Sampo-UI

TkT(!!!!!) Heikki Rantala

Sampo-UI

"Here to forge for us the Sampo,
Hammer us the lid in colors"

Select a perspective to search and browse the knowledge graph:
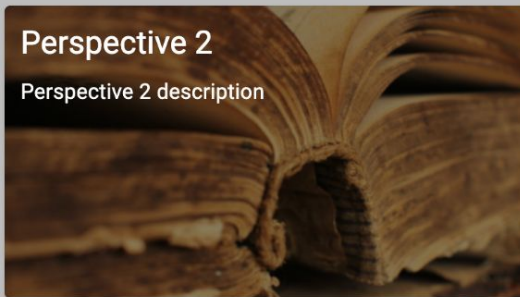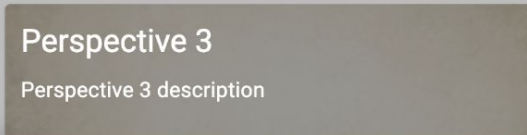
Perspective 1

Perspective 1 description

Perspective 2
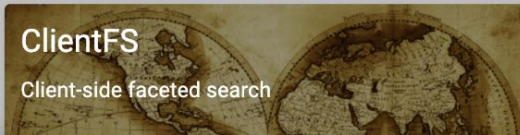
Perspective 2 description

Perspective 3

Perspective 3 description

ClientFS

Client-side faceted search

Sampo-UI

- An open source framework for developing applications on to of SPARQL endpoints
- Basic functionality combines faceted search with various ways to visualize the data
- Only requires a SPARQL endpoint and data to follow basic RDF principles
- Configured with JSON

Sampo-UI

- **Open source:**
  - https://github.com/SemanticComputing/sampo-ui
- **Information and tutorials:**
  - https://seco.cs.aalto.fi/tools/sampo-ui/
- **Original version from 2019**

  - Esko Ikkala, Eero Hyvönen, Heikki Rantala and Mikko Koho: **Sampo-UI: A Full Stack JavaScript Framework for Developing Semantic Portal User Interfaces**. Semantic Web – Interoperability, Usability, Applicability, vol. 13, no. 1, pp. 69-84, January, 2022. Online version published in 2021, print version in 2022.

Why?

- **SeCo has a long history of creating "semantic portals"**
- **Earlier approach for implementing faceted search was the JS library SPARQL Faceter**
- **We learned that in practice we did not implement new application with the library, but "forked" an old existing application and started to change that to create a new application**

Why?

- **In SeCo we need to build new demos all the time**
- **It would not make sense to make a new thing every time**
- **The architecture, the visual look etc take time**
- **Needs to be simple enough to be used by students**
- **But needs to easy to customize and add new stuff**

For whom?

- "By developers, for developers"
- Not just a simple library
- Not just a "query builder"
- Not a fully hands-off tool for people with no technical skills
- "Template" for getting started with building an application
- The user is expected to have some technical skill
- At least understanding of SPARQL is required

Basic philosophy

- **Faceted search!**
- **Relies only on querying SPARQL endpoint**
- **Searching instances of a (one or more) class within a (one or more) "perspective"**
- **Every perspective can have multiple different visualizations**
- **Designed to be modular**
  - extendable and customizable

How it works?

- **Works by creating SPARQL queries, mapping the results and delivering the data to the front-end for visualizations**
- **Separate queries for instance count, each (open) facet and the result set (paginated, all or instance)**
- **Dynamic SPARQL queries is not necessarily the most optimized approach (long property paths are slow), but can be set simply on top of SPARQL endpoint**

How to configure?

- **Basics can be configured with JSON files**
- **Currently the user also needs to write SPARQL queries for getting the data visible**
  - This would perhaps be possible to automate more
- **Making a simple portal can take as little time as an hour**
- **Realistically about a day**
  - But a more polished stuff will take longer

Example of facet configurations

```
"genre": {

    "containerClass": "ten",

    "facetType": "list",

    "filterType": "uriFilter",

    "facetLabelPredicate": "rdfs:label",

    "facetLabelFilter": "FILTER(LANG(?prefLabel_) = 'en')",

    "predicate": "dbo:genre",

    "searchField": true,

    "sortButton": true,

    "sortBy": "instanceCount",

    "sortByPredicate": "dbo:genre/rdfs:label",

    "sortDirection": "desc",

    "pieChartButton": true

},
```

```
"birthCountry": {

    "containerClass": "ten",

    "facetType": "list",

    "filterType": "uriFilter",

    "facetLabelPredicate": "rdfs:label",

    "facetLabelFilter": "FILTER(LANG(?prefLabel_) = 'en')",

    "predicate": "dbo:birthPlace/dbo:country",

    "searchField": true,

    "sortButton": true,

    "sortBy": "instanceCount",

    "sortByPredicate": "dbo:birthPlace/dbo:country/rdfs:label",

    "sortDirection": "desc",

    "pieChartButton": true

},
```

International use

- **Used internationally and interest grew last year a lot**
- **Norway, Belgium, Netherlands, Switzerland…**
- **Currently there is a limited number of other open and maintained projects for visualizing LD**

SKCMDb

A semantic browser for the
Slovak Comprehensive Music
Database

Select a perspective to search and browse the Slovak music knowledge graph:
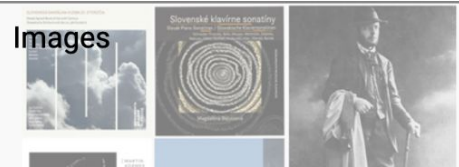
Music

Publications

Audiovisual

Klaudia Kováča vol. 2

HUMORESKA

Noty nájdete v časopise

Images

Nobel Prizes

Laureates ⓘ

Results: 993 laureates

Narrow down by:

Name ⓘ

Search... 🔍

Affiliation ⓘ

Gender or type ⓘ

Award motivation ⓘ

Category ⓘ

Laureates by country

Country	Laureates
Hungary	13
Denmark	12
Prussia	13
Germany	95
Russian Empire	16
Italy	17
India	11
Scotland	11
Poland	30
Austria	19
Sweden	29
Canada	22
Austria-Hungary	13
USA	284
Norway	13
Switzerland	19
United Kingdom	93
the Netherlands	20
Russia	28
China	12
France	63
Japan	29
Other	215
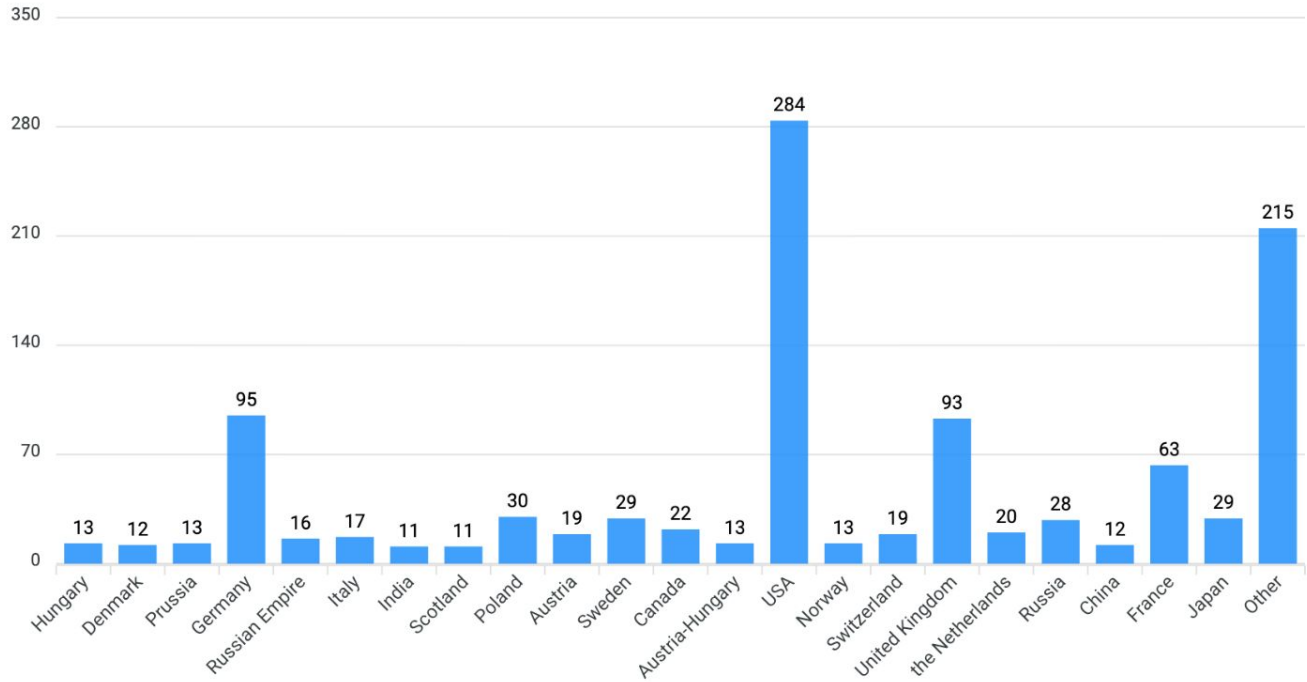
Future

- **Maintaining a big JS project is difficult**
- **Work to upgrade Sampo-UI has been also done in University of Latvia and University of Ghent**