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Behavioural Model-Driven Validation of Software Product Lines

Devroey, Xavier; Perrouin, Gilles; Schobbens, Pierre; Heymans, Patrick; Baudry, Benoit

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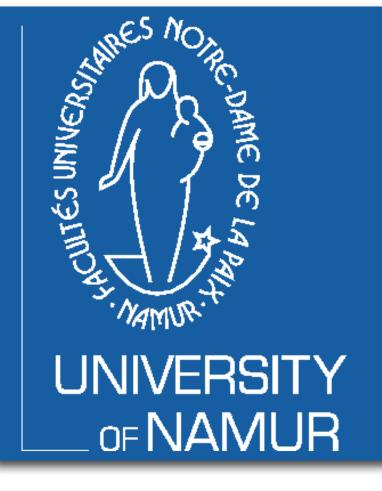
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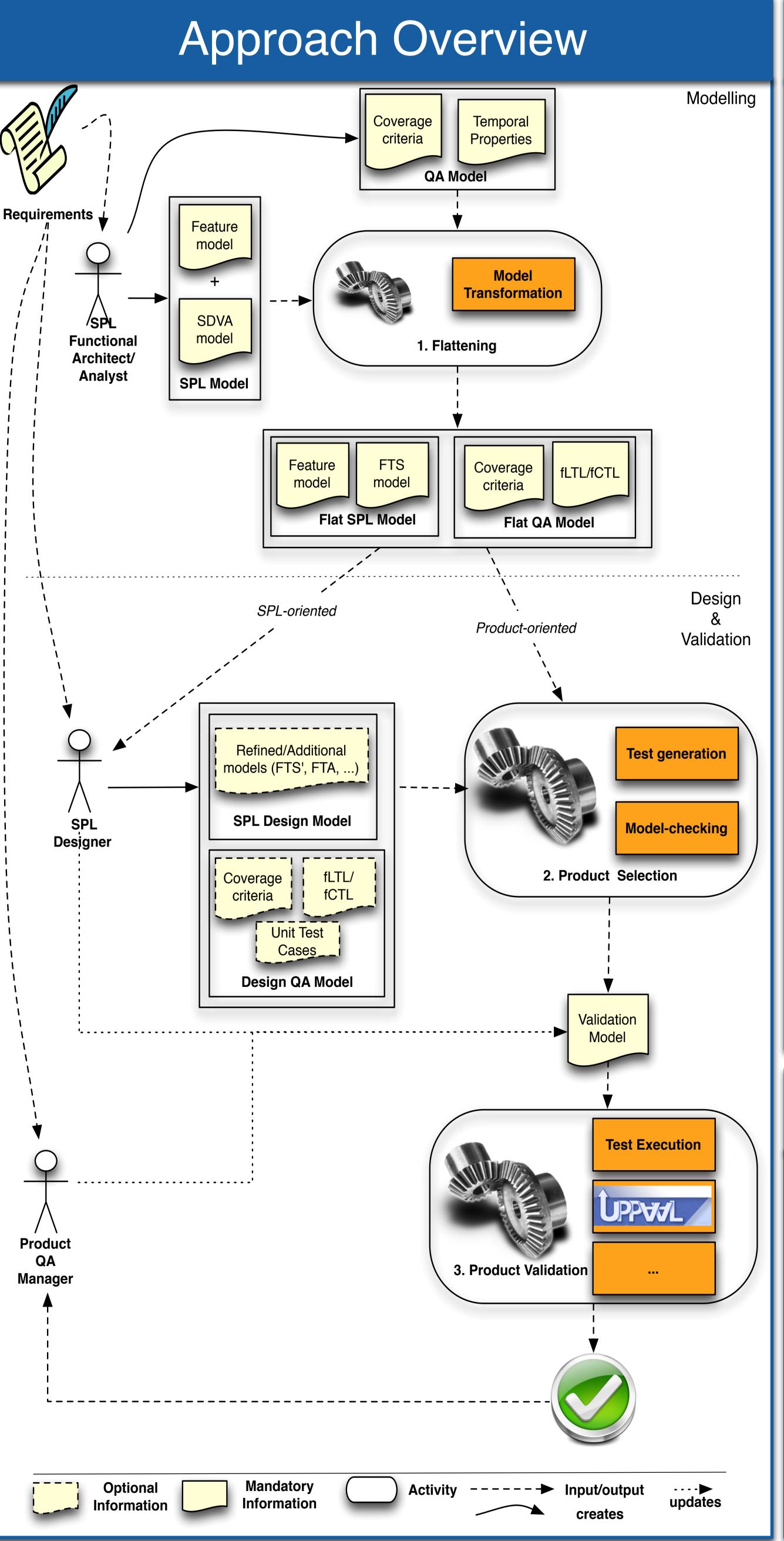
X. Devroey, G. Perrouin, P-Y. Schobbens, P. Heymans, B. Baudry (INRIA Rennes)

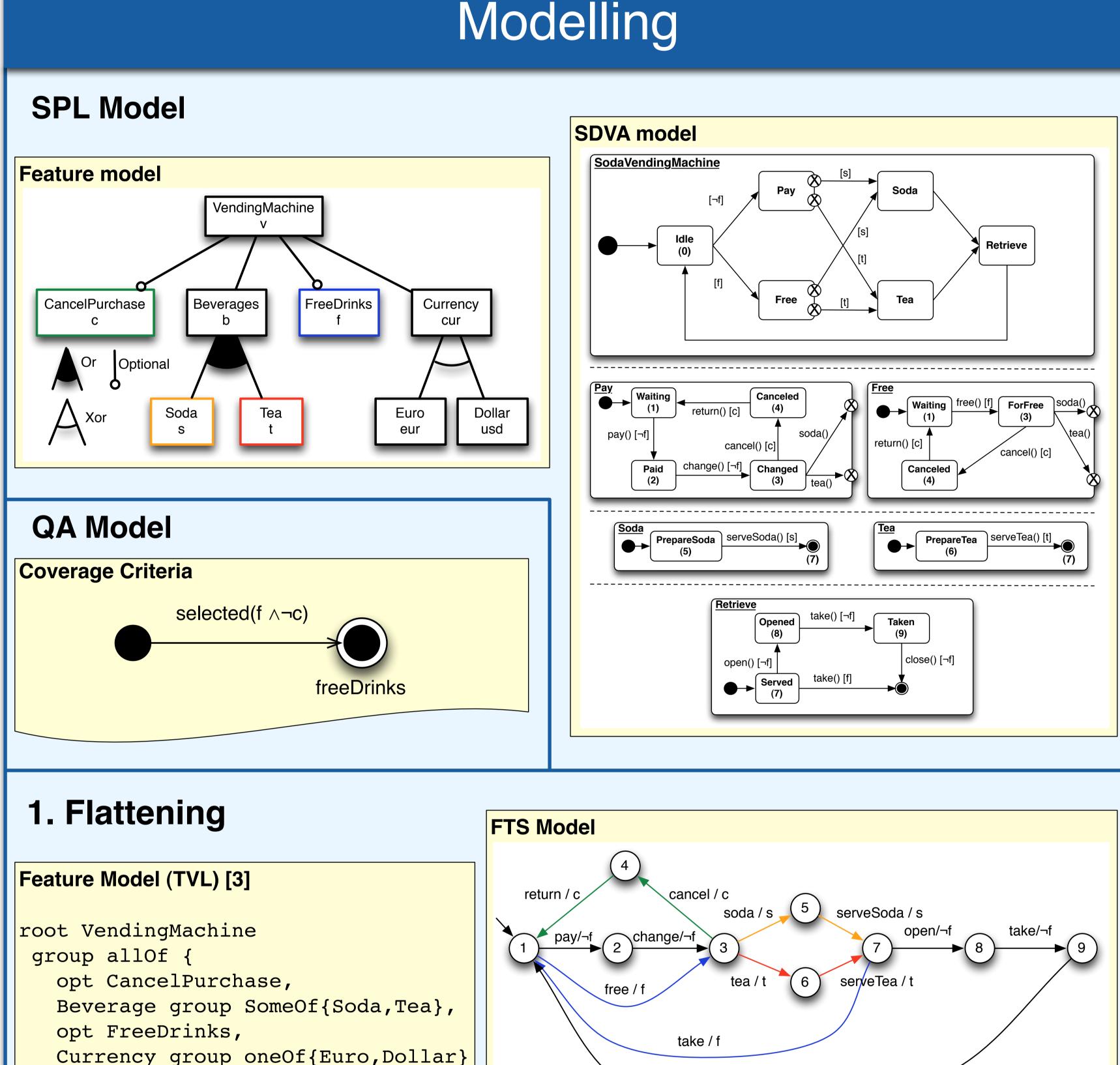
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Collaborators: M. Cordy, E-Y. Kang, A. Legay (INRIA Rennes)

Highlights

- Combining Model-checking and Test-case Generation techniques in a Model-driven [2,4] Quality Assurance Framework
- Focus on Variability-aware Behavioural Models
- Formal Foundations (e.g. Featured Transition Systems [1]) suitable for Analysis and Checking
- Human-centric: Easily Understandable Input Models, Test Criteria and Results





Design & Validation

close/¬f

2. Product Selection:

Selection of relevant test-cases and/or products using:

- Test Coverage algorithms
- Model Checking techniques [1]
- 3. Product Validation:
- ✓ SPL-oriented: seeks exhaustiveness at SPL level using refined FTS
- ➤ Product-oriented: relies on the QA product manager's knowledge for in-depth validation

Ongoing and future work

- Define State Diagram Variability Analysis (SDVA)
- Define coverage criteria language
- Define and implement appropriate flattening algorithm
- Propose test reduction and generation techniques
- Validate the human focus through specific case studies

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Contact: xavier.devroey@fundp.ac.be