

PLEASE2013

4th International Workshop on Product Line Approaches in Software Engineering, May 20, San Francisco, California
held in conjunction with the 35th International Conference on Software Engineering (ICSE 2013)

Domain Analysis for Mining Software Repositories: Towards Feature-Based DSL Construction

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Contact Profile

- **Authors**

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- Kyushu University, Fukuoka, Japan

- **Focus and Interests**

- Mining Software Repositories (MSR)
- Domain Specific Languages (DSL)
- Software Product Lines (SPL)
- Formal Methods and Verification

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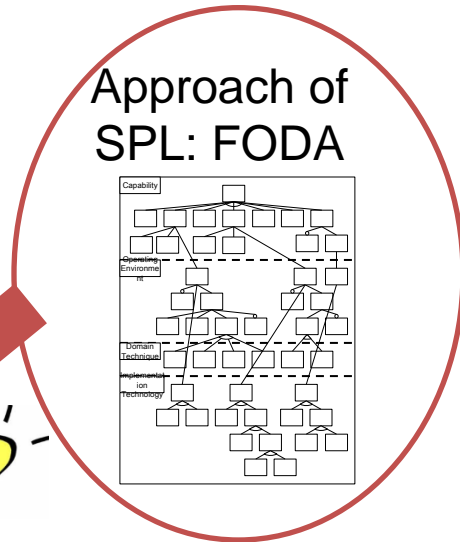
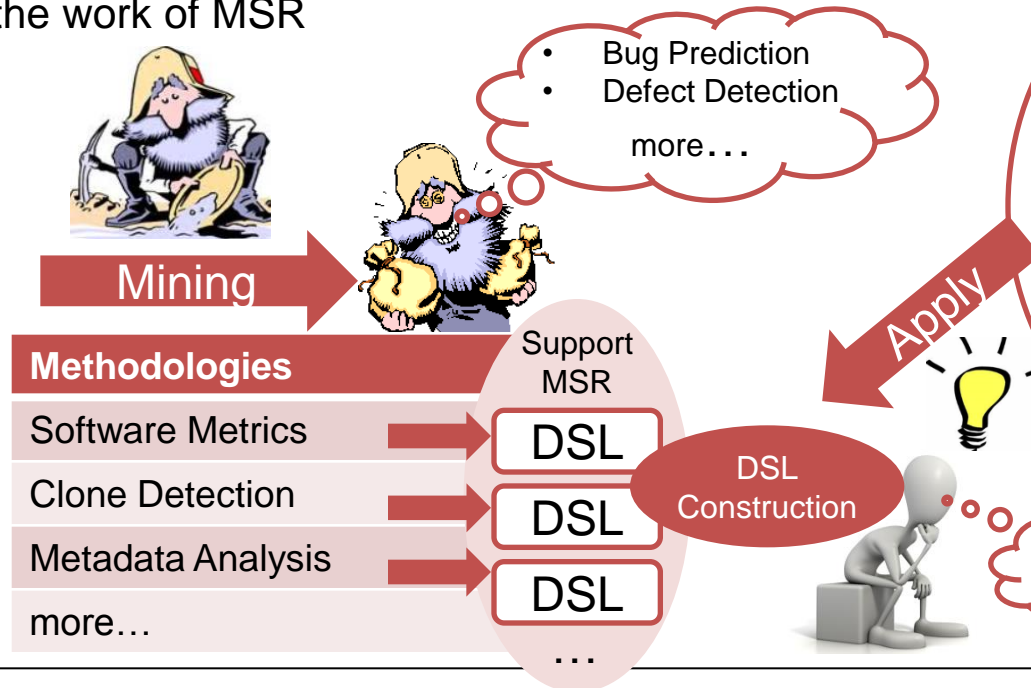
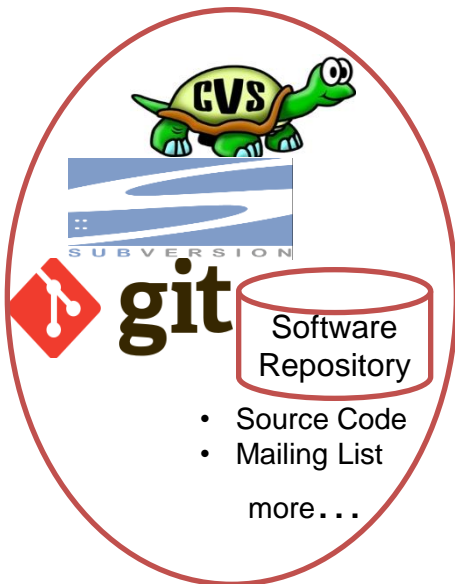
Contact Profile (cont.)

- **Objectives and Looking for**
 - What are you looking for at the workshop?
 - Getting feedback about the feasibility of our research
 - Discussing interesting ideas or methods of domain analysis and product line evolution
 - Contacting with other researchers who share similar study interests
 - What are your PLEASE 2013 “success criteria”?
 - Inspirations for our research
 - Establishing research cooperation

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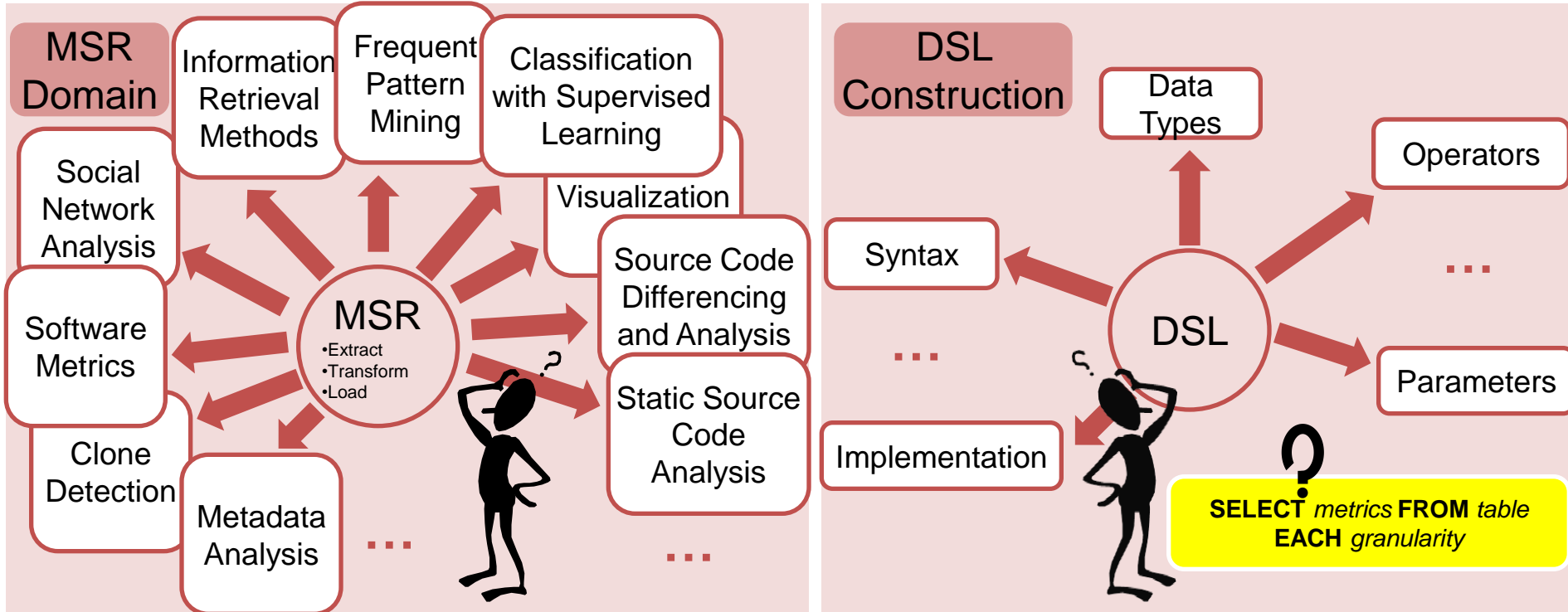
Product Line

- Mining Software Repositories (MSR)
 - Analyse software repositories
 - Discover meaningful information and support software development
- Domain Specific Languages (DSL)
 - To support the work of MSR



The Problem

- Variability and Commonality of MSR Domain
- Variability and Commonality of DSL Construction

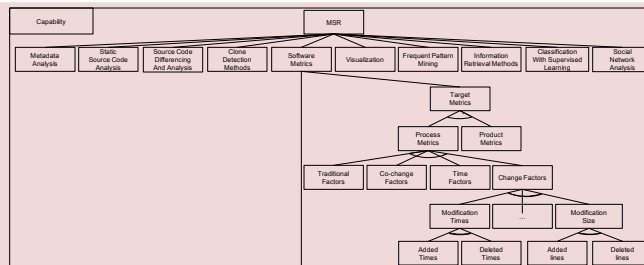


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Current Solution

- Feature Modelling Inspired by FODA

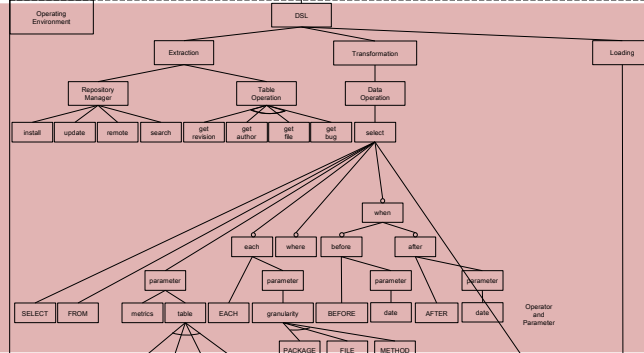
Capability



Various Methodologies of MSR

Variability and Commonality of MSR

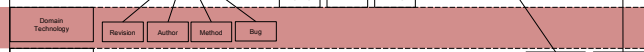
Operating Environment



- Syntax of DSL
- Operators
- Parameters

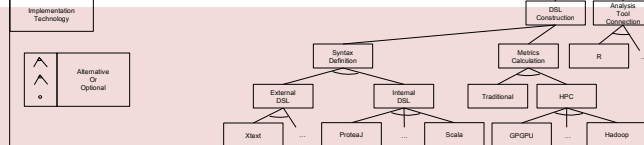
Variability and Commonality of DSL Construction

Domain Technology



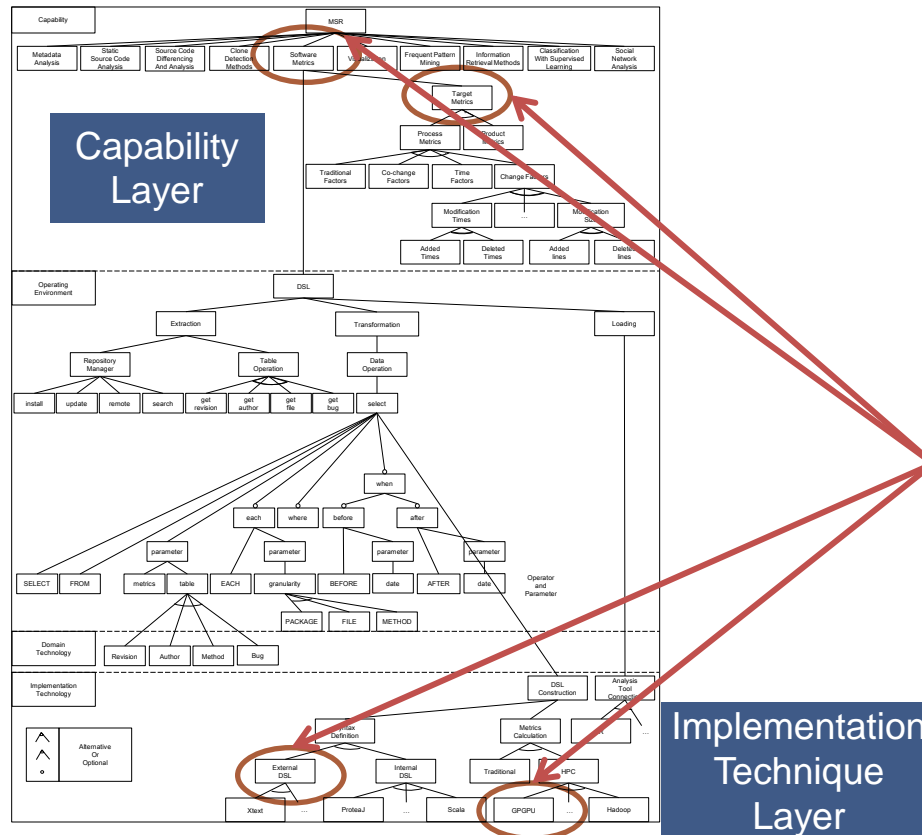
Data Types

Implementation Technique



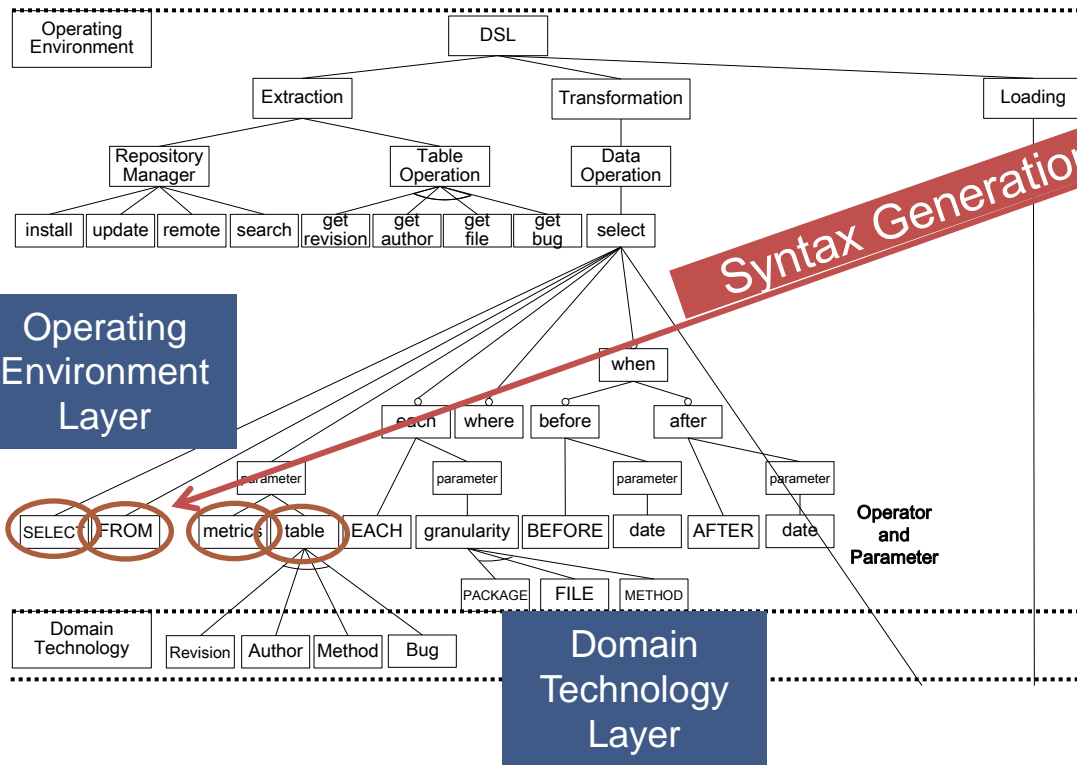
Why is it interesting?

- Final Goal: Automated Construction of DSL



Why is it interesting? (cont.)

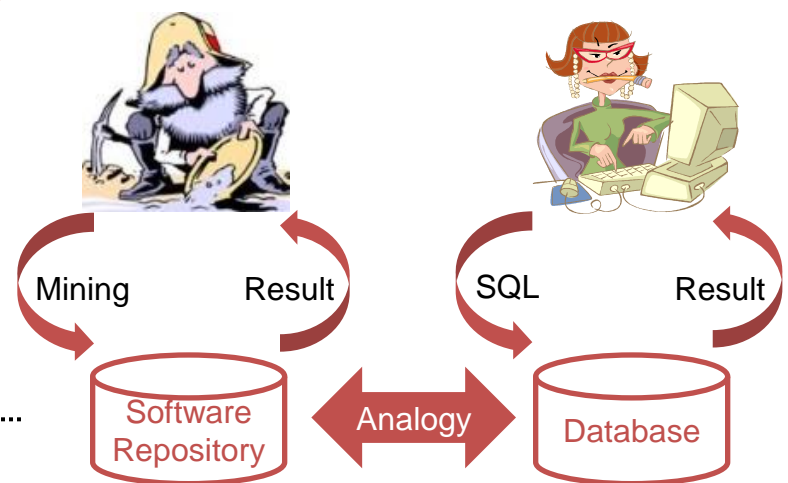
- Final Goal: Automated Construction of DSL



SQL-like DSL:

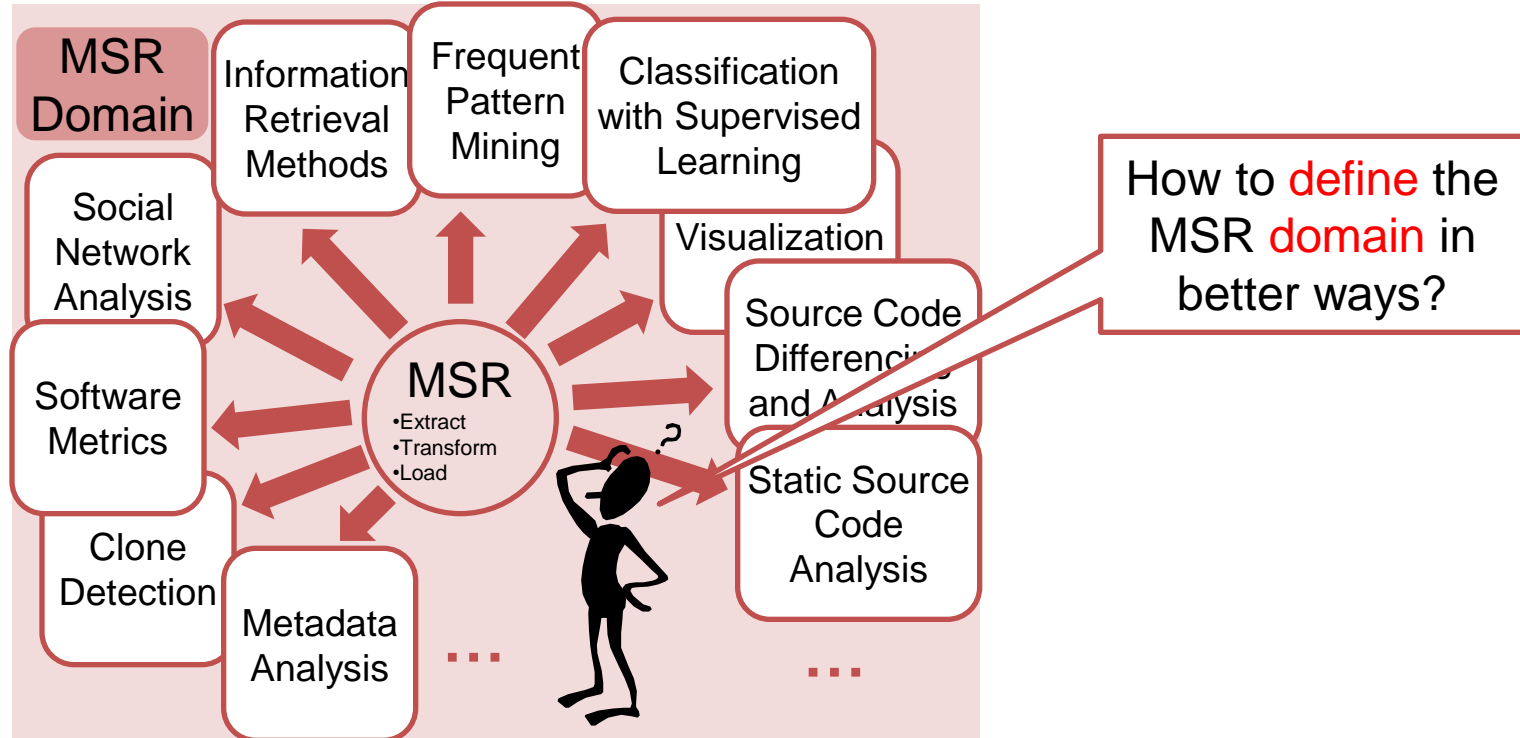
```
SELECT metrics FROM table
EACH granularity
```

Syntax Generation



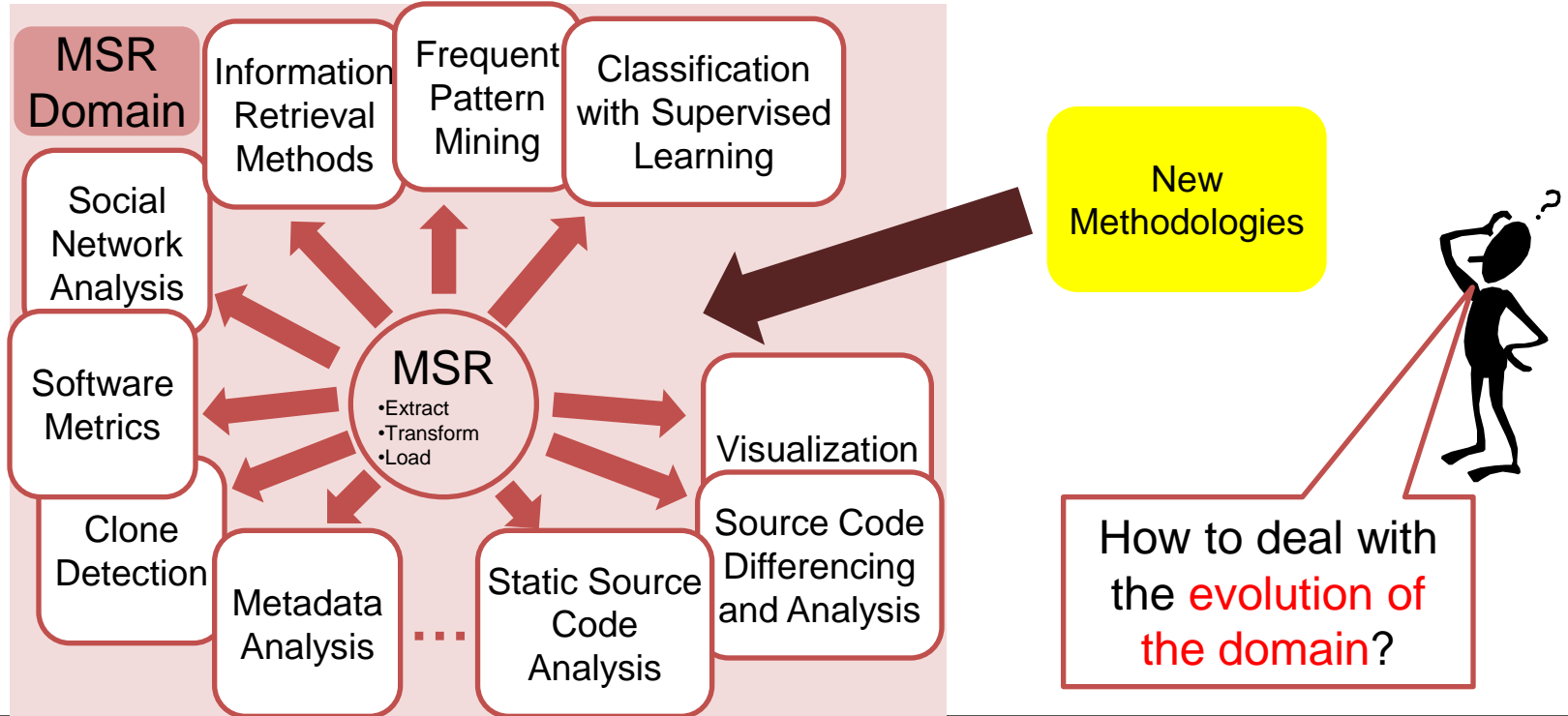
Discussion

- Migration Towards Product Lines
– Domain Analysis



Discussion (cont.)

- Migration Towards Product Lines
 - SPL Evolution



Potential Collaborations

Authors	Title
Simon Urli, Sebastien Mosser, Mireille Blay-Fornarino and Philippe Collet	How to exploit domain knowledge in multi product lines?
Jocelyn Simmonds, María Cecilia Bastarrica, Luis Silvestre and Alcides Quispe	Variability in Software Process Models: Requirements for Adoption in Industrial Settings
Bo Zhang and Martin Becker	RECoVar: A Solution Framework towards Reverse Engineering Variability
Grady Campbell	Products as Product Lines
Sachin Patel, Priya Gupta and Vipul Shah	Feature Interaction Testing of Variability Intensive Systems
More...	

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Thank you!