

INFS3101/7100 Ontology and the Semantic Web

Week 10 Tutorial RDFS

Semester 1, 2006

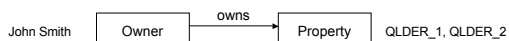
Resource Description Framework (RDF)

- RDF triples represent subjects, predicates and objects, which are resources, and deals with individuals rather than classes.
- For example, owner owns properties.
 - This is the triple: owner, owns and properties.
 - There is a binary relationship: owns as predicates to link up the owner (subjects) and properties (objects).
 - Obviously, the owner, owns and properties are RDF resources.
 - However, the owner is a general term: it can be interpreted as *property owners*, *animal owners*, *car owners* or the like. The question is how we specify the context of the owner. Namespace is for specifying resource contexts.
 - What is the Namespace? A namespace is a context for identifiers.
 - In this case, we use the accommodation ontology as the context of our example and the rental is the namespace of the resources.

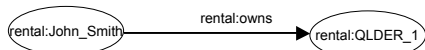
RDF

Q1c. How would you represent the players and speech acts in RDF?

- Owner owns properties.
- The view in the ontology representation language

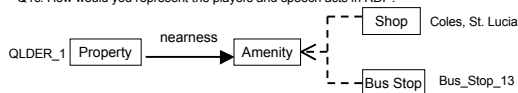


- The textual and diagrammatic representation in RDF
 - rental:John_Smith rental:owns rental:QLDER_1

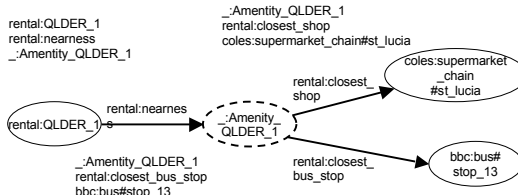


RDF

Q1c. How would you represent the players and speech acts in RDF?



- Obviously, class amenity is an abstract class that does not have its own instances. In RDF, blank nodes are for that kind of representation.

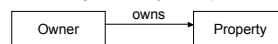


RDF Schema

- RDFS provides mechanisms for describing groups of related resources and the relationships between these resources.
- RDFS deals with classes.
- rdfs:class, rdfs:subclassOf, rdf:property, rdfs:domain, and rdfs:range

RDF Schemas

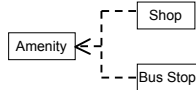
Q1a Represent a significant portion of the ontology in RDFS along the lines of Appendix B, using all the key concepts from the lecture



- The representations in RDFS
 - rental:owner rdf:type rdfs:class
 - rental:property rdf:type rdfs:class
 - ~~rental:owns rdf:type rdf:property~~
 - rental:owns rdfs:domain rental:owner
 - rental:owns rdfs:range rental:property

RDF Schemas

Q1a Represent a significant portion of the ontology in RDFS along the lines of Appendix B, using all the key concepts from the lecture

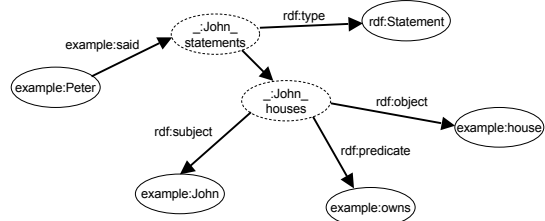


- The representation in RDFS

- rental:amenity rdfs:type rdfs:class
- rental:shop rdfs:type rdfs:class
- rental:bus_stop rdfs:type rdfs:class
- rental:shop rdfs:subclassOf rental:amenity
- rental:bus_stop rdfs:subclassOf rental:amenity

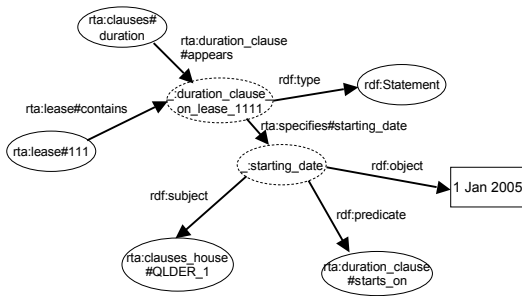
Reification in RDF

- How the reification is represented in RDF, e.g. Peter said that John owns a house.
- Obvious, there is a binary relationship between the Peter and John owns a house by the said, furthermore, there is a nested binary relationship between the John and a house by the owns



Reification in RDFS

- There is a duration clause on lease#1111 where the starting date is 1 Jan 2005.



Namespaces

Q1b. What concepts are you using that might be in more general namespaces? Suggest who might maintain these namespaces, if they do not already exist.

- A namespace is a context for identifiers.

Namespaces	Description	Kept by
rental	Rental Accommodation Ontology	Its creators
rdf (http://www.w3.org/1999/02/22-rdf-syntax-ns#)	Resource Description Framework	W3C
rdfs (http://www.w3.org/2000/01/rdf-schema#)	Resource Description Framework Schema	W3C
bcc	Brisbane City Council	Brisbane City Council
coles	Coles	Coles
rta	Residential Tenancies Act	Residential Tenancies Authority

Consultation Sessions

- Today 2-3pm at 78-631
- The assignment is due today, 4:00 pm, in assignment box level 1, Building 78