

Assignment 1: CSCI-6962-01 (10% of overall credit score)

Due: September 15, 2008 (by 2359 ET)

Submission method: email to [d1m@cs.rpi.edu](mailto:d1m@cs.rpi.edu), [pfox@ucar.edu](mailto:pfox@ucar.edu)

Late submission policy: first time with valid reason – no penalty, otherwise 20% of score deducted each late day

Office hours: Tuesday 11-12, Winslow 3129

Note: Your report for this assignment should be the result of your own individual work. Take care to avoid plagiarism (“copying”), including all web resources, texts, and class presentations. You may discuss the problems with other students, but do not take written notes during these discussions, and do not share your written solutions. Please use the numbering below when completing this assignment.

General assignment: extend an existing knowledge base with additional information and ask and answer questions about the extended KB. There is an equal weighting score for each question.

1. Examine the VSTO knowledge base (represented in an OWL-DL ontology at [http://dataportal.ucar.edu/schemas/vsto\\_all.owl](http://dataportal.ucar.edu/schemas/vsto_all.owl)). You will extend the representation using an additional source of knowledge/ information (suggestions are below). You will choose the required representation and the method you will use to represent it.
  - a. Provide a written description of the KB extension, the source of knowledge you used, and your reason for choosing it.
  - b. Provide a written description of your chosen method for the extension and reason for choosing it.
  - c. Indicate what knowledge you could and could not express and why.
2. Pose and answer two questions (label them a. and b.) to your extended knowledge representation. Provide a written description of the questions (a. and b.) and the result.  
(Hint: they can be easy questions, choose ones that you can answer well, with some detail, they can be queries, inference or a combination).

Suggested additional knowledge sources related to instruments:

- <http://cedarweb.hao.ucar.edu/wiki/index.php/Instruments:mfp>
- <http://cedarweb.hao.ucar.edu/wiki/index.php/Instruments:dvs>
- <http://en.wikipedia.org/wiki/Spectrograph>
- [http://cedarweb.hao.ucar.edu/wiki/index.php/Data\\_Services:Instrument List](http://cedarweb.hao.ucar.edu/wiki/index.php/Data_Services:Instrument_List) (see also Models, Campaigns)
- Look at other instruments in this list and see if you can find knowledge bases that provide interesting extensions
- [http://jro.igp.gob.pe/english/radar/operation/modes/coherent\\_scatter\\_modes\\_en.htm](http://jro.igp.gob.pe/english/radar/operation/modes/coherent_scatter_modes_en.htm) (operating modes)

(Hint: added properties, operating modes, additional relations between classes, etc.)