

KnowID: Query formulation on a conceptual data model with explicit inferences of knowledge

Data access is often limited by a users understanding of databases and the type of data they house, as well as their familiarity with querying languages. In order to optimize data access without the need to understand any of the aforementioned details, our project provides users with a visual query tool. The other component for this is the ability to edit implicit inferences on a EER-tailored model for more expressivity.

Materialization of Deductions

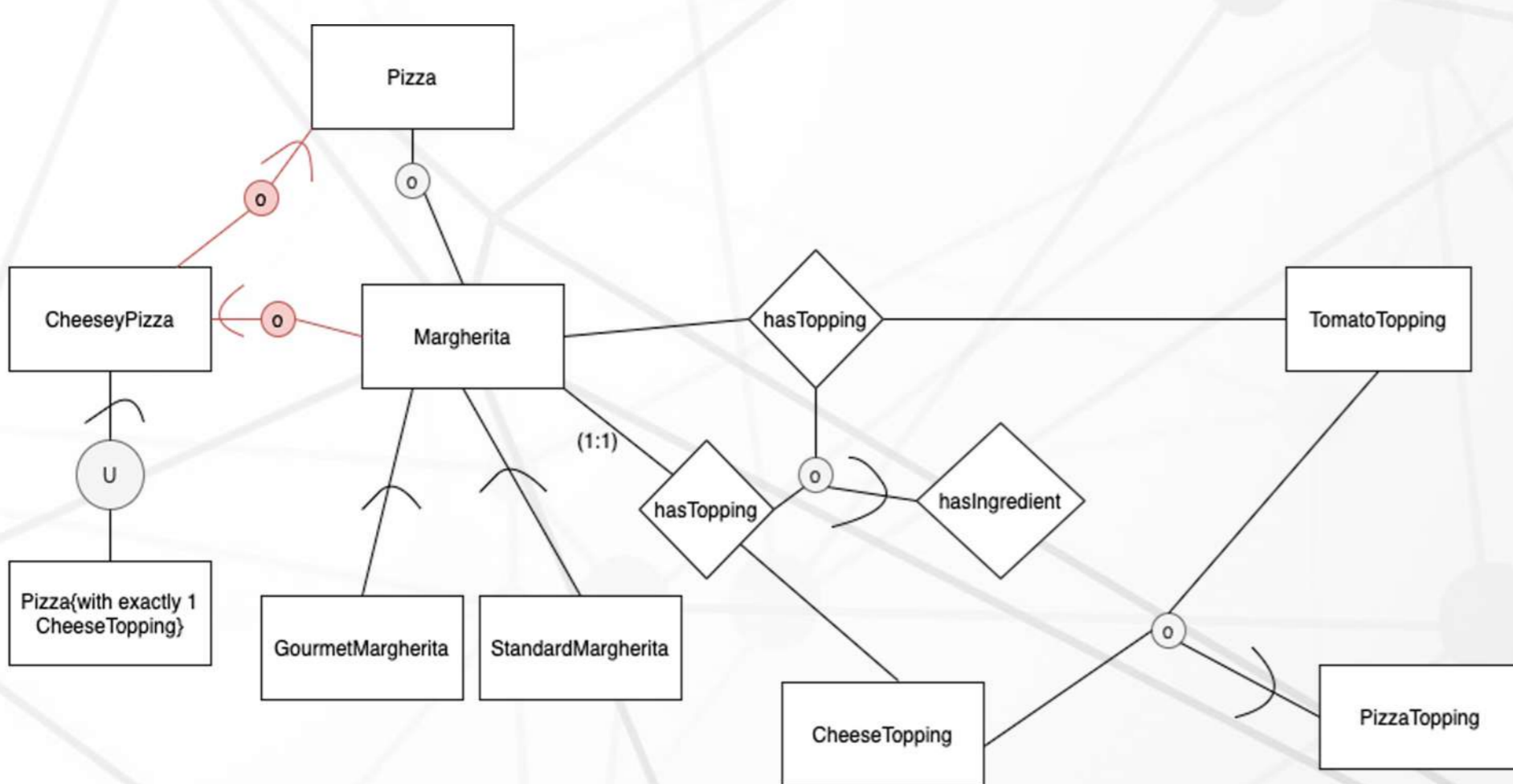
Aim

- (1) Extend the Owlready tool to materialize inferences from a reasoner onto an EER model captured as an OWL ontology.
- (2) Provide wrapper functionality to help users validate the ontology edits

Methods

Protégé was used to construct OWL ontologies. The ontologies were passed into Owlready for reasoning. Subsequent inferences were handled by the extension and wrapper to edit and elicit user management of the edits.

Results



Conclusion

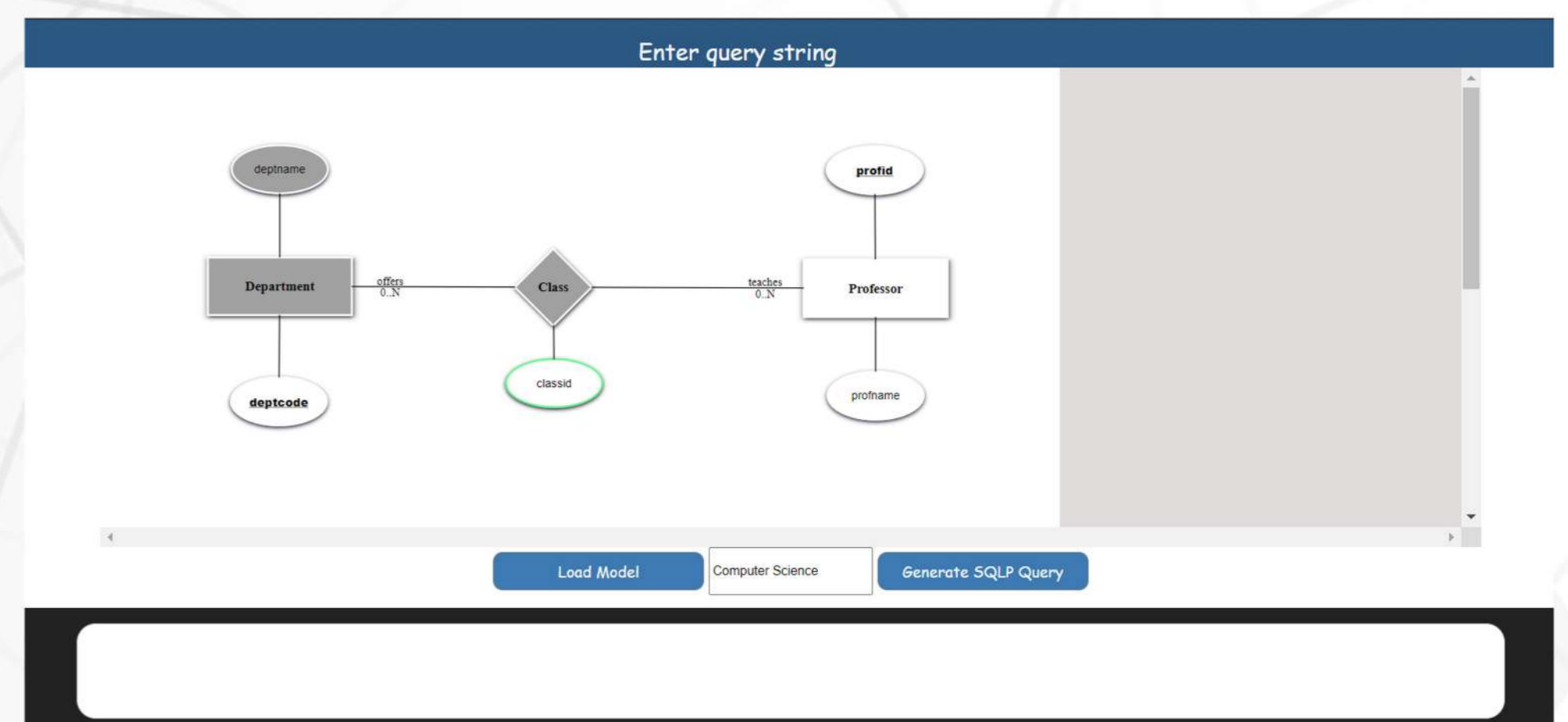
The extension can materialize deductions on an EER and its wrapper aids effective user-verification. One still needs to implement a transformation algorithm from RDF/XML files to JSON files to realize query formulation.

Visual Query Tool

Aim

The **aim** of visual querying is to allow users who are inexperienced in structured query languages to create queries using visual components. Our tool allows users to load extended entity relationship diagrams and interact with them as the basis for query formulation.

User Interface



Results

- The query checking uses a grammar but needs a more dynamic, rule-based query checking procedure
- The queries that the tool can correctly generate are simple enough to not explicitly need the user interface.

Conclusion

The software tool meets the aim of our project. The range of queries supported by the tool, however, are limited and therefore the tool needs to be expanded before being integrated into the KnowID architecture.

