OWL 1.1: Tractable Fragments

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OWL Lite

Motivation

Important to design a variant of OWL that is easier to understand, use and reason with

- OWL DL and Full are rich&complex languages

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Complex interactions between constructs in OWL:

- disallowed constructs can still be (indirectly) expressed:

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Lesson learnt:

designing good fragments is hard and requires research

The Tractable Fragments Document

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Describes fragments of OWL 1.1, which:

- are the result of years of research

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- help users & tool designers

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TBox reasoning (subsumption) in large ontologies

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Many large bio-medical ontologies captured by $\mathcal{EL}++$:

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- NCI
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Tool Support

- specialised reasoner: CEL

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- reasoning with large number of instances
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- reasoner: KAON2

Other Fragments

DLP

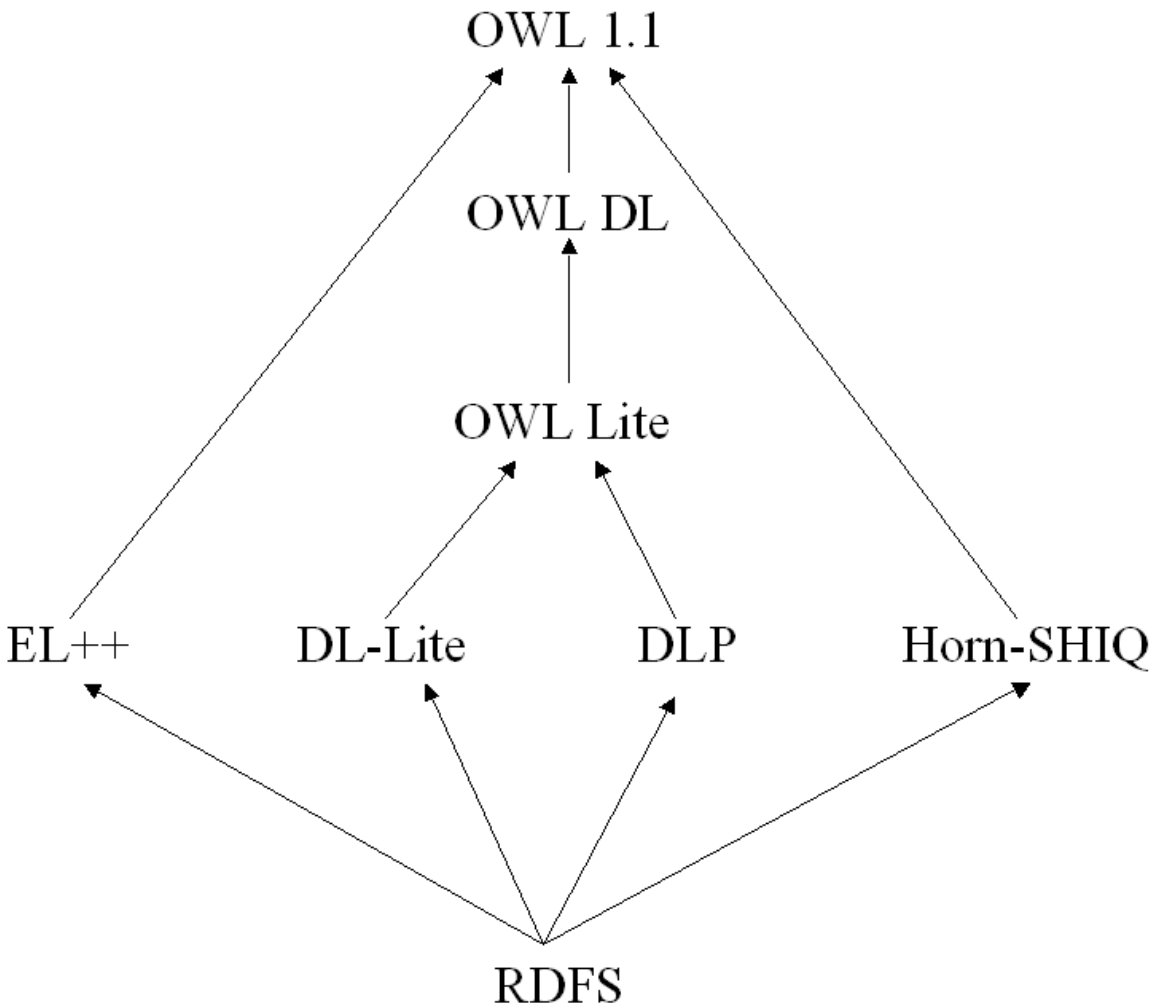
Same motivation as Horn-$\mathcal{SHIQ}$, but the result was a bit more "hacky"

RDFS Fragment of OWL DL

RDF-Schema plus "DL restrictions" imposed by OWL DL

Relationships between fragments

The described fragments overlap



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Do we want "semantic" subsets of OWL-Full? If so:

- do we care about their computational properties?
- do we care about compatibility issues?