

Introduction to VIVO

INF / CRC 1412

André Renis / Felix Golcher

24. January 2022

TOPICS

- I. Introduction to ViVo
- II. How to add publications or activities to ViVo
- III. Discussion

What is ViVo?

- “VIVO is a web-based, open-source suite of computer software for managing data about researchers, scientists, and faculty members. VIVO uses Semantic Web techniques to represent people and their work.” (Wikipedia)
- Underlying data-structure is based on standardized ontologies allowing for high quality of entered data about researchers, research-networks, publications, teaching activities etc.
- ViVo is developed by Universities for Universities since 2003 (Cornell University, University of Florida and others) → Growing community worldwide
- ViVo consistently supports standards and methodologies of open science/research such as ORCID, RoR and DOI (persistent identifiers for researchers, institutions and publications)

Why does the CRC1412 uses ViVo?

- ViVo is envisaged by INF as the central system *for collecting and reporting* the **output** of the CRC1412 (publications, activities, research groups, research fields, connected people etc.)
- ViVo provides standardised ontologies (standardised data structures) and useful tools for these purposes
- The data from ViVo can be fed directly into our Website (or exported to other formats)
- ViVo provides various possibilities for searching, exploring, aggregation, exporting and visualizations of the data
- The Humboldt-University is highly involved (via Berlin University Alliance (BUA)) in establishing ViVo as the central Research-Information-System for all Universities in Berlin → Currently ontology working groups about: German university structures, German funding structures etc. (different to US-Ontologies)

How does ViVo work?

- ViVo stores data in a triplestore (Apache Jena) based on RDF-technologies
- “Triple” means data is stored and can be retrieved using the semantic (from natural languages inspired) subject-predicate-object pattern (semantic web)
- Ontologies for any kind of subject are the fundamental structure of the data
- With query language SPARQL you can search the triplestore: `SELECT ?s ?p ?o`
- Any information (entity) can be connected (linked) to any other data
- Data structures in RDF are getting very complex (like the real world) in a short time
- Existing ontologies can be extended or new ontologies can be added to ViVo
- Triplestores are often compared to graph databases with nodes and edges

What happened so far?

- INF has copied data about members and projects (from the website) to ViVo instance
 - INF has started to add publications and activities to ViVo
 - Data can be fully edited/added by members
 - Publications are now visible on website (and partly replacing manually edited entries)
 - The same will be done with invited talks, workshops, conferences and the like
- More on that later

What has still to be done?

- **All** CRC-publications and CRC-activities should be added to ViVo by project-groups → DFG-Reports will be generated with ViVo-Data-Export
- INF would like to build an ontology (research areas) for “Register” to connect different types of data by subject
- INF will continue to integrate the ViVo-Data into the website
- INF will support project groups with any kind of help and assistance
- INF supports development of BUA-ViVo with experiences from the CRC-ViVo

ViVo in action

- How to login to ViVo
- How to add a publication
 - by DOI (automatic import)
 - by hand
- How the publications are integrated into the website
- How to add a talk to ViVo
- How to edit your profile