D-Grid Ontology
## Semantic description of the D-Grid initiative

MediGRID

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D-Grid Ontology
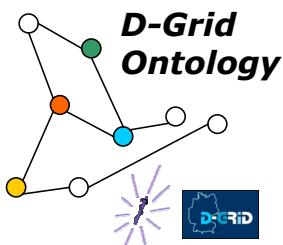
Motivation

- D-Grid is a nationwide and growing project (D-Grid I/II, ...) with hundreds of participants and resources
- Meta information in D-Grid is *heterogeneous* and *distributed*
  - Websites of different D-Grid projects
  - Register for D-Grid hardware resources
  - VOMRS for virtual organizations and persons
- Semantic linkage between the different information objects is missing, but would be particularly valuable for interdisciplinary communities and research
- Wiki-like collection of knowledge to ensure up-to-date content

Idea and Model

- Simple, web-based and collaborative development of a common D-Grid Ontology (DGO)
- Generic approach – applicable in several domains, e.g. medicine and life sciences (MediGRID)
- Meta model: Content Types with *data* and *relation attributes* + further meta information (UI, presentation)
- DGO Content Types: *Person, Project, Organization, Grid Resources*

Name - *Name of the organization*
Interdisciplinary Centre for Bioinformatics

Location - *City of location (e.g. Leipzig)*
Leipzig

Homepage - *Organizations homepage (without http://)*
www.izbi.de

SuperOrganization - *The organization this organization belongs to, e.g. university (use autocomplete fo*
Leipzig
- University of Leipzig
- University of Leipzig/Department of Computer Science
- University of Leipzig/Institute for Medical Informatics, Statistics and Epidemiology
- University of Leipzig/Interdisciplinary Centre for Bioinformatics

biostatisticians, biomathematicians).

=== Research concept ===

[Change content]

Organization(s) involved in the D-Grid initiative
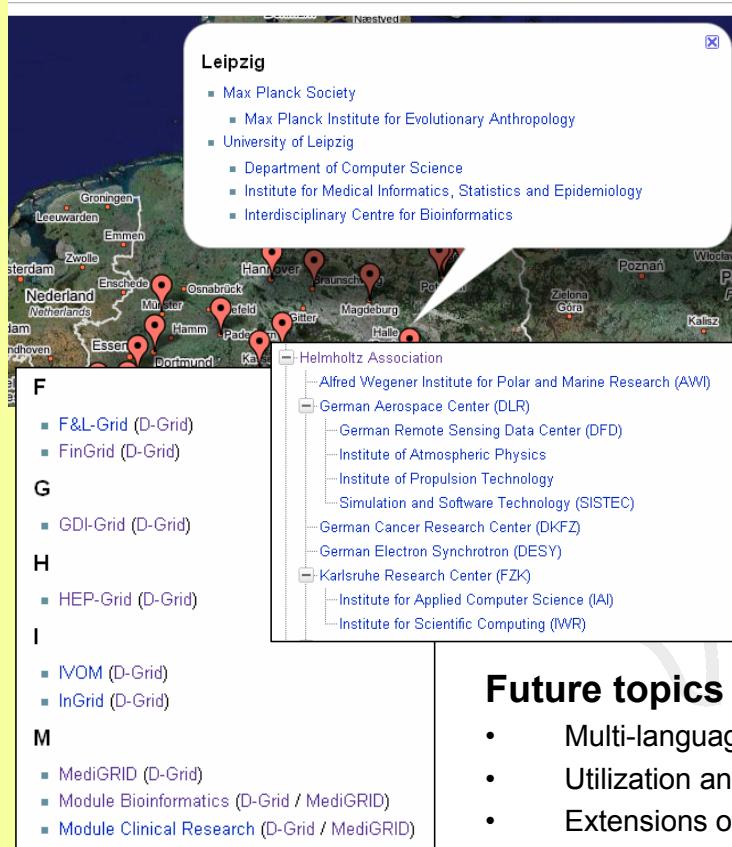
Leipzig
- Max Planck Society
  - Max Planck Institute for Evolutionary Anthropology
- University of Leipzig
  - Department of Computer Science
  - Institute for Medical Informatics, Statistics and Epidemiology
  - Interdisciplinary Centre for Bioinformatics

F
- F&L-Grid (D-Grid)
- FinGrid (D-Grid)

G
- GDI-Grid (D-Grid)

H
- HEP-Grid (D-Grid)

I
- IVOM (D-Grid)
- InGrid (D-Grid)

M
- MediGRID (D-Grid)
- Module Bioinformatics (D-Grid / MediGRID)
- Module Clinical Research (D-Grid / MediGRID)

- Helmholtz Association
  - Alfred Wegener Institute for Polar and Marine Research (AWI)
  - German Aerospace Center (DLR)
    - German Remote Sensing Data Center (DFD)
    - Institute of Atmospheric Physics
    - Institute of Propulsion Technology
    - Simulation and Software Technology (SISTEC)
  - German Cancer Research Center (DKFZ)
  - German Electron Synchrotron (DESY)
  - Karlsruhe Research Center (FZK)
    - Institute for Applied Computer Science (IAI)
    - Institute for Scientific Computing (IWR)

Current realization and features

- Creation and edit of content with simple UIs (autocomplete, hierarchy paths)
- Automatic organization and presentation of knowledge in *articles*, *categories* and extended components, e.g. *maps* and *trees*
- Different *Query* and *Navigation* capabilities
- *Evolution environment* for administrators
- Every D-Grid participant is invited to contribute her/his knowledge to the current DGO system at
  http://buell.izbi.uni-leipzig.de/dgo

Future topics

- Multi-language and enhanced evolution support
- Utilization and validation in other domains
- Extensions of the system based on community needs