OWL Editor Architecture

Tools: Species validation, Change history, Debugging

Ontology Management

OntologyFactories

OntologyStorers

ParserRegistry

RendererRegistry

Reasoners
Protégé 4 UI
Class Description: American

Superclasses
- NamedPizza
- hasTopping some MozzarellaTopping
- hasTopping some PeperoniSausageTopping
- hasTopping some TomatoTopping
- hasCountryOfOrigin value America
- hasTopping only (MozzarellaTopping or PeperoniSausageTopping or TomatoTopping)

Inherited anonymous classes
- hasBase some PizzaBase

Class Description: AmericanHot

Superclasses
- NamedPizza
- hasTopping some HotGreenPepperTopping
- hasTopping some JalapenoPepperTopping
- hasTopping some MozzarellaTopping
- hasTopping some PeperoniSausageTopping
- hasTopping some TomatoTopping
- hasCountryOfOrigin value America
- hasTopping only (PeperoniSausageTopping or MozzarellaTopping or HotGreenPepperTopping or JalapenoPepperTopping or TomatoTopping)

Inherited anonymous classes
- hasBase some PizzaBase
Navigation

```
hasTopping only (MozzarellaTopping
or PeperoniSausageTopping
or TomatoTopping)
```

Object Property Usage: hasTopping

Usage for: hasTopping (146 usages)

- American subClassOf hasTopping some MozzarellaTopping
- American subClassOf hasTopping only (MozzarellaTopping
  or PeperoniSausageTopping
  or TomatoTopping)
- American subClassOf hasTopping some TomatoTopping
- American subClassOf hasTopping some PeperoniSausageTopping

- AmericanHot subClassOf hasTopping some HotGreenPepperTopping
OWL 1.1
Asserted vs. Inferred

Class Description: AmericanHot

Equivalent classes

Superclasses

- NamedPizza
- hasTopping some HotGreenPepperTopping
- hasTopping some JalapenoPepperTopping
- hasTopping some MozzarellaTopping
- hasTopping some PeperoniSausageTopping
- hasTopping some TomatoTopping
- hasCountryOfOrigin value America
- hasTopping only (PeperoniSausageTopping or MozzarellaTopping or HotGreenPepperTopping or JalapenoPepperTopping or TomatoTopping)

- CheeseyPizza
- InterestingPizza
- MeatyPizza
- SpicyPizza
- SpicyPizzaEquivalent
Working with Multiple Ontologies
Asserted Class Hierarchy: Sudden_arrhythmia_risk

- Teratageneticity_state
  - Non_teratageneic
  - Potentially_teratagenic_state
- Unit
  - Duration_unit
- Self_standing_entity
- Composition
- Collections
  - Collective
  - Group
- Modality
  - Clinical_modality
    - Goal
    - Problem
    - Workflow_trigger
- Risk
  - Sudden_arrhythmia_risk
- Quality
  - Biological_quality

Class Description: Situation

Equivalent classes

Superclasses

- Composition

includes max 1 Breathing
Performance
NCI Thesaurus: Memory Required to load from RDF/XML

Memory / (MB)

Peak memory
Memory (after loading)

Protege-OWL 3.3
Protege 4 (OWL API)
Conclusions

• New architecture, with a “Native” OWL API
• Flexible dynamically configurable GUI
• Large performance improvements
Resources

http://protege.stanford.edu/download/registered.html#p4

http://www.co-ode.org

http://owlapi.sourceforge.net

http://www.webont.org/owl/1.1/