Assignment 2: Xinformatics (Spring 2014) (15% written of overall credit score)
Due: TUESDAY Feb. 25, 2014 (by 12pm ET)
Submission method: email, pfox@cs.rpi.edu and Sumithra Gnanasekar gnanas@rpi.edu
Please use the following file naming for electronic submission:
Xinformatics2014_A2_YOURFIRSTNAME_YOURLASTNAME.xxx
Late submission policy: first time with valid reason – no penalty, otherwise 20% of score deducted each late day
Office hours: Monday 3-4, Winslow 2120 or by appointment (via email).

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.

General assignment: Based on the use-case that you developed in Assignment 1, address the question of assessing information uncertainty in different aspects of the use case and determine possible ways to condition the system to reduce uncertainty in achieving the goals of the use case. [You will need to take into account that since the use case is not implemented, this is a hypothetical exercise]. The weighting score for each question is included below. Please use the question numbering (1-3 and 4) below for your written responses for this assignment.

1. Analyze the use case for information uncertainty
   a. What are the potential sources of uncertainty in general terms? Min 1-2 sentences (4%)
   b. Can they be quantified and are any theoretical concepts (e.g. entropy) applicable? Min 1-2 sentences (4%)
   c. Categorize the uncertainties according to any known Presentation and Organization aspects of the information sources. Describe how the factors of Context, Content and Structure affect the uncertainties (positive/negative or neutral) and assist in reducing uncertainty by conditioning the system. Use at least 1 sentence for each category Discuss some options for addressing the factors. Min. 2 sentences (4%)

2. Would you re-scope the use case as a result of what you found in 1? If so how? If not explain why. Min. 2-3 sentences. (4%)

3. Describe how your current use case relies on induction and how it may be re-specified to accommodate abduction. Be VERY specific. 3-4 sentences (4%)

4. Graduate Question: Are there opportunities for constructive induction in your use case? Explain how and why. Min. 2-3 sentences (+2%),