

The “Open Altra Economia” (OAE) project: Open Data and Open Source Software for a sustainable economics



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Stefano Puglia

- Education
 - MSc in Computer and Software Engineering, SAPIENZA Uni, Italy
 - MEng in Cooperation Engineering for Development, SAPIENZA Uni, Italy
- Experience
 - Research scientist at Telcordia (ex-Bellcore), USA
 - Volunteer at “Ingegneria Senza Frontiere”, Italy, Kosovo and Bolivia
 - Consultant at FAO-UN, Italy and Bolivia
 - Visiting research assistant and lecturer at SAPIENZA Uni, Italy
 - Researcher and supervisor of R&D at WLAB, Italy



WLAB – Wireless Lab

- Research intensive SME in the area of wireless technologies, pervasive computing, open data and software
- Professional consultancy, novel ideas and new prototypes/products
- Member of international R&D associations (e.g. ARTEMIS Industry Association – ARTEMIS-IA)
- Research partner for universities and ICT organisations in both EU funded and national research projects

D. Davide Lamanna

- Education

- MSc in Telecommunication Engineering, SAPIENZA Uni, Italy
- MEng in Cooperation Engineering for Development, SAPIENZA Uni, Italy
- PhD in Computer and Software Engineering, SAPIENZA Uni, Italy

- Experience

- Research assistant at University College London, UK
- “Ingegneria Senza Frontiere”, Italy, Kosovo and Bolivia
- Consultant at FAO-UN, Italy and Bolivia
- Visiting research assistant and lecturer at SAPIENZA Uni, Italy
- Researcher at WLAB, Italy
- Founder of Binario Etico, Italy



Binario Etico

- GreenIT enterprise founded in 2006, working exclusively on Free Software
- Promotes adoption and responsible use of technologies, in particular Free Software, (re)use of hardware and low-environmental-impact systems (GreenIT)
- Projects and implements migration plans to Free Software and Open Standards and develop Open Source solutions for Cloud Computing and Open Data
- Networks and initiatives
 - Rete Italiana Open Source (RIOS)
 - Apribili Campagna del Terzo settore per i formati aperti nella PA
 - Rete Altra Economia

Our co-authors and friends

- WLAB
 - Francesco Ficarola
 - Alessandro Leoni
 - Simone Leoni
- Binario Etico
 - Stefano Buscaglia
 - Fabrizio Nasti
- Laboratorio Urbano Reset (*) e comune-info (**)
 - Riccardo Troisi
 - Annarita Sacco

(*) Social economics and ecological reconversion of territories

(**) Independent information on commons, degrowth and Atra Economia

The project: Open Altra Economia



Socio-economic context

- “Participatory” and ecological economics as drivers towards degrowth's promise (!?)
- “Altra Economia Lazio” (AEL): equity, solidarity, efficiency and sustainability
 - Organic agriculture
 - Eco-friendly goods/services
 - Fair trade
 - Critical consumption
 - Sustainable lifestyles
 - Ethical finance and banking
 - Maintenance and repair
 - Energy conservation
 - Renewable/green technologies
 - Reuse, recycling, redistribution
 - Non monetary systems
 - Open/free ICT
 - Sustainable tourism/travelling
 - Recreation and sport

Legal framework

- National/local legislation
 - Legge Regionale Altra Economia: "Disposizioni per la diffusione dell'Altra Economia nel Lazio", approvata in giunta il 28-11-2008 (legge 20)
- International policies
 - European Commission Decision C (2013) 8631 of 10 December 2013. HORIZON 2020 WORK PROGRAMME 2014–2015 5
 - Council of Europe. Rethinking consumer behaviour for the well-being of all - Reflections on individual consumer responsibility, 2008
 - Council of Europe. Well-being for all - Concepts and tools for social cohesion, 2008
- Novel (information and communication) technologies to:
 - Address grand and societal challenges
 - Support social innovation and behaviour change

Green (infocom) technologies

- Open Data
 - “...certain data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control” (Wikipedia)
- Open Source Software
 - “gives users the freedom to run the software for any purpose as well as to study, modify, and distribute the original software and the adapted versions”
 - “appropriate technology, designed with special consideration to the environmental, ethical, cultural, social, political, and economic aspects of the community it is intended for” (Wikipedia)
- Rules and legislation (national/international)
 - “Disposizioni in materia di dati aperti e riutilizzo di informazioni e dati pubblici e iniziative connesse”, legge Regionale n. 7/2012, approvata dal consiglio regionale il 23/05/2012
 - Open Government initiatives (e.g. US federal and state-wide, UK)

Open Data

Tim Berners-Lee's 5 star deployment scheme

★ Available on the web (whatever format) *but with an open licence, to be Open Data*

★ ★ Available as machine-readable structured data (e.g. excel instead of image scan of a table)

★ ★ ★ as (2) plus non-proprietary format (e.g. CSV instead of excel)

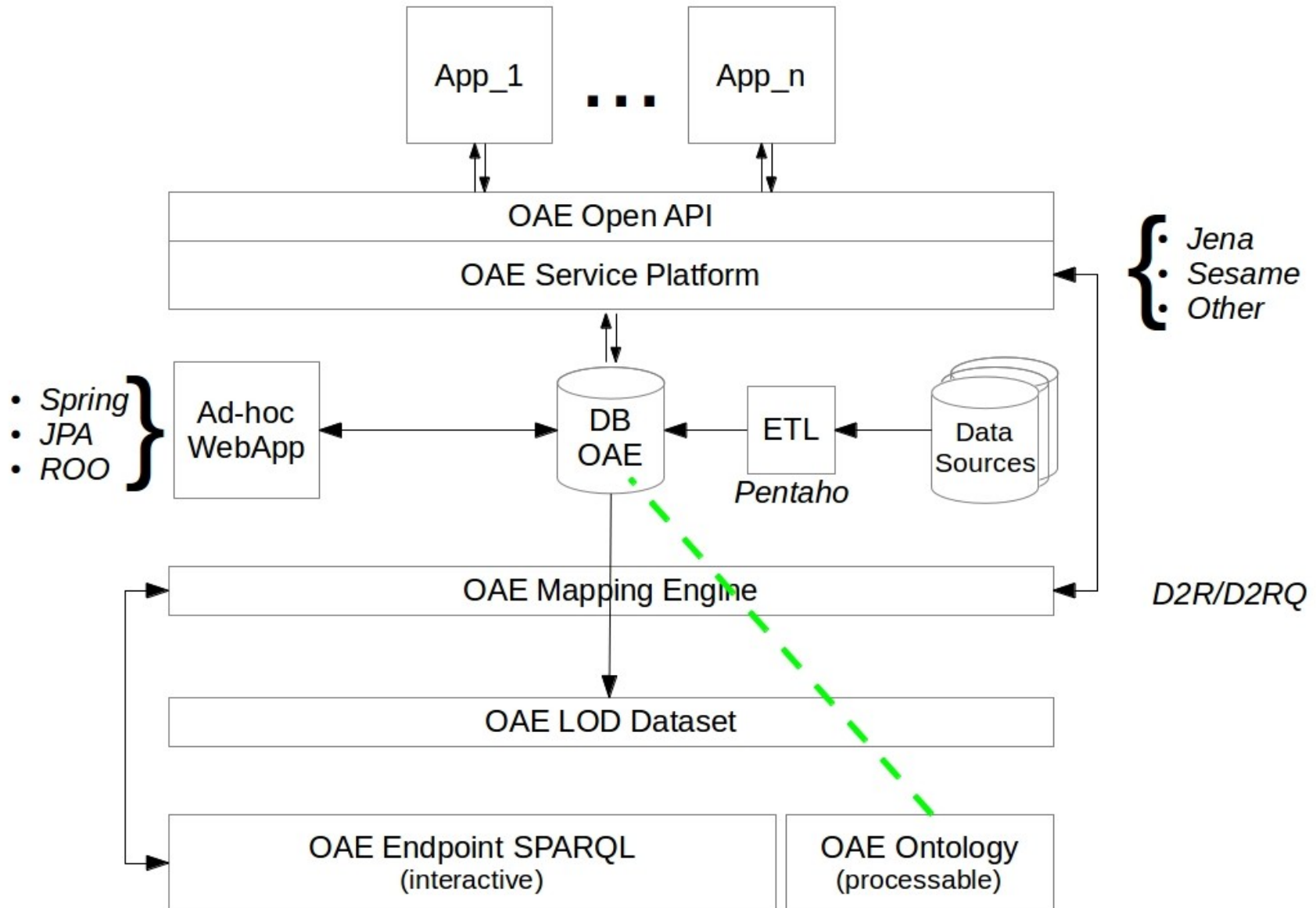
★ ★ ★ ★ All the above plus, Use open standards from W3C (RDF and SPARQL) to identify things, so that people can point at your stuff

★ ★ ★ ★ ★ All the above, plus: Link your data to other people's data to provide context

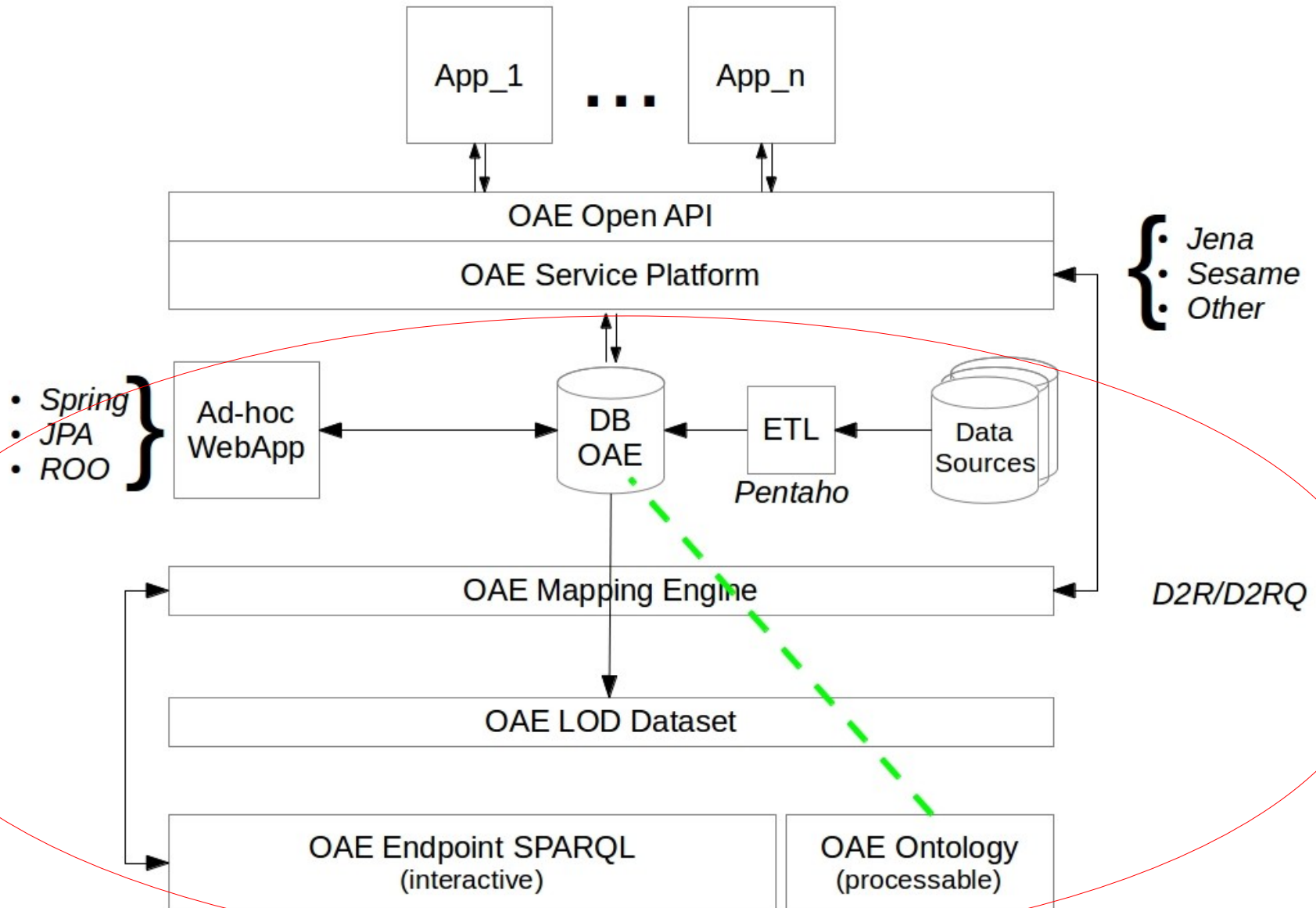
Expected outcomes/benefits

- "Fresh" and up-to-date data on AEL in a common, open, standard format available to anyone in the Semantic Web of Data
- Better assessment and appraisal of the AEL consortium (e.g. AEL's stakeholders and local regulators/administrators)
 - non-obvious hidden interpretations and phenomena of interest on people's behaviours/consumption patterns
 - general AEL's inner relationships and dynamics
 - existing connections and alliances
 - movement's cause, ideas, objectives

System architecture



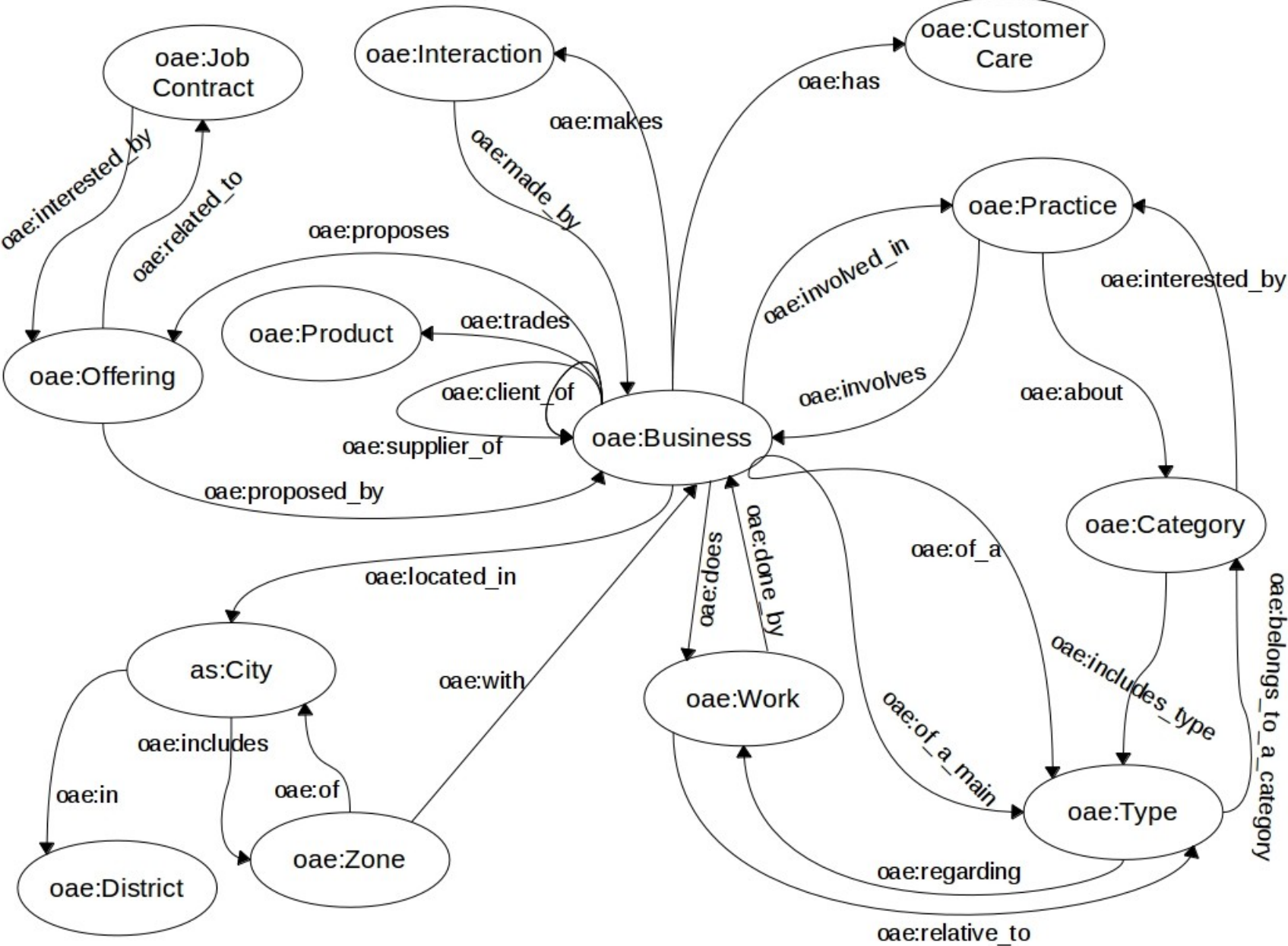
Linked Open Data



Linked Open Data

- Adoption of existing methodologies
 - Identification of heterogeneous data sources
 - Design of a “data reconciliation” structure
 - E.g. Relational model, Ontology
 - Use of extract, transform and load (ETL) OSS tools
 - Data management via OSS Web-based tools
 - Data publication as Linked Open Data
 - CC-BY-SA license
 - Copy and redistribute
 - Remix, transform and build upon

Ontology



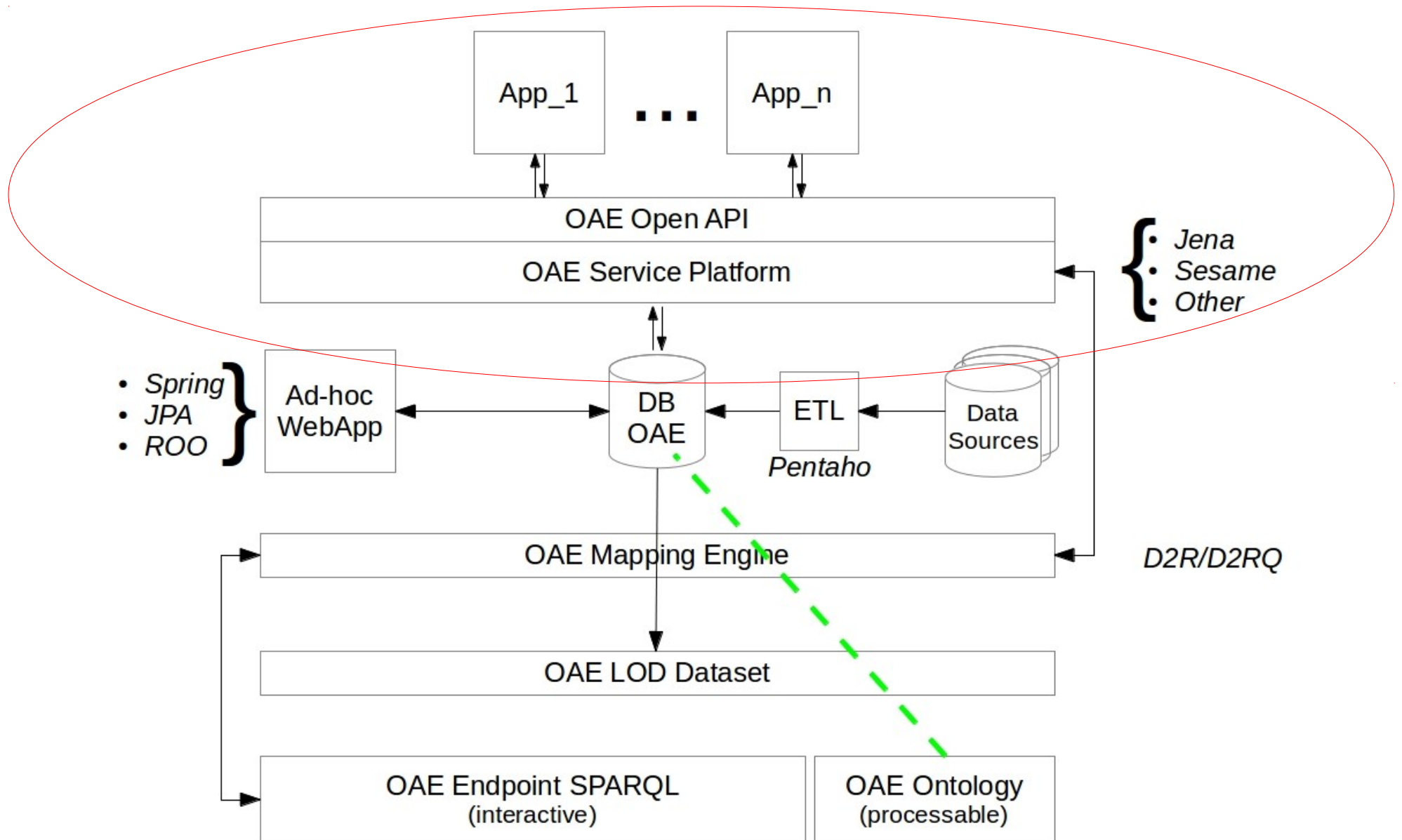
RDF

```
File Modifica Visualizza Cronologia Segnalibri Strumenti Ajuto
Dati - Open Altra Ec... x http://dati....oae_lod.rdf x +
dati.openaltraeconomia.it/oae_data/oae_lod.rdf Google
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  <oae:di_una_princ rdf:resource="Tipologia/8"/>
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- <foaf:name>
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Linked Open Data

- Ready to be queried via SPARQL
- (Re)used, explored, reasoned upon according to the ontology
 - Consistency check
 - New discoveries and future inferences
- Knowledge generation and sharing
 - Semantic Web of Data to reach out to people on AEL's practices

Free Open Source Software



Free Open Source Software

- Service platform
 - User management and profiling
 - Open API “on top of” LOD
 - REST calls
 - JSON format
- Abstraction on LOD-based information and knowledge
- Have (more) technologists/programmers/computer scientists involved
- GPL licence

Service Platform

File Modifica Visualizza Cronologia Segnalibri Strumenti Aiuto

http://dati.o...T/attivas/1



dati.openaltraeconomia.it:8080/OAEJsonService-1.0-SNAPSHOT/attivas/1

Google



```
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Free Open Source Software

- End-user applications on top of the service platform
 - Web
 - Android
- Examples of how to “practically and fruitfully” exploit LOD on AEL
- Simple and traditional use
 - User-friendly data representations
 - Data crowd-sourcing
- Advanced use
 - “Measuring” graph-based data
 - In-depth study of AEL domain
- GPL License

Web Application



Nel Lazio c'è tutta
un'altra economia.

IL PROGETTO

The screenshot displays a web application interface for exploring the economy in Lazio, Italy. The main feature is a map of Rome with numerous red location pins indicating various points of interest. A search bar on the left allows users to select a province, with 'Tutto il Lazio' currently selected. Below the search bar, a list of provinces is visible: Roma, Latina, Rieti, Frosinone, and Viterbo. On the right side, a vertical list of categories is shown, including 'LA BOSCAGLIA', 'PERÙRESPONSABILE.IT', 'RICERCA E COOPERAZIONE', 'REORIENT', 'RETOUR RETE PER IL TURISMO RESPONSABILE', 'YA BASTA!', 'ARCHÉ', 'TERRE PROTETTE', and 'UN PONTE PER...'. At the bottom, a navigation bar contains icons for various activities: ACQUISTARE, CLICCARE, MANGIARE, ABITARE, VIAGGIARE, RIGENERARE, RISPARMIARE, MUOVERSI, CONOSCERE, SCAMBIARE, and FARE.

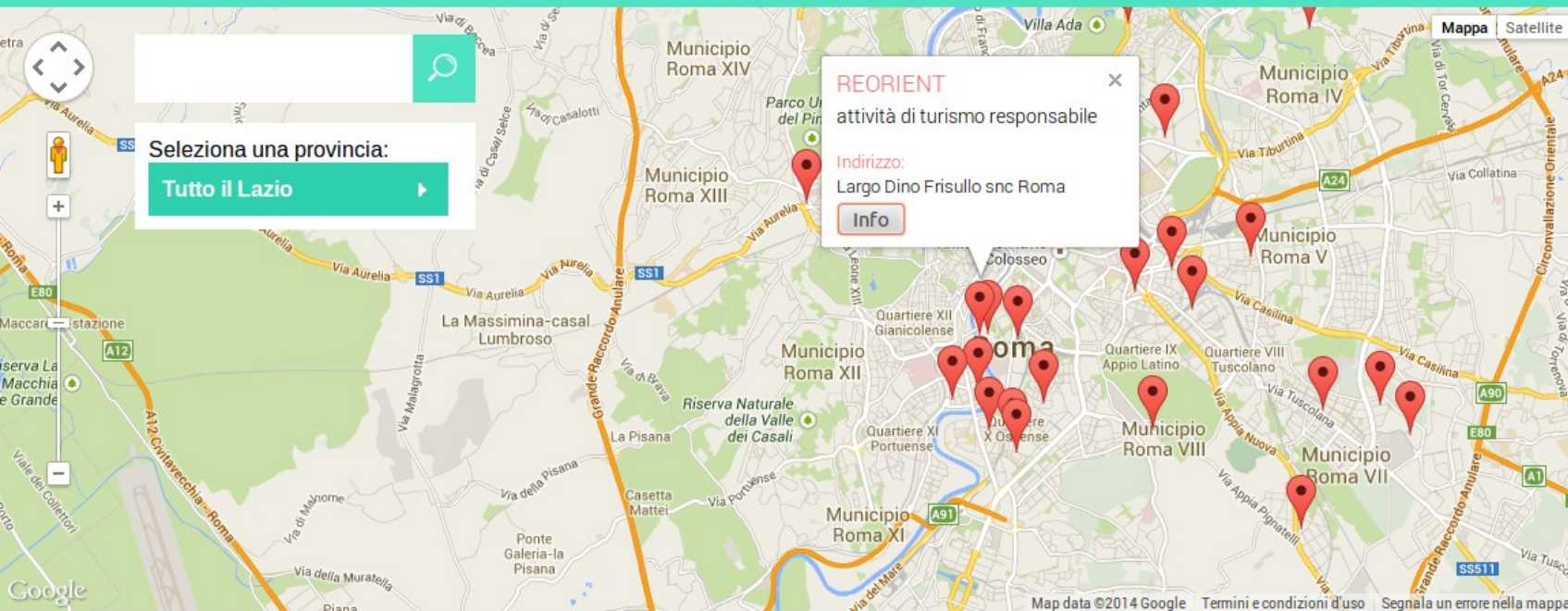
Web Application



Nel Lazio c'è tutta
un'altra economia

IL PROGETTO

TORNA AI RISULTATI



REORIENT
attività di turismo responsabile

Indirizzo:
Largo Dino Frisullo snc Roma
Città:
Roma
Telefono:
3338702477
Pagina web:
<http://www.reorient.it>



ACQUISTARE



CLICCARE



MANGIARE



ABITARE



VIAGGIARE



RIGENERARE



RISPARMIARE



MUOVERSI



CONOSCERE



SCAMBIARE



FARE

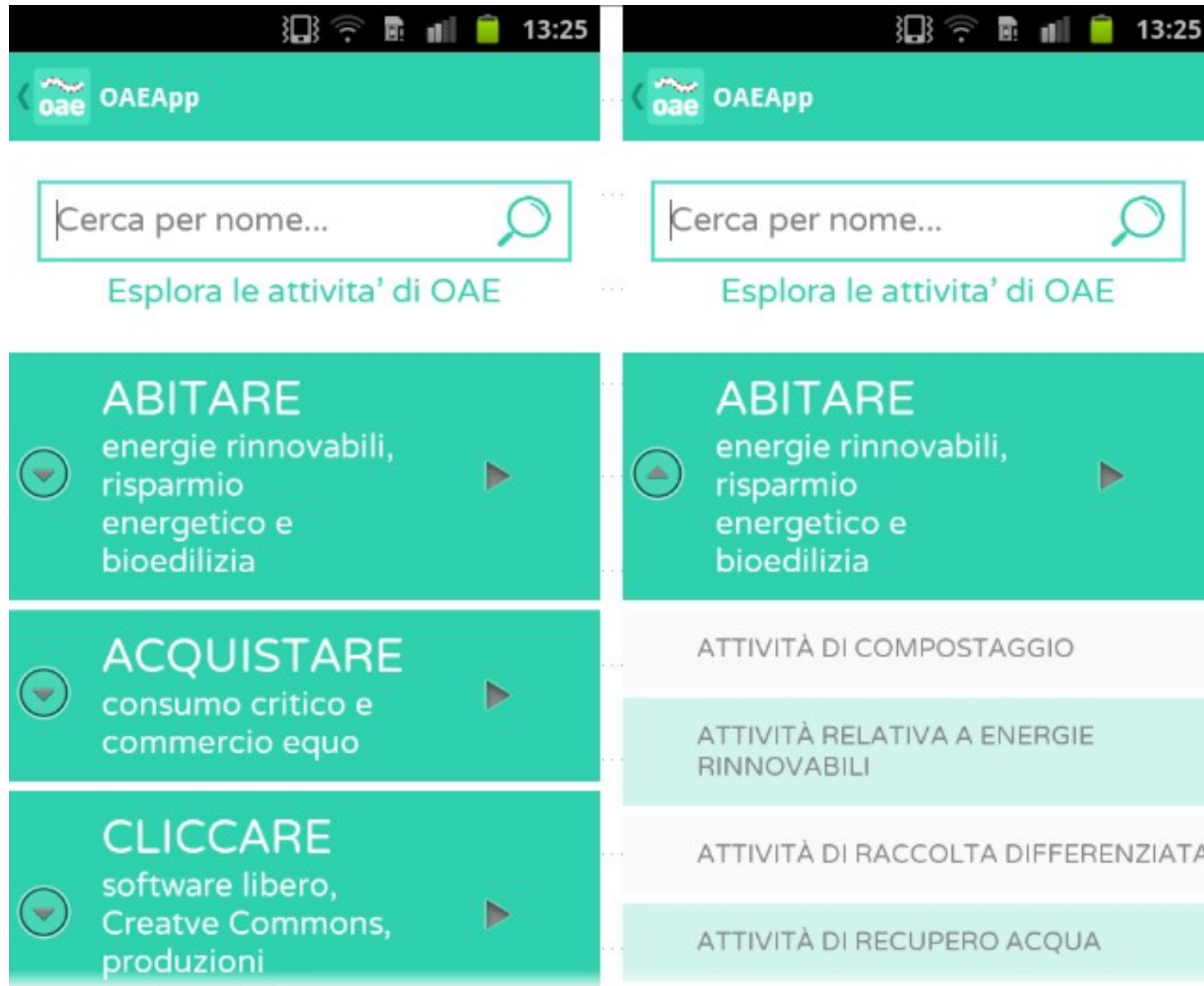
OPEN ALTRA ECONOMIA | LA TUA GUIDA PER L'ALTRA ECONOMIA

Credits | Disclaimer

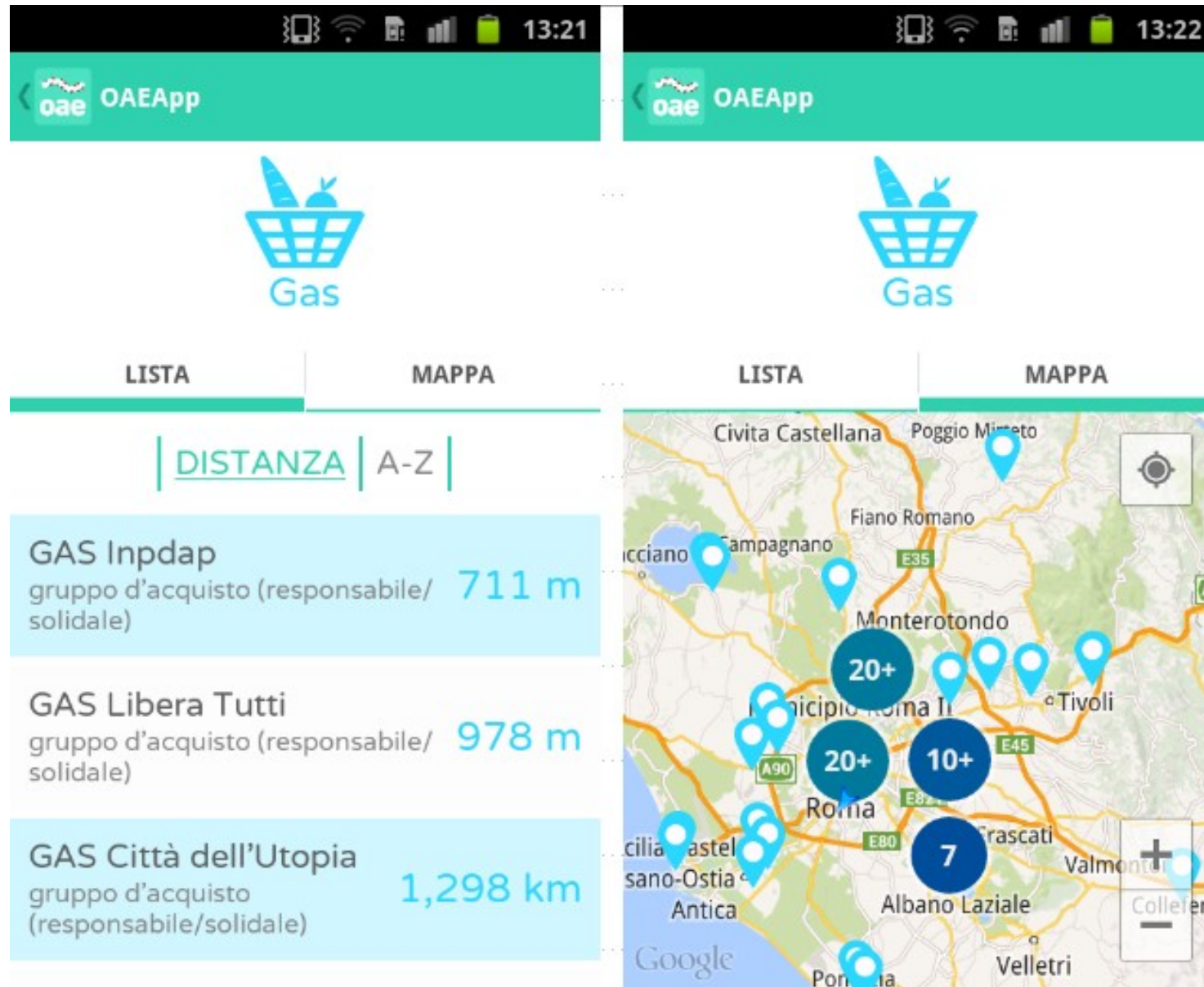
Android App



Android App



Android App



Android App

Zio Bici
ciclofficina

Indirizzo: Via Adriano Balbi, 2/
B - 00176 Roma

Telefono: 0693574093

Citta: Roma

Mail: andrea@ziobici.it

Zona: Roma Municipio VI

Pagina web: <http://www.ziobici.it>

Note:
Aperti dal Mar al Sab dalle 10 alle 13,30 e dalle 16 alle 19.30

Chiama

Portami

Manda mail

Apri il sito

Android App

oae OAEApp 13:24

oae OAEApp 13:23

Accedi a oae

Segnala una nuova attivita'

Per segnalare un'attivita' o commentare devi prima effettuare l'accesso

Nome

Telefono

Email

Tipologia principale

Username

Password

Inserisci posizione

Non sei ancora registrato?
> Registrati ora <

ANNULLA LOGIN

Summaries

- “Open Altra Economia” (OAE): 1 year R&D project
 - Local (though it can be replicated/enhanced everywhere)
- ICT to advance good social and ecological cause
 - Fairer businesses and sustainable consumption patterns
 - Keep as many “people in the loop” as possible
 - Citizens, stakeholders, administrators, technologists
- Open and green technologies
 - Linked Open Data (CC-BY-SA)
 - Free Open Source Software (GPL)
 - Service platform with open API
 - Web application
 - Android app

Ongoing and future work

- **Business development**
 - Donations, foundations and crowd-funding
 - Ethical advertising?
 - Freemium model?
 - Projects in additional domains (e.g. energy, transport, water)
 - Public funds (EU/national/local)
- Further system testing, maintenance and administration
- Focus on data
 - Quantity
 - Quality (e.g. “freshness” and consistency)
- Measuring
 - Quantitative (e.g. analytics software)
 - Qualitative (e.g. questionnaires)
- **Networking**
 - E.g. Conferences, symposia
 - Events and media



www.openaltraeconomia.it

Thank you!

Backup

System architecture - Triplestore

