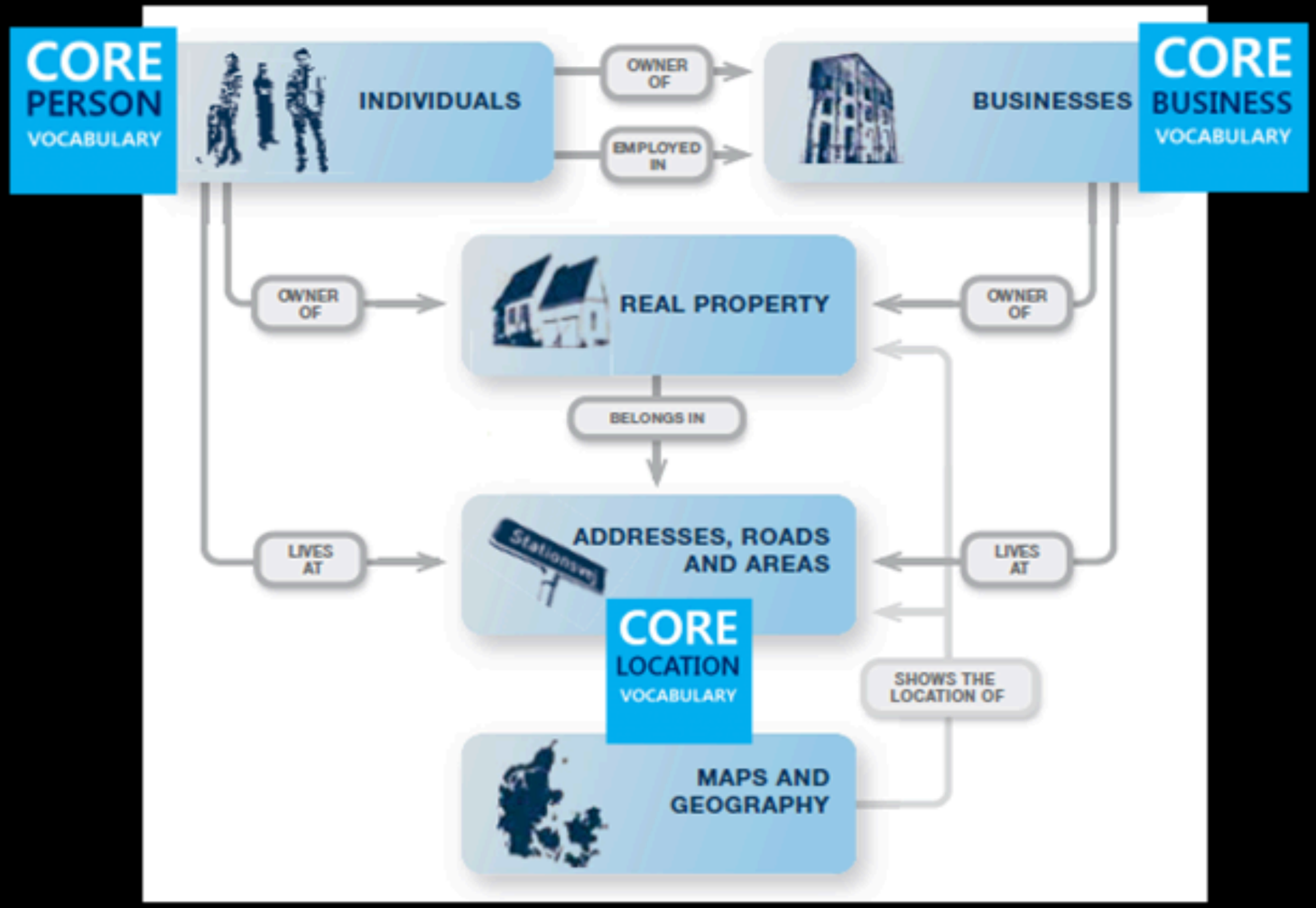
MARCO BRANDIZI 4/6/2017, #ODFEST2017

LINKED DATA PRACTICALITIES

FIND ME AT: HTTPS://TINYURL.COM/SOD17LODPIPE

OVERVIEW

- We have learned about ISA CORE Vocabularies (i.e., about RDF, OWL/ Schema)
- We have seen how to use them to represent our data



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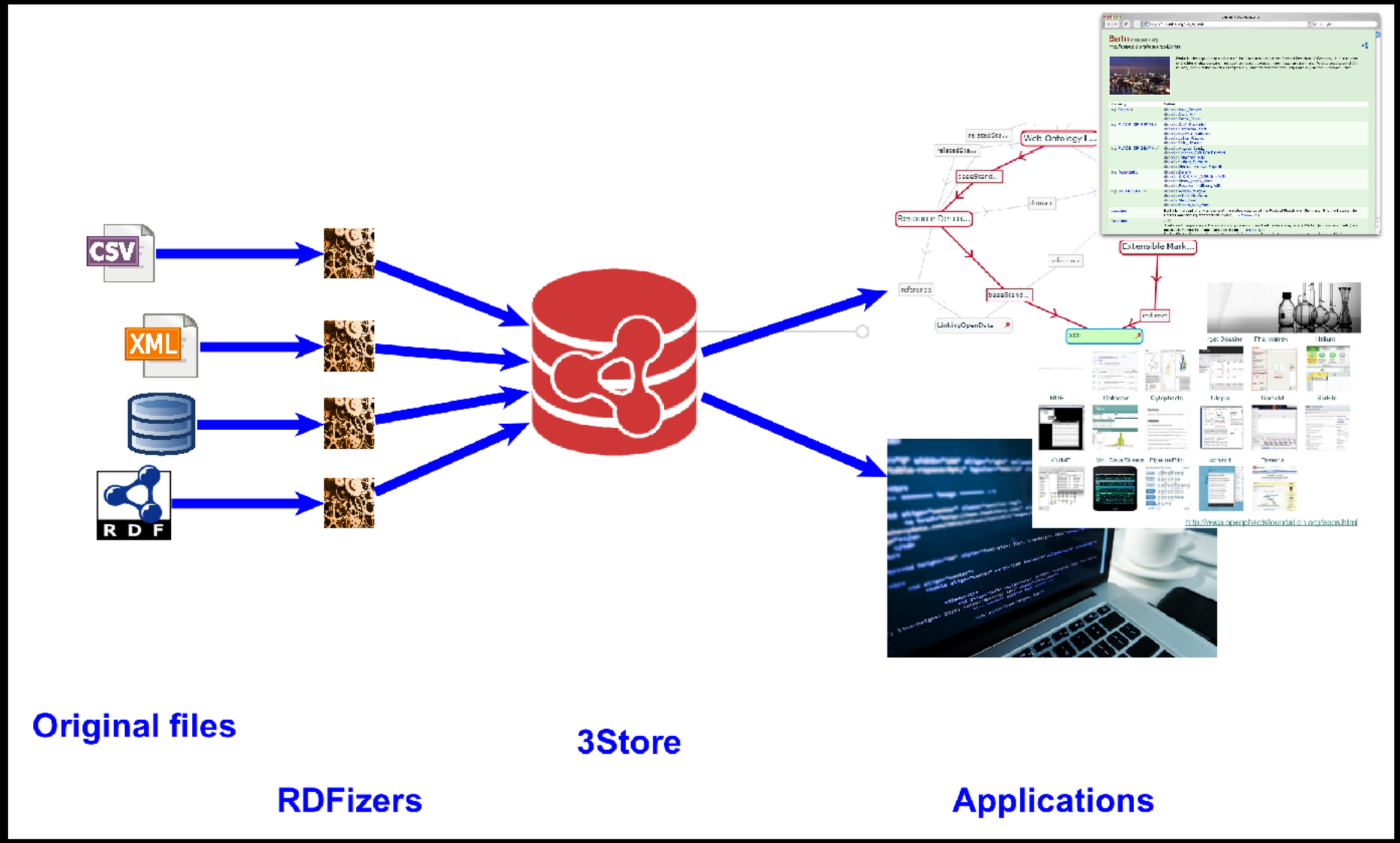
LINKED DATA
PRODUCER TO CONSUMER



OK, LET'S SEE AN EXAMPLE

- Link to demo_data
- Hospital lists in 3 Italian regions
- 2xCSV, 1xXML
- Different column names, formats
- Slightly different contents
  - so, not the worst around

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ONE* TRIPLE TO RULE THEM ALL!

** or 1E6, 1E9…*

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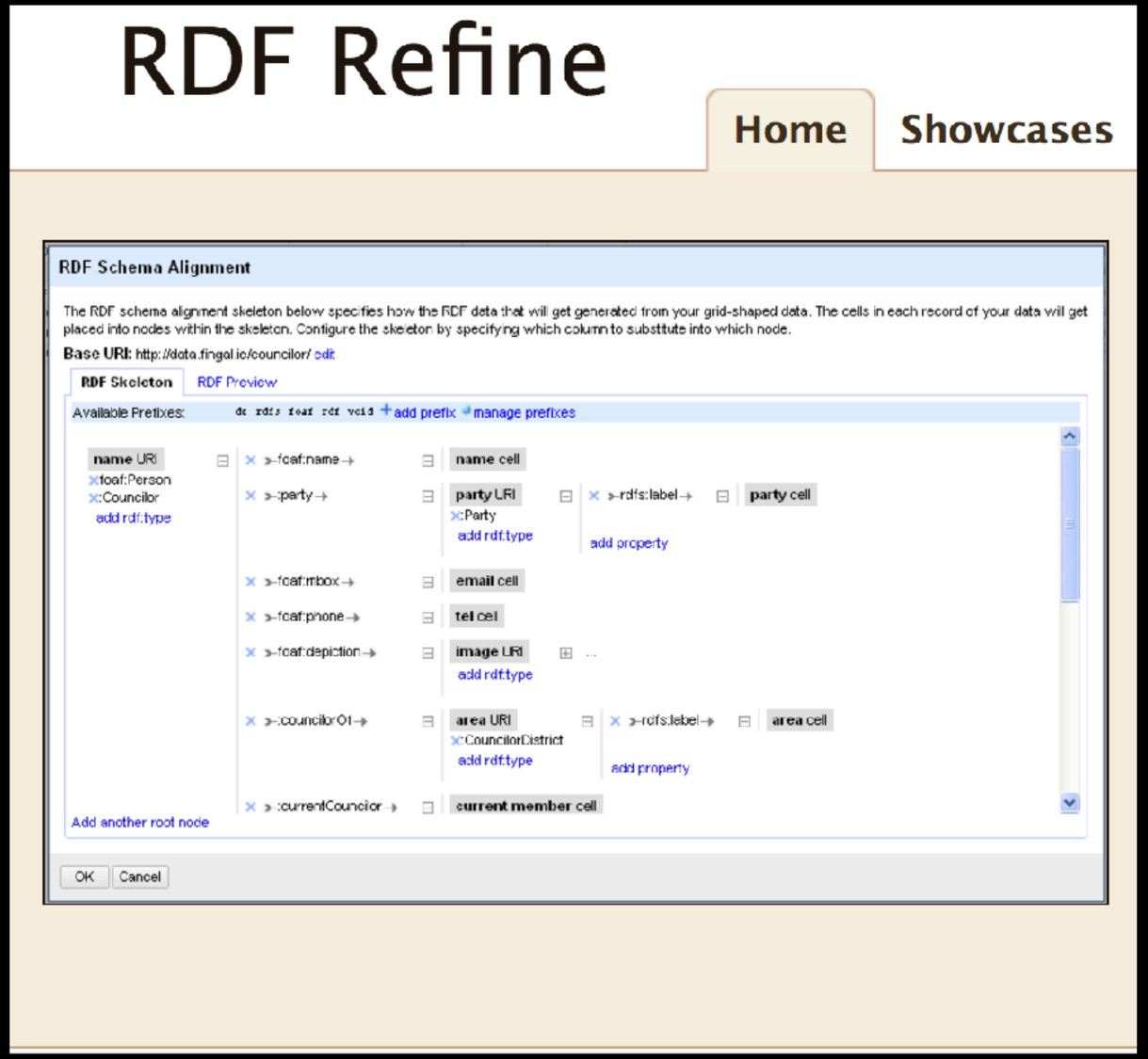
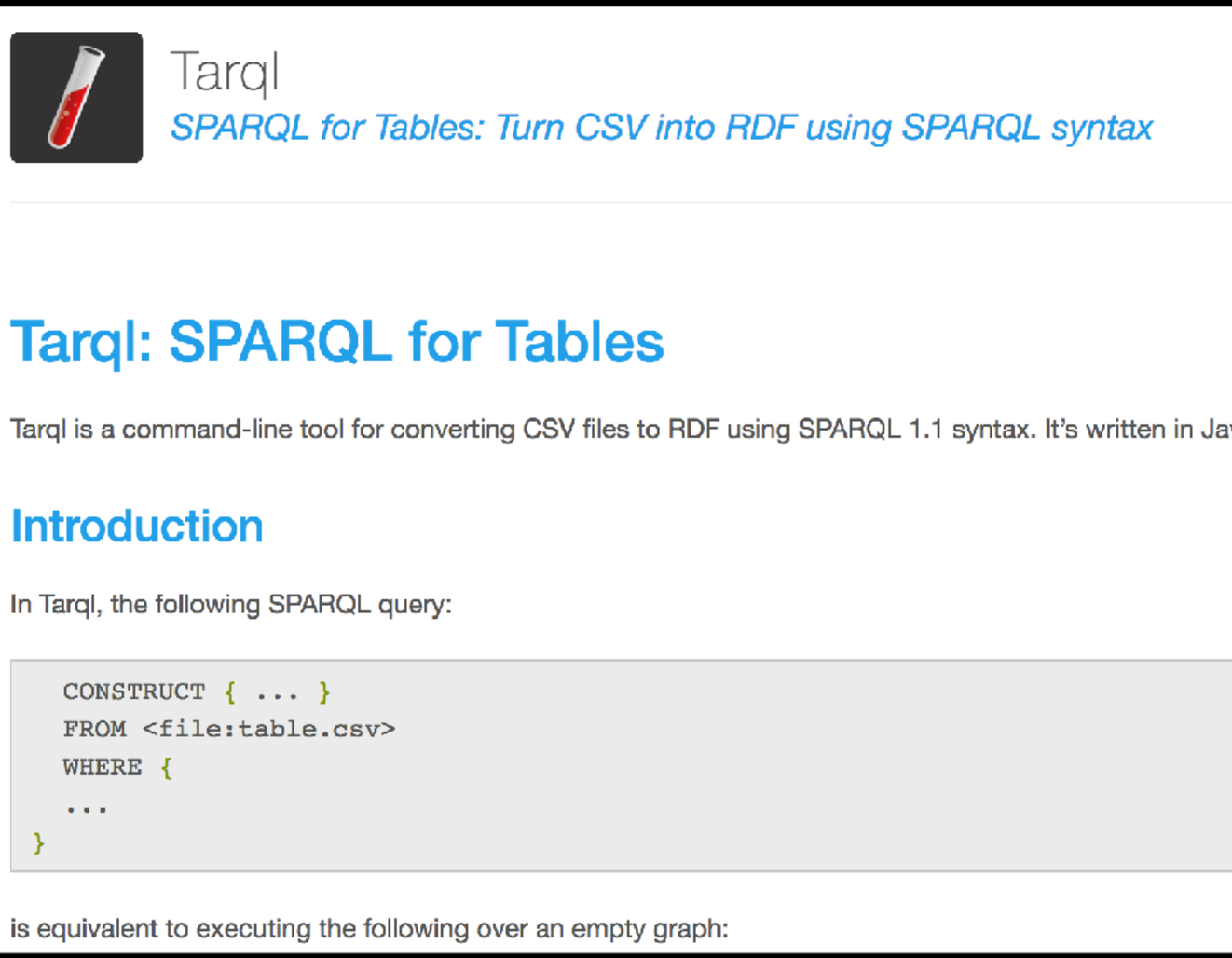
FOR THE NOT-SO-GEEK: OPEN REFINE + GREFINE

- http://refine.deri.ie/
- See demo_data/ hospitals_tuscany.openrefine.tar.gz



FOR THE SEMANTIC WEB LOVER: TARQL

- Link
- See demo_data/hospitals_tn.tarql



Tarql

SPARQL for Tables: Turn CSV into RDF using SPARQL syntax

Tarql: SPARQL for Tables

Tarql is a command-line tool for converting CSV files to RDF using SPARQL 1.1 syntax. It's written in Ja

Introduction

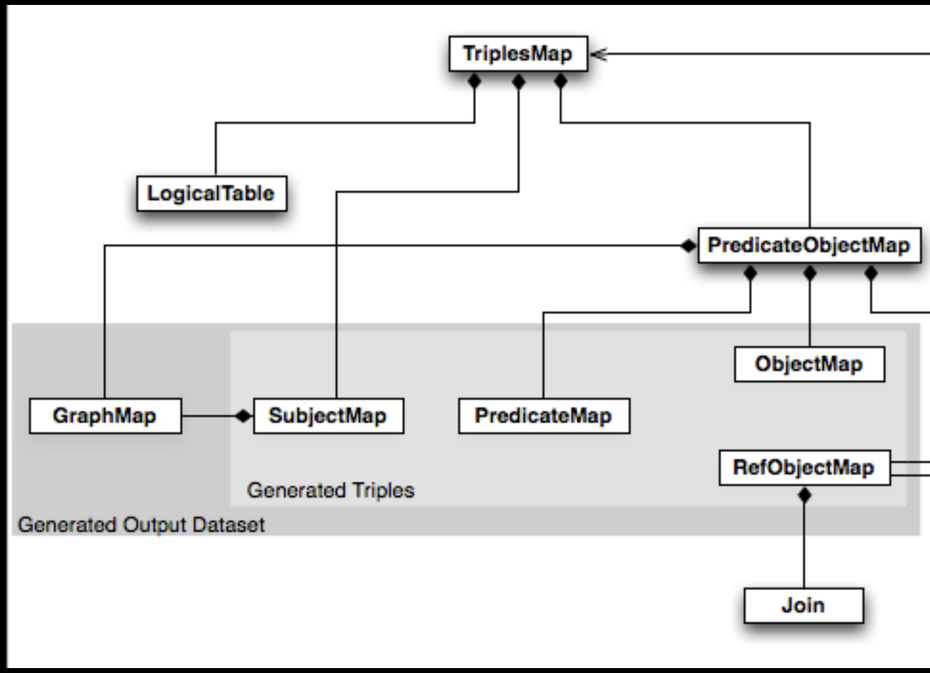
In Tarql, the following SPARQL query:

```
CONSTRUCT { ... }
FROM <file:table.csv>
WHERE {
...
}
```

is equivalent to executing the following over an empty graph:

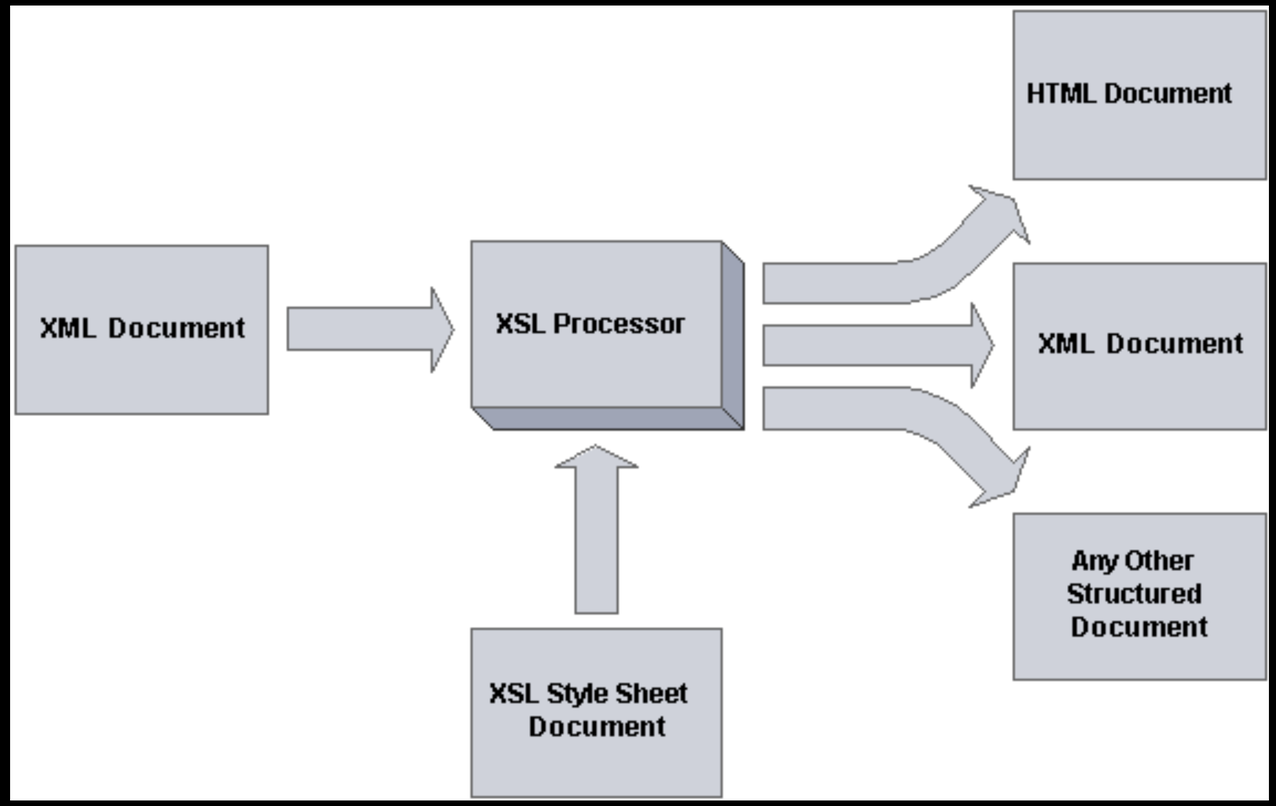
FOR THE TRADITIONALIST: RELATIONAL/RDF MAPPING

- Eg, R2ML
- https://www.w3.org/TR/r2rml/#example-input-database



FOR THE POOR DEVIL: XSL

- See demo_data/hospitals_lombardy.xsl



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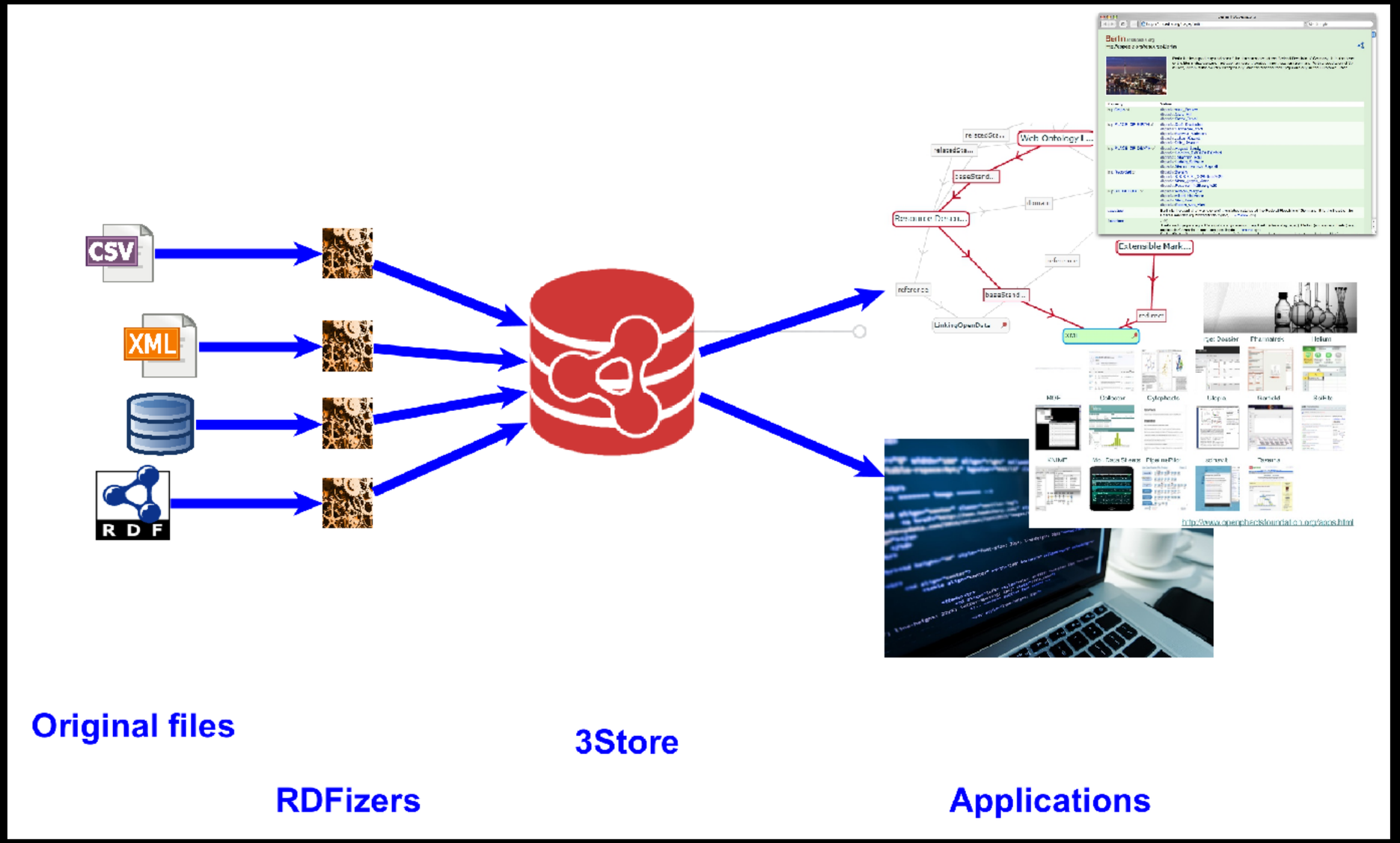
FOR THE TRUE HACKER: RDF FRAMEWORKS

- Python: rdflib
  - writing ex: https://goo.gl/oF6KvK
  - reading ex: https://goo.gl/FbWgXW
- Java: Jena
  - SPARQL ex, http://jena.apache.org/documentation/query/app_api.html
- Not enough yet? OWL-API, Tawny-OWL


SELF-PROMOTION TIME:
http://github.com/EBIBioSamples/java2rdf

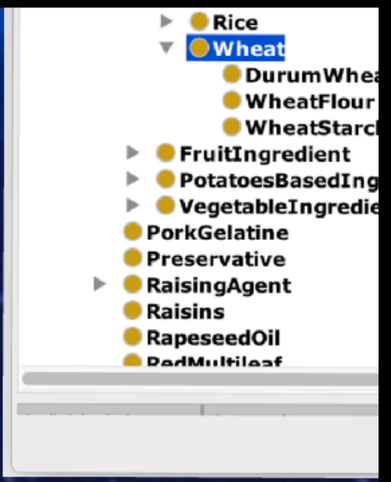
NOW WHAT? PUBLISHING RDF

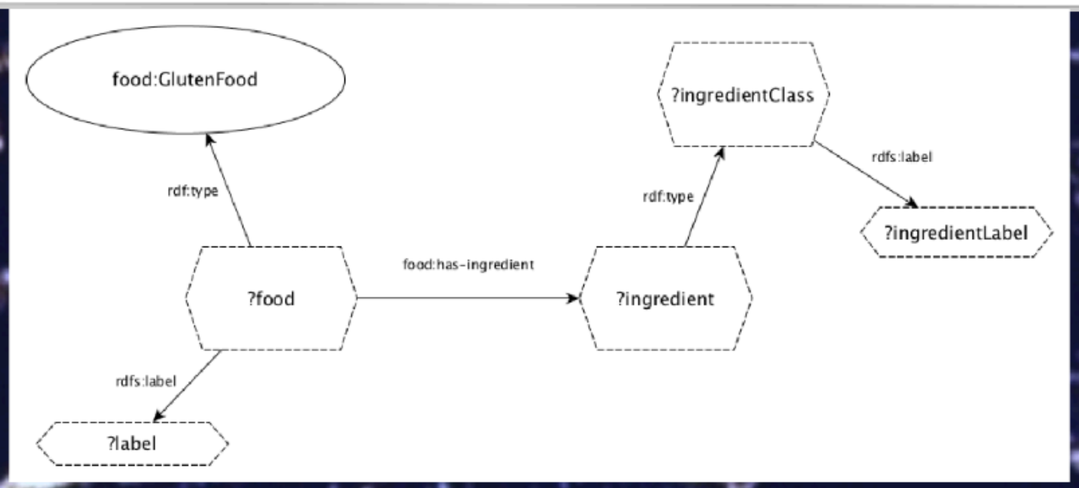


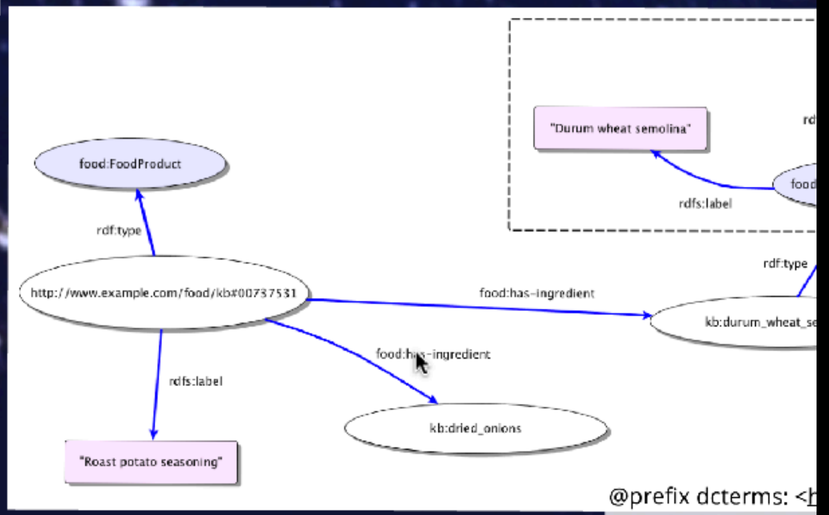

WHO ARE YOU? WHAT ABOUT YOU?
URIS
Example from demo_data/:
python get_dbpuri_demo.py "http://dbpedia.org/resource/Trentino"

SPARQL (AND SERVICE/ENDPOINTS)

```
5
6  select distinct ?code ?label ?ingredientLabel
7  where
8  {
9    ?food rdf:type food:GlutenFood;
10         rdfs:label ?label;
11         dcterms:identifier ?code.
12
13   ?food food:has-ingredient ?ingredient.
14   ?ingredient a ?ingredientClass.
15   ?ingredientClass rdfs:label ?ingredientLabel.
16   FILTER ( REGEX ( ?ingredientLabel, 'durum', 'i' ))
17 }
18 ORDER BY ?label
```





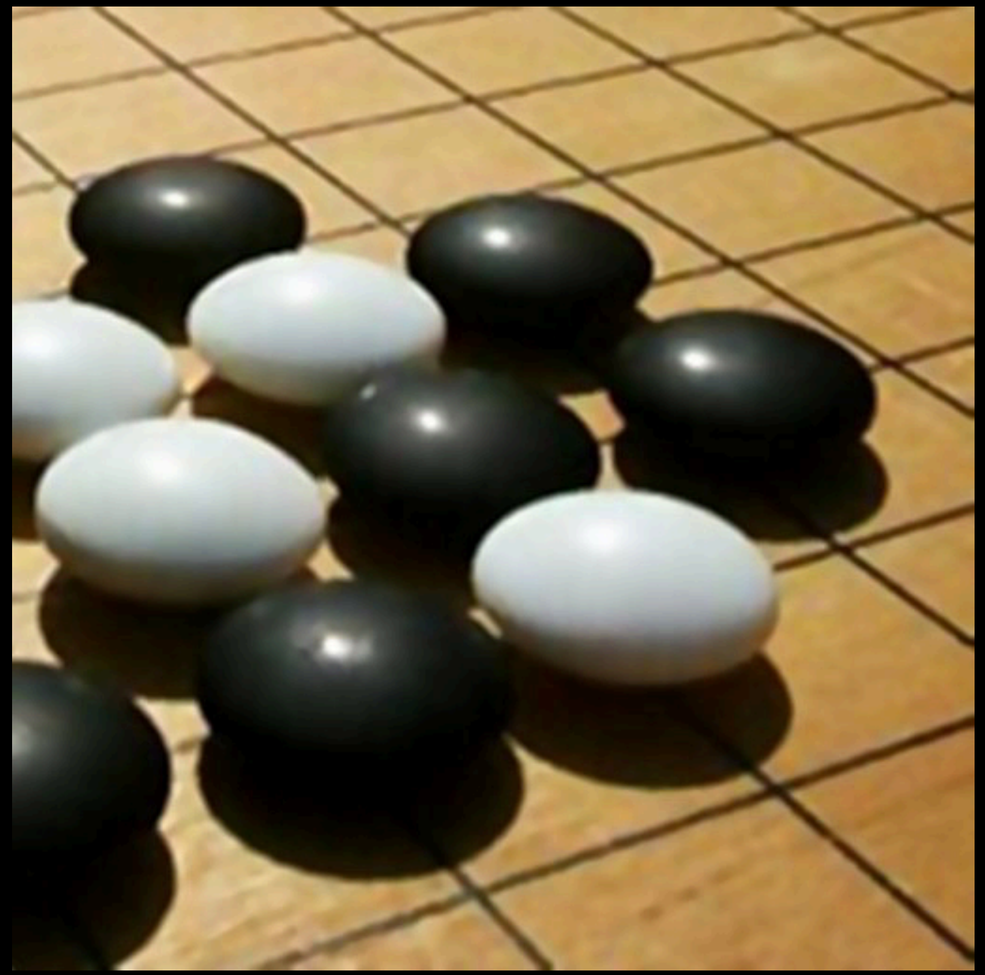



```
15   ?ingredientClass rdfs:label ?ingredientLabel.
16   FILTER ( REGEX ( ?ingredientLabel, 'durum', 'i' ))
17 }
```

```
@prefix dcterms: <h
@prefix food: <http
@prefix kb: <http://
...
```

OK, LET'S PLAY WITH FUSEKI

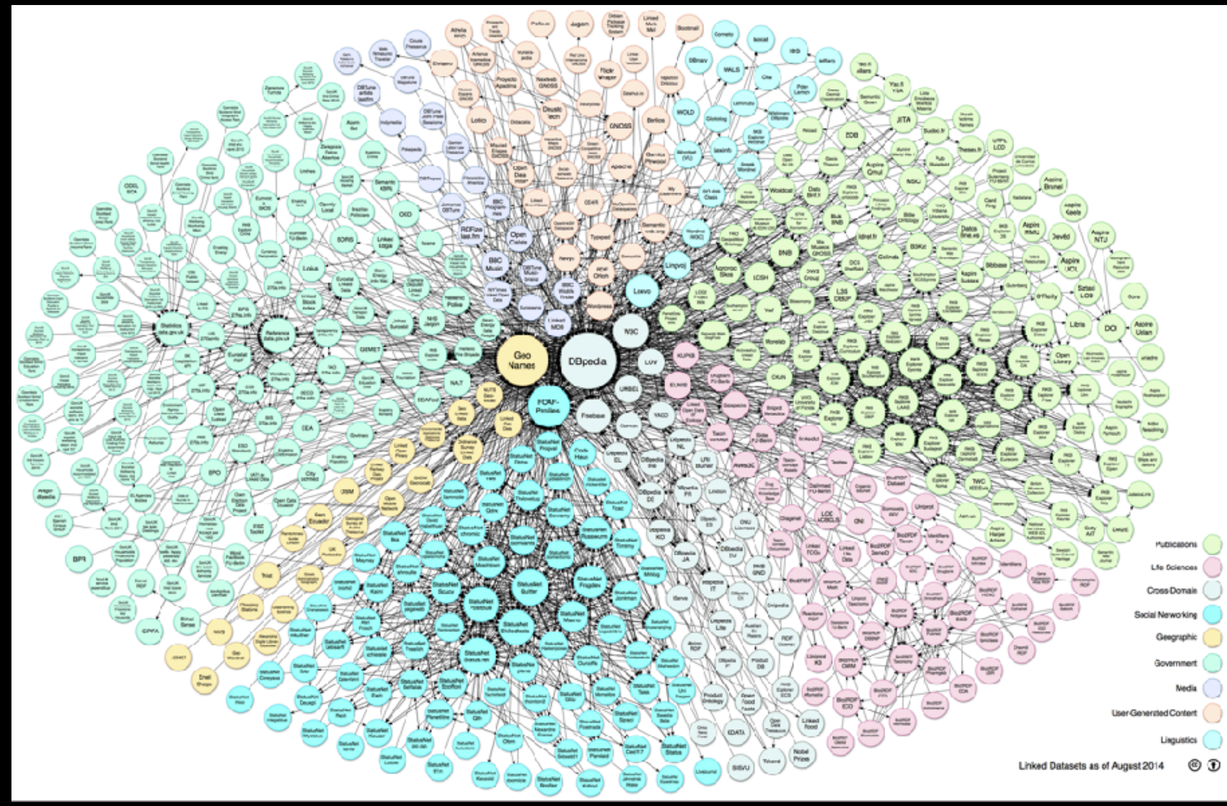
- Importing RDF files with tdbloader (including ontologies)
- Running Fuseki and playing with the end point (see demo_data/sparql)
- **Virtuoso** works pretty much the same



CREDITS: WIKIPEDIA

MORE LD PUBLISHING APPROACHES

- Linked Data Meets APIs
  - JSON-LD
  - Hydra
- RDF Dumps
- Are SPARQL endpoints a myth?
  - https://goo.gl/I5mrJH
  - https://blog.muninn-project.org/node/68



NOW WHAT? CONSUMING LD

(JUST A FEW EXAMPLES)

LD BROWSERS

JUST A FEW AMONG MANY

- LODEStar
  - (https://github.com/EBISPOT/lodestar)
  - let's see a demo
- LODView (http://lodview.it/)

DATA ANALYSIS AND GRAPHICAL VISUALISATION

- eg, Silk
  - http://alice-corona.nl/pages/events/odfest2017
  - Many, many thanks to Alice!
- eg, D3SPARQL, https://github.com/ktym/d3sparql

HTTPS://GOO.GL/3QWNBF

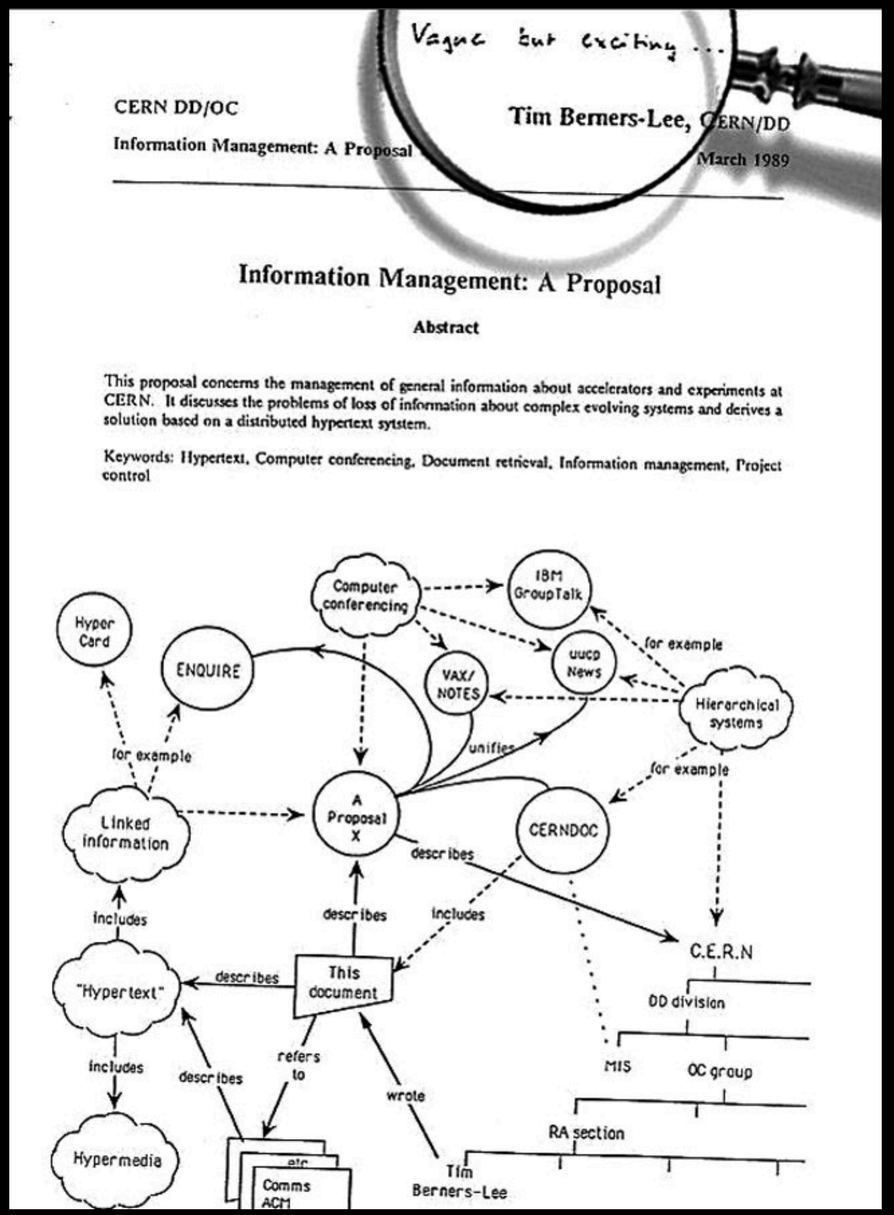
DATA MASHUPS

- eg, http://www.simile-widgets.org/exhibit/

HTTPS://GOO.GL/KGXXY4

INTEGRATING WITH TRADITIONAL WEB

- Semantic CMSs and alike:
  - https://goo.gl/TrvoSQ



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BIG PLAYERS JUMPS IN

- http://schema.org/
- SEO & schema.org:
  - https://goo.gl/aRZKL
  - https://goo.gl/wGJ62i
- practical examples:
  - https://goo.gl/HRA4Lf
  - https://goo.gl/BHWJkO

HTTPS://GOO.GL/ZTAOEN

THAT'S ALL!
THANKS!

- Marco Brandizi
  - name.surname@gmail.com
    (or LinkedIn, Facebook, Twitter…)

- Find this slides at:
  - https://tinyurl.com/sod17lodpipe

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