Semantic Data

Project : Groups and topics

Jean-Louis Binot

Groups

- Groups will be made of 4 students.
  - Exceptions only admissible by explicit agreement of the lecturer, in order to solve specific situations.
- Group formation
  - Form your own proposals for group composition.
  - Each group appoints a contact who will communicate by email to jean-louis.binot@uliege.be :
    - the group composition (4 people);
    - the selected topic.
  - Deadline : Friday 26/2/2021
  - The lecturer may make changes to group compositions to ensure that each student has found a group.

Short introduction to the project

The project consists in realizing an ontology-based knowledge base for a specific domain, using the ontology editor Protégé, and demonstrating its use and access for queries :

a) at the human level and

b) at the programming level, by (Java) programs using specialized ontology APIs.

Important remarks :

- The goal is to develop a knowledge base and not just a database; the result must be able to demonstrate interesting inference possibilities.
- The topic domains being large and to some extend open-ended, you are not expected to provide a comprehensive solution, but a demonstrable prototype based on a representative domain sample.
- The ontology will also include real URIs referring to useful external information.
- A more detailed project description will be provided at project kick-off (5th week), at the same time as the confirmation of group compositions.

Topics

- Topic 1: design and query an ontology about the tourism of province of Liège.
  - Typical information to cover : geography and topology (provinces, regions, cities, natural geography …), touristic information (natural attractions, human attractions …), types of activities (familial, sportive …) infrastructures (transports, hotels, restaurants …) …
- Topic 2 : design and query an ontology about ecology and endangered species.
  - Typical information to cover : ecological structure (biomes, ecosystems, environments, habitats…), classification of animals and plants, where they live (geography, ecology), food chains (producers, consumers, predators, preys…), threatened species and threats (classification, localization, causes …) …
- Topic 3 : design and query an ontology about historical dynasties.
  - Typical information to cover : dynasties (name, historical period, succession order, genealogy - dates, marriages, family relations…), ruled regions (location, nature - kingdoms, empires, duchies …), significant historical information (wars, conquests, discoveries, political relations …) …