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FCT FACULDADE DE CIÊNCIAS E TECNOLOGIA UNIVERSIDADE NOVA DE LISBOA

Departamento de Informática

Querying EL Ontologies and Rules

Knowledge and Information Systems Group

CENTRIA

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Objectives

An important topic in the ongoing research on the Semantic Web is the combination of ontology languages, such as OWL, and non-monotonic rules, such as logic programs, providing more expressive formalisms for Knowledge Representation and Reasoning on the Semantic Web.

The aim of this research is to implement a tool for querying combinations of non-monotonic rules and EL ontologies, such as the biomedicine ontology SNOMED CT. The tool will be compatible with the well-established ontology editor and knowledge representation framework Protégé.

Semantic Web

Methodology

The first part is to implement an algorithm which translates hybrid knowledge bases consisting of EL ontologies and non-monotonic rules into only non-monotonic rules. The result can be used for querying under XSB Prolog.

The second part is to provide a tool which integrates the translation and querying into a plugin which can be used in Protégé, implemented in Java.

Expected Results

The main expected results are the development of a plugin for the ontology editor Protégé using OWL 2 EL, which is one of the OWL 2 Profiles, as ontology language, and the creation of knowledge bases for performance tests.

ERRO.
efficient reasoning with rules and ontologies

Funding:

FCT Fundação para a Ciência e a Tecnologia
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