



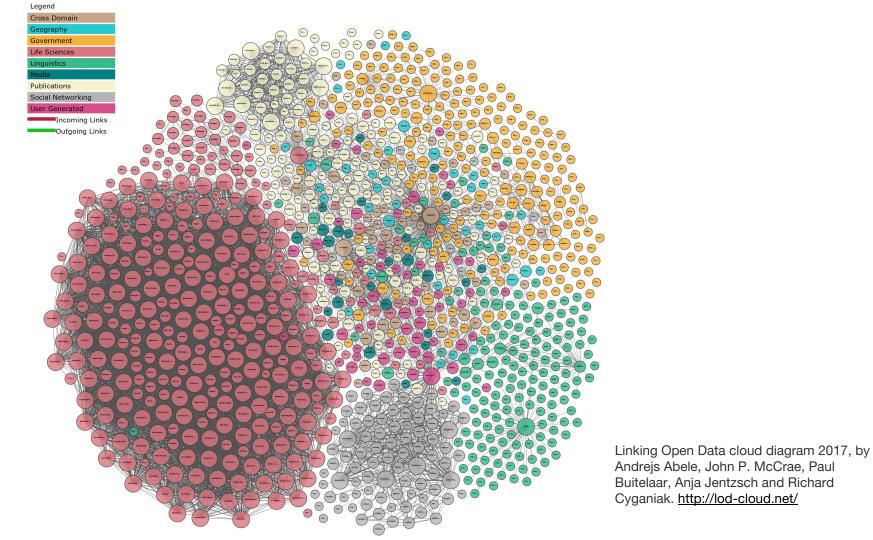


# Linked Data Finland (LDF.fi): Publishing and Using Semantic Data for Research and Applications

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## Linked Data Finland Living Lab <a href="http://ldf.fi">http://ldf.fi</a>



### **Linked Data Finland**

Living Laboratory Data Service for the Semantic Web

This site is the Living Laboratory of the <u>Linked Data Finland</u> research initiative, conducted by the <u>Semantic Computing Research Group</u> at <u>Aalto University</u> in collaboration with University of Helsinki and a large consortium of Finnish public organizations and companies.

Our goal is to make life easier for both publishers as well as consumers of structured data on the Web. We base our work on the <u>Linked Data</u> paradigm and stack of standards, which combines an expressive, semantic data model (<u>RDF</u>) with standardized access mechanisms (<u>SPARQL</u> and <u>live HTTP URIs</u>).

#### 5-star Linked Data

The baseline of our work is the <u>5-star Linked Data model</u>, proposed <u>originally</u> by Tim Berners-Lee.

- Make data available on the Web in whatever format.
- Make data available as structured data (e.g., Excel instead of an image scan of a table).
- Use non-proprietary formats (e.g., CSV instead of Excel format).
- \*\*\*\* Use URIs to denote things, so that people can point at your data.

Link your data to other data to provide context.

#### 7-star Linked Data Service

However, in our opinion, providing 5-star Linked Data is just the beginning. To actually make use of the datasets, consumers need more support in getting to know and access them, as well as a better grasp of their quality and provenance. To this end, we extend the model with two additional stars:

Provide your data with a schema and documentation so that people can *understand and re-use* your data easily.

Validate your data and denote its provenance so that people can *trust the quality* of your data.

This added support should come with as little extra work as possible to the data publisher. Our hypothesis is that a lot of this can be done automatically, basing on the Linked Data core. A data publisher needs only to provide

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Validation

**Applications** 

Your Data?

### Our "7-star" model and LDF.fi data hotel

### Goals: enhance re-usability and data quality

### 7-star Linked Data Service

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This added support should come with as little extra work as possible to the data publisher. Our hypothesis is that a lot of this can be done automatically, basing on the Linked Data core. A data publisher needs only to provide their data in the RDF format, and the LDF.fi portal will do the rest automatically. See the <u>overview paper</u> (in ESWC 2014 Proceedings, Springer-Verlag) for some more details about the underlying ideas.



Burj Al Arab



### Semantic Finlex

Justice, Edita Publishing Ltd. and Talentum Corp.

\*\*\*\*\*

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Linked Data Finland

This dataset includes data regarding Finnish legislation and court decisions. The RDF data has been converted Home using data from the Finlex service; we call the new dataset Semantic Finlex. Special thanks to the Ministry of

Project **Datasets** 

License

**Schemas** CC BY 4.0

@ <u>0</u> Services

See possible graph-specific licenses below.

**Policies** 

**Documentation Detailed Dataset Contents** 

Validation Finnish Legislation (URI: http://ldf.fi/finlex/laki/)

**Applications** (Browse data / Download) Finnish acts and decrees.

Your Data? Example resource URI: http://ldf.fi/finlex/laki/statute-sd18890039

Finnish Court Decisions (URI: http://ldf.fi/finlex/oikeus/) (Browse data / Download)

Decisions of the Supreme Court and the Supreme Administrative Court. Example resource URI: http://ldf.fi/finlex/oikeus/courtKKO

Schemas Used

Following schemas (vocabularies) are used in the datasets above:

· Schema: http://purl.org/finlex/schema/oikeus/

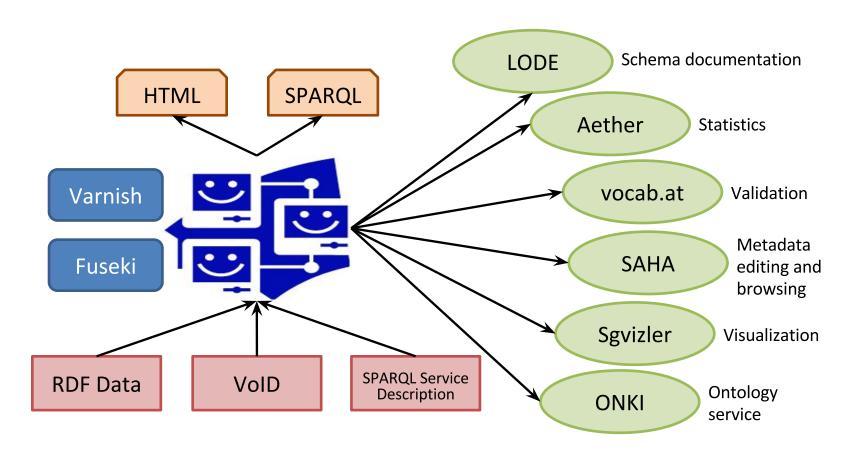
Schema: <a href="http://purl.org/finlex/schema/laki/">http://purl.org/finlex/schema/laki/</a>

used. Issues on data quality are pointed out.

Vocabulary Usage Analysis and Quality Issues

Following analyses tell what schemas (vocabularies) are used in the dataset graphs and how they have been

## LDF.fi – generic Linked Data publication platform



## Powered by LDF.fi!

- Legislation and case law: Semantic Finlex
- War history: World War I Linked Open Data, WarSampo
- Spatial data: place names from National Land Survey, National Archives
- Biographies: Semantic National Biography, Vanhat Norssit
- Epistolary data: Reassembling the Republic of Letters
- Corpus linguistics: STRATAS project
- Cultural heritage: data from BookSampo, CultureSampo, Semantic Kalevala,
   MuseoSuomi
- Bird and weather observations: data from Tiira.fi, Halias Station, Finnish
   Meteorological Institute
- Biological nomenclature: birds, mammals, insects, plants
- ...and more...
- Your dataset?



Welcome to Linked Data School LinDa

http://linda.seco.cs.aalto.fi