European W3C Symposium on eGovernment: Semantic Tools for the e-Citizen

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Outline

- eWhat? eGovernment?
- Goals and core research
- Semantic Web Roadmap to eGovernment
- Semantic tools for eCitizens
Services between administrations (G2G)
- Cooperation between local and national administrations
- Interoperability between different administrations

Services to business (G2B)
- Provision of higher quality electronic services
- Reducing transaction costs to businesses

Services to citizens (G2C)
- Easier access to information of public administrations
- Direct communication between citizens and policy-makers

(Suggestion: google “Global E-Government Readiness Index”)
Government to Government link

- Data interchange
  - Security, statistical data, EU framework

- Similar structures and organization
  - Common needs: personnel and document management

- Similar procedures
  - Procedure models can be reused in the EU
Government to Business link

- Public administrations provide services to companies
  - Permissions, registers, taxes, etc.
  - Access to public information

- Public administrations consume products and services
  - Public procurement
Government to Citizen link

- Universal and ubiquitous access to the public information
  - Device Independence
  - Universal usability
  - Different kinds of information: laws, public funding, notifications, etc

- E-procedures and services to citizens
  - Employment
  - Education
  - Health
Goals

- Finding powerful and more efficient means
- Assuring quality of public services
- Enhancing experience of citizens
- Improving transparency and traceability in services
- Semantic Web and information management technologies for eGovernment systems interoperability and interaction with and between citizens, business and public administrations

- Engineering of innovative personal services for all, according to individual life events and situation, that will be trusted and easy accessible

- eParticipation, consultation, democratic processes and intelligent on-line community management

- Advanced technologies that will enable efficient and effective eGovernment (e.g. smart tags, sensors networks, advanced GPS, knowledge grid)
The **Semantic Web way** to eGovernment:

1. **Identifying** things
2. **Describing** things
3. **Organizing** things
4. **Creating** tools
In the Semantic Web, resources must be identified in order to talk about them:

- People
- Companies
- Administrative files
- Geographical places
- Products and services
- …
In the real world, things are already identified:

- ID cards, passports
- Administrative file numbers
- Postal codes
- Social security numbers
- Tax ID numbers

The challenge is to create a Web identity:

- Unique
- Shareable
- Trusty
- Add metadata to describe any resource
  - Standards: Dublin Core, SKOS, Inspire Initiative, ISO 5964, ISO 2788, ISO 11179, etc.

- Reuse existing information sources
  - Statistical classifications
  - Thesauri
  - Taxonomies
Statistical Classifications are used as “identifiers” in some domains

- Health: ESOD, COD
- Economic Activities: NACE rev.2

Statistical Office of the European Communities (Eurostat)
- producing data for the EU (statistical indicators)
- promoting harmonisation of statistical methods across the member states.
- National Statistics Institutes (Italy, Romania, etc.)
Describing things (III)

Controlled vocabularies

- Eurovoc Thesaurus
  - Goal: indexing the documents in the documentation systems of the European institutions and of their users.
  - Version in each of the official languages of the EU (20 languages)
  - 6500 concepts (codes)

- Common Procurement Vocabulary (CPV)
  - Goal: standardising the references used by contracting authorities and entities to describe the subject of procurement contracts
  - Version in each of the official languages of the EU (20 languages)
  - 8200 concepts (codes)
Organizing things

What ontologies can do for eGovernment

- Ontologies define things in a multilingual environment
- Ontologies formalize common processes and organizations
- Ontologies add structure to metadata
- Ontologies provide the foundation to share information in a distributed manner across different agents
Some examples:

- Employment: **SEEMP** Project
- Ubiquous access: **MyMobileWeb** Project
- Semantic Search: **BOPA** Project

Other domains:

- eTourism
- Automatic Form Completion
- eLearning
MyMobileWeb Project: Overview

http://www.morfeo-project.org/
BOPA Project: Overview

- **Official Bulletin** of Principality of Asturias (BOPA)
  - Administrative and legal documents

- **BOPA Project**
  - A *semantic search engine for citizens*
  - Semantic approach based on *ontologies*
  - Special focus in *three domains*
    - Employment
    - Public procurement
    - Public Funding
BOPA Project: the “linguistic gap”

(These words are unintelligible even for Spanish readers)
Citizens don’t know **administrative and legal jargon**
- The system selects the correct words to perform the search

Citizens usually **lack expert knowledge** required to be successful in their queries
- Ontologies guide users to the results

**Metadata creation is expensive** and bounds the system to the ontologies
- The system uses them whether available
- But it relies on **query rewriting**
WARNING: Beware of the demo effect!
Semantic Tools for the e-Citizen

Questions?

Thank you!
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