

Preface of MEPDaW 2022: Managing the Evolution and Preservation of the Data Web

Damien Graux¹, Fabrizio Orlandi², Emetis Niazmand^{3,4}, Gabriela Ydler^{3,4} and Maria-Esther Vidal^{3,4}

¹Inria, Université Côte d’Azur, CNRS, I3S, France

²ADAPT SFI Centre, Trinity College Dublin, Ireland

³Leibniz Information Centre for Science and Technology University Library (TIB), Germany

⁴Leibniz University of Hannover, Germany

Abstract

The MEPDaW workshop series targets one of the emerging and fundamental problems of the Web, specifically the management and preservation of evolving knowledge graphs. During the past eight years, the workshop series has been gathering a community of researchers and practitioners around these challenges. To date, the series has successfully published more than 40 articles allowing more than 50 individual authors to present and share their ideas.

This 8th edition, virtually co-located with the International Semantic Web Conference (ISWC 2022), gathered the community around six research publications. The event took place online on the 23rd of October, 2022.

Keywords

Web Data evolution, Data preservation, provenance and lineage, Temporal & Evolving Knowledge Graphs, RDF archiving and versioning

Managing the Evolution and Preservation of the Data Web

There is a vast and rapidly increasing quantity of scientific, corporate, governmental, and crowd-sourced data openly published on the Web. Open Data plays a catalyst role in the way structured information is exploited on a large scale. A traditional view of digitally preserving these datasets by “pickling and locking them away” for future use, like groceries, conflicts with their evolution. There are several approaches and frameworks (e.g. Linked Data Stack [7], PoolParty Suite¹, Metaphactory², etc.) targeted at managing the life-cycle of the Data Web. More specifically, these solutions are expected to tackle major issues such as the synchronisation problem (monitoring changes) [8, 9], the curation problem (repairing data imperfections) [10], the appraisal problem (assessing the quality of a dataset) [11], the citation problem (how to

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✉ damien.graux@inria.fr (D. Graux); orlandif@tcd.ie (F. Orlandi); Emetis.Niazmand@tib.eu (E. Niazmand)

🌐 <https://dgraux.github.io/> (D. Graux); <https://fabriziorlandi.net/> (F. Orlandi)

🆔 0000-0003-3392-3162 (D. Graux); 0000-0001-9561-4635 (F. Orlandi); 0000-0001-8194-8079 (E. Niazmand); 0000-0003-1160-8727 (M. Vidal)



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¹<https://semantic-web.com/poolparty-semantic-suite/>

²<https://metaphacts.com/>

cite a particular version of a dataset) [12], the archiving problem (retrieving a specific version of a dataset) [13, 14], and the sustainability problem (preserving at scale, ensuring long-term access) [12].

The **eighth** edition of this workshop was organised for the third time at the International Semantic Web Conference (ISWC) and followed the structure of the previous editions. We invited a number of experts in the field of Linked Data and Data Evolution & Preservation in order to suggest and advise on the different topics that our workshop covered this year. This year, at ISWC 2022, we successfully gathered more than 50 participants for our half-day event. In line with most academic events, this year MEPDaW was held as a virtual event and we had to re-think the interactions between participants.

MEPDaW Scientific programme

The workshop started with the keynote entitled “Querying the Web of data using sometimes available APIs” given by Prof. Pieter Colpaert³ from the IDLab at Ghent University in Belgium. In a context where keeping alive public APIs is complex and where short-time funded projects often turn off their APIs after the end of the project, it is usually complicated to maintain Web applications. In his presentation, Prof. Colpaert described the Linked Data Event Streams which advocates a well preservable API structure (using hypermedia and announcement *via* a metadata catalogue) and provides a way to easily re-deploy data through an API of choice. Overall, this keynote [1] gave the audience in-depth details on practical use cases backed by cutting-edge research techniques.

The first article presented dealt with modelling and analyzing changes within Linked-Data source data [4]. It was followed by [5] which proposed a method do event sourcing within the SOLID ecosystem.

The second session started with a second keynote from Prof. Aidan Hogan⁴, from the University of Chile (Santiago, Chile). His presentation named “Fostering a Lively and Tenacious Web of Data” [2], highlighted key challenges relating to dynamics on the Web of Data: inertia (being slow to change) and impermanence (losing track of the past). He exemplified issues for the Web of Data that may arise if such challenges are left neglected: stale or forgotten data, incorrect results, unchecked vandalism, biased conclusions... Prof. Hogan then discussed research lines to address such challenges relating to representations, modelling, prediction, revision, synchronisation and preservation; and he identified key trade-offs to transition towards a more lively and tenacious Web of Data.

This was followed by the presentations of the last two articles for this year’s edition. Nasim *et al.* [3] focused on examining the concept of identity and the notion of redirection within the LOD cloud. Finally, Vercruyssen and colleagues [6] described a network of live datasets with the SDS vocabulary.

³<https://pietercolpaert.be/#me>

⁴<https://aidanhogan.com/>

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Acknowledgements

We would like to thank all the authors, reviewers, committee members and the speakers for their contributions, support and commitment.

Fundings

These activities were conducted with the financial support of the ADAPT SFI Research Centre at Trinity College Dublin. The ADAPT SFI Centre for Digital Media Technology is funded by Science Foundation Ireland through the SFI Research Centres Programme and is co-funded under the European Regional Development Fund (ERDF) through Grant #13/RC/2106_P2. Emetis Niazmand was funded by the EraMed project P4-LUCAT (GA No. 53000015) and the EU H2020 RIA funded project CLARIFY with grant agreement No 875160. Lastly, Maria-Esther Vidal is partially supported by the Leibniz Association in the program "Leibniz Best Minds: Programme for Women Professors", project TrustKG-Transforming Data in Trustable Insights with grant P99/2020.

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