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Using SPICES for a Better Service Consumption

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Abstract. In this poster we present SPICES (Semantic Platform for the Interaction and Consumption of Enriched Services), a Web-based tool that automates the process of consuming a Web service by making use of the semantic annotations that describe them. SPICES supports both traditional WSDL services and RESTful ones and offers end-users the possibility of interacting with them in an easy yet personalised manner, without the need of advanced technical skills -which were traditionally required-, being the complexity that lies underneath hidden to them. SPICES is being developed within the European project SOA4All.

Key words: semantic web services; service consumption

Approach: In the area of semantic Web services (SWS), plenty of attention has been devoted to the use of semantics over syntactic services in order to support and enhance tasks such as their discovery or composition. However, semantic descriptions over services have not been used yet in order to support and enhance their **consumption**: This is precisely where the work on **SPICES**, the Semantic Platform for the Interaction and Consumption of Enriched Services (online version at: <http://soa4all.isoco.net/spices>), is focused.

Our approach is centered over the new trend of lightweight SWS over WSMO-Lite [1], which goes in a bottom-up direction by adding annotations to existing Web service definitions; both to WSDL services through SAWSDL [2] and to RESTful services [3] with hRESTS and MicroWSMO [4]. Those annotations are able to capture services in RDF and store them in a semantic service repository called iServe (<http://iserve-dev.kmi.open.ac.uk:8080/iserve>), which is accessed by SPICES through a REST API.

Traditionally, a human (more precisely, a developer) involved in the process of creating the means to invoke a service was required. With SPICES, the mere fact that a service - of any kind - is annotated, means that it can be consumed by a non-technical end-user interacting with the platform.

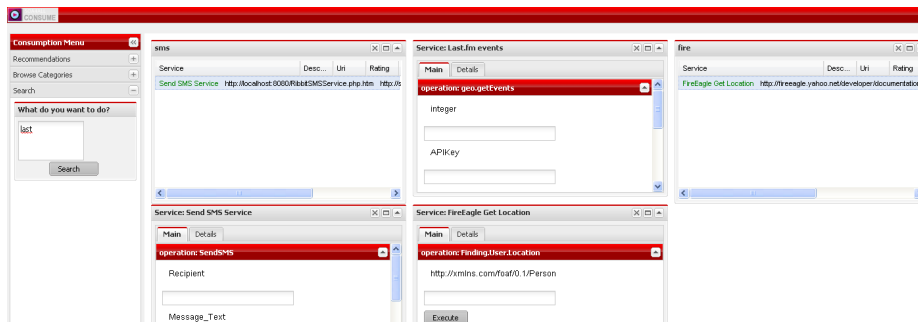


Fig. 1. SPICES dashboard

Contribution: Figure 1 depicts a view of SPICES where a user has searched for, opened and invoked several services (in a Web 2.0 iGoogle-like style). The contributions of SPICES, at different levels (semantic/syntactic), can be summarized in the following areas:

- **Service Adapters:** The service annotations permit SPICES create suitable interfaces in order to improve the usability of services and the expected interactions of users.
- **Personalized Consumption:** Thanks to the semantic annotations and to the user profiles and contextual information, SPICES is able to present users with a personalized (and more suitable) version of the services.
- **Authentication:** Service annotations contain the type of authentication that service providers expect, and SPICES is able to act accordingly in the simple cases such as API key or OAuth.
- **Lowering and Lifting Mechanisms:** the RDF annotations contain references to the lowering and lifting schema mappings that permit moving from RDF (semantic level) to XML (syntactic level) and back.
- **Service Invokers:** SPICES considers different invokers at execution level in order to cater for both WSDL and REST services.

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