

# TP Noté sur Ontologies

1. Creation of a small ontology in Protégé
2. Linking to data via Ontop and Protégé

Deadline for submitting file: **January 19**

Short presentation: during the **week of January 23-27**

# (1) Ontology creation in Protégé

*For those who have not yet used Protégé in prior coursework*

- Pick a topic and create a small ontology in Protégé (see next slide)
- **Submit your ontology file**, making sure to include comments with short descriptions of the intended meaning of classes and properties
- **Short presentation (visio)** of your ontology, show which axioms included, show inferred axioms, explain one or two interesting entailments
- Hint: can use explanation feature both to aid in creation / debugging and to find interesting entailed axioms
- Important: *if you choose this option and have already prepared an ontology for another course, you need to let me know, submit a copy of the earlier ontology, and explain during the presentation the novel aspects you explored with your new ontology*

# Guidelines for ontology creation

- Approx. 15-30 classes, 2-5 properties
- **More important than size: use of many kinds of constructors, axioms**
  - conjunction, disjunction, forall, exists, negation, cardinality constraints
  - disjointness statements, role inverse, role inclusion, etc.
- Try to be relatively complete: add domain and range where appropriate, include all desirable disjointness statements, etc.
- Try to get at least one interesting entailment (involves non-trivial combination of several axioms) that you can describe during the presentation
- Optional: also include facts about individuals, with non-trivial entailments

# **(2) Linking data to ontologies with Ontop**

*For those who are already comfortable with OWL and Protégé*

- Do the "Basic" part of the Ontop tutorial, which involves setting up the database connection, adding mappings, running some SPARQL queries (you may also wish to read through "Mapping" part)
- Option 1: further enrich the scenario with additional mappings and/or ontology axioms (perhaps this will require adding an extra table or two to the data), and/or new queries (using extra SPARQL constructs)
  - present resulting setup during a short video call + short document summarizing your additions
  - choose a SPARQL query, which requires using the ontology axioms, and explain how it is translated into a database query
- Option 2: choose a different domain, connect either a toy dataset or real world dataset by creating some mappings, also add basic ontology (in OWL 2 QL profile) to permit entailments
  - present your setup during a short video call (in this case, you will only present your own scenario, so you do not need to complete the tutorial in detail, just enough to understand how it works)