Why Mapping Rules are Important for Constructing your KG?

Polifonia

Series of seminar

→ David Chaves

(postdoctoral researcher at DTAI and at OEG)

→ Save the date and join at the link

→ June 28th, 6pm CET

→ Abstract

One of the most well-known uses for a Knowledge Graph is to integrate multiple and heterogeneous data sources into a common and unique layer. This task, known as Knowledge Graph Construction, has been usually treated as a pure scripting-engineering process where data engineers program ad-hoc software for transforming data into RDF. This procedure has a lot of drawbacks such as reproducibility, reusability, sustainability, or maintainability of the KG. On the contrary, mapping rules such as the W3C recommendation R2RML or its extensions (e.g., RML, xR2RML, etc.) give support to all these features while the generation of high-quality RDF data is also ensured. During this talk, it will be demonstrated why declarative mapping rules are the key resource for efficient semantic data integration. In addition, an overview of current tools and specifications will be presented, as well as different real projects and use-cases where this approach was successfully implemented.

→ Speaker biography

David Chaves-Fraga is a joint postdoctoral researcher at DTAI (KU Leuven) and at OEG (UPM). His work is focused on automating and optimizing the generation of knowledge graphs from heterogeneous data on the web using mapping languages. He has actively contributed to the SW community with KG construction optimization approaches as well as benchmarks for these engines. He co-chairs the W3C Community Group Knowledge Graph Construction and is part of the organizing committees of the Knowledge Graph Construction Workshop (ESWC), and the Workshop on Semantics for Transport (SEMATiCS).

Seeing graphs everywhere: a gentle introduction to SPARQL Anything.

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→ Enrico Daga

(Research Fellow at The Open University)

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Knowledge Graphs (KG) are the ideal integration layer for cultural heritage data because they can flexibly support a diversity of representations, relying on Semantic Web Ontologies. This talk describes a novel method for arbitrary data integration using a façade meta-model (Facade-X) and an implemented system, SPARQL Anything. By seeing potentially any data object as an RDF graph, our approach allows us to streamline Knowledge Graph construction from heterogeneous data sources. We will summarise the genesis of SPARQL Anything and demonstrate its generality and usability on a potentially open-ended set of formats. Crucially, we will argue how musical formats could be seen as RDF graphs and directly queried with plain SPARQL.

→ Speaker biography

Enrico Daga is a Research Fellow at the Knowledge Media Institute of The Open University in the UK. His current research explores novel methods for Knowledge Graph construction and infrastructure and the application of knowledge graph technologies in complex, socio-technical environments: cultural heritage, smart cities and robotics, and healthcare. He is currently engaged in two EU-funded projects about the future Cultural Heritage data infrastructures: SPICE - http://spice-h2020.eu, and Polifonia - http://polifonia-project.eu. Passionate about AI and its relevance for Humanities research, Enrico is co-founder of the WHiSe Workshop on Humanities in the Semantic Web and co-chair of the Artificial Intelligence and Music (AIM) DARIAH WG.