LEIBNIZ DATA MANAGER AN ADAPTIVE RESEARCH DATA MANAGEMENT SYSTEM





// MOTIVATION

Exponential growth of available data during the last decade has generated a tsunami of available scientific datasets in heterogeneous formats.

// OBJECTIVES

Exploit FAIR principles and Semantic Web technologies to support researchers in documenting, analyzing, and sharing research datasets.

// METHODS

Adaptive research data management system based on CKAN, able to integrate datasets published in other repositories.

// FUNCTIONS

- Supports data collections and publications with different formats
- Visualization of research data
- Different views on the same data set (2D and 3D support)
- Visualization of AutoCAD files
- Jupyter Notebook(s) for demonstrating live code
- RDF Description of data collections

// ADVANTAGES

- Fine-grained description of datasets
- Overview of metadata
- Better visualization of the existing metadata
- Data services implemented as Jupyter notebooks
- Datasets can be imported and integrated from other repositories
- Grouping can be done associated with various datasets
- All necessary information is present in the bundle together





Reasound wave with the frequency of 40 kHz coming from the second

X Fulkcreen @ Entell



Welcome to the TIB Data Manager

I Dataset Creation

- A dataset is created in LDM
- Type of dataset is selected
- Metadata template is filled in •
- DOI is generated
- Synchronization schedule is defined
- Access Regulation are chosen

II Dataset Synchronization **Datasets** are kept up-to-date

- Data is synchronized from data providers according to synchronization schedulers
- Metadata is updated •

Research Data Management

- **III Metadata Exploration Datasets** are explored based on
- Keywords
- Fine-grained metadata ٠ descriptions using DCAT properties

IV Dataset Analysis **Datasets** are analyzed based on

- Graphs plotting main features
- Visualizations in 2D and 3D
- Jupyter Notebooks to perform live-code analysis

Research Data Analysis



Visualization: 3D





FIGURE 1: LDM Architecture





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