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Test Case Co-Migration Method Patterns

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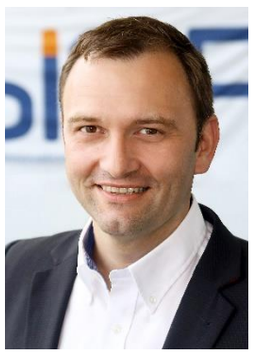

25.02.2020

UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

Agenda

1. Reuse of Test Cases in Migration Projects
2. Test Case Co-Migration Method Patterns
3. Overview and Conclusion

Reuse of Test Cases in Migration Projects

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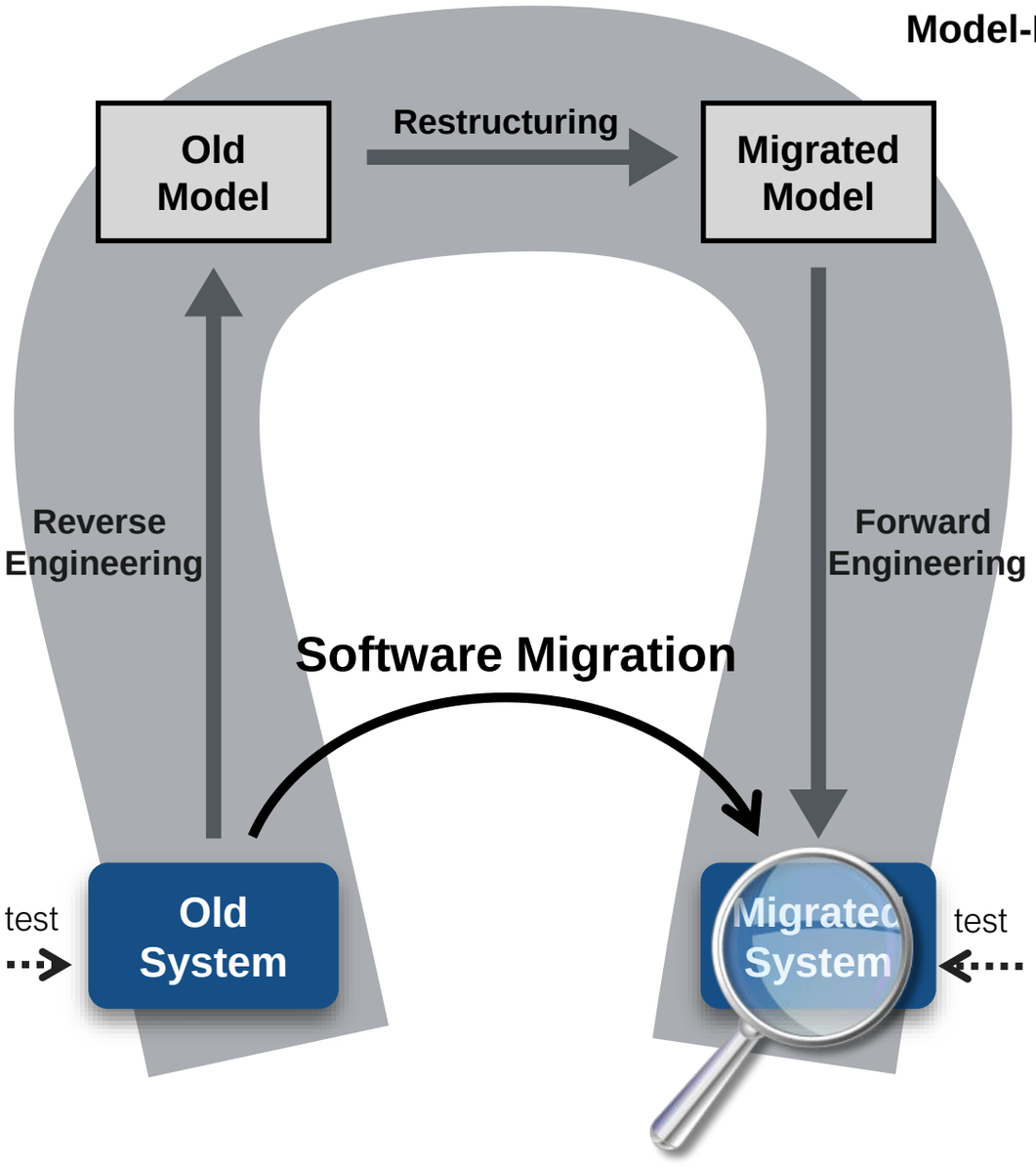
Model-Driven Software Migration OMG ADM



Problem Statement

How to systematically reuse existing test cases in a software migration scenario?

Test the desired functionality of the source system

Test Case Design is costly and time consuming

Reuse of Test Cases in Migration Projects

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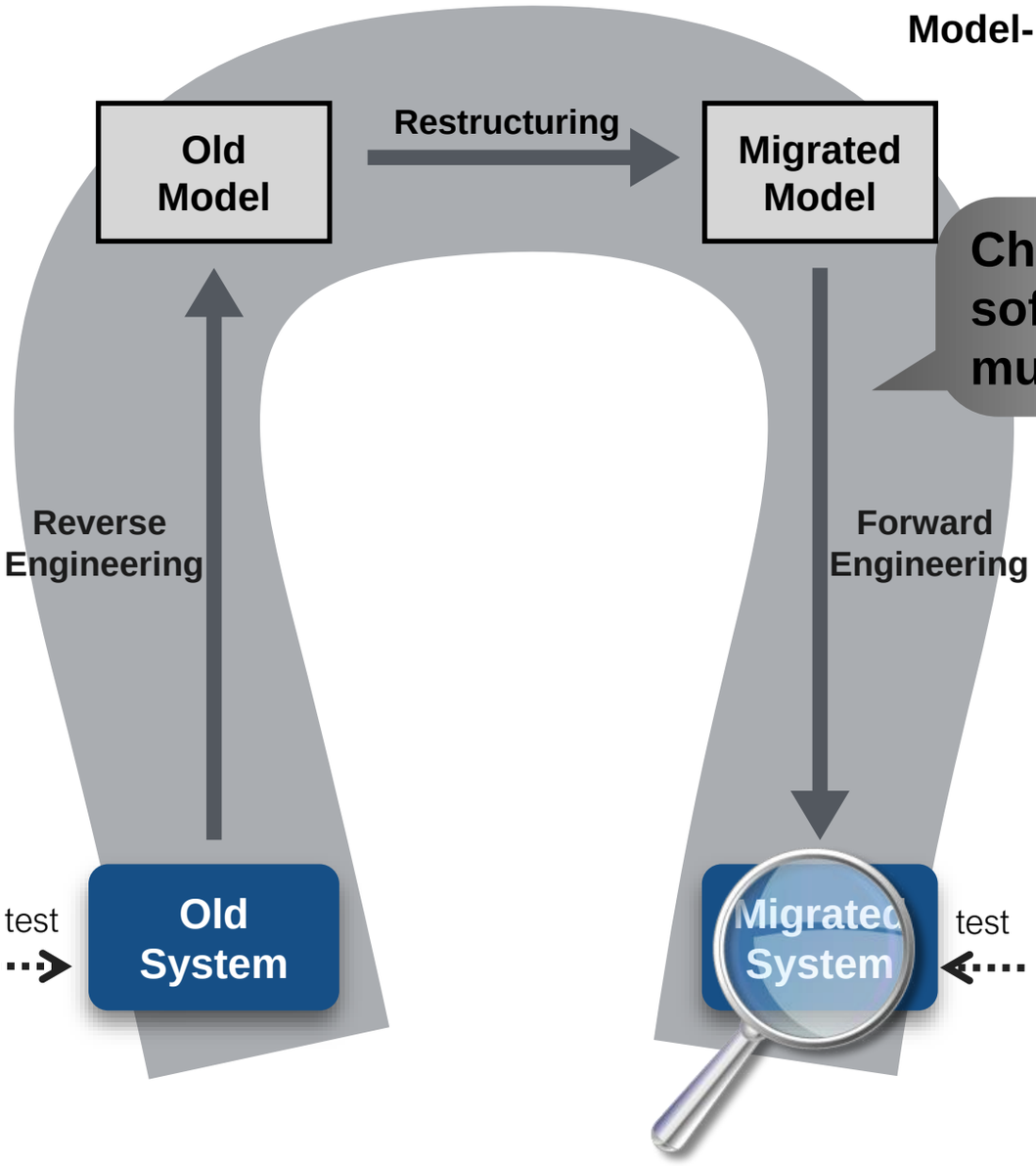
Model-Driven Software Migration OMG ADM



Problem Statement
How to systematically reuse existing test cases in a software migration scenario?

Changes from the software migration must be considered — **R1**

Test requirements must be considered — **R2**

Test the desired functionality of the source system

Test Case Design is costly and time consuming

Reuse of Test Cases in Migration Projects

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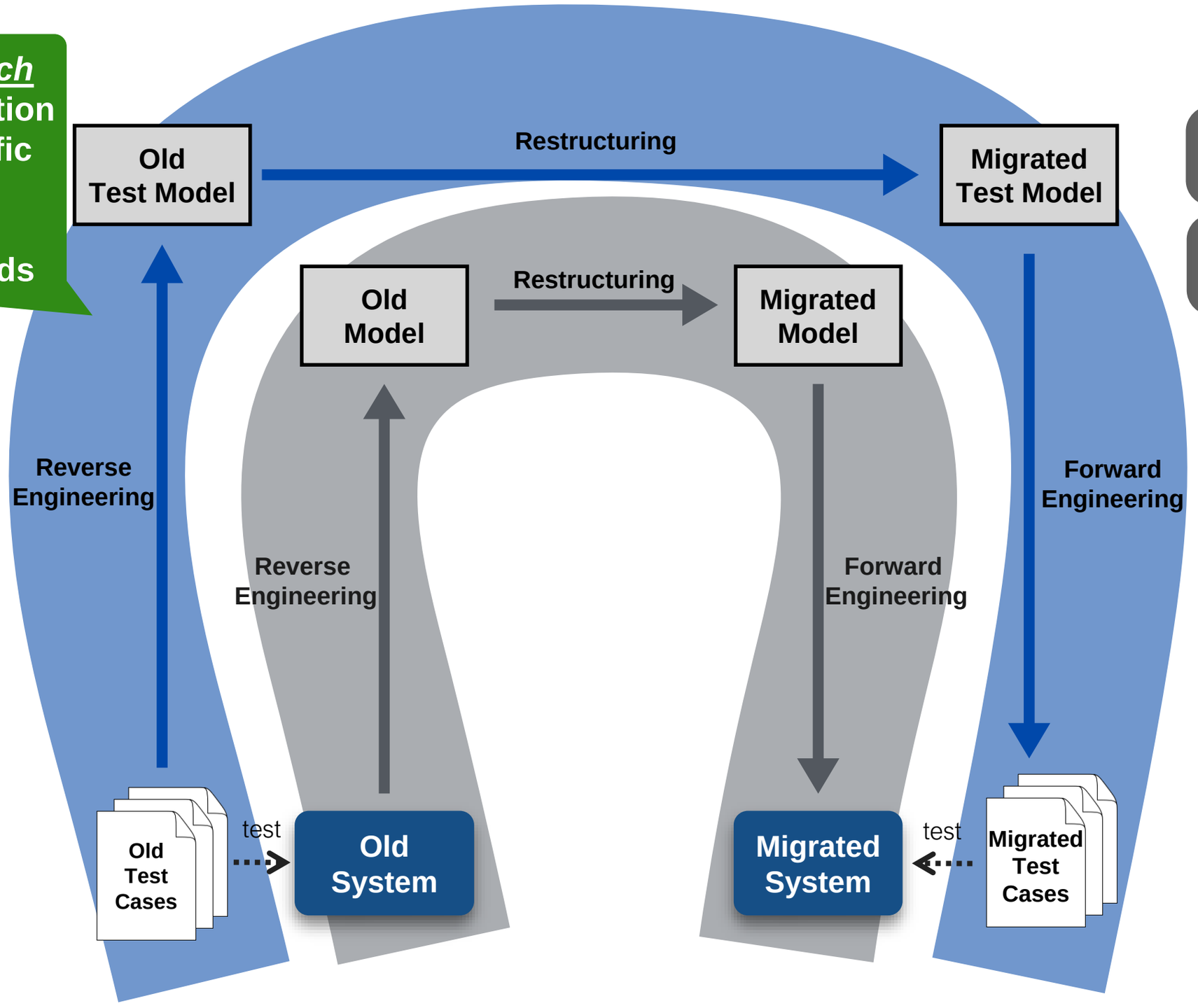
Solution Approach
Modular construction of context-specific model-driven test case migration methods



- Co-evolution support — R1
- Context consideration — R2

Agenda

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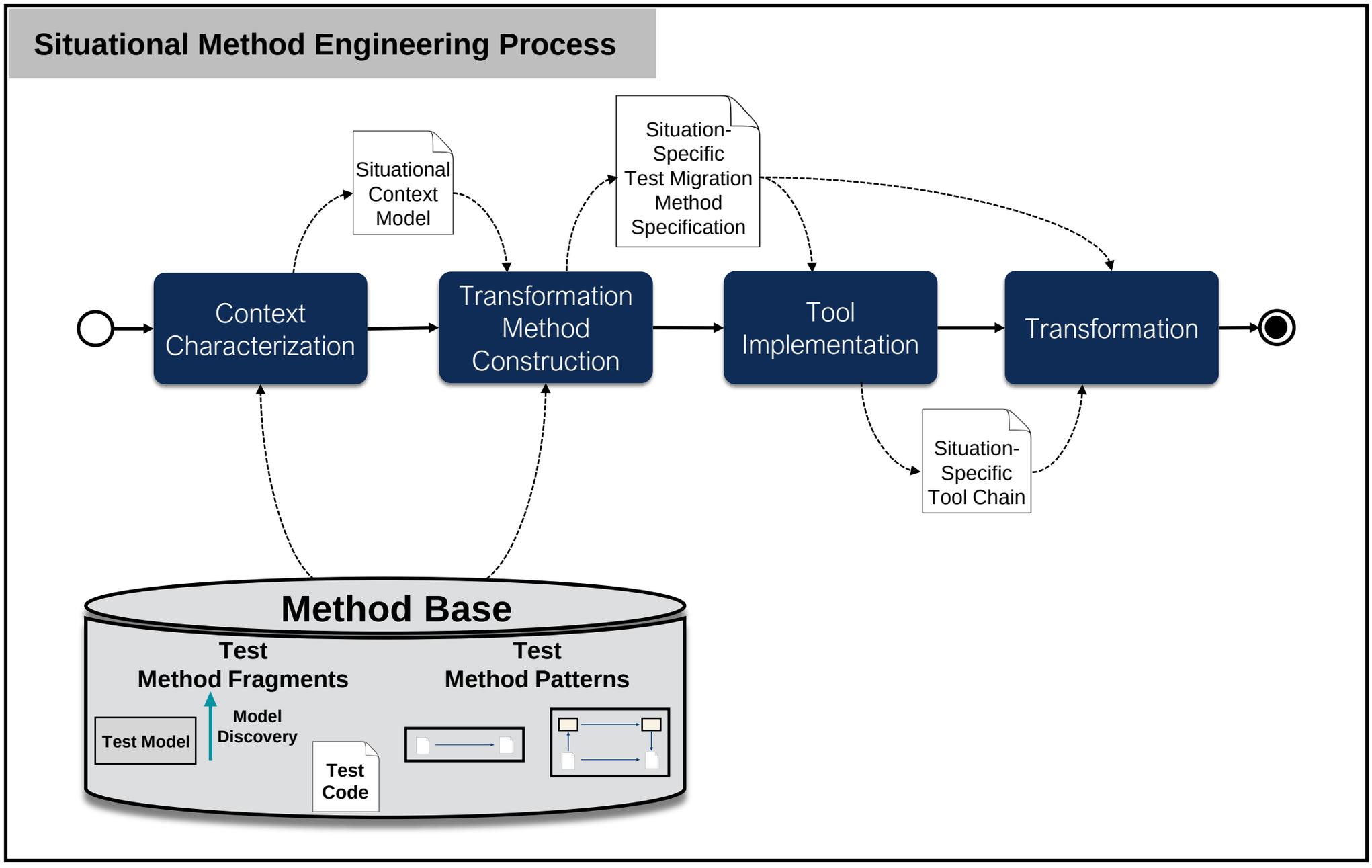
Situation-specific Test Case Co-Migration



Context Characterization

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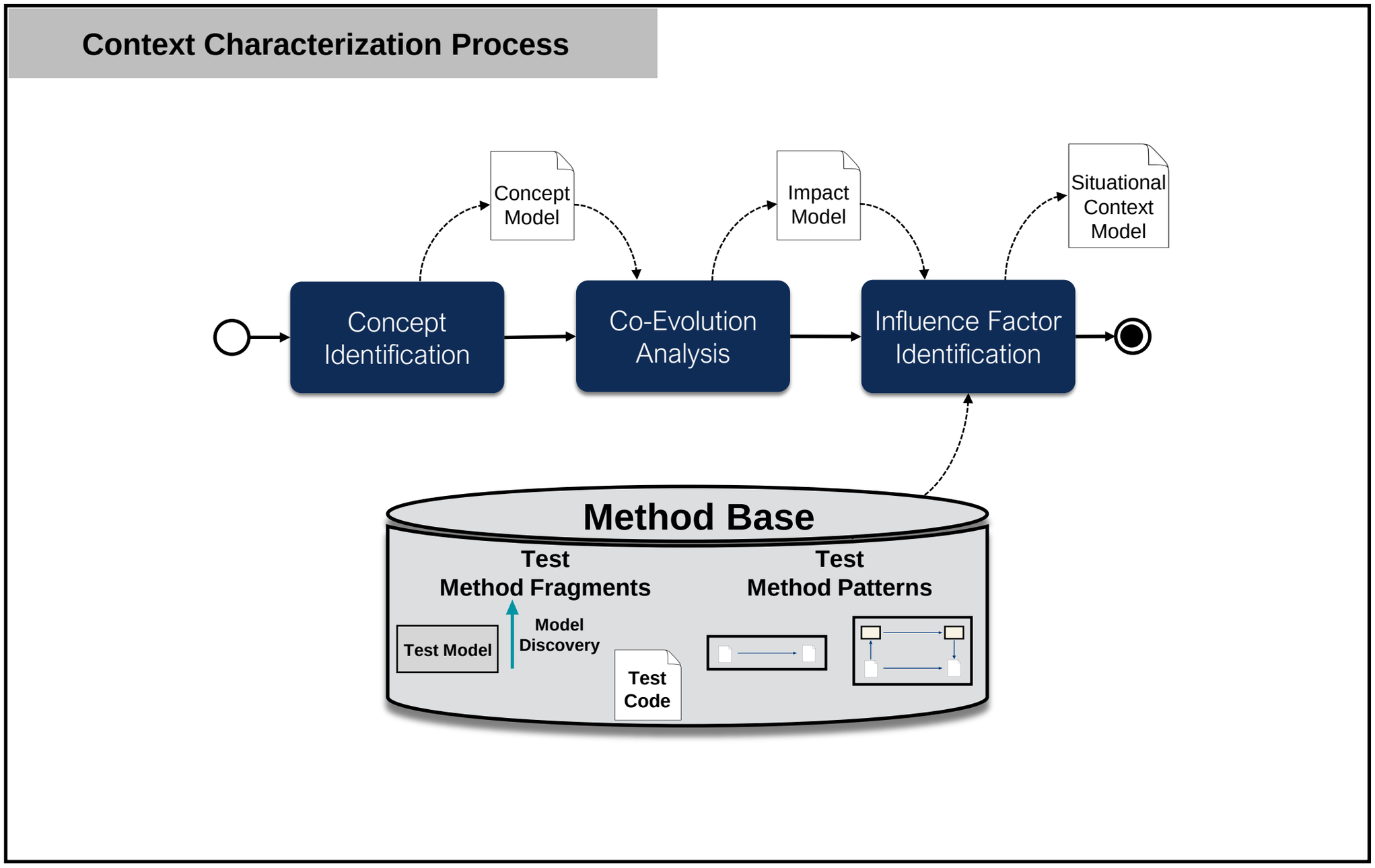

Method Base – System Method Fragments

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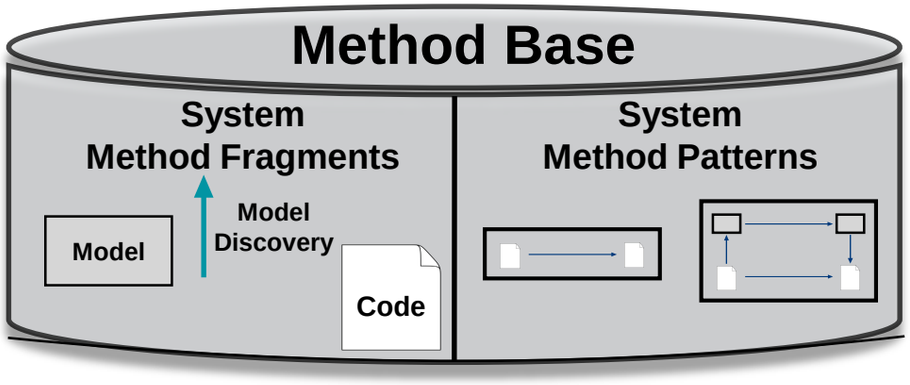

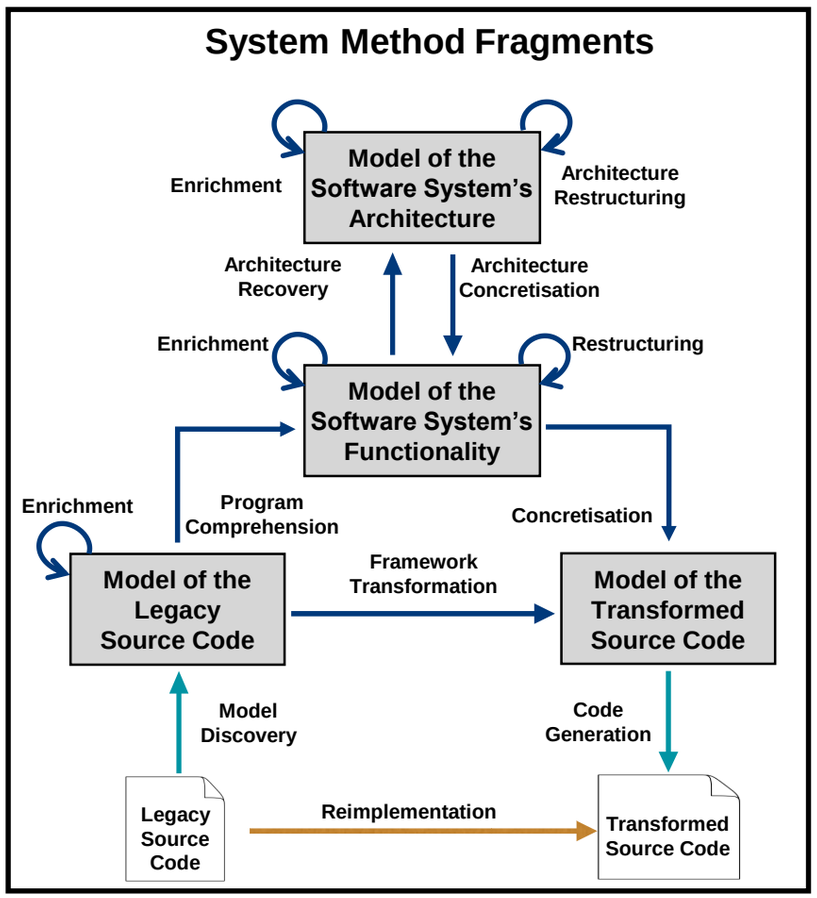

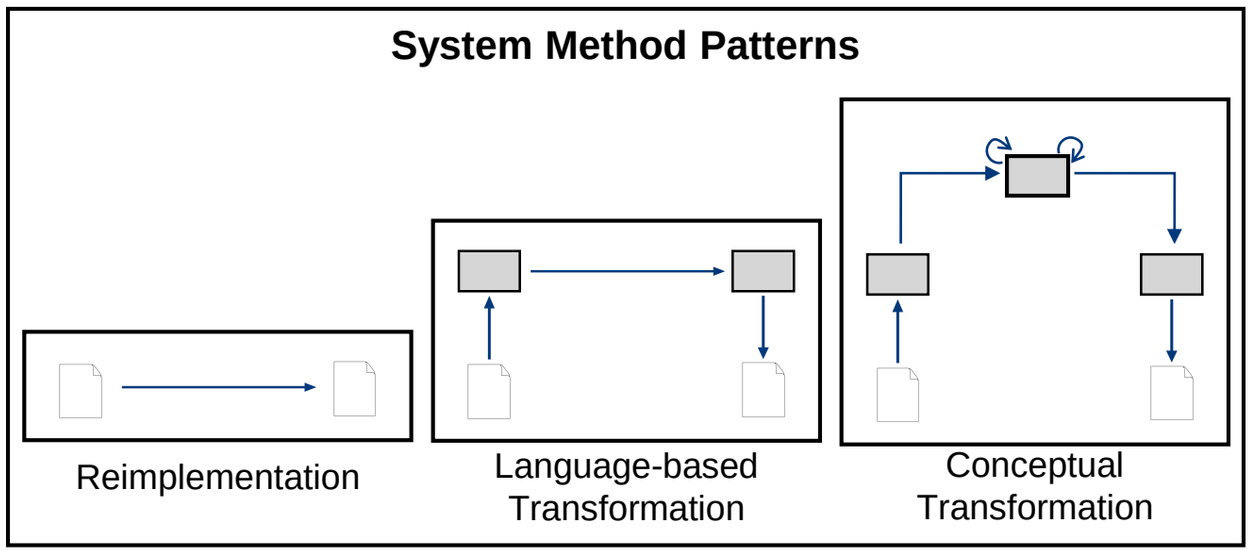

Method Base – Test Method Fragments

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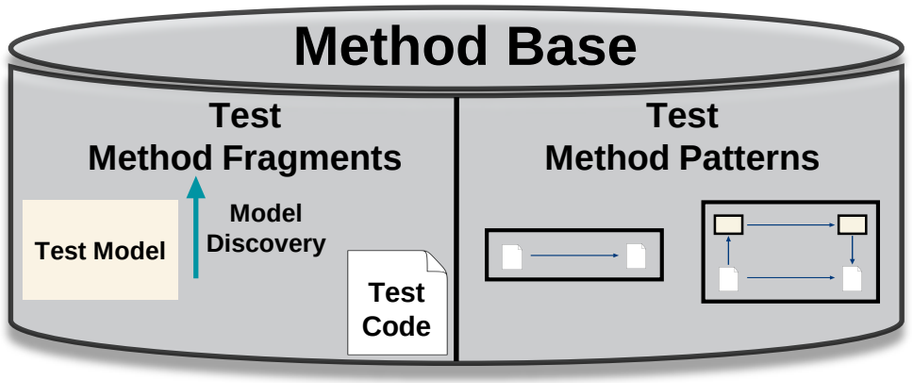

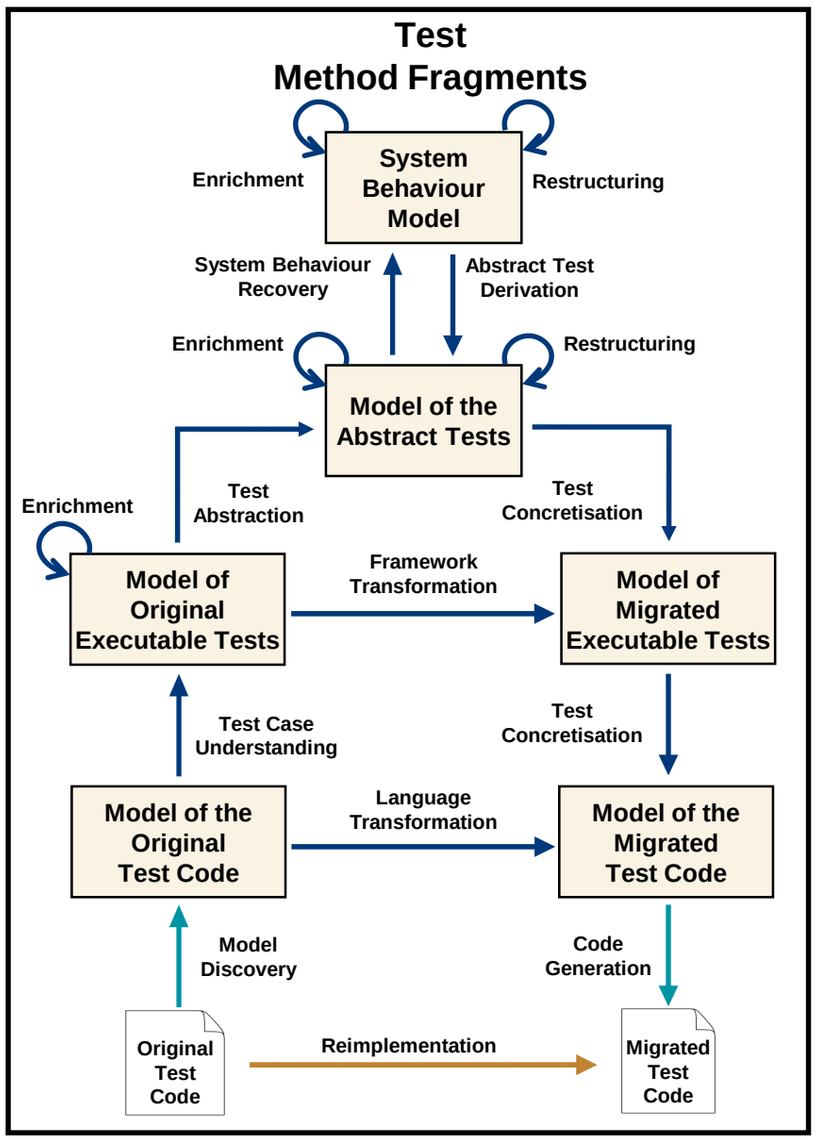

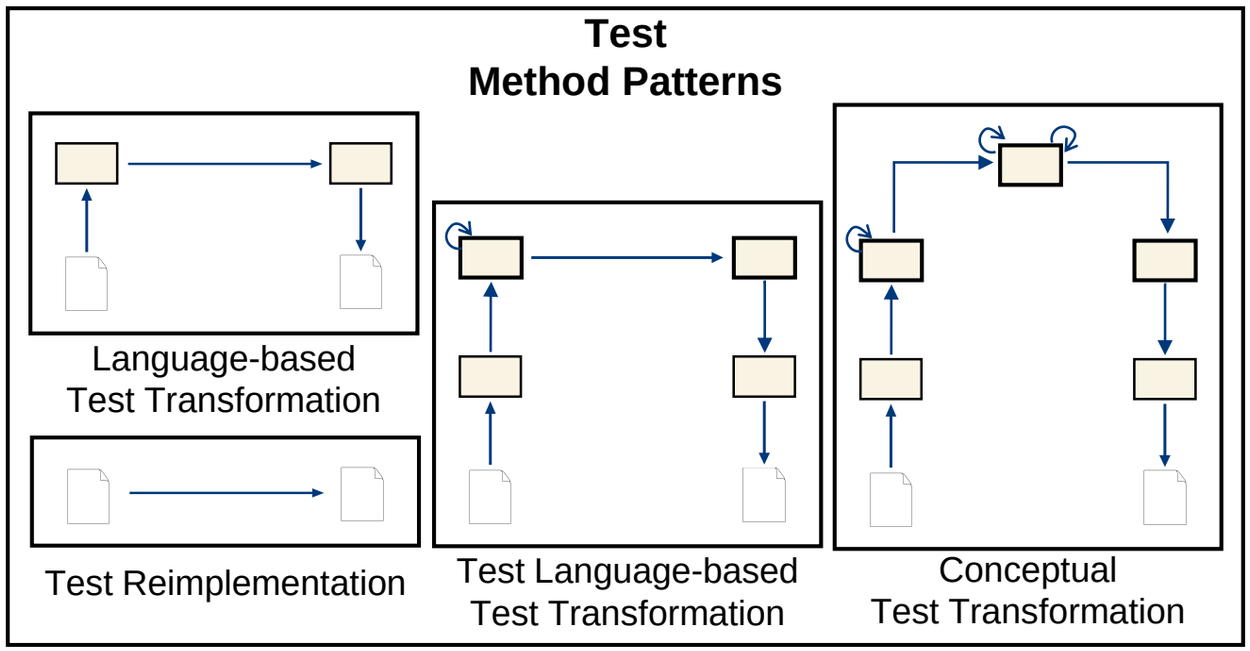

Co-Migration Patterns

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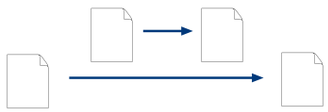
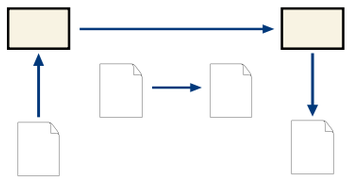
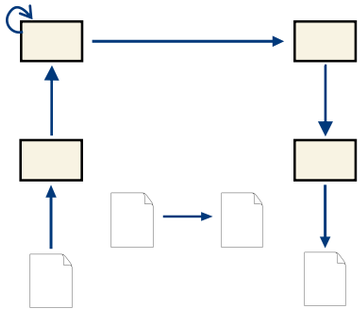
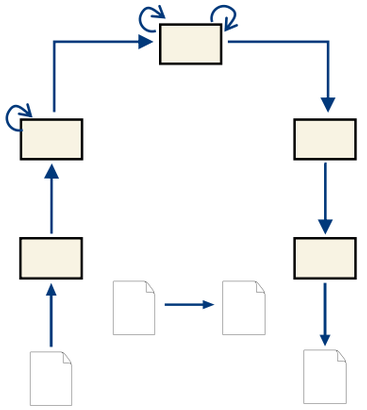
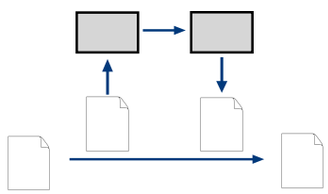
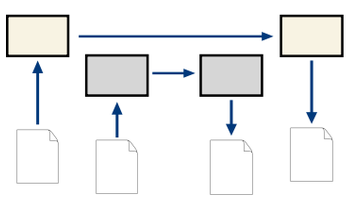
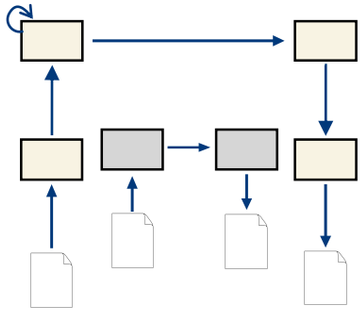
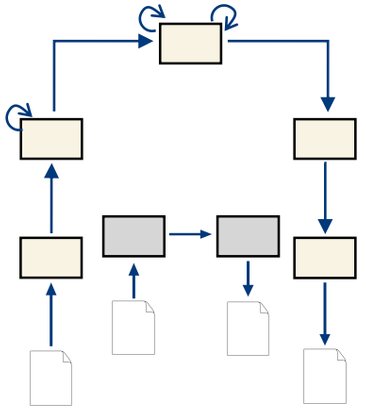
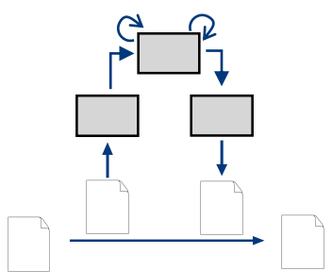
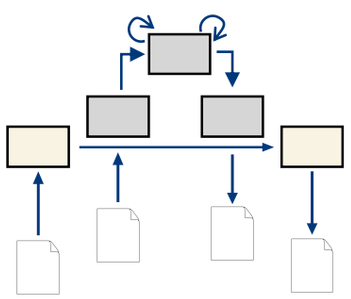
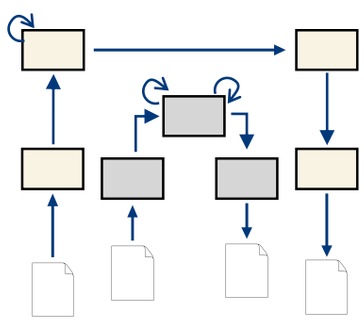
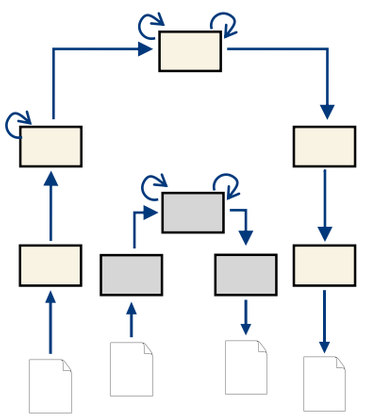
Test Method Patterns

System Method Patterns	Test Reimplementation	Language-based Test Transformation	Test Language-based Test Transformation	Conceptual Test Transformation
Reimplementation				
Language-based Transformation				
Conceptual Transformation				

Concept Identification (System Concepts)

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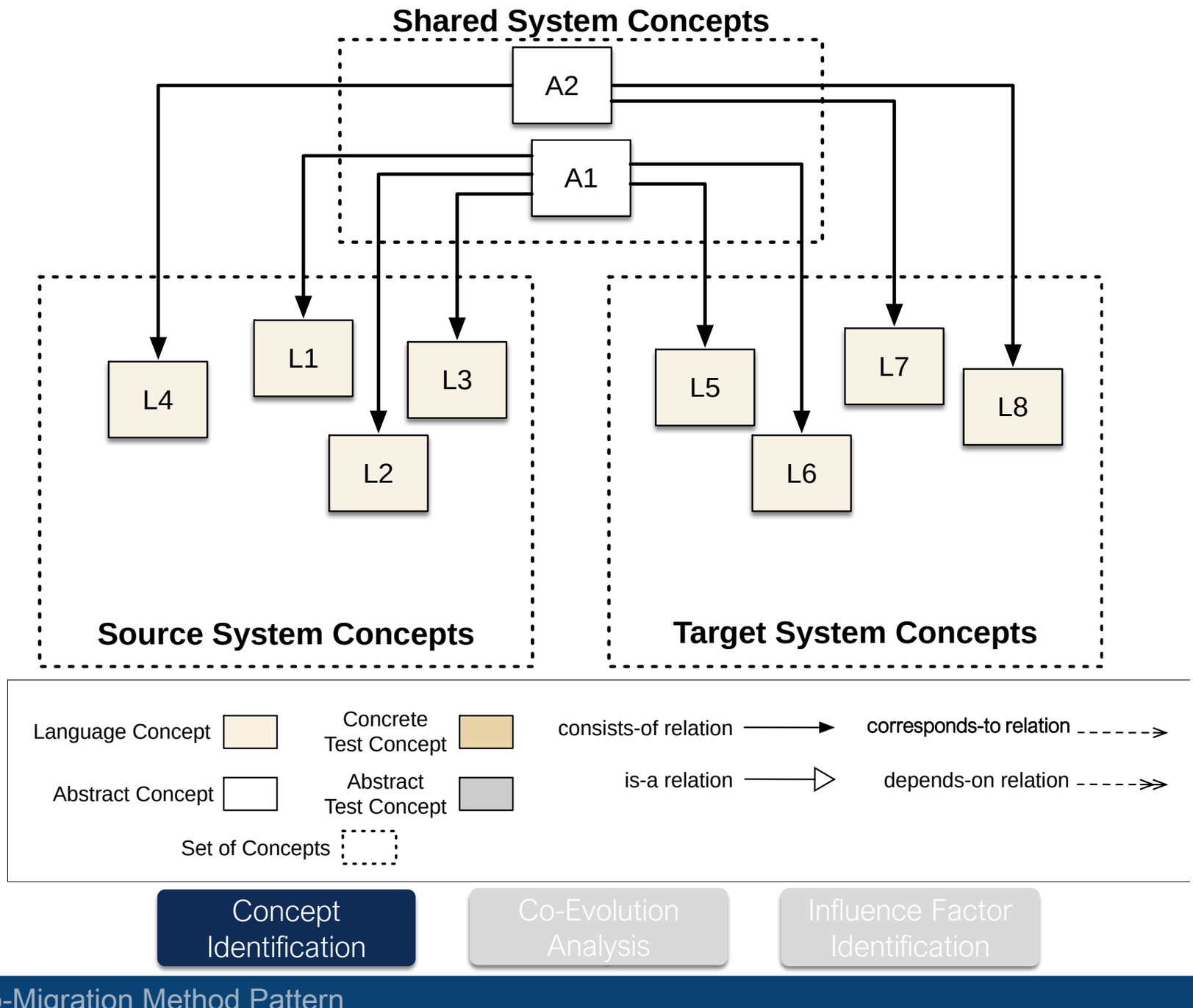

Concept Identification | Co-Evolution Analysis | Influence Factor Identification

Concept Identification (Test Concepts)

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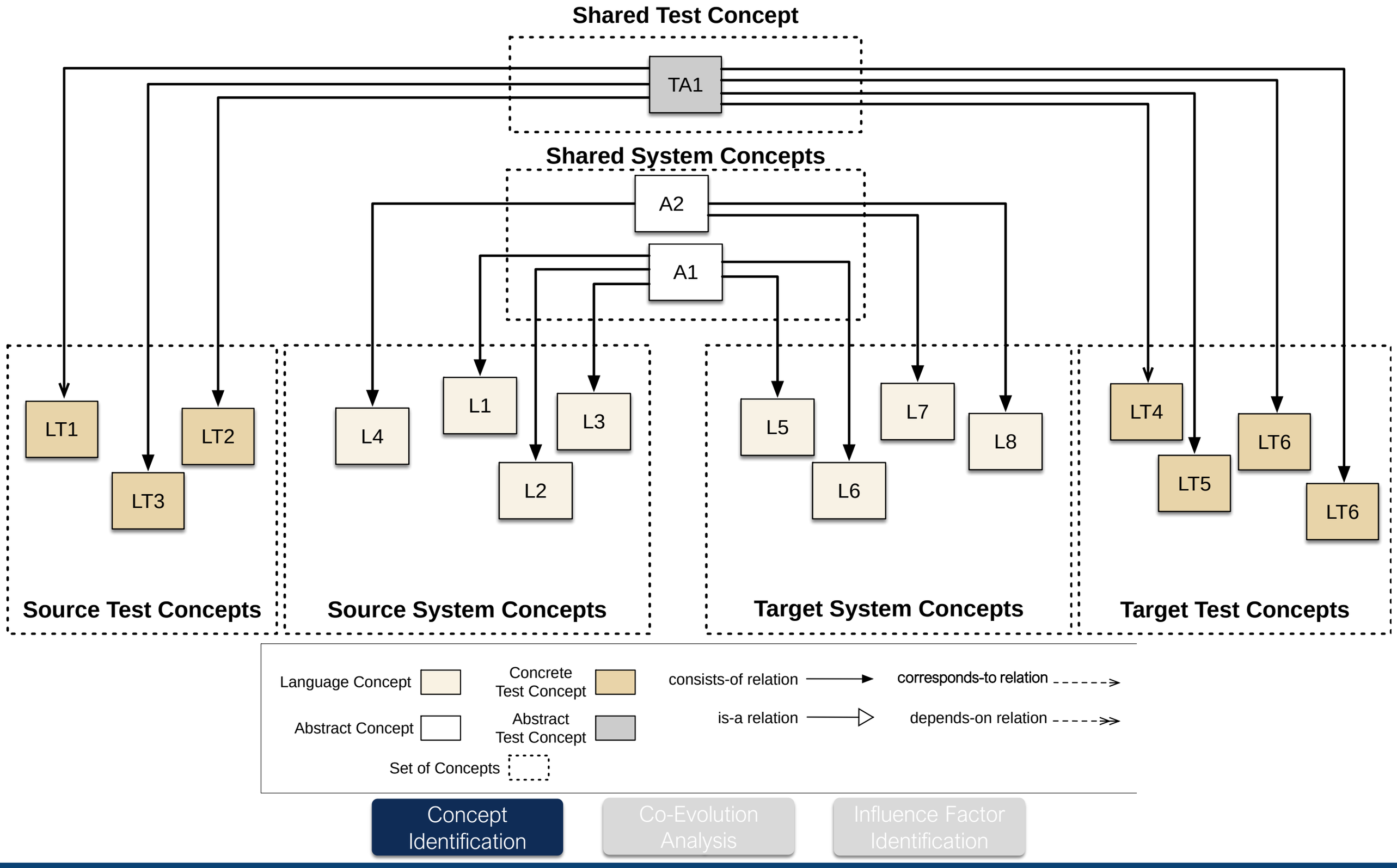
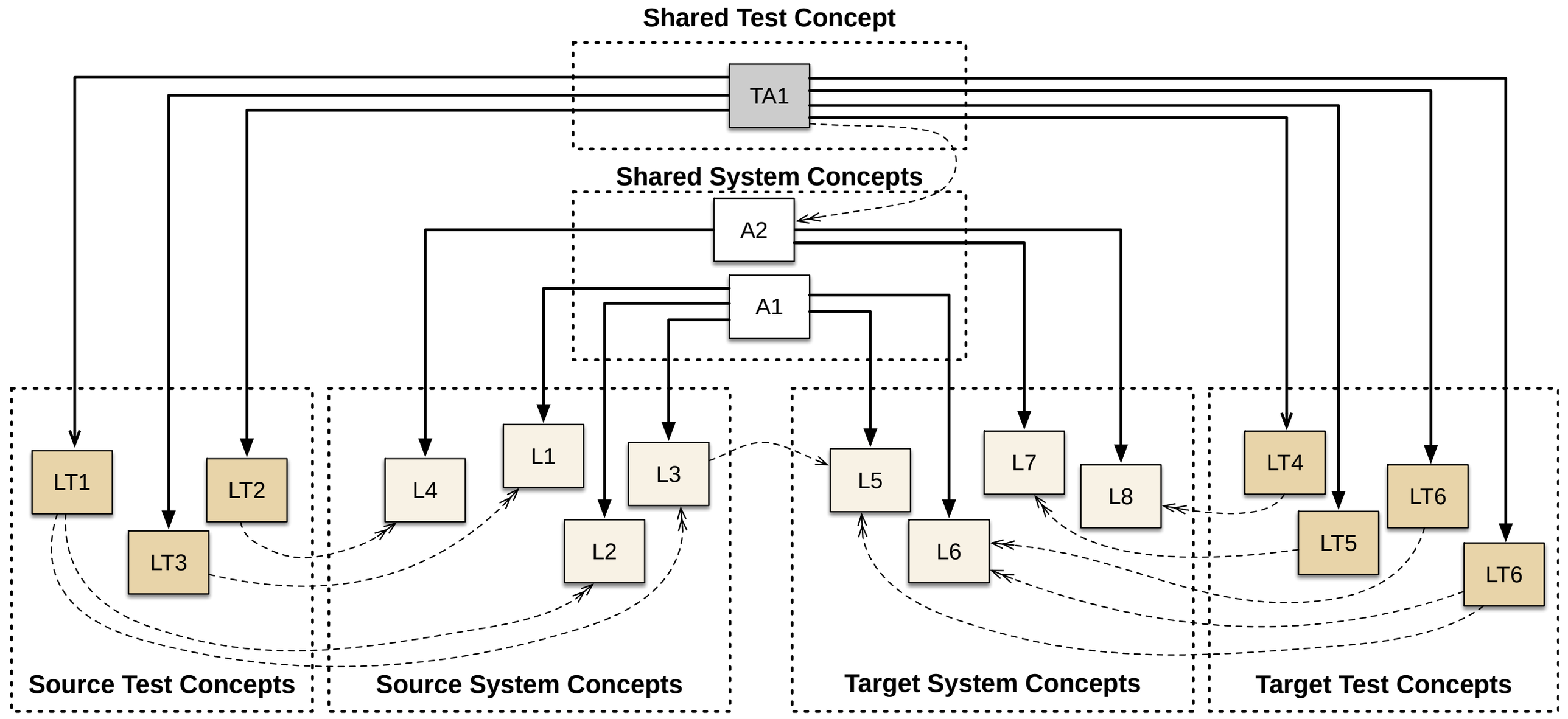


Concept Identification | Co-Evolution Analysis | Influence Factor Identification

Co-Evolution Analysis



Concept Identification | **Co-Evolution Analysis** | Influence Factor Identification

Influence Factor Identification

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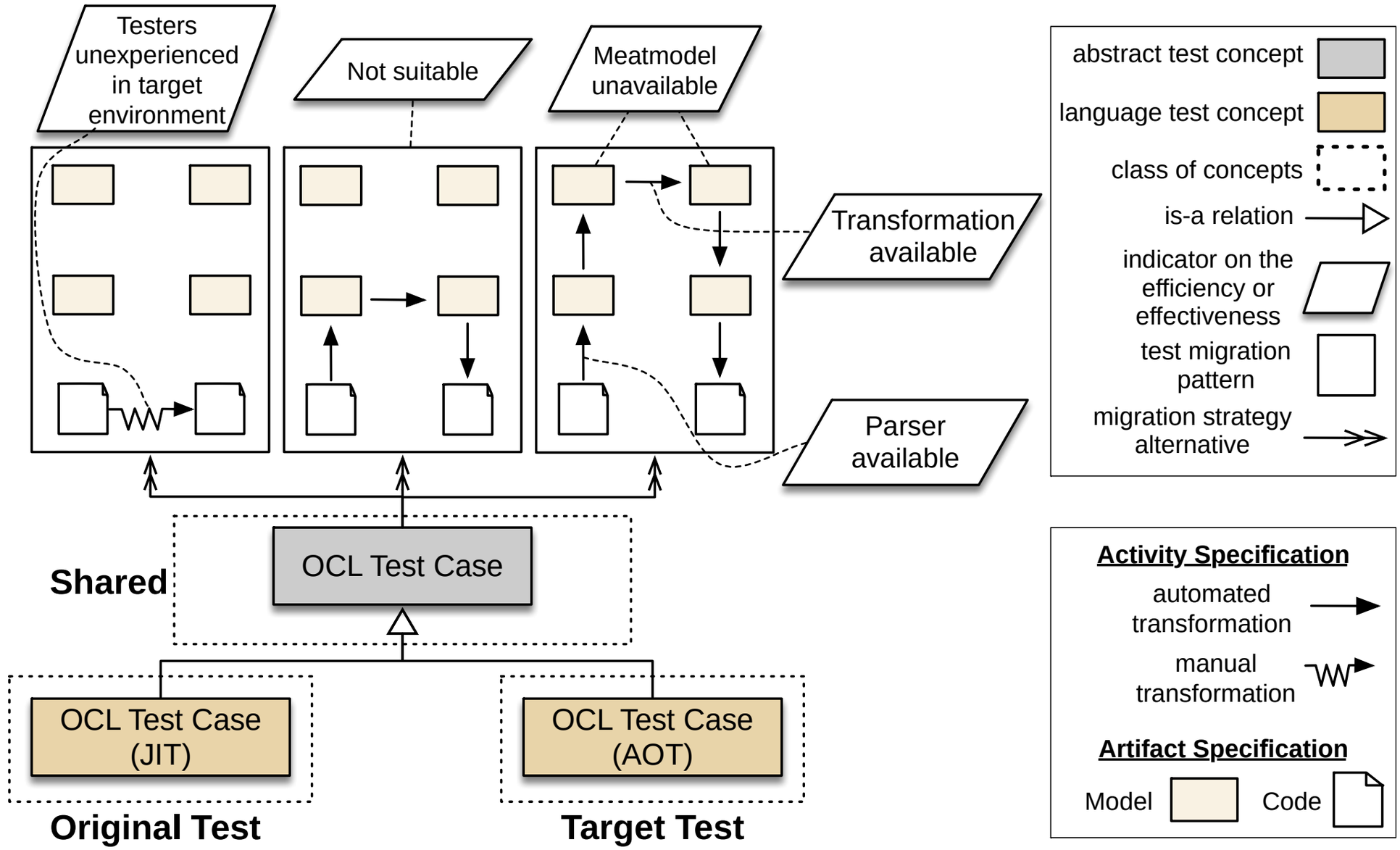

Concept Identification | Co-Evolution Analysis | Influence Factor Identification

Co-Migration Pattern – An Example

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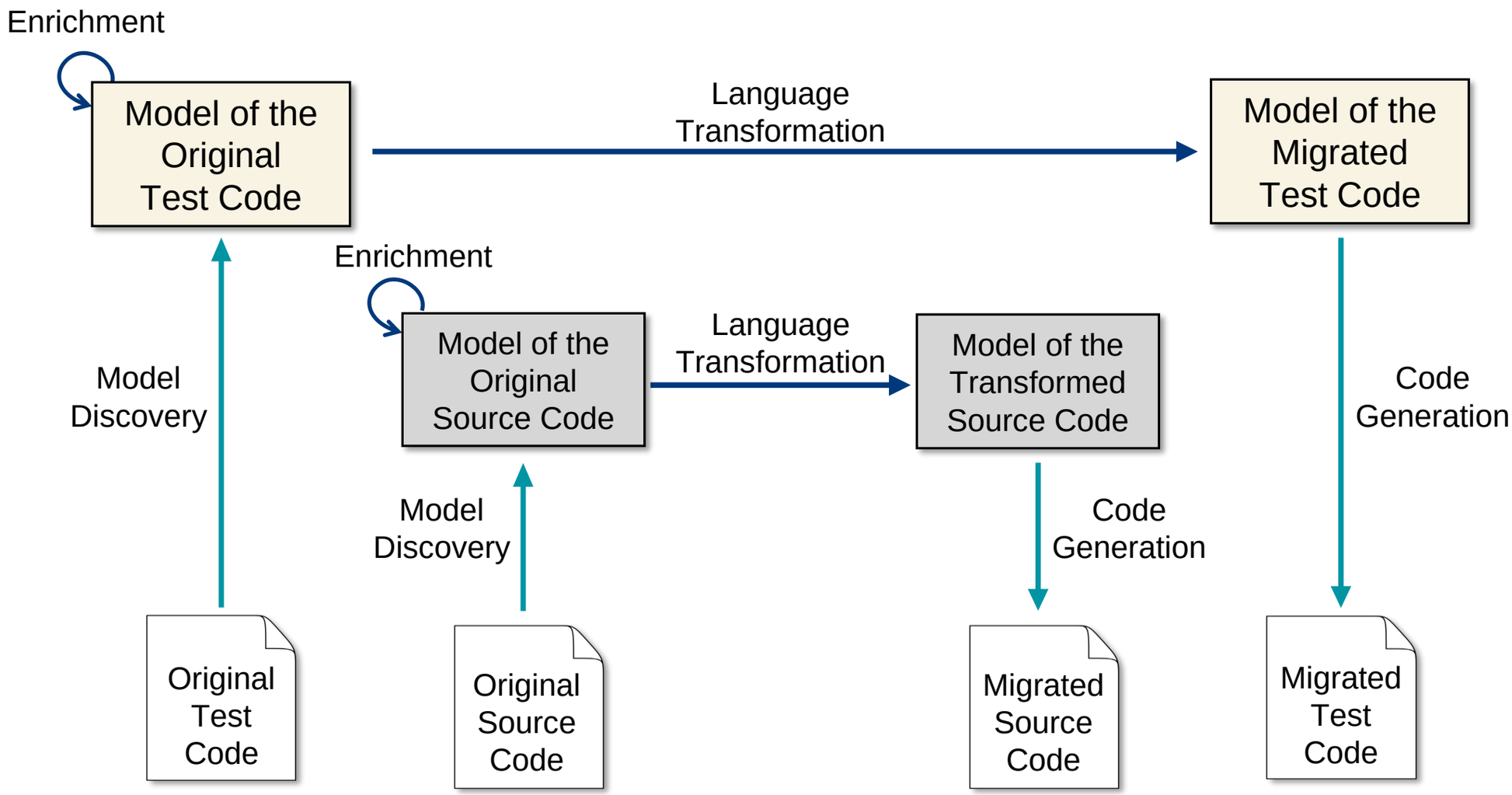

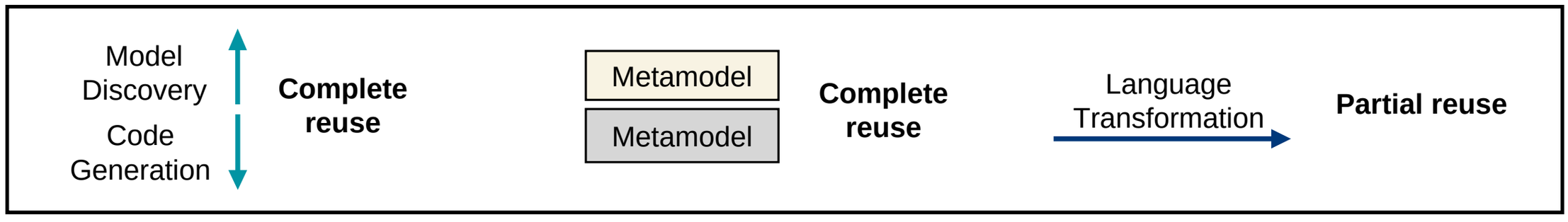

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Overview and Conclusion

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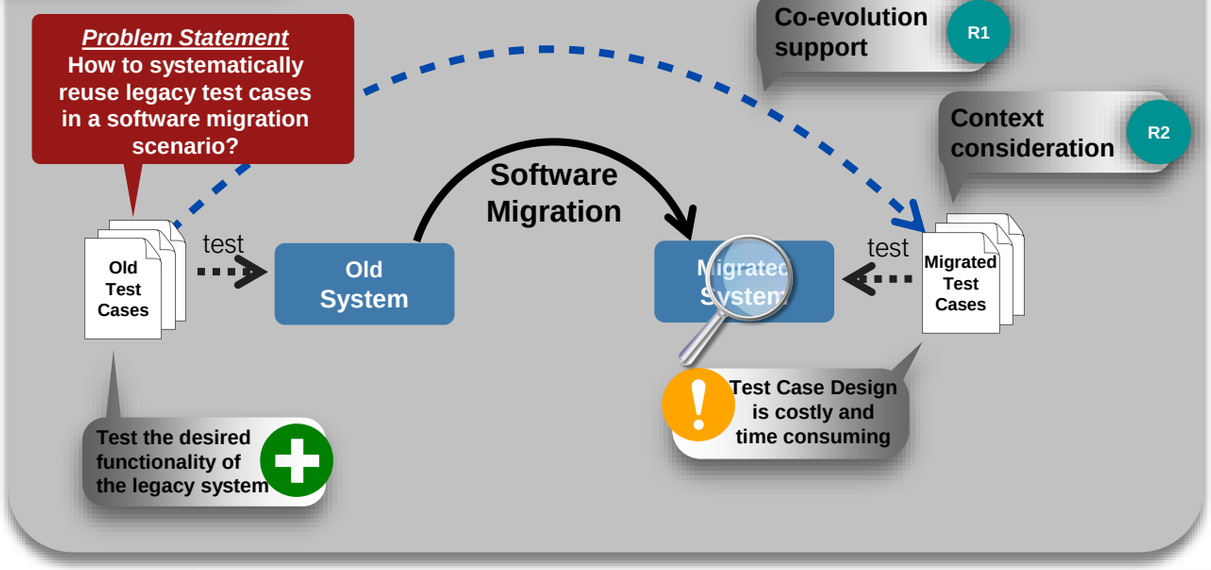
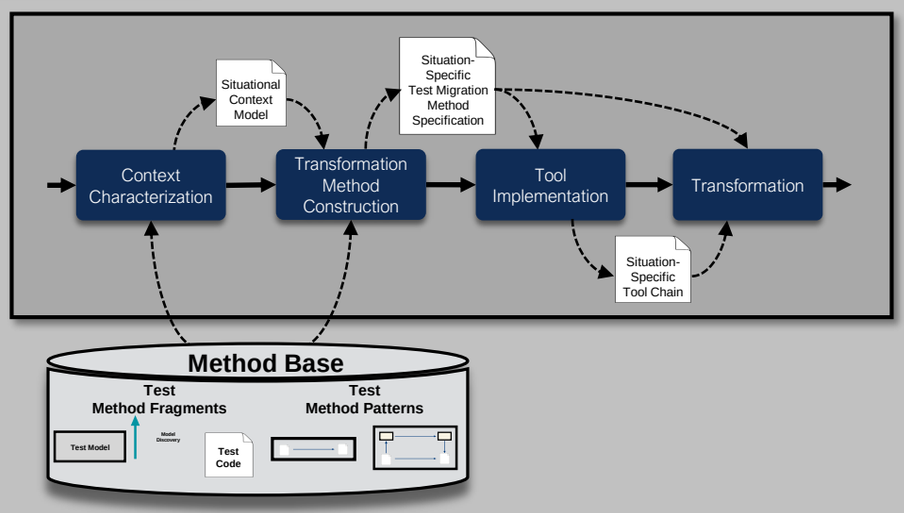
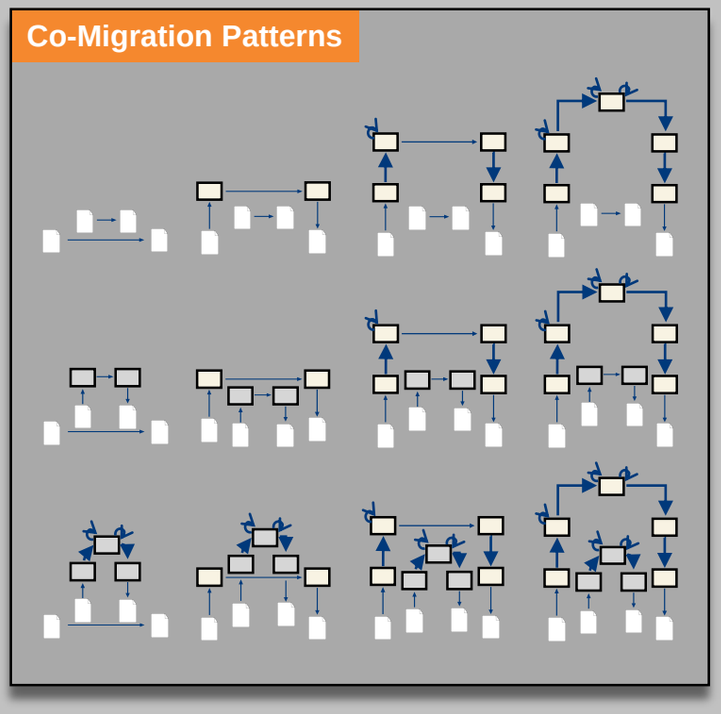
Problem Domain



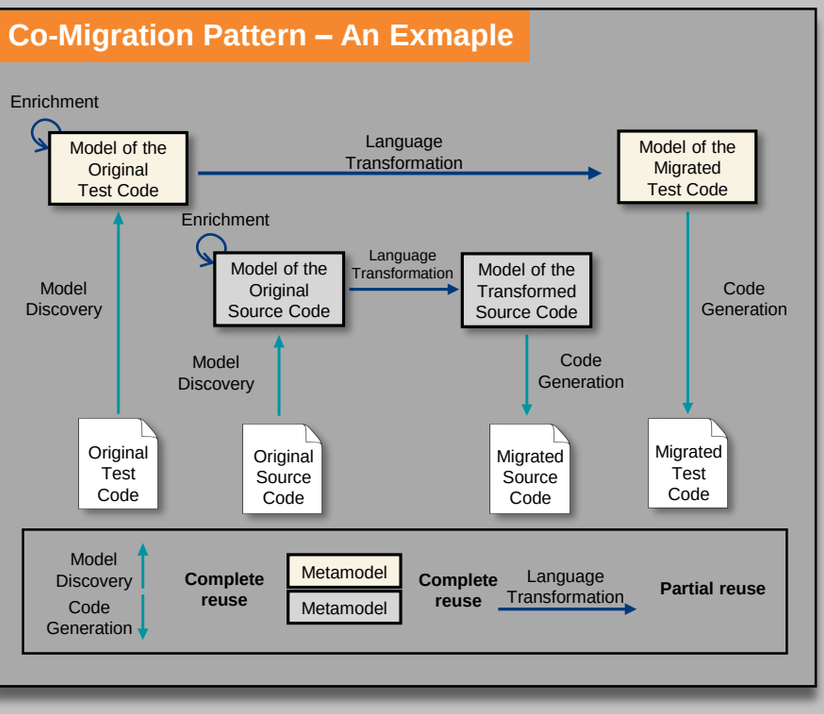
Sketched our approach



Co-Migration Patterns



Co-Migration Pattern – An Exmaple



Comprehensive discussion on the practical application

Vielen Dank für Ihre Aufmerksamkeit

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