CERIF-VIVO mapping v1.0

Conference

Authors

Dragan Ivanovic (dragan.ivanovic@uns.ac.rs, University of Novi Sad, Serbia)
Christian Hauschke (christian.hauschke@tib.eu, TIB, Germany)
Tatiana Walther (tatiana.walther@tib.eu, TIB, Germany)
Anna Guillaumet (anna.guillaumet@sigmaaie.org, SIGMA Gestión Universitaria, A.I.E, (M.P.),
Spain)
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Abstract

In July 2021 a Memorandum of Understanding between VIVO and euroCRIS was signed. The
euroCRIS and VIVO representatives recognized a shared goal and the need for joint action in
integration of research domain information across the world. One specific action started after
the signing of the MoU is updating the mapping between the CERIF data model and the VIVO
Ontology from 2013. The mapping from 2013 was outdated, because both formats evolved
meanwhile.

CERIF model and VIVO ontology

CERIF is considered as a standard interchange format for research domain recommended by
the European Union to its Member States. This model represents information about research
domain entities such as Research results, Researchers, Organizations, Events, etc. Moreover,
it also includes a "Semantic Layer" which enables classification of entities and links between
entities. Also, some attributes can have multilingual values. Besides a relational database
model, an XML interchange format has been prescribed by the CERIF standard. More
information about CERIF can be found at https://eurocris.org/services/main-features-cerif.

VIVO is based on classes and properties from a set of OWL ontologies. The VIVO core ontology
models the basic elements of a research information system such as Researchers (people),
Organizations, and Scientific Activities. Moreover, as it is a good practice in the linked data
initiative, the VIVO core ontology extends some existing ontologies. For example, the
Friend-of-a-Friend (FOAF) ontology has been adopted as a basis for describing Researchers

and Organizations, while the Bibliographic Ontology (BIBO) has been adopted as a basis for describing Research results. The VIVO ontology design principles and a comprehensive list of the ontologies integrated into the VIVO Ontology can be found at https://sourceforge.net/projects/vivo/.

The mapping of CERIF to VIVO

In the first phase, mappings will be presented in a free form by using tables with predefined list of columns: CERIF entity to VIVO class, CERIF data type to VIVO data type, CERIF version to VIVO version, each qualified with mapping expression (equivalent, constraint, similar, shoehorn). A first review and update of the mapping was done by the VIVO ontology group and the euroCRIS CERIF task group. Moreover, the invitation to join the initiative was shared through the complete VIVO and euroCRIS community. After this initial update, available notations for formal representation of mapping have to be investigated and selected. The joint group (VIVO and euroCRIS) is also working on the definition of an infrastructure for further maintenance of the mapping and for keeping the history of those mappings. Then, the mapping will be expressed in the selected formal language and made available through the aforementioned infrastructure. The last phase will be exploitation of those mapping through implementation of a software module capable to read and execute mapping rules presented in the selected notation and to perform automatic transformation of CERIF records to VIVO records. So far, in this action, the mapping from CERIF to VIVO has been carried out, but the opposite direction, i.e. the mapping from VIVO to CERIF is also to be taken into account for a next phase of this joint work .

This is an ongoing project. At the conference, the current state of the project will be presented.

Keywords

CERIF model, VIVO ontology, mapping, interoperability