Systematic Transformation of Functional Analysis Model into OO Design and Implementation

Hee Beng Kuan Tan, Yong Yang, and Lei Bian
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Introduction

- Functional refinement is beneficial to OO development
  - Especially for problems with more complex functions
  - (example)
Introduction

● Complement OO methods
  – Requirements analysis
    • Applies functional refinement
  – Design and implementation
    • Transforms the functional models into OO design and implementation
    • Can be supported by an automated tool
Overall Process (1/2)

DF Net Pattern

1. Specify use-case

Transformation Pattern

2. Transform DF Net into OO Design

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Analyst/Designer

Specification

DF Net

Analyst/Designer

Design

Pre-Existing Class

design decision
Overall Process (2/2)

3 Coding of Support Class and Procedure

4 Automated Generation of Operation

home class name, operational signature (optional)

Programmer

Class and Procedure

Pre-Existing Class

Analyst/Designer

Design

DF Net

Operation

Analyst/Designer

Programmer

Design

3 Coding of Support Class and Procedure

4 Automated Generation of Operation

home class name, operational signature (optional)
Data Flow Net (DF Net)
Realize use-cases with DF Nets
Design Transformation
Conclusion
Future Works