

Interface inheritance for object-oriented service composition based on model driven configuration

Vincenzo D'Andrea
DIT, Univ. of Trento
Via Sommarive, 14
38100 Trento
Italy

dandrea@dit.unitn.it

Ioannis Fikouras
BIBA, Univ. of Bremen
Hochschulring 20
28359 Bremen
Germany

fks@biba.uni-bremen.de

Marco Aiello
DIT, Univ. of Trento
Via Sommarive, 14
38100 Trento
Italy

aiellom@dit.unitn.it

ABSTRACT

In today eCommerce environments, customers have to deal with a wide variety of alternatives, both in terms of service offerings as well as service providers. They risk to be overwhelmed by the complexity of alternatives, thus reducing the usefulness of the experience and consequently the likelihood of transactions. There is an increasing need for new ways to reduce the perceived complexity. Service-oriented computing can help the user cope with this problem. With services, interfaces no longer hide units of code, but provide access to complex functionality equivalent to that of entire conventional applications.

We introduce a methodology for extended service composition derived from model-driven configuration and object-oriented systems. By focusing on the concept of interfaces, and applying it to the object-oriented concept of inheritance, we propose an innovative approach to composition that takes into account how the *composed* services can be recognized or accessed via the *composing* service. In order to set the stage, we discuss the similarities between Service Oriented Computing, Object-Oriented Configuration and Object-Oriented Configuration. In addition, we provide an overview of knowledge-based systems, described as software systems built by capturing the knowledge used by experts, and more specifically object oriented configuration for implementing service composition.