

Facilitating Flexible Component Reuse
with Scenario-Based Deep Adaptation and Generation

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Background and Initiatives



- One obstacle of reuse is the high variability of reuse context. Mismatches between pre-qualified existing components and the particular reuse context in applications have been a major factor hindering component reusability.
- Although component adaptation has acted as a key solution of eliminating these mismatches, deep adaptation is often either impossible or incurring heavy overheads in the components.
- Component-Based Development has shown very successful improvement on efficient, high quality and low cost software design and development.

The Proposed Solutions

- An approach, namely Scenario-based dynamic component Adaptation and GenerAtion (SAGA), has been proposed to achieve deep adaptation with little code overhead through the following techniques:
 - ◆ XML-based component specification
 - ◆ interrelated adaptation scenarios, and
 - ◆ corresponding component adaptation and generation
- Knowledge engineering technology, such as ontology, may be applied to achieve higher automation in the process and more precise scenario matching.

Looking for Collaborations

- Partners with expertise in component-based reuse, such as component adaptation and generation, or
- Partners with expertise in knowledge engineering, or
- Partners in industry to verify or spread the practical value of the project idea