



A Dynamic Faceted Browser for Data Cube Statistical Data

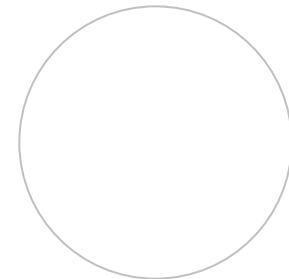
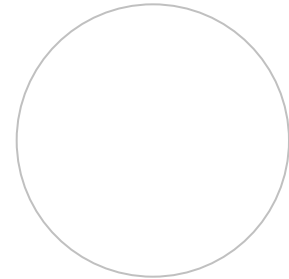
Fadi Maali, Gofran Shukair and Nikos Loutas
firstname.lastname@deri.org

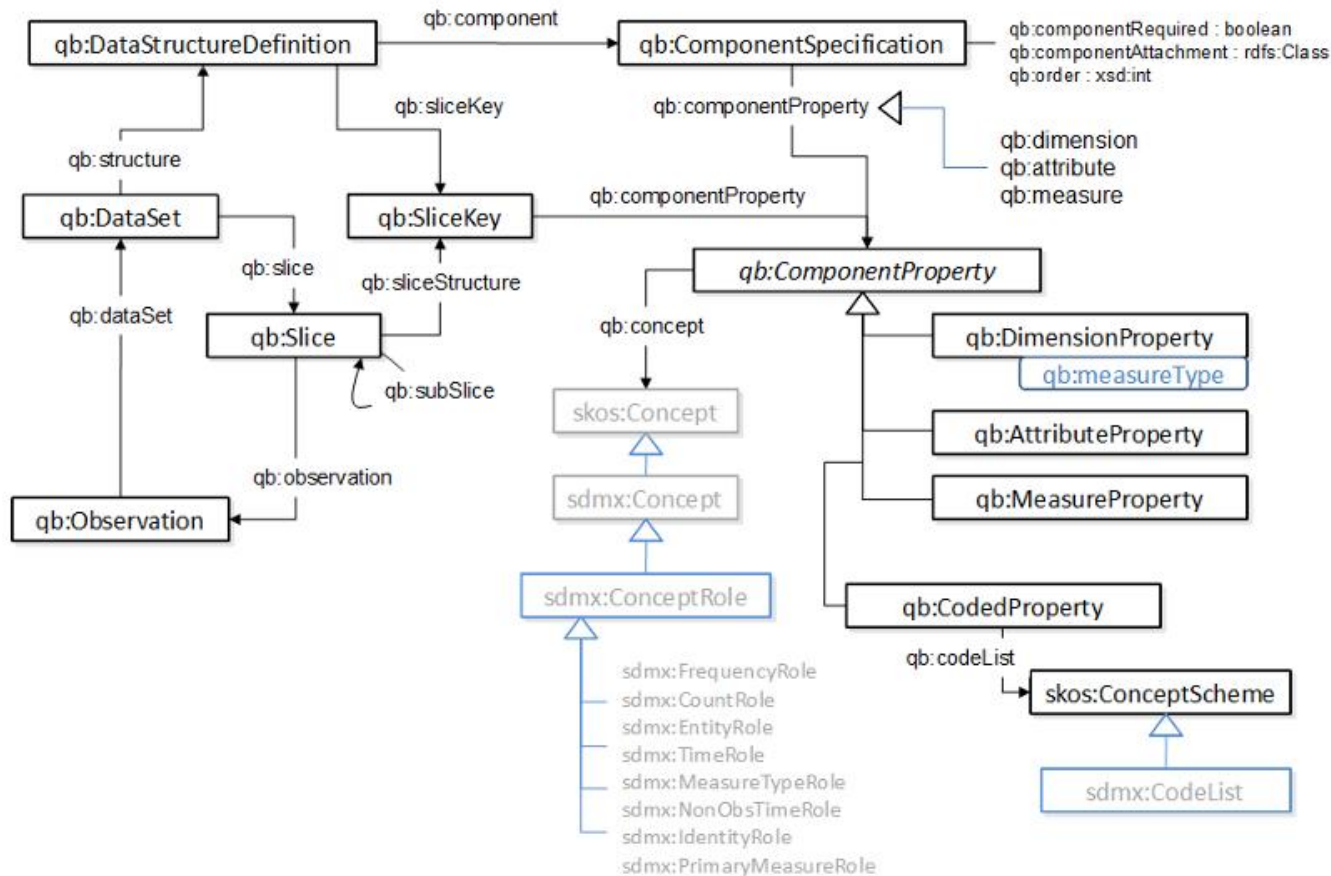
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Enabling networked knowledge

- Large number of statistics is published as part of open government data
- Statistics play important role in supporting decision making and policy formulation
- Mostly published as Excel files, but increasingly as RDF data...
 - World Bank data:
<http://worldbank.270a.info/.html>
 - Digital Agenda for Europe Scoreboard:
<http://scoreboard.lod2.eu/index.php?page=export>
 - More examples listed at:
<http://wiki.planet-data.eu/web/Datasets>

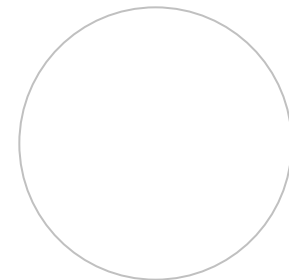
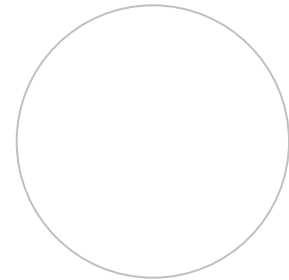




Source: <http://www.w3.org/TR/vocab-data-cube/>

Get all statistics about Ireland in the last three years from the Digital Agenda Scoreboard data .

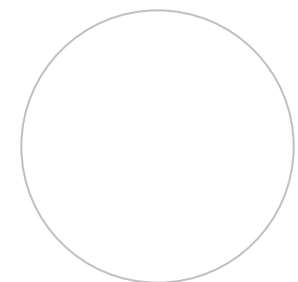
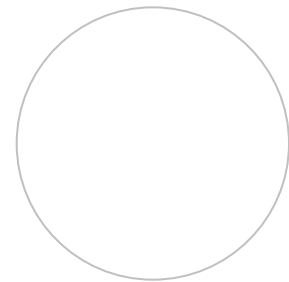
```
PREFIX qb:<http://purl.org/linked-data/cube#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
SELECT ?indicator ?val
WHERE{
  ?o a qb:Observation;
    <http://data.lod2.eu/scoreboard/properties/country>
    "Ireland";
    <http://data.lod2.eu/scoreboard/properties/year> ?year;
    ?indicatorP ?val.
  ?indicatorP a qb:MeasureProperty;
    rdfs:label ?indicator.
  FILTER(?year="2009" || ?year="2010" || ?year="2011").
}
```



Get all statistics about Ireland in the last three years from the Digital Agenda Scoreboard data .

```
PREFIX qb:<http://purl.org/linked-data/cube#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
SELECT ?indicator ?val
WHERE{
  ?o a qb:Observation;
    <http://data.lod2.eu/scoreboard/properties/country>
    "Ireland";
    <http://data.lod2.eu/scoreboard/properties/year> ?year;
    ?indicatorP rdfs:label ?indicator.
  FILTER(?year="2009" || ?year="2010" || ?year="2011").
}
```

Writing SPARQL queries is
**difficult, error-prone and
requires full knowledge of
the data schema**





Faceted Browser



search

datasets [reset change](#)

0 choices Sort by: **name** count

(blank) 141

measures [reset change](#)

67 choices Sort by: **name** count

- DSL lines share in fixed broadband ³
- Fixed broadband penetration ³
- Mobile broadband penetration - dedicated data service cards/modems/keys only ³
- New entrants' share in fixed broadband lines ³
- Share of fixed broadband lines equal to or above 10 Mbps ³
- Share of fixed broadband lines equal to or above 2 Mbps ³
- Total number of fixed broadband lines ³
- % of Large enterprises that share internally electronic information on

year [reset change](#)

11 choices Sort by: **name** count

- 2001 2
- 2002 2
- 2003 27
- 2004 34
- 2005 36
- 2006 40
- 2007 49
- 2008 61
- 2009 67 [exclude](#)
- 2010 67 [exclude](#)
- 2011 7 [exclude](#)

country [reset change](#)

32 choices Sort by: **name** count

- Iceland ⁹⁹
- Ireland 141 [exclude](#)
- Italy 141
- Latvia 138
- Lithuania 141
- Luxembourg 141

141 matching item

Show: 5 10 25 50

DSL lines share in fixed broadband for Ireland in 2009: **0,724978763**

year : 2009
country: Ireland
[details](#)

Share of fixed broadband lines equal to or above 10 Mbps for Ireland in 2010: **0,1076421905**

year : 2010
country: Ireland
[details](#)

Share of fixed broadband lines equal to or above 10 Mbps for Ireland in 2011: **0,1931321655**

year : 2011
country: Ireland
[details](#)

Sending or receiving of e-Invoices for Ireland in 2010: **0,2805567347**

year : 2010
country: Ireland
[details](#)

Share of fixed broadband lines equal to or above 2 Mbps for Ireland in 2009: **0,6235117096**

year : 2009
country: Ireland
[details](#)

Availability of eGovernment services - citizens for Ireland in 2010: **1**

year : 2010
country: Ireland
[details](#)

New entrants' share in fixed broadband lines for Ireland in 2009: **0,4907284252**

year : 2009
country: Ireland
[details](#)

Turnover from eCommerce for Ireland in 2010: **0,237314934**

year : 2010
country: Ireland
[details](#)

Availability of eGovernment services - enterprises for Ireland in 2010: **1**

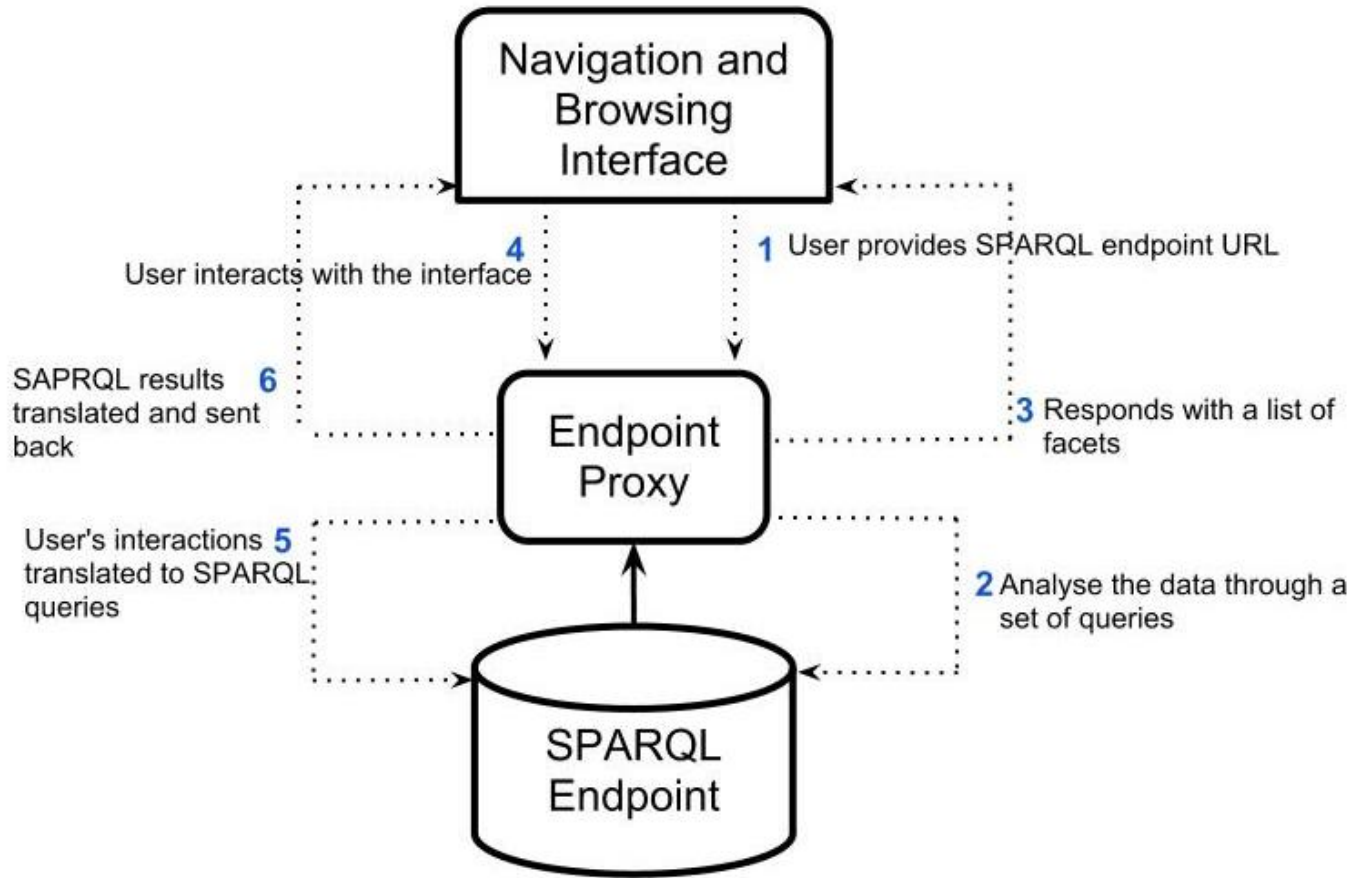
year : 2010
country: Ireland
[details](#)

Share of fixed broadband lines equal to or above 2 Mbps for Ireland in 2010: **0,7675021033**

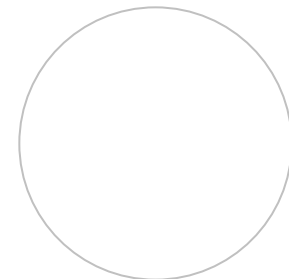
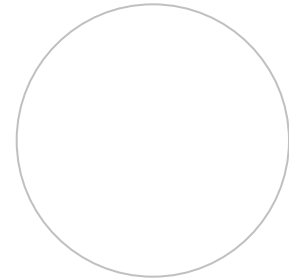
year : 2010
country: Ireland
[details](#)

Share of fixed broadband lines equal to or above 2 Mbps for Ireland in 2011: **0,8599083347**

year : 2011
country: Ireland
[details](#)



- No data pre-processing
- Works against any RDF data as long as they adhere to the Data Cube vocabulary – the faceted browser dynamically adapts to the data structure
- Pulling extra information by dereferencing URIs
- Data can be exported



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■ Full paper available at:

http://www.w3.org/2012/06/pmod/pmod2012_submission_12.pdf

■ Demo available at: <http://goo.gl/vnd7w>

■ Source code available at:

<https://github.com/fadmaa/RDF-faceted-browser/tree/qb-browser>



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