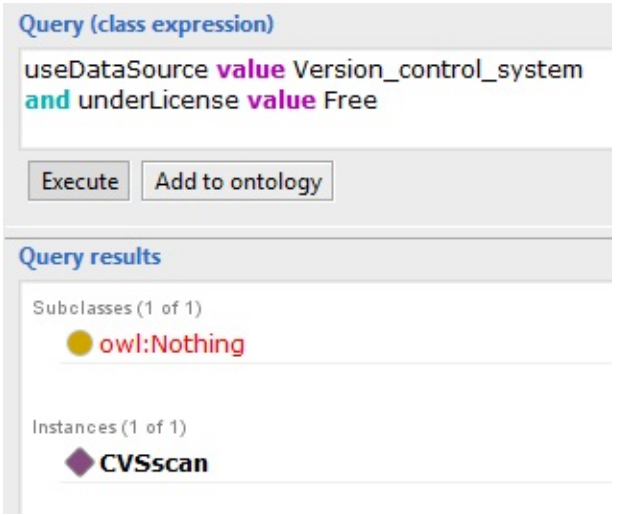
- license
- framework
- audience
- visualization task
- …

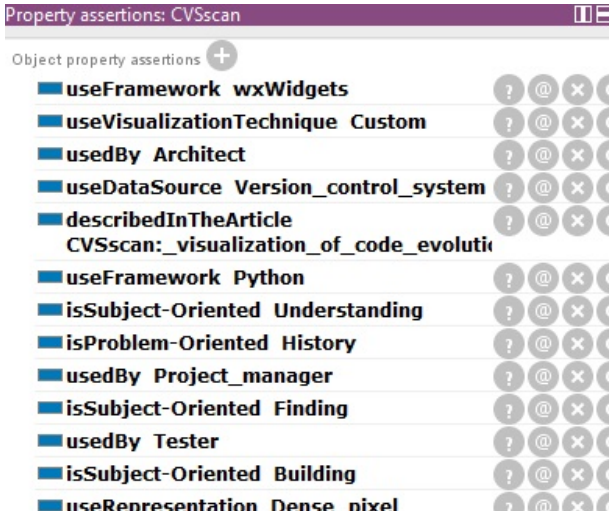
  Article:
- title
- authors
- venue (source)
- year
- …

How does it work?









Future improvements

Next steps for the project development:

- add links to official sources of software;
- complete information about articles;
- write a script that can create an ontology from xlsx/csv/json/any other structured data;
- include more constraints on data and their relationships.

Summary

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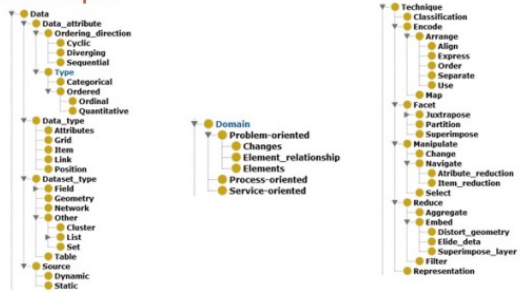
Information about input data, domain and technique



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Future improvements

Next steps for the project development:

- add links to official sources of software;
- complete information about articles;
- find and fill in ontology information about possible settings or options of software;
- write a script that can create an ontology from xlsx/csv/json/any other structured data;
- include more constraints on data and their relationships.

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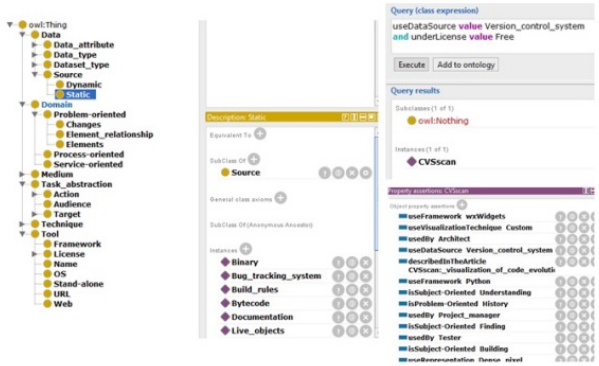
How does it work?



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