

Introduction of the “TransShuttle” Project on Bidirectional Transformation and Its Application 2007–2011

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in Architecture Based Component Composition
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Project Background

- Based on our previous project ...
 - “Dependable XML Processing” (2003–2008) supported by MEXT, Japan
 - Key ideas are ...
 - “Programmable Structured Document”
 - “Bidirectional Transformation for XML”
- Developed ...
 - Bidirectional transformation Language “Bi-X”
 - XML-based Web publishing system “Vu-X”
 - Scripting Bi-X code in XML with “biXfy”



Project Objectives

- Bidirectional transformation so far are ...
 - View-updating in database applications
 - Synchronization of structured data
 - ...



- Explore “Higher reliability with less effort” by Bidirectional transformation in ...
 - Consistent modification of replicated data items
 - Integrity in software development stages
 - ...



Project Subjects

- Bidirectional Programming Languages
 - General purpose bidirectional language “Bi-Haskell”, ...
 - Domain-specific languages for ...
- Development Environment for Bidirectional Programming
 - Libraries, Debuggers, ...
- Bidirectional Formulation of Software Development Processes
 - Architecture Based Component Composition
 - ...

