Interactive Visualization of Modifications in Software Models

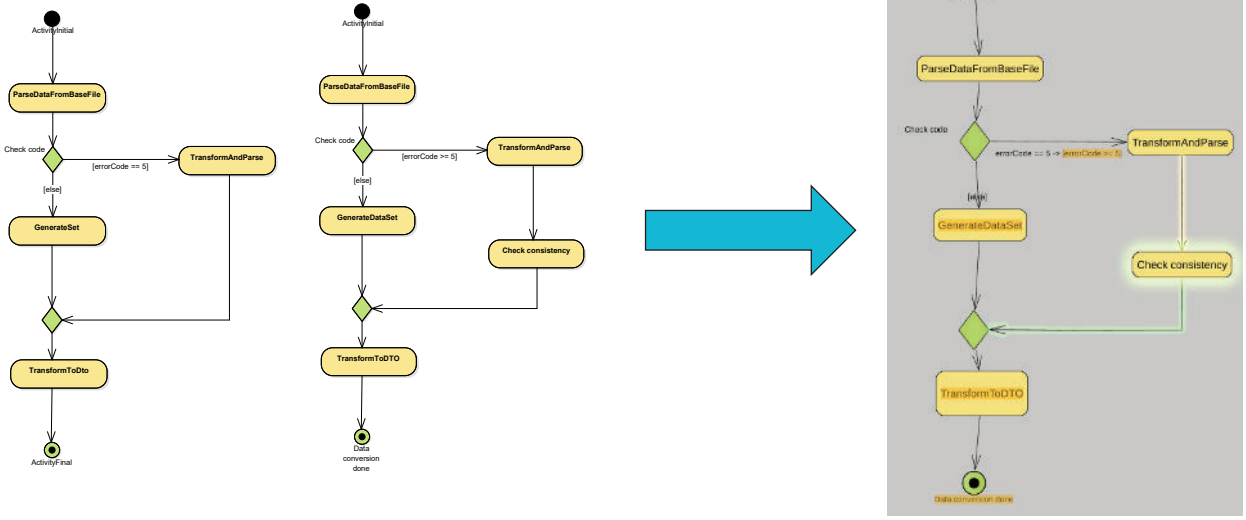
Jakub Ondik
supervisor: Dr. Karol Rástočný
Slovak University of Technology

Motivation

- Evolution of software models
  - Provide information about modifications for both software analysts and developers
  - Traceability of customer's requests
- Provide basis for source code modifications which need to be propagated from models
- Support for team discussion

Visualization of Modifications

- Existing solutions
  - Table View
  - Side by side comparison
- Our method
  - Single diagram visualization
  - Lesser cognitive load



Evaluation

- 9 participants, 5 diagrams
- First day - A and B versions side by side
- Second day - our method

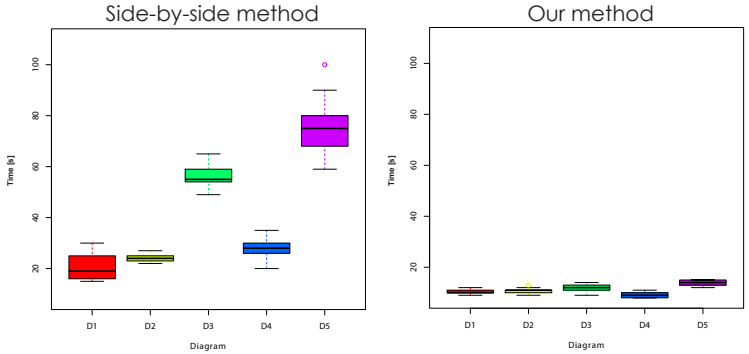


Diagram	Side-by-side [s]	Our method [s]	Improvement
D1	19	10	43.36%
D2	24	11	54.16%
D3	55	12	78.18%
D4	28	9	67.86%
D5	75	14	81.33%

Conclusions

- Our method provides faster identification of modifications in software models
- As a basis for visualization, we have created a modifications detection method for UML
- Future work can consist of adding wider range of supported diagram types and evaluation in an industrial environment