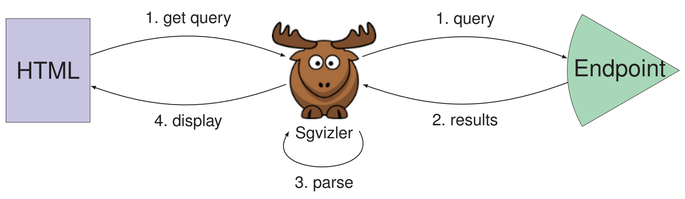
Sgvizler: A JavaScript Wrapper for Easy Visualization of SPARQL Result Sets

Synopsis

- **Easy visualization of SPARQL SELECT queries.**
- **Embed charts directly into HTML by simply specifying SPARQL query and visualization function options.**
- **Compatible with all modern web browsers.**
- **Supports all major visualization functions in Google's Visualization API.**
- **Easy to modify and extend visualization functions.**

How does it work?

1. On page load queries are issued to specified endpoints.
2. Results are collected in W3C's XML or JSON(P) format.
3. Then parsed into a Google DataTable [Goo].
4. The selected visualization function parses the datatable to a chart and puts the chart in the `<div>` element.



- Uses external libraries for endpoint communication ([Jqu]) and visualization (currently [Goo; D3; Dra]).
- All visualizations use the DataTable; a uniform interface, many convenient get-functions.
- Lightweight: 20 KB minified, 6 KB minified and gzipped.

Example HTML element

The following `<div>` element draws the Map (†), shown right, which is a user-extended function based on Map from [Goo].

```
<div data-sgvizler-endpoint="http://dbpedia.org/sparql"
  data-sgvizler-query="
    SELECT ?lat ?long ?name ?text ?url ?image
    WHERE { ?url a dbpo:AdministrativeRegion ;
                  dct:subject dbp:Rogaland ;
                  geo:lat ?lat ;  geo:long ?long ;
                  rdfs:label ?name ;  rdfs:comment ?text ;
                  dbpo:thumbnail ?image . }"
  data-sgvizler-chart="sMap"
  data-sgvizler-chart-options="showTip=true"
  data-sgvizler-format="jsonp"  data-sgvizler-loglevel="2"
  style="width: 800px; height: 600px;" id="id1"></div>
```

- Uses HTML5 compatible `data-` prefixed attributes.
- Order of variables in `SELECT` block must fit chart type, see [Sgv] for specifications.
- `chart-options`: give additional chart customizations.
- `format`: format query results should be received as.
- `loglevel`: amount of feedback given while preparing chart.

Screenshots

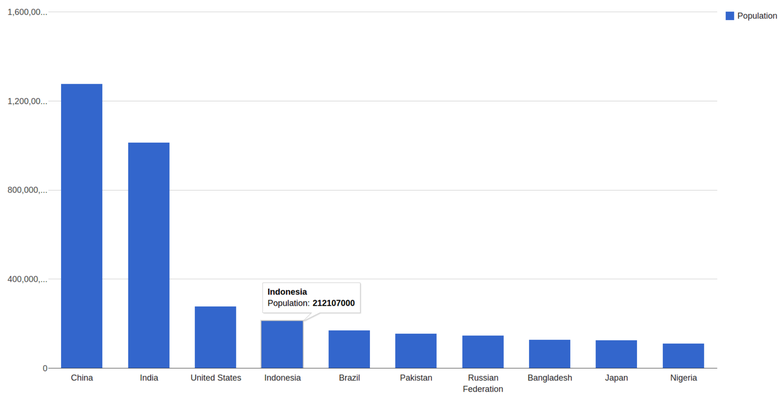
- All screenshots on the right are produced with Sgvizler, see [Sgv] for live examples.
- Unless noted otherwise, charts are rendered using [Goo].
- Most charts are interactive, best viewed on screen.

Links

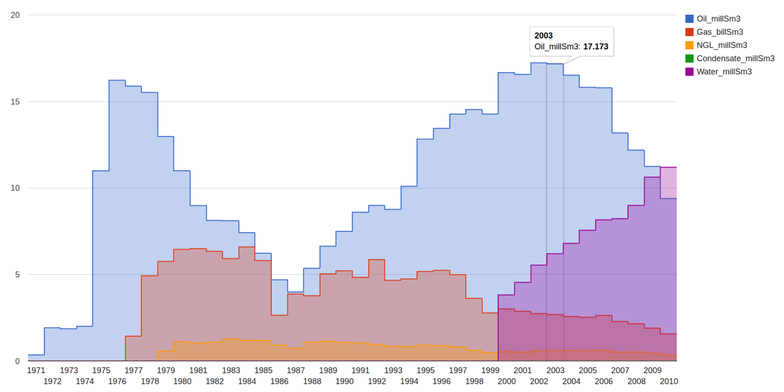
[Goo] *Google Chart Tools*. URL: `http://code.google.com/apis/chart/`.
[Jqu] *jQuery*. URL: `http://jquery.com/`.
[Sgv] *Sgvizler*. URL: `http://code.google.com/p/sgvizler/`.
[Dra] *Dracula Graph Library*. URL: `http://www.graphdracula.net/`.
[D3] *D3.js*. URL: `http://mbostock.github.com/d3/`.

Quantitative data charts

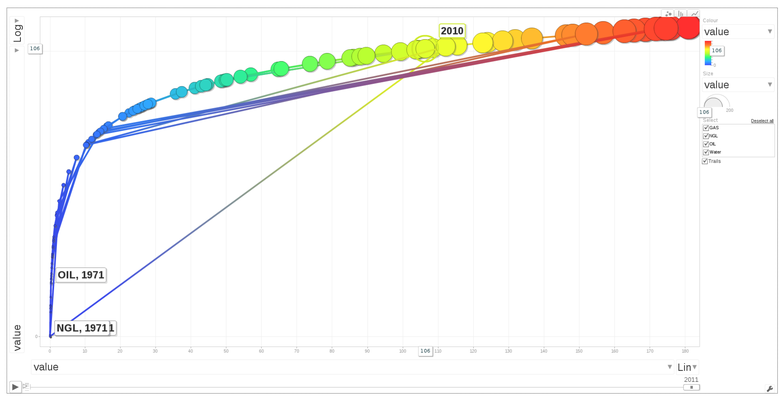
Column Chart



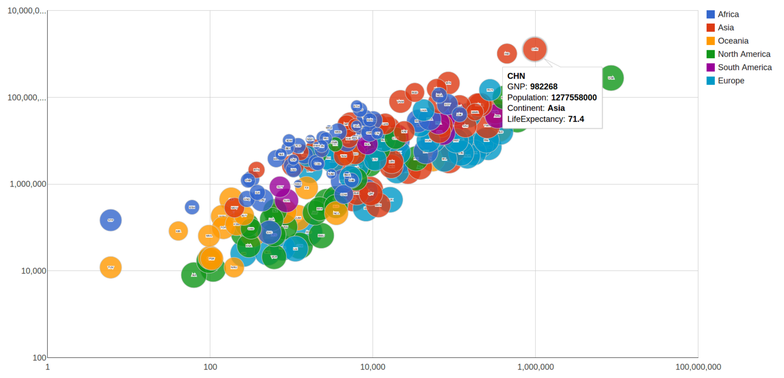
Stepped Area Chart



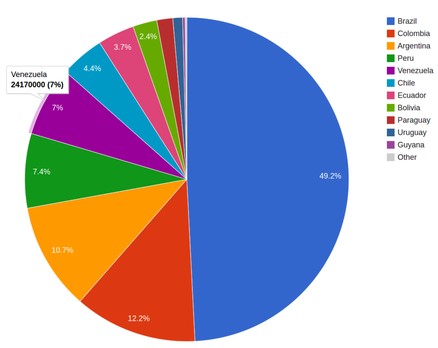
Motion Chart



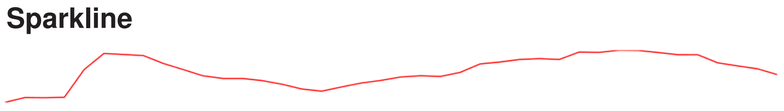
Bubble Chart



Pie Chart

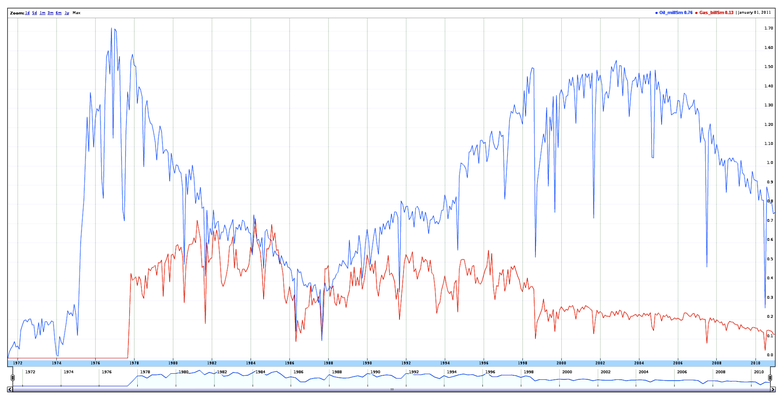


Sparkline



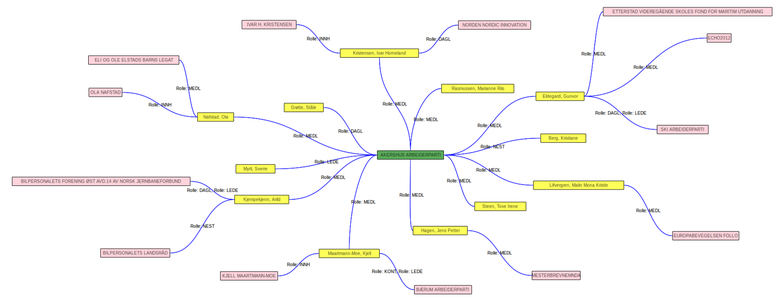
Temporal data chart

Timeline

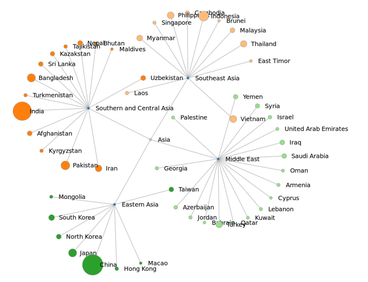


Graphs

`rdGraph`, rendered using [Dra].

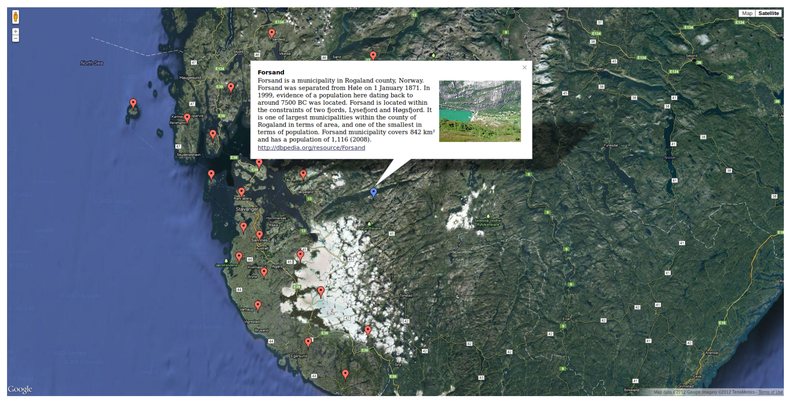


`dForceGraph`, rendered using [D3].

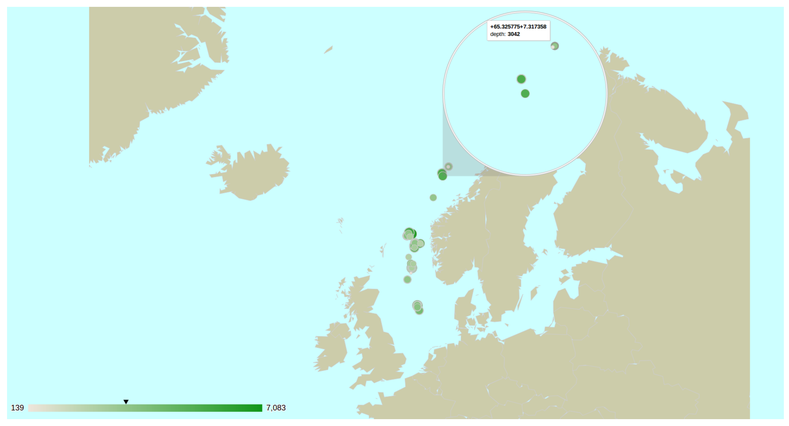


Geographical data charts

Map (†)

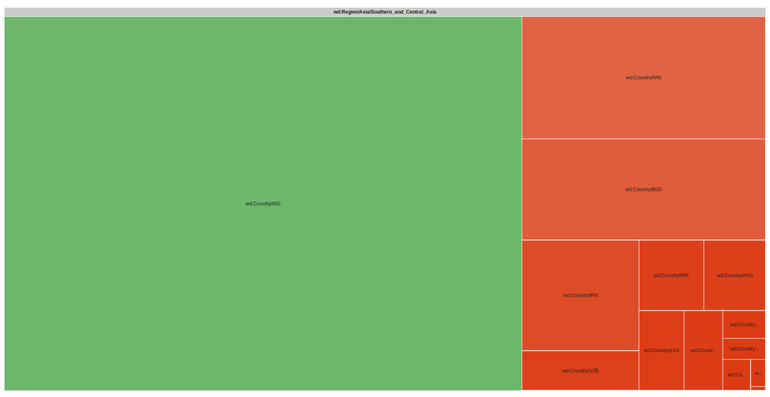


Geo Chart



Hierarchical data charts

Tree Map



- OrgChart also available.

Text

- Google's generic table rendering.

Supports also a few text rendering functions, created by simple DOM manipulation functions:

- Lists: `<ol>`, `<ul>` and `<dl>`.
- Table.
- Generic text rendering.

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This poster was presented at ESWC 2012. It gives a simplified exposition of that found in the demo paper *Martin G. Skjæveland: Sgvizler: A JavaScript Wrapper for Easy Visualization of SPARQL Result Sets.*