Model-Based Development and Continuous Integration

Project acronym: MoDeCI
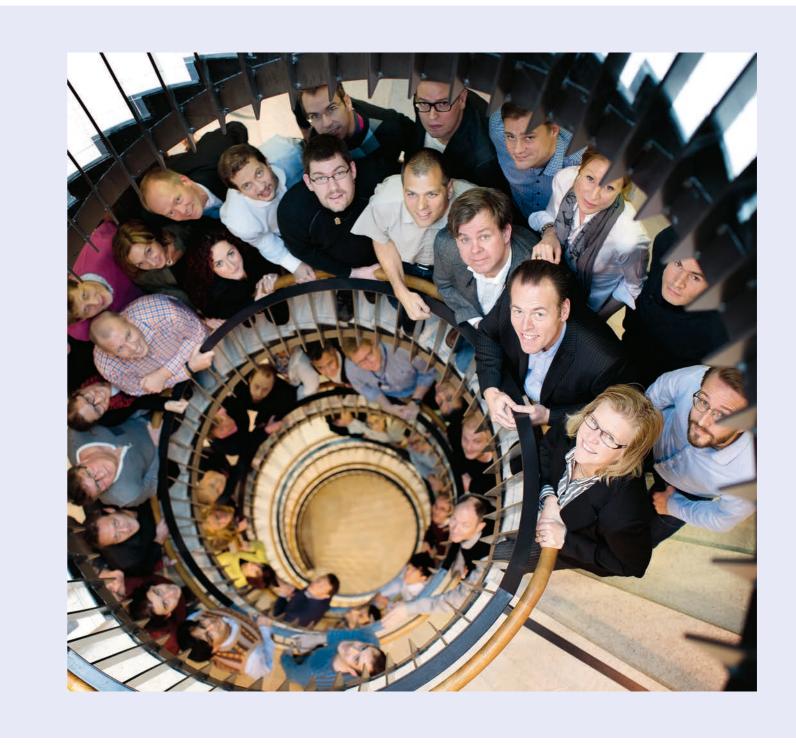
Research theme: Continuous Architecture

Project number: Software Center #32

Partners: Saab AB
Volvo Construction Equipment
Mälardalen University

Summary

The long-term goal of this project is to identify key factors that hinder the introduction of Continuous Integration (CI) practices in model-based development (MBD), and to develop methods, techniques and tools to help alleviate them.

Results from this sprint

We identified relevant features of tools to support the combination of CI and MBD. A **tool review** showed an immature level of support in several modeling tools for some of the identified features: model versioning, automation in CI pipelines, automated testing, code generation and co-evolution.

Additionally, we designed an **interview study**. Engineers at both participating companies will be interviewed to identify their viewpoints on combining CI and MBD and their perceived impediments towards introducing practices such as frequent integrations, automated builds and -tests in their MBD projects.

Plans for next sprint

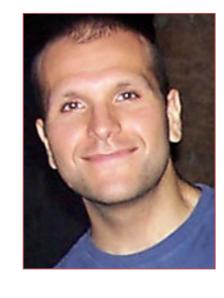The planned work in the upcoming sprint will focus on the following three main directions:

1. *Workshop paper:* Describing the results of the tool review from this sprint.
2. *Interview study*: Identifying impediments to combining CI and MBD as perceived by practitioners at both industry partners.
3. *Case study:* Identifying hindering factors when applying CI practices in an emulated MBD project.

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Contact us:

Jan Carlson
jan.carlson@mdh.se
+46 21 151722

Antonio Cicchetti
antonio.cicchetti@mdh.se
+46 21 151762

Federico Ciccozzi
federico.ciccozzi@mdh.se
+46 21 151736

Robbert Jongeling
robbert.jongeling@mdh.se
+46 73 6621695

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