FAIR Digital Object Assessment and Acceleration Approaches at the World Data System

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Abstract. After outlining the structure and mission of the World Data System (WDS), our presentation at the FDO Summit Berlin describes how the WDS provides a multi-faceted approach to accelerating FAIR Digital Objects (FDOs) by evaluating, reusing and extending previous FAIRification work, and by providing testbeds to improve automation and prioritization. Based on feedback from planned knowledge transfer and dissemination activities, FAIR Implementation Profiles (FIPs) and FAIR Enabling Resources (FERs) can be evaluated to improve interoperability between repositories that should have a comprehensive metadata schema.

Keywords: FAIR Data, Digital Object, Data Repositories, Persistent Identifier, Metadata Asessment

1. World Data System

The World Data System (WDS), an affiliate member of the International Science Council, serves a membership of trusted data repositories. The WDS consists of an International Program Office based in Tennessee, USA, and an International Technology Office based in BC, Canada. The WDS mission is to enhance the capabilities, impact, and sustainability of our membership and data services.

2. FDO Assessment and Acceleration

The WDS is undertaking a multifaceted approach to accelerate FAIR Digital Objects (FDOs) within our membership. The global and multi-disciplinary membership of the WDS is a valuable testbed for emerging frameworks and tools, although prioritization and automation are crucial to reduce burden on repository staff. In general, we plan to evaluate, leverage and extend prior FAIRification work, such as the RDA FAIR Data Maturity Model [1], F-UJI (FAIRsFAIR Research Data Object Assessment Service) [2], Peng's harmonized indicators [3], and FAIR Implementation Profile (FIP)/FAIR Enabling Resources (FER) [4]. In particular, a server with F-UJI code will assess datasets as FDOs for an initial cohort of repositories already using DataCite identifiers and schema.org/Dataset metadata. Workshops, surveys and asynchronous work will be used to integrate repository holdings, interpret results, gather feedback, and define FAIRness improvements. Longer term, we may expand with more repositories, and set up automated checks to re-assess datasets. We will examine FIPs and FERs for increasing interoperability across data repositories, and guiding assessment tool enhancements. Amongst the broader membership, we are advocating for persistent identifiers with comprehensive metadata, and embedded schema.org metadata (also suitable for federated data systems).

Data availability statement

Data availability is not applicable, as data have not yet been generated at this point of the project.

Author contributions

The author, Reyna Jenkyns, contributed project administration, conceptualization, methodology and writing – original draft for this work.

Competing interests

The authors declare that they have no competing interests.

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