Story 11

Status of story (one of: none, being modelled, module released and being integrated):
none

Story assigned to:

Priority: low

Story title: Affiliations and organisation

Story text:
All employees at Linköping University are affiliated with at least one entity of the university. Entities are parts of departments. However, some departments are also divided into divisions, where several entities form a division, and the divisions are in turn part of the department. Some departments don't have divisions. There can also be research groups in a department. Research groups can consist of researchers from several entities and divisions. A researcher can belong to several research groups and the same time, but only one entity within the same department. Research centers are sets of researchers, potentially from several departments. Eva Blomqvist belongs to the MDA entity, which is part of the HCS division, in turn part of the IDA department, but she also belongs to the research group on Semantic Web. The Semantic Web group additionally has members from the ADIT division, and external affiliated persons, e.g. Karl Hammar from Jönköping University.

Related stories: 9

Solution

Competency questions:
CQ1: What are the members of a research group?
CQ2: What are the entities of a division?
CQ3: What are the divisions of a department?
CQ4: What are the entity a researcher in a research group affiliated with?
CQ5: What are the external member in a research group from a department in a university?

Additional restrictions:
A department can only belong to one university, has at least one research group, has at least one division or one entity.
A division can only belong to one department.
An entity can only belong to one department, it may also belong to a division.
A researcher can only belong to one entity but can belong to several research groups.
A department at least has two entities.

Reasoning requirements:
An employee is a person that is affiliated with an entity in a university
A researcher is an employee that participate in some research group.

Ontology URI and filename of resulting module (to be e-mailed to Eva):
URI: http://www.semanticweb.org/huanyuli/ontologies/story11
Filename: story11.owl

Tests (for instance SPARQL queries corresponding to CQs):
CQ1: What are the members of a research group?
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX story11: <http://www.semanticweb.org/huanyuli/ontologies/story11#>

SELECT ?people WHERE
{
?people story11:belong_to ?research_group .
?research_group rdf:type story11:Research_group .
?research_group rdfs:label 'The Semantic Web Group'ˆˆxsd:string
}
CQ2: What are the entities of a division?
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX story11: <http://www.semanticweb.org/huanyuli/ontologies/story11#>
SELECT ?entity ?division WHERE
{
?entity story11:part_of ?division .
?division rdf:type story11:Division .
?division rdfs:label 'Human Centred Systems (HCS)'ˆˆxsd:string
}
CQ3: What are the divisions of a department?
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX story11: <http://www.semanticweb.org/huanyuli/ontologies/story11#>
SELECT ?division WHERE
{
?division story11:part_of ?department .
?department rdfs:label 'Computer and Information Science'ˆˆxsd:string .

?department story11:part_of ?university .
?university rdfs:label 'Linköping University'ˆˆxsd:string .
}
CQ4: **What are the entity a researcher in a research group affiliated with?**
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX story11: <http://www.semanticweb.org/huanyuli/ontologies/story11#>
SELECT ?researcher ?entity WHERE
{
?researcher story11:belong_to ?research_group .
?research_group rdf:type story11:Research_group .
?research_group rdfs:label 'The Semantic Web Group'ˆˆxsd:string .
?researcher story11:affiliated_with ?entity .
}

CQ5: **What are the external member in a research group from a department in a university?**
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX story11: <http://www.semanticweb.org/huanyuli/ontologies/story11#>
SELECT ?people ?university WHERE
{
?people story11:belong_to ?research_group .
?people rdf:type story11:External_person .
?people story11:external_from ?university .
?research_group rdf:type story11:Research_group .
?research_group rdfs:label 'The Semantic Web Group'ˆˆxsd:string
}

Integration

Integration assigned to: Huanyu Li

Integration covers module for stories #: 9 and 11

Ontology URI and filename of resulting integrated module (to be e-mailed to Eva):