


**Ontology  
Engineering Group**

# A Provenance-Aware Linked Data Application for Trip Management and Organization

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## Introduction

**“El Viajero” platform**

- Scenario in the context of tourism and travelling, where the content is aggregated from different platforms, such as “Suplemento El País”, “Guías Aguilar”, “Canal Viajar” o “Prisa Digital”.
- Heterogeneous content (images, travel guides, posts, videos, news) with different sources and from people with different profiles (journalists, bloggers and normal users)





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## Provenance in the platform

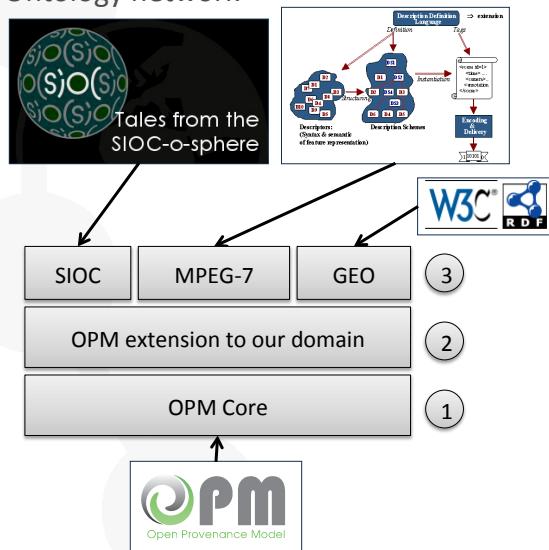
### Provenance

- “*Provenance of a resource is a record that describes entities and processes involved in producing and delivering or otherwise influencing that resource*” (W3C Provenance Incubator Group).
- Users want to know where does the information comes from, who has manipulated it and which references have been used.
- Open Provenance Model.
  - Popular provenance model centered in the evolution of the resources.
  - Close to PIL (Provenance Interchange Language), currently being developed in the W3C.

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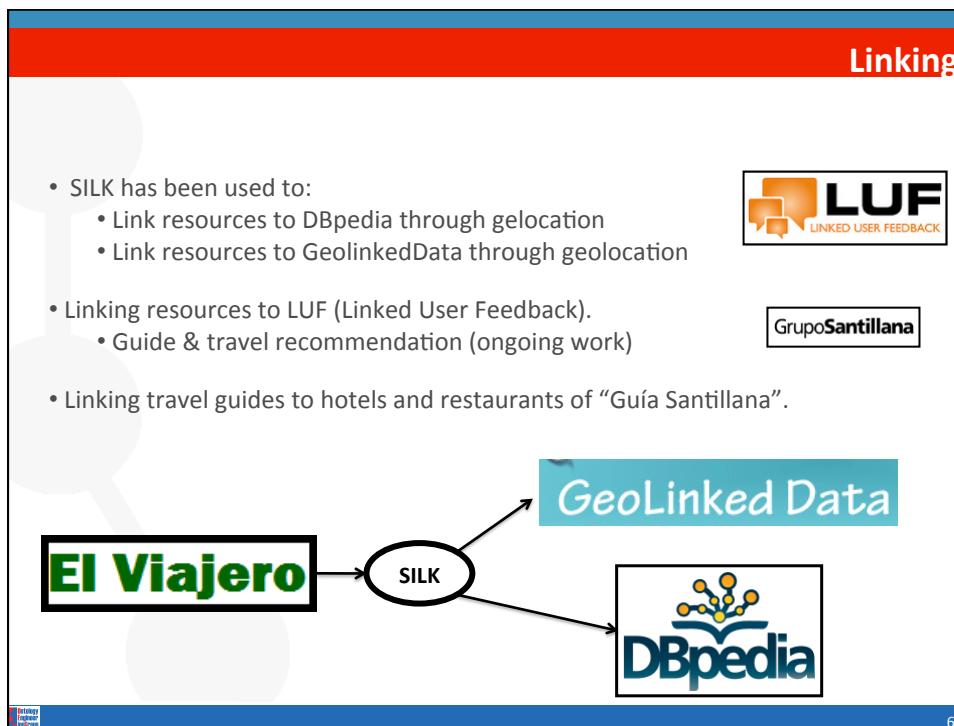
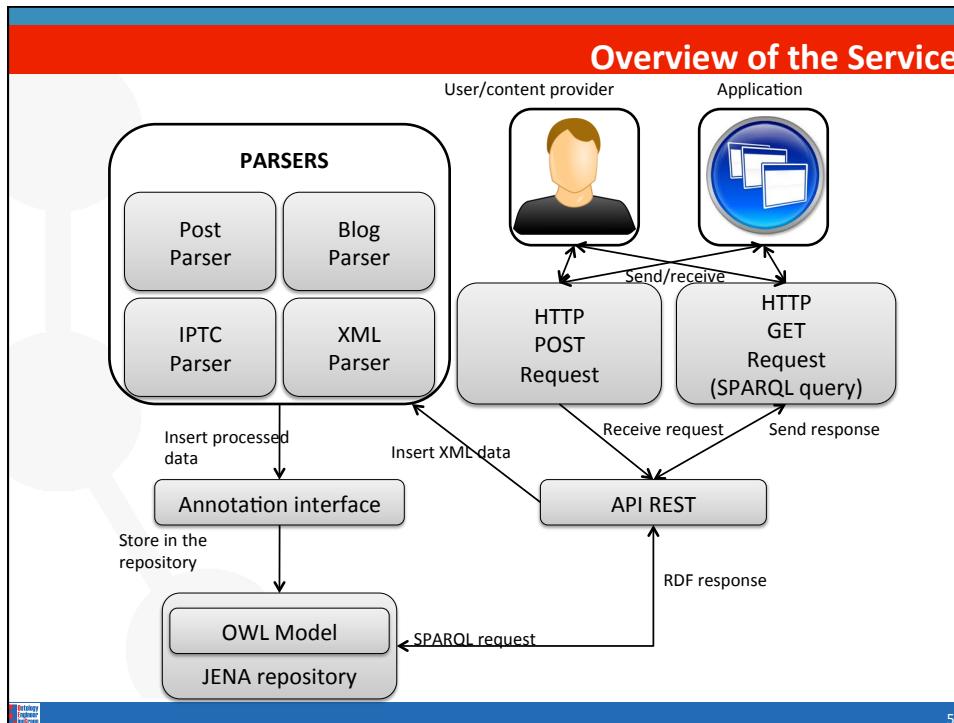
## Ontology network

### Ontology network



- OPM (1):**
  - Centered in the description of the evolution of the resource.
- OPM profile(2):**
  - OPM Extension to our specific domain.
- SIOC (3):**
  - Describes the social relationships in the platforms, plus posts and blogs.
- MPEG-7(3):**
  - Image and video description.
- GEO(3):**
  - Localization of the resources.

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## Exploitation



### map4rdf:

- Google maps RDF viewer
  - Resources with spatial information
  - Extensible with google plugins
  - Used in other applications like Aemet, GeolinkedData, Goodrelations

<http://oegdev.dia.fi.upm.es/projects/map4rdf/>

### El Viajero:

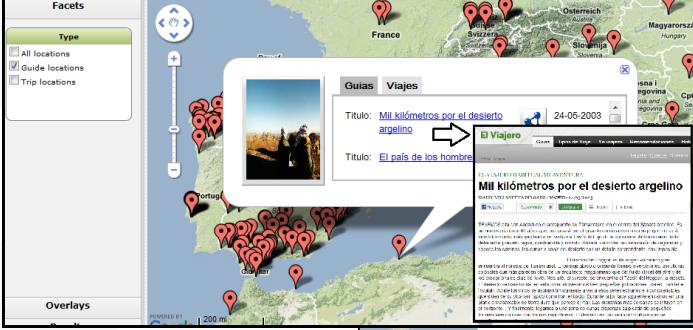
- Extension of map4RDF to our domain.
- New queries for browsing resources
- Image addition
- Filtering and time-line plugins ...

### Additional exploitation:

- Resource searcher using the dataset.
- LARCK demo (ISOCO)

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## Exploitation examples



Travel guide viewer and browser

**Resource searcher**

Available at:  
<http://webenemasuno.linkeddata.es/>

**PACO\_NADAL**  
 Mostrando resultados 1-10 de 100  
 Anterior - Siguiente

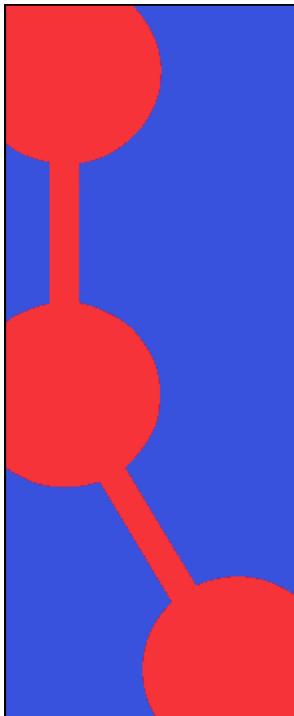
<b>EL Viajero</b>  Titulo: Mil kilómetros por el desierto argelino Fecha de publicación: 24-05-2003 Creador: http://webenemasuno.linkeddata.es/elviajero/resource/Account/ACC_PACO_NADAL Subtítulo: El verde Camino del Norte avanza por la costa entre Irún y Ribadesella Longitud: 1410 Medida de longitud: Referencia en: http://elviajero.epais.com/articulo/20040221elpvapor_1/tes El País: para comprobar su información relacionada	<b>EL Viajero</b>  Titulo: El Danubio, mil kilómetros de vía verde Fecha de publicación: 27-05-2006 Creador: http://webenemasuno.linkeddata.es/elviajero/resource/Account/ACC_PACO_NADAL Subtítulo: De la Selva Negra a Viena, paisajes y arte al ritmo tranquilo del gran río
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## Conclusions and future work

- Insert new data dynamically into the repository, from the trips made by the users (ongoing work)
- Linking to LUF (ongoing work)
- Linking to other datasets in the cloud
  - Meteorological data
  - Other hotels/restaurants out of Spain
  - Enhance place descriptions from datasets like DBpedia.
- Adapt other traveling sites like TripAdvisor

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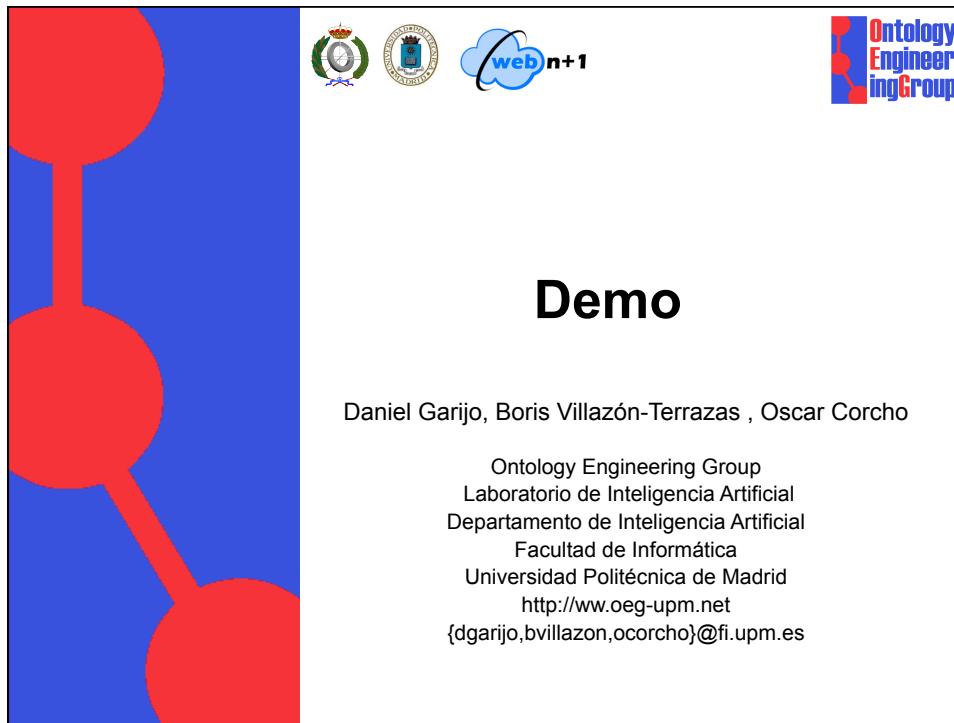
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**First steps**

Initial screen

Selecting a type of resource, we will see all of the available in the map

Facets

Tipo

- Localizaciones guías
- Localizaciones viajes
- Todas las localizaciones

Capas

Relieve

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## Guide Browsing

**Pubby endpoint**

**More images of the guides**

**Link to the news in "El Viajero"**

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## Year filtering

**Plugin selection**

**Year selection**

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## Trip Browsing

**Facets**

**Tipo**

- Localizaciones guías
- Localizaciones viajes
- Todas las localizaciones

**Capas**

**Resultados**

Información del itinerario: Mi viaje a España  
Información en RDF: rdf  
Cambiar color del viaje: azul ▾

**Trip metadata**      **Itinerary followed in the trip**

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## Time Line

**Facets**

**Tipo**

- Localizaciones guías
- Localizaciones viajes
- Todas las localizaciones

**Capas**

**Resultados**

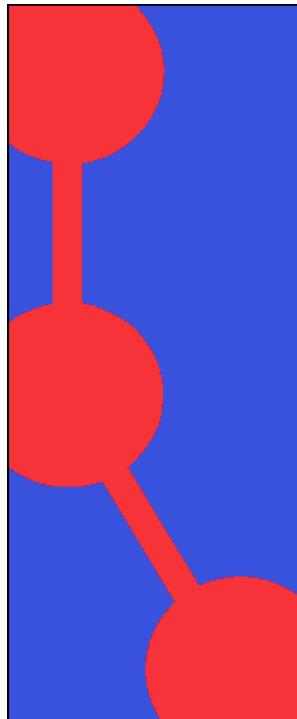
**Mi viaje a España**  
Características:

- Precio: Menos de 150.5 Euros
- Duración: Menos de 2 semanas.
- Tipo de viaje: Mochileros
- Distancia: Menos de 1000 Km

Sat, 01 May 2010 10:00:00 GMT Sat, 15 May 2010 10:00:00 GMT

**Trip timeLine (drawn from its provenance information)**      **Trip features (price, duration, type, etc)**

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# Demo

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