

Web of Data - Final Project

MSc Data Science and Artificial intelligence

Due date: April 4, 2022

This final project aims to apply and **demonstrate the skills and knowledge you have acquired in Semantic Web models and technologies** by creating the building blocks of a Semantic Web application for a health insurance company: A member of the company has an electronic medical records (EMRs) within which general personal information is stored like age and weight, in addition to medication, allergies, immunization status, and medical history: consultations, surgeries, laboratory test results, etc., and billing information. Employees of the insurance company are managing the financial aspects of EMRs (reimbursement of medical expenses, according to the status of company members and medical prescriptions). Referring physicians and specialist physicians are managing the medical part of their patients EMRs (prescription of laboratory tests and medical acts, execution of these acts according to prescriptions). **This general description is indicative, it is up to you to decide of your (more or less rich) model.**

You should:

- propose a model in the form of an RDFS or OWL ontology
- populate this ontology in an RDF graph describing your instances
- implement main features of your targeted application with advanced SPARQL queries
- Bonus: reuse existing ontologies and/or data and/or align your ontology and/or your instances with DBpedia or other relevant sources in the Linked Open Data (LOD) and/or the Linked Open Vocabularies (LOV)

The deliverables are:

- a report (in a .pdf file) describing the specification of your targeted Semantic Web application, and discussing your modelling choices, how you linked your data and/or your ontology to the LOD or LOV, what kind of inferences your modeling enables,
- a text file containing your RDF data in Turtle,
- a text file containing your RDFS or OWL ontology in Turtle,
- a text file (.txt) containing your SPARQL queries implementing the targeted functionalities.

You should send me a single file FirstnameLastname.zip containing the above cited files with subject [DSAI project].