Exercises and Projects

This project of medium difficulty can be done by two or three people in about two or three weeks. All required software is freely available. We provide some pointers to software that we have used successfully, but given the very active state of development of the field, the availability of software is likely to change rapidly. Also, if certain software is not mentioned, this does not indicate our disapproval of it.

The assignment consists of three parts.

1. In the first part, you will create an ontology that describes the domain and contains the information needed by your own application. You will use the terms defined in the ontology to describe concrete data. In this step you will be applying the methodology for ontology construction outlined in the first part of this chapter and using OWL as a representation language for your ontology (see chapter 4).

2. In the second part, you will use your ontology to construct different views on your data, and you will query the ontology and the data to extract information needed for each view. In this part, you will be applying RDF storage and querying facilities (see chapter 2).

3. In the third part, you will create different graphic presentations of the extracted data using web-based technology.

Part I. Creating an Ontology

As a first step, decide on an application domain, preferably one in which you have sufficient knowledge or for which you have easy access to an expert with that knowledge.

In this description of the project, we use the domain of radio and television broadcasting, with its programs, broadcasting schedules, channels, genres, and celebrities. Of course, you can replace this with any domain of your choosing. In our own courses,