Map4RDF-iOS: a tool for exploring Linked Geospatial Data

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Campus London,
March 6th 2014

Introduction

Map4RDF-iOS allows visualizing and browsing LGD.

Motivation

- Increase of LGD sets.
- Not many tools for visualization.
- Developed in parallel to web-based Map4RDF
  - official http://map4rdf.oeg-upm.net/
  - code http://oeg-upm.github.io/map4rdf/

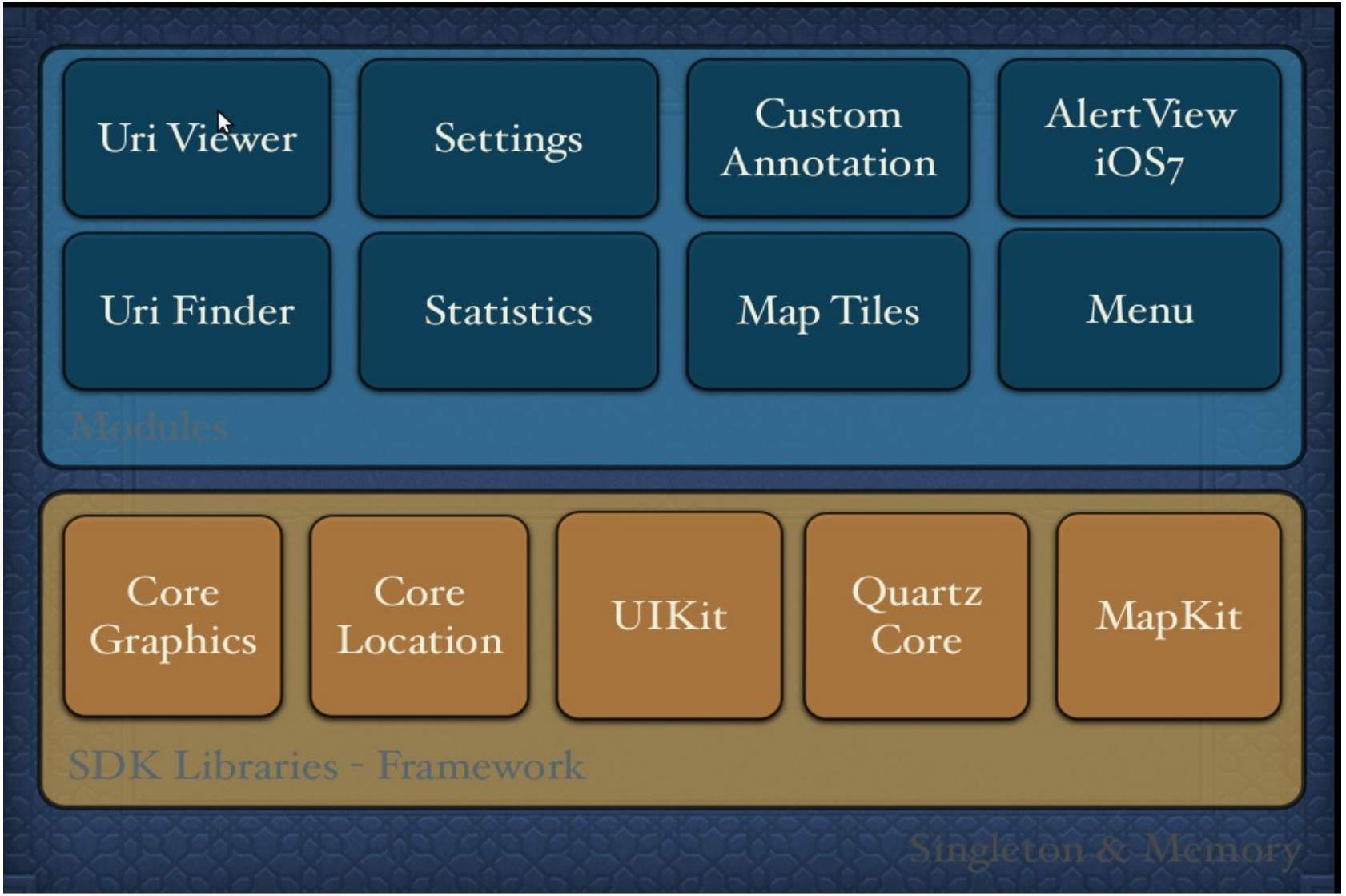
Map4RDF-iOS Description

- End users: citizens / non-geographers / LGD providers

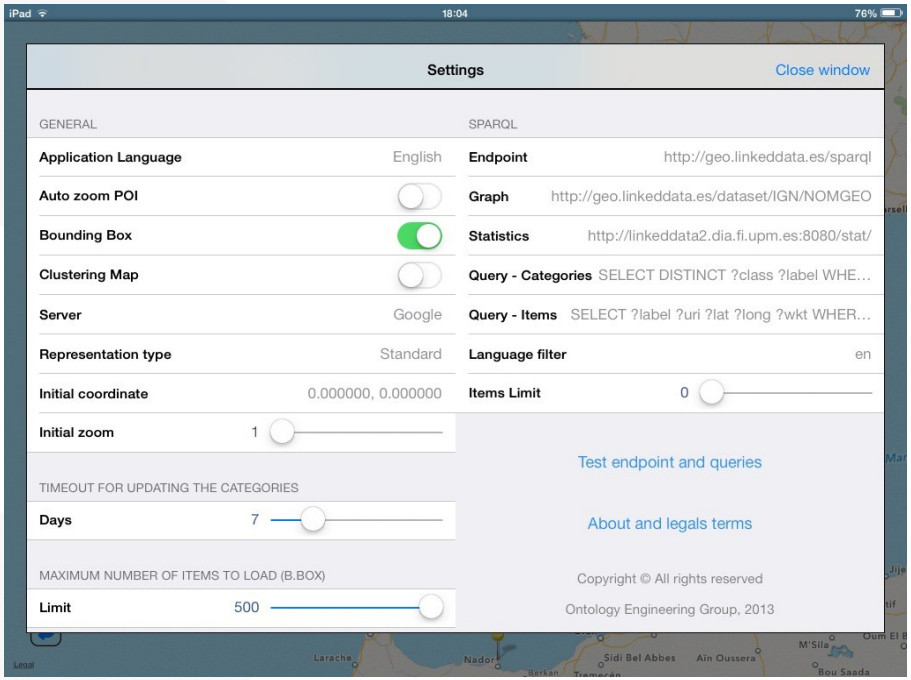
- Main features
  - Support for mobile devices running iOS (v. 5 to 7).
  - Support for multiple map servers (OSM, Google, Apple, Nokia).
  - Visualization of statistical data modelled as W3C's DataCube.
  - Support for multiple geospatial data models: W3C Geo XG, GeoLinkedData, and WKT/GeoSPARQL.
  - Clustering of data points.
  - Highly customizable by end users, e.g. definition of SPARQL endpoints and queries.
  - Optimized memory management due to native code.

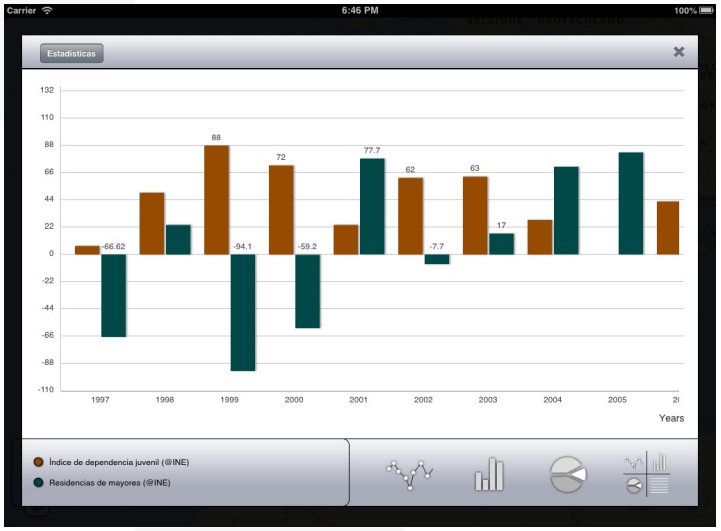
- Limitations
  - Only support for (non-authenticated) SPARQL endpoints.
  - One map server and one endpoint at a time.

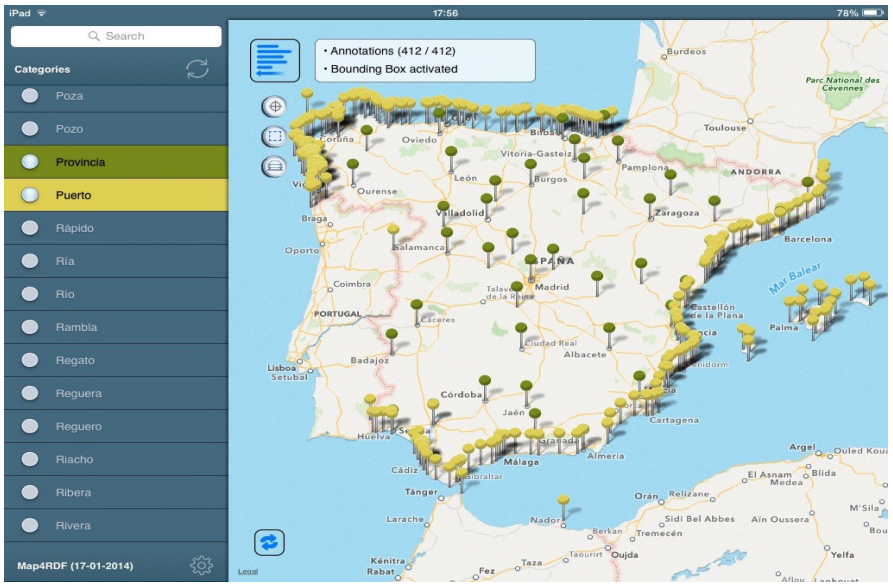
Architecture Overview



Video Demo







Basic features - http://youtu.be/ervtO29Az-M
LocaliData - http://youtu.be/k5Xq2e_IC7Y

Conclusions & Future Work

- Conclusions
  - Map4RDF-iOS offers an intuitive and usable GUI to visualize and explore LGD.
  - Data load and browsing faster than the web-based version.
  - Analysis of LGD from mobile devices.
  - Access to LGD for non-specialists.
  - Fosters the re-use of public/private datasets.

Link to App Store: https://itunes.apple.com/en/app/map4rdf-lite/id828604407?mt=8

- Future work
  - Connectivity module to save & share configurations, snapshots, and LGD datasets.
  - Visualization of Linked Stream Data in near real-time (link to our current work on $SPARQL_{Stream}$).
  - Module for data edition suggestions.

Discussion

- From reviews: *“Does the RDF linked data add any integration value over a similar geo database client?”*
- Need to standardize geographic representation in LD: WGS84, GeoSPARQL, GeoJSON...
- Specification of coordinate systems
- ...

Thanks!

Special thanks to Daniel Garijo and Miguel Ángel García-Delgado

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Related Work (backup slides)

Visualization of LGD

- LinkedGeoData.org project
- Map4RDF (Leon et al. 2012, Calbimonte et al. 2013)
- spatial@linkedscience (Keßler et al. 2012)
- SexTant (Bereta et al. 2013)