RDF/FOAF

1 Exercises from "Foundations of Semantic Web Technologies"

Exercise 2.1 Consider the following RDF document:

```
<rdf:RDF
   xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
   xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:iswww="http://sw.edu/#"

>

<rdf:Description rdf:about="http://sw.edu/#germany">
   <rdf:type rdf:resource="http://sw.edu/#country" />
</rdf:Description>

<rdf:Description rdf:about="http://sw.edu/#capital_of">
   <rdf:type
    rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#Property"/

   >
   <rdfs:domain rdf:resource="http://sw.edu/#city" />
   <rdfs:range rdf:resource="http://sw.edu/#country" />
</rdf:Description>

<rdf:Description rdf:about="http://sw.edu/#country">
   <rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class" />
   <rdfs:label xml:lang="de">Land</rdfs:label>
</rdf:Description>

<rdf:Description rdf:about="http://sw.edu/#berlin">
   <rdfs:label xml:lang="en">Berlin</rdfs:label>
   <rdf:type rdf:resource="http://sw.edu/#city" />
   <iswww:capital_of rdf:resource="http://sw.edu/#germany" />
</rdf:Description>

<rdf:Description rdf:about="http://sw.edu/#city">
   <rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class" />
   <rdfs:label xml:lang="de">Stadt</rdfs:label>
</rdf:Description>
</rdf:RDF>
```

- Describe in natural language the content of this document.

- Draw the graph representation of the above document.

Exercise 2.2 Write down a modeled list (rdf:parseType="Collection") of the students of this classroom in Turtle syntax. Example in RDF/XML

```
<rdf:Description rdf:about="http://semantic-web-book/uri">
```

```
<ex:authors rdf:parseType="Collection">
<rdf:Description
rdf:about="http://semantic-web-book.org/uri/Hitzler" />
<rdf:Description
rdf:about="http://semantic-web-book.org/uri/Krötzsch" />
<rdf:Description
rdf:about="http://semantic-web-book.org/uri/Rudolph" />
</ex:authors>
</rdf:Description>
```

2 FOAF - Friend of a friend

The FOAF project is one of the most well-known projects using RDF and a project where RDF is the core technology. Quoting foaf-project.org[1] :

> FOAF is about your place in the Web, and the Web's place in our world. FOAF is a simple technology that makes it easier to share and use information about people and their activities (eg. photos, calendars, weblogs), to transfer information between Web sites, and to automatically extend, merge and re-use it online.

See also the following webpages for more information.

- FOAF project: home[2]

- Wikipedia: FOAF (software)[3]

- XML Watch: Finding friends with XML and RDF[4] on IBM developer works

2.1 Exercise

Go to the FOAF-a-Matic[5] and create your own FOAF file. If you are hesitant publishing information about yourself online, then make something up.

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[1] http://www.foaf-project.org/about
[2] http://www.foaf-project.org/
[3] http://en.wikipedia.org/wiki/FOAF_(software)
[4] http://ontogenealogy.com/documents/2012/08/dumbill-e-xml-watch-finding-friends-with-xml-and-rdf
pdf
[5] http://www.ldodds.com/foaf/foaf-a-matic

Befriend yourself with at least three other students, who have their FOAF files, respectively done in FOAF-a-Matic website

2.2 Exercise

Publish your FOAF file to your homepage. If you don't have a homepage, you can a fake one using your UniGE account.

2.3 Exercise

In the FOAF file you have generated you are identified as me, e.g., the identifier for Martin G. Skjæveland is

http://folk.uio.no/martige/foaf.rdf#me

Explain why # me is used? What is the difference from

http://folk.uio.no/martige/foaf.rdf and

http://folk.uio.no/martige/foaf.rdf#me ?

See Best Practice Recipes for Publishing RDF Vocabularies[6] and Cool URIs for the Semantic Web[7] for help.

Note that the URL to my FOAF file should not include the serialisation format, since what format the file is written should not be part of the identifier for the file. Instead I should have used *content negotiation* on the server decide what format and even file to return the user. However, I seems that the neccessary software for content negotiation is not setup on the server.

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[6] http://www.w3.org/TR/2008/NOTE-swbp-vocab-pub-20080828/
[7] http://www.w3.org/TR/2007/WD-cooluris-20071217/
[8] http://httpd.apache.org/docs/2.2/mod/mod−alias.html#redirect
[9] http://foaf-visualizer.gnu.org.ua/#form

2.4 Exercise

Add more information about yourself or your surroundings, e.g., a picture of yourself, where you live—maybe using coordinates, places you have been to, your interests, your chat identities, and so on.

See the FOAF ontology[14] , e.g., these relationships[15] , for the vocabulary you can use in your FOAF file.

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[10] http://xmlns.com/foaf/spec/index.rdf
[11] http://www.easyrdf.org/converter
[12] http://www.w3.org/RDF/Validator/
[13] http://librdf.org/raptor/
[14] http://xmlns.com/foaf/spec/index.rdf
[15] http://vocab.org/relationship/