Towards a hybrid Semantic Web Services approach
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Classical sofa TV

Novel TV features & Actors

The next generation TV will be:
- Personalised television
- TV programs recommender
- Social network around TV preferences

Many actors in the future TV
- Content producers
- EPG providers
- Social network scientists
- Semantic enrichers
- Recommenders

NoTube actors

NoTube partners expose and consume services.

Problem statement

The TV services require the automation of discovery, mediation, composition, orchestration
- Which tasks are the most important to be automated?
- What are specific challenges for Internet TV services?
- How to benefit from advantages of both SWS approaches
  - handy semantic annotation of services
  - reasoning-based automation?
- How to integrate Linked services and Top-down approaches?

Hybrid Semantic Web services expectation

Linked services
- Pros
  - LOD compliant
  - Handy annotation
- Cons
  - Simple reasoning
  - Lack of execution facility

Top-down approaches
- Pros
  - Complex reasoning
  - Orchestration
  - Execution facility
- Cons
  - Requires SWS expertise
  - Heavy annotation

Existing Approach

IRS-III framework is a Semantic Web Service execution environment.
- a 'broker' mediating between the goals of a client and relevant services
- adopts the WSMO conceptual model of services
- aims to provide non ambiguous models of services with a well-defined semantics
- reasoning to enables automatic discovery, selection, composition, mediation, execution, and monitoring of services.
- allowing the use of similarity-based discovery and selection approaches such as the Conceptual Space approach.

Linked Services inspired by the Linked Data movement, we publish 'linked services' with their semantic descriptions on the Web.
- Using WSMO-Lite and MicroWSMO as functional semantic description schema and using a number of domain vocabularies as description schema.
- Representing and persisting the semantic descriptions (functional and non-functional) as RDF data stored in a Sesame RDF database.
- A web-based form UI to annotate and publish services.

First Results

Conclusion and future work

Conclusions
- TV services require handy annotation and complex reasoning
- Hybrid SWS approach
- Despite the few overlaps between WSMO and MSM
- Functional similarities

Future work
- Translation mechanism between WSMO and MSM
- Two-way referencing of MSM and WSMO annotations
- Serve and IRS-III interoperability

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