Minutes of the Cultural Heritage Expert Committee[[1]](#footnote-1)

Una Europa Doctoral Programme in Cultural Heritage (Una-Her-Doc)

Date & Academic year: 2023-07-23, Academic year 2023/2024

Part to be filled by the Doctoral Candidate

**1. Information about the Doctoral Candidate**

*Name:* Arcangelo Massari

*Year of the Doctoral Studies:*

*Home University:* University of Bologna, Bologna (Italy)

*Doctoral School / Program / Faculty / Department:* Cultural Heritage in the Digital Ecosystem

*Thesis Supervisor at Home University:* Silvio Peroni

*Host University:* KU Leuven, Leuven (Belgium)

*Doctoral School / Program / Faculty / Department:* Faculty of Engineering Technology

*Thesis Supervisor at Host University:* Anastasia Dimou

*Discipline:* Computer Science

*Thesis topic:* Custom interfaces for curating metadata in the GLAM domain

*Thesis financing:*

**2. Brief description of the Thesis topic** (200 words)[[2]](#footnote-2):

The research endeavor centers on creating an adaptable metadata curation framework within the Galleries, Libraries, Archives, and Museums (GLAM) sector. It acknowledges the intricate task of merging human interpretation skills with automated metadata curation systems in the era of semantic web technologies.

Grasping the complexity, heightened by digital and semantic web advancements, the project pursues the development of a system that allows non-technical domain experts to augment and adjust metadata semantically, irrespective of the underlying ontology model and formats.

RDF Mapping Language (RML) takes center stage in this context. RML is instrumental in constructing a format-independent interface for the underlying metadata. Benefitting from a robust ecosystem and comprehensive documentation, RML acts as a common language, offering a foundation for converting diverse data sources into RDF. Yet, to realize the project's goals, it is requisite to amplify RML's current abilities to encompass data modification, thus extending its capabilities beyond mere data reading.

The project also aims to address aspects related to data provenance and customization, with results expected to streamline curation processes in the GLAM sector, rendering them more efficient and user-centric.

**3. Research objectives for the ongoing year:**

For the ongoing year, the primary research objective is the development and implementation of algorithms to enhance the existing capabilities of the RDF Mapping Language (RML). Specifically, the focus will be on facilitating the writing and modification of data from and to RDF from any format, particularly JSON and CSV. The expansion of RML's functions in this manner will contribute to the broader goal of the project, which is to establish a flexible interface for metadata, accessible and manageable even by non-technical domain experts.

**4. Provisional calendar for the thesis finalizing:**

The completion of the doctoral thesis will be targeted for the last six months of the third year, specifically from May 2025 to October 2025. This period will be dedicated to drafting and finalizing the doctoral thesis, and a corresponding paper will be extracted upon completion.

**5. Doctoral Training during the ongoing year:**

*In the Home university:*

*In the Host university:*

*In the framework of the Una-Her-Doc program:*

**6. Scientific publications and presentations:**

Massari, A., Mariani, F., Heibi, I., Peroni, S., & Shotton, D. (2023). OpenCitations meta [Submitted to Quantitative Science Studies]. <https://doi.org/10.48550/ARXIV.2306.16191>

Cioffi, A., Coppini, S., Massari, A., Moretti, A., Peroni, S., Santini, C., & Asadi,

N. S. (2022). Identifying and correcting invalid citations due to DOI errors in crossref data. Scientometrics. <https://doi.org/10.1007/s11192-022-04367-w>

Massari, A., & Peroni, S. (2022b). Performing live time-traversal queries via SPARQL on RDF datasets [Submitted to Journal of Web Semantics]. https://doi.org/10.48550/ARXIV.2210.02534

Massari, A., Peroni, S., Tomasi, F., & Heibi, I. (2023). Representing provenance and track changes of cultural heritage metadata in RDF: A survey of existing approaches [Presented at the ADHO Digital Humanities Conference 2023]. <https://doi.org/10.48550/ARXIV.2305.08477>

Grieco, G., Heibi, I., Massari, A., Moretti, A., & Peroni, S. (2022). Enabling portability and reusability of open science infrastructures. Linking theory and practice of digital libraries. Springer, Cham.

[https://doi.org/10.1007/978-3-031-16802-4 36](https://doi.org/10.1007/978-3-031-16802-4%2036%20)

Massari, A., & Heibi, I. (2022). How to structure citations data and bibliographic metadata in the OpenCitations accepted format. Proceedings of the workshop on understanding LIterature references in academic full TExt. <http://ceur-ws.org/Vol-3220/invited-talk2.pdf>

Vrolijk, J., Reklos, I., Vafaie, M., Massari, A., Mohammadi, M., & Rudolph, S. (2022). Toward a comparison framework for interactive ontology enrichment methodologies. Proceedings of the seventh international workshop on the visualization and interaction for ontologies and linked data. CEUR Workshop Proceedings.

[http://ceur-ws.org/Vol- 3253/paper4](http://ceur-ws.org/Vol-%203253/paper4)

**7. Teaching activities:**

October 2022 – Present

Teaching Tutor at Alma Mater Studiorum, University of Bologna

1. Arcangelo is involved in conducting lab sessions as part of the teaching in "[Computational Thinking and Programming](https://www.unibo.it/en/teaching/course-unit-catalogue/course-unit/2021/467045)", a subject under the Master's degree course in [Digital Humanities and Digital Knowledge](https://corsi.unibo.it/2cycle/DigitalHumanitiesKnowledge).

2. Arcangelo also offers tutoring sessions as a part of the teaching in "[Data Science](https://www.unibo.it/en/teaching/course-unit-catalogue/course-unit/2022/467046)", which is another subject under the Master's degree course in [Digital Humanities and Digital Knowledge](https://corsi.unibo.it/2cycle/DigitalHumanitiesKnowledge).

**8. Other activities and achievements:**

* From December 2021 to October 2022, Arcangelo served as a research fellow in the Department of Classical Philology and Italian Studies, as part of the OpenAIRE-Nexus project. His primary contribution during this period was the publication of OpenCitations Meta, a semantic index of bibliographic metadata.
* Additionally, he took part in the International Semantic Web Research Summer School (ISWS 2022) from July 3 to July 9, 2022.

Part Dedicated to Cultural Heritage Expert Committee

**1. Names & universities of the members of the Cultural Heritage Expert Committee:**

 1.1.

1.2

1.3.

1.4.

**2. Status of the Thesis:**

**3. Committee’s Report and main recommendations:**

Date, Place

2023-07-23, Bologna (Italy)

Signatures of the members of the Cultural Heritage Expert Committee

Signature of the doctoral candidate



1. Document to be filled for each year of the doctoral studies (except the year of defense, when the pre-defense will be held, and another form provided), and to be sent maximum 15 days after the meeting to the Una-Her-Doc chair Maria Gravari-Barbas (maria.gravari-barbas@wanadoo.fr) and Una Europa SSC CH Manager Isidora Stankovic (isidora.stankovic@univ-paris1.fr). [↑](#footnote-ref-1)
2. From Y2: Emphasize the major shifts of thematic focus, as well as new/additional methods that were not envisaged in the original proposal, and that reflect the progress of the thesis and recommendations of the supervisors and the Cultural Heritage Expert Committee. [↑](#footnote-ref-2)