

Assignment 2: Xinformatics (Spring 2025) (10% written of overall credit score)

Due: Wednesday, February 19th, 2024 (by 8:00 pm ET)

Submission method: Email or LMS,

Please use the following file naming for electronic submission:

Xinformatics2025_A2_YOURFIRSTNAME_YOURLASTNAME.xxx

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

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 (1a, 1b, 1c, and 2) 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 4-5 sentences (3%)

b). How can these be quantified using and any theoretical concepts (e.g. entropy). Otherwise, is a qualitative assessment of uncertainty possible? Min 2-3 sentences (2%)

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. 4-5 sentences (3%)

2. Would you re-scope the use case as a result of what you found in Q1? If so how? If not explain why. Min. 4-5 sentences. (2%)