Bachelor/Master Thesis Description, status: open, language: DE | EN

Design and Implementation of a RESTful API for Heterogeneous Data

Summary

The Open-Data-Service (ODS) is an Open Source Software project, which collects heterogeneous data from various sources and makes this data easy to consume thru a unified interface. Moreover, the ODS can improve the quality and availability of the data, and apply different operations to enhance the data.

On the source side, different adapters ensure that the proliferation of protocols, formats, and the complexity of the sources is easy to handle. On the user side, a query interface provides all data in a uniform and simple interface, regardless of their original format or interface.

A user who uses ODS can focus on application development and don't have to struggle with different formats, interfaces of various sources.

The goal of this bachelor/master thesis is to develop a proper RESTful interface for the end-user to consume the collected data. Currently, there exist a REST-like interface which doesn't follow all REST constraints and therefore isn't a RESTful API.

Work Results

- Literature review
  - REST architecture style
- Thesis methods
  - Definition of requirements.
  - Design and implementation of a RESTful API.
  - Evaluation of work.
- Thesis results
  - Design of a RESTful API.
    - For heterogeneous data.
    - Includes clean documentation of logic behind API
  - Implement of a RESTful API in Java.
    - Consider HATEOAS constraint.
    - Versioning of the API.
    - Documentation of API with Swagger.
    - Includes definition of tech stack + config for other APIs

Supervisor

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