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# Requirements and design criteria for a Linked Open Statistical Data API

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**First Author · Second Author**

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**Abstract** Insert your abstract here. Include keywords, PACS and mathematical subject classification numbers as needed.

**Keywords** First keyword · Second keyword · More

### 1 Introduction

Motivation:

- Linked Open Statistical Data (LOSD)
- Need to facilitate LSD re-use without the need to know QB vocabulary, RDF etc and easily build apps that consume JSON on top of LOSD
- Re-use s/w tools across LOSD datasets

**Objective: To specify the requirements of an API that standardizes the interaction, including input and output, with LOSD.**

### 2 Methodology

Related work:

- OLAP APIs interaction with multidimensional data (input): Oracle OLAP API [1], Olap4j [2], ++
- Standardization of outcome: Json-stat, Json-ld, ++

Discussion with developers: Workshop, +++

F. Author
first address
Tel.: +123-45-678910
Fax: +123-45-678910
E-mail: fauthor@example.com

S. Author
second address

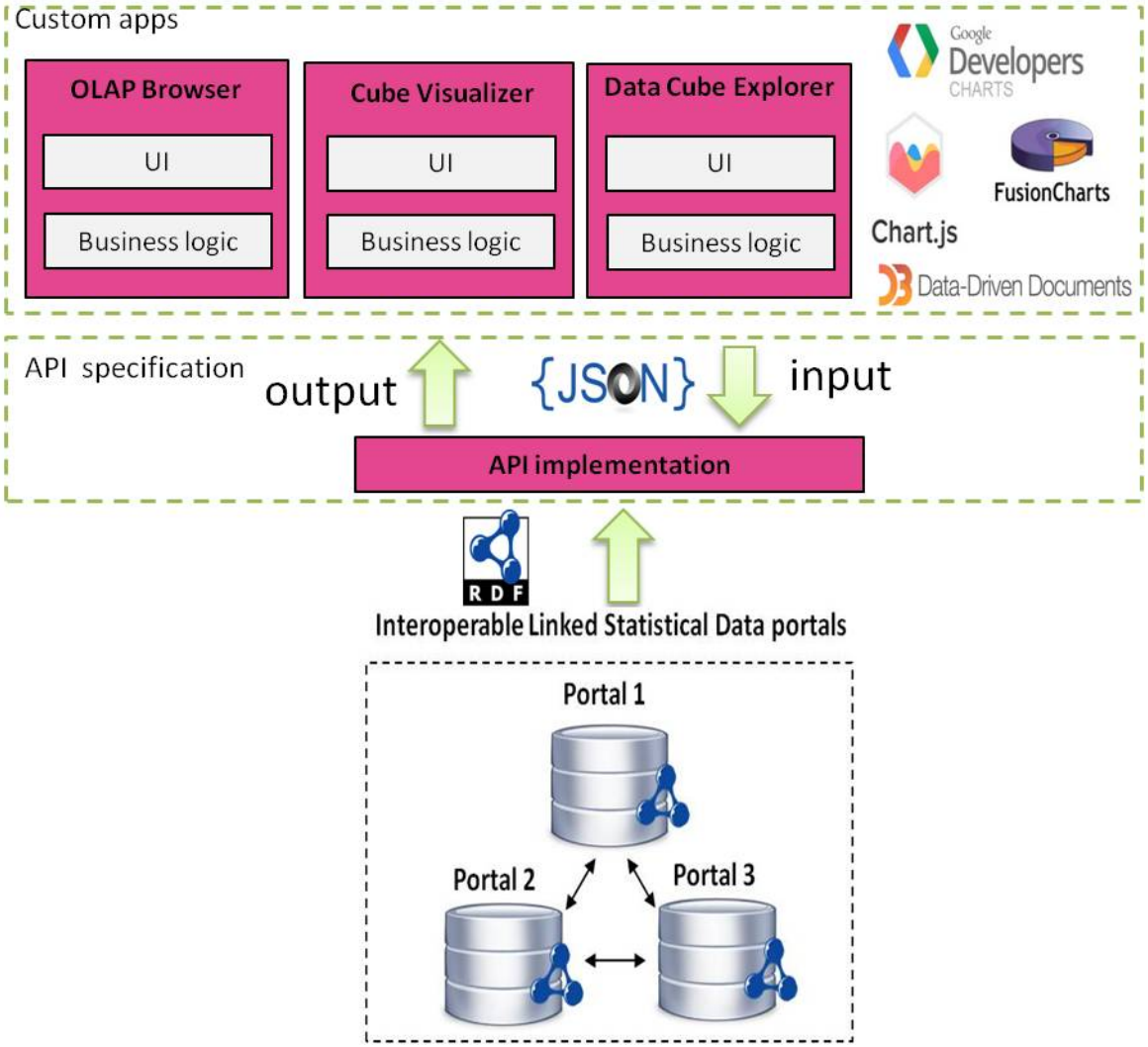


**Fig. 1** Solution overview

## 3 Solution overview

## 4 Requirements and design criteria

- need to know what datasets are available
- need to know about structure to subset the observations
- in order not to return everything, need to subset
- don't necessarily need a n-array/ tabular response - array of observations is sufficient. can always get back to the table

– Filtering
– Multilinguality
– Ordering & paging
– merging, aggregations
– json-ld representation is sufficient for query and response format
– ++

API functionality:

– GET dataset-metadata
– GET dimensions
– GET attributes
– GET measures
– GET dimension-values
– GET attribute-values
– GET dimension-levels
– GET slice
– GET table
– GET cubes
– GET aggregationSetcubes
– GET create-aggregations
– GET cubeOfAggregationSet

[Janssen et al(2012)Janssen, Charalabidis, and Zuiderwijk]
possible example for slice/ observation-selection query:

```
{
  "jqql:dataset": "scot:home-care-clients",
  "jqql:filter": {
"dimension:gender": "gender:male",
   "dimension:age": { "jqql:greater-than": 50 }
  },
  "jqql:order": {
    "dimension:refPeriod": { "jqql:order-predicate": "ui:sortPriority", "jqql:direction": "jqql:asc"
  },
  "jqql:page": {
    "jqql:limit": 10,
    "jqql:offset": 0
  }
}
```

output:

```
{ "observations": [
{ "Average Cost": "1182",
      "Date": "1-1-2013",
  "Day": "Tuesday",
  "Number of crashes": "5",
  "Time": "No available time",
```

**Table 1** Please write your table caption here

| first | second | third |
|---|---|---|
| number | number | number |
| number | number | number |


```
      "Total Cost": "5908",
  "@id": http://id.mkm.ee/observation/1" },
{ "Average Cost": "400",
  "Date": "1-1-2013",
  "Day": "Tuesday",
  "Number of crashes": "1",
  "Time": "24:00",
    "Total Cost": "400",
  "@id": "http://id.mkm.ee/observation/2" }
]}
```


## 5 Implementation

## 6 Conclusion

## References

[Janssen et al(2012)Janssen, Charalabidis, and Zuiderwijk] Janssen M, Charalabidis Y, Zuiderwijk A (2012) Benefits, adoption barriers and myths of open data and open government. Information Systems Management 29(4):258–268, DOI 10.1080/10580530.2012.716740, URL http://dx.doi.org/10.1080/10580530.2012.716740, http://dx.doi.org/10.1080/10580530.2012.716740