ASSIGNMENT FOR UNIT 4

Identifying knowledge patterns and developing an ontology network

Part I: The objective of this part is to find and identify **at least 5 situations in which an n-ary relation pattern should be modeled**.

Situations should be identified in any of the following domains: ***education, disabilities, accessibility, and literature.*** To find such situations, students should review documents and texts in the aforementioned domains.

The situations identified should be **formalized including**

- Graphical representation
- OWL Code (using Protégé)

In addition, these new patterns should be **classified in the n-ary relation pattern taxonomy**.

Part II: The objective of this part is **to develop an ontology network** (implemented in OWL) in a particular domain. The building of such a network should be done ***reusing*** as much as possible existing ontologies and ontology design patterns.

The ontology network developed should include **at least 30 elements (concepts and properties) model by you**. These elements should include label and description in natural language.

The available domains for this assignment are the following ones:

- Educational Materials: The ontology must model (at least) elements related to slides, books, notes, videos among other educational materials as well as courses, subjects, teachers and students.
- Evaluation Resources: The ontology must model (at least) elements related to surveys, questionnaires, exercises, exams among others as well as courses, subjects, teachers and students.
- Disabilities: The ontology must model (at least) elements related to types of disabilities, aided education, social implications, among others.
- Accessibility: The ontology must model (at least) elements related to types of accessibilities, standards, recommendations, among others.
- Literature Domain: The ontology must model (at least) elements related to types of poetic or metaphoric texts, authors, books, among others.

Instructions

This assignment should be performed in groups composed of 3/4 students.

The assignment delivery should include

- a PDF file containing the document that explains the work done in the assignment
  - In order to describe Part I, the document should include graphical representation and OWL Code (using Protégé) for n-ary relation patterns identified. In addition, the document should include the update of the n-ary relation pattern taxonomy.
  - In order to describe Part II, the document should include the ontological requirements, the initial model in a graphical way, and the list of reused resources explaining how they were found and why they were selected. In addition, the document should include the main design decisions taken during the development of the ontology network as well as any comment or consideration you consider useful.
- a set of files or links that contains the patterns (Part I) and the ontology network (Part II)

Only one member of each group should deliver the assignment.