**Datenbanken und Informationssysteme**
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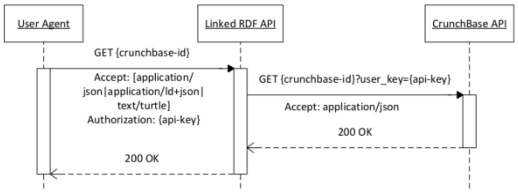
# Call for Bachelor/Master Thesis
# "Towards a New Data Cloud with Always Fresh Data: Analyzing Existing Linked Data Wrappers"

## What is the topic?

*Linked Data wrappers* (LDWs) provide a way to bring existing Web APIs into the Semantic Web. To that end, the data returned by APIs (e.g., in JSON format) is converted into the widely used RDF format. Additionally, links to other data sources on the Web are added to the returned data. Compared to the existing Linked Open Data cloud which is of rather static nature, LDWs can provide the user always with fresh data, which is needed in many scenarios [1].




Example of a Linked Data wrapper [1]: A Linked RDF API is used as "middleware" between the user agent and an existing API (here, the CrunchBase API).

Although a variety of LDWs have already been created in recent years (see, for instance, an incomplete list at [2]), a systematic collection and comparison of LDWs is missing. Hence, in this proposed thesis, the student is asked to work on the following:

1. Create systematically an up-to-date list of existing LDWs (based on publications and platforms such as datahub.io).
2. Create systematically a list of dimensions by which LDWs can be compared against each other (see, in particular, data quality dimensions such as supported formats, trustworthiness, etc.)
3. Compare the existing LDWs by these dimensions (using tables and textual descriptions).
4. Conceptualize and maybe implement a light-weight Web platform which can be used for registering LDWs etc., ensuring a widely usage of the registered LDWs.

This thesis does only rudimentary require programming skills. Nevertheless, working systematically and scientifically is needed in any case. An initial list of relevant publications and links to platforms will be provided to the student.

[1] http://dbis.informatik.uni-freiburg.de/content/team/faerber/papers/CrunchBaseWrapper_SWJ2017.pdf
[2] https://old.datahub.io/organization/linked-data-wrappers

## Which prerequisites should you have?

- Interest in the Semantic Web (cf. knowledge graphs, RDF) and/or Web APIs.

Keywords: Survey, Web APIs, Semantic Web, RDF, wrapper, Linked Open Data, data quality.

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