

Assignment 3: Semantic eScience (15 pts written and 20 pts presentation of overall credit score)

Due: Monday November 14, 2011 (by NOON ET, day of the class)

Submission method: email to [d1m@cs.rpi.edu](mailto:d1m@cs.rpi.edu), [chenw8@rpi.edu](mailto:chenw8@rpi.edu). Please use the following file naming for electronic submission:

CSCI-6962-01\_A3\_YOURUSECASESHORTNAME.xxx and for any individual documents:

CSCI-6962-01\_A3\_YOURFIRSTNAME\_YOURLASTNAME.xxx

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

Note: Your report for this assignment should be the result of group work. Take care to avoid plagiarism (“copying”), including all web resources, texts, and class presentations. You are expected to work collaboratively and discuss the tasks for this assignment with other students in your group. Please use the use case template

[http://tw.rpi.edu/media/latest/UseCase-Template\\_SeS](http://tw.rpi.edu/media/latest/UseCase-Template_SeS)

as well as any previously completed use case documents for Assignment 2 appropriate for your use case when completing this assignment.

General assignment: Use-case Implementation: using one of the partially developed use cases, perform the knowledge engineering and review of the ontology using the methods and tools you have learned to date. You may leverage an existing knowledge base and/or ontologies.

Keep in mind the questions that the use case is intended to ask and answer. The weighting score for each question is included below. Please use the question numbering (1-3) below for your written assignment.

1. Identify the role(s) that each team member performed and is performing during this use case implementation and provide a 1-2 sentence description of each. (2%)

2. Knowledge engineering (7%)

a. Write a description of the knowledge to be encoded and the starting points and all knowledge/ information sources (1%)

b. Provide an assessment the knowledge encoding requirements including what provenance information you plan to encode for the selected use case and provide a description of the choice of representation and language and tools used. (2%)

c. Create the knowledge encoding in a form that can be validated and describe the steps and results your group took to ensure this validation. (4%)

3. Implementation (6%)

a. Document the resources (data and information sources) you used in developing the use case, including written and presentation materials and conversations with others. (2%)

b. Document the implementation of the use case at least in prototype/ demonstration form. Document what was implemented by adding to the use case document; this should include data and services, etc. (2%)

c. Describe how your knowledge representation meets the goal of the use case and highlight the value of your use of semantic technologies. One concrete way to do this is to ask and answer two questions from your ontology (label them a. and b.) to your ontology.

Provide a written description of the questions (a. and b.) and the result, including any reasoning that is performed along with the provenance that was related to the data used to generate the answer. (2%)

4. Oral presentation of the use case and examples of your knowledge encoding (20%). Plan to present for 25 minutes, with 10 additional minutes for questions. Include a plan for how long each speaker will present and make sure everyone on your team presents something. After all presentations there will be an informal self-assessment/ evaluation. Your grades will be assessed on demonstration of knowledge of your work, the use case and the ability to answer questions. Please submit your presentation (ppt, pdf or similar using the same naming scheme as for questions 1-3) after the class.