Practical Session 6 – Building Ontologies

Today, the whole practical session will be dedicated to the step required to build the ontology for the knowledge graph of your project.

For the project, you are asked to build a knowledge graph of children stories. The idea is that your knowledge graph could be used by someone researching a particular theme, plot, type of character, or other aspects of children stories to find relevant ones, to compare stories with each other on those aspects, or to analyze trends in the way stories have evolved over time and cultures. As the lectures and practical sessions go, we will learn more about how that could be done and how we could use it.

At the end of all the practical sessions, you will have to submit:

1. The RDF code of the knowledge graph.
2. A short report briefly describing the steps you have gone through, the choices you have made, any SPARQL query you have used, and a description of any code you might have written.

So, keep notes of what you do and find!

Last time, you should have started converting your initial thoughts on the schema of your knowledge graph into an ontology and putting it into Protégé. This means that you are already well advanced in the conceptualization phase of your ontology. It is generally a good idea not to build an ontology alone, so:

T1: Organise yourselves in groups of 3 or 4. Within the groups, discuss the choices you made in building your initial ontologies. How are they different? Does this mean some of them are not valid? Are there ideas from other members of your group that you could reuse?

T2: Identify 5 to 10 competency questions for your knowledge graph (that is, questions that should be answerable by querying your knowledge graph as built upon your ontology and the inferences it should enable). You can discuss them in groups, but depending on your specific focus for your knowledge graph, different members of the group might focus on different questions.

T3: Looking at your competency questions, are there classes and properties that you believe are missing in your ontology? Add them if so.

T4: Try to find existing ontologies that you could reuse (at least partially) in building yours. Integrate concepts and/or properties for the most relevant, valid and useful.

T5: During the few first practical sessions, you should have identified sources of RDF data that could be reused in your knowledge graph. Manually create a few individuals from those sources in Protégé and check that your ontology behaves in the expected way with those individuals (the representation and the inferences make sense).

T6: Try to find non-RDF sources to reuse to populate your knowledge graph and write down how the information from those sources maps to your ontology.