

DELOS Research Activity Proposal

Harald Krottmaier
Institute for Information Systems and Computer Media
Graz, University of Technology
8010 Graz, Austria

Abstract

In the DELOS Network of Excellence exchange of researchers is promoted to enable joint research. This proposal describes planned activities between IICM and ETHZ. An outline of research activities and questions to be answered can be found in the following paragraphs.

Proposal

The IICM is responsible for Task 1.2 in WP2: “Survey of Metadata Models in the Context of Digital Libraries”. Several standards for Metadata of digital objects stored in DLs are available (such as Dublin Core, MPEG-7, ...) and described in the literature. But what about services provided by DLs? How to describe and use them? Where to register such services? We suggest to focus on services provided by DLs. The title of the survey should therefore be change to: “Survey of Metadata Models of Services in the Context of DLs”.

To answer the questions above, the following tasks should be accomplished during my visit at ETHZ:

Overview of Existing Services: An overview of existing services available in current implementations of DL should be given. These services should be analysed and discussed from provider’s and user’s point of view.

Description of Services: On the one hand, the provider of the service must be able to describe services in a sufficient way (mandatory parameters, costs, quality, expected results, ...), on the other hand, users should interpret the description of a service correctly.

Questions to be discussed:

- How to describe (typed-)parameters of services and the service itself?
- What about automatic parameter conversions?
- What can we learn from existing technologies such as:
 - RPC-based applications,
 - SOAP (Simple Object Access Protocol),
 - WSDL (Web Service Description Language),

- UDDI (Universal Description, Discovery and Integration),
 - OWL/OWL-S (Web Ontology Language),
 - DAML (DARPA Agent Markup Language)?
- Which technologies should be used to describe services in the context of DLs?
 - Do we need a special ontology to describe the semantic of services?

To give an example: A typical service available in digital libraries is the search-service. One provider may offer free of charge fulltext-searching in different public available DLs, another may offer additional metadata-search in commercial DLs.

Registry of Services: Descriptions of services from different providers must be collected and presented to users. A broker / mediator may add additional attributes to a description provided by the service-provider.

Questions to be discussed:

- When are services from different providers equal?
- How to add annotations to services?

Due to my lectures at the Institute of Information Systems and Computer Media (IICM), the activities at Institute of Information Systems, ETH Zentrum, should be subdivided into two parts: one visit (2 weeks, starting end of September) to initiate the research and a second one (1 week, end of November) to finalise research and publish the results.