Open Government Data: Fostering Innovation

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Open Data Trentino (ODT)

Various provincial departments as part of their daily activities, produce, manage and store large volume of authentic and interesting data.

Not all of this data can be made publicly available because of the constraints such as
- privacy issues
- national security concerns
- intellectual property rights

Yet data that are beyond any constraints have
- great economic value
- strong potential for supporting innovation
Motivation
Open (public) data or Public Sector Information (PSI) can:

- Create new opportunities for the region based on their creative reuse
- Let citizens and various actors including universities, research centers and SMEs
  - propose and invent new solutions to common problems
  - develop domain specific easy to use applications that provide necessary result with little effort
- help contribute in improving organizational and communication efficiency
(1) Request to publish at least one dataset

(1') If agree, publishing usually data in whatever format they have

(2) With the experience gathered asking for some improvement of the delivered dataset(s) or new ones

(2') Possibly fulfilling new requirements...
Open Data Trentino (ODT) cont.

Issues
- While quantity of such datasets (~650) is considered as satisfactory enough, completeness (both horizontally and vertically) is yet to be improved.
- Loosely coupled nature of data is posing challenge in developing applications on top of them.

Possible Solutions
- Making data publishing procedure as an integral part of the change management in a public administration.
- Modelling data as entities for facilitating an integrated, combined and extensible representation.
Entity Type (eType): a type of an entity (e.g., a ski lift, a restaurant) with a set of data attributes and/or relational ones forming the foundation of creating entities of the same kind (Giunchiglia et al.)
Open Data Rise (ODR)

1. SELECTION
2. ATTRIBUTE ALIGNMENT
3. ATTRIBUTE VALUE VALIDATION
4. ATTRIBUTE VALUE DISAMBIGUATION
5. ENTITY ALIGNMENT
6. LICENSING AND PUBLISHING
7. ENTITY IMPORT

Figure: ODR Semantification Pipeline

Figure: Matching Skilift Dataset with the corresponding Entity Type
Applications

Figure: Faceted navigation for finding points of interest
Applications cont.

Figure: Semantic navigation for finding points of interest
Applications cont.

Figure: Open Bus Application
Conclusions

- The result that we obtained in Trentino is promising and helpful in the diffusion of the data culture to the public administrations.

- We proposed an approach for generating entity leveraging open government data.

- We are building an entity based infrastructure that by design facilitates consistency in data representation and as such enables the re-use of public sector information.

- The entity centric data representation and the infrastructure as a whole can be considered as an input to the W3C Data on the Web Best Practices Working Group to provide guidance to data publishers.
References

Thank you!