IPAS: a linked open data registry of Italian public services

Claudio Baldassarre
Marco Cremaschi
Matteo Palmonari
Carlo Batini
Marco Comerio
Introduction

PA EMPLOYEE

Recommend a list of action based on his knowledge and his personal experience

ONLINE

Scattered information about services. Hard to find, hard to understand, hard to interpret
SMART APPLICATIONS NEEDED
BRIDGE THE GAP BETWEEN THE KNOWLEDGE ACQUIRED BY THE MUNICIPAL EMPLOYEES, AND AVAILABLE ONLINE SERVICE DESCRIPTIONS!

SUPPORT THE SELECTION OF SERVICES
MAXIMIZE SERVICE VALUE AND REUSE
IPAS (Italian Public Administration Services)

- A Knowledge Base about public sector services aimed to support more effective interactions between administrations and user-citizens
- Available as Linked Open Data / Linked to LOD
  - Browse the network of services, providers, thematic area, life events etc:
- Portal (prototype)
  - query // search // navigation publicly available at
    http://siti-rack.siti.disco.unimib.it:8080/ipas_portal/
IPAS ONTOLOGY

- Describes the features of individual services as well as the connection between the services and relevant domain entities such as providers, life events, non functional needs, business domains

- Modular design for effective evolution:
  - Service Ontology
  - Contract Ontology
  - Actor Ontology
  - ++ (e.g., service taxonomies)
IPAS core concept: SERVICE

CONCRETE ENTITIES

Abstract Entities

CONCRETE ACTOR

provideBy

concrete

memberOf

1..N

SERVICE

Concrete Entities

ABSTRACT ENTITIES

Abstract Service

ABSTRACT ACTOR

provideBy

1..1

memberOf

1..N

isA

1..1

CONCRETE SERVICE

CONCRETE SERVICE

1..N

3207

ABSTRACT SERVICE

BUNDLE

composedBy

0..N

1719

REPRESENT actual service PROVIDE BY LOCAL AUTHORITIES

REPRESENT SPECIFICATIONS DEFINED BY THE LEGISLATION
Life-events, segments, and thematic-areas define aspects of the user profile that will be used to support service recommendations.
**Contract**: govern the fruition of a service by a customer and expresses constraints on Non Functional Properties of services (*contractual terms* specification)

Each user segment can have *contractual preferences* on contractual terms to be included in the service contract.
Bundle: a set of services packaged together by the provider for reasons relevant to its marketing strategy, and to satisfy the needs that are expressed or remains unexpressed by the customers.

BUNDLE PRICE CAN BE LOWER THAN THE SUM OF THE SERVICE THAT COMPOSE THE BUNDLE.
MAIN SCIENTIFIC BACKGROUND (ONTOLOGY & APPs)

- Marco Comerio: Value-Based Service Contract Selection. IEEE SCC 2013: 611-618
- Christina Tziviskou, Matteo Palmonari, Marco Comerio, Flavio De Paoli: SeDL-C: A Language for Modeling Business Terms in Service Descriptions. ICWS 2013: 547-554
- Claudio Baldassarre, Marco Cremaschi, Matteo Palmonari: Bridging the Gap between Citizens and Local Administrations with Knowledge-Based Service Bundle Recommendations. DEXA Workshops 2013: 157-161
- Leo Iaquinta, Maria Alessandra Torsello, Marco Comerio, Anna Maria Fanelli, Giovanni Semeraro: User Segmentation in e-Government Services. UMAP Workshops 2013
ASSO: SUPPORT THE CITIZEN IN COMPOSING A BUNDLE

ASSO: ASSISTANT TO CITIZENS FOR SERVICE SELECTION

siti-rack.siti.disco.unimib.it:8080/asso/en/impresa/
ASSO leverages the network of relationships to support citizen’s non trivial questions: what my government requires me to fulfill when I change my residential address? What other services can I invoke if I am married or have children? What is the best service provider for my needs?
Thank you for your attention!

http://siti-rack.siti.disco.unimib.it:8080/ipas_portal/