

WP2

“Modelling Languages & Restructuring”

MoVES Annual Meeting
University of Brussels, Belgium
Monday, December 7th 2011

MOVES

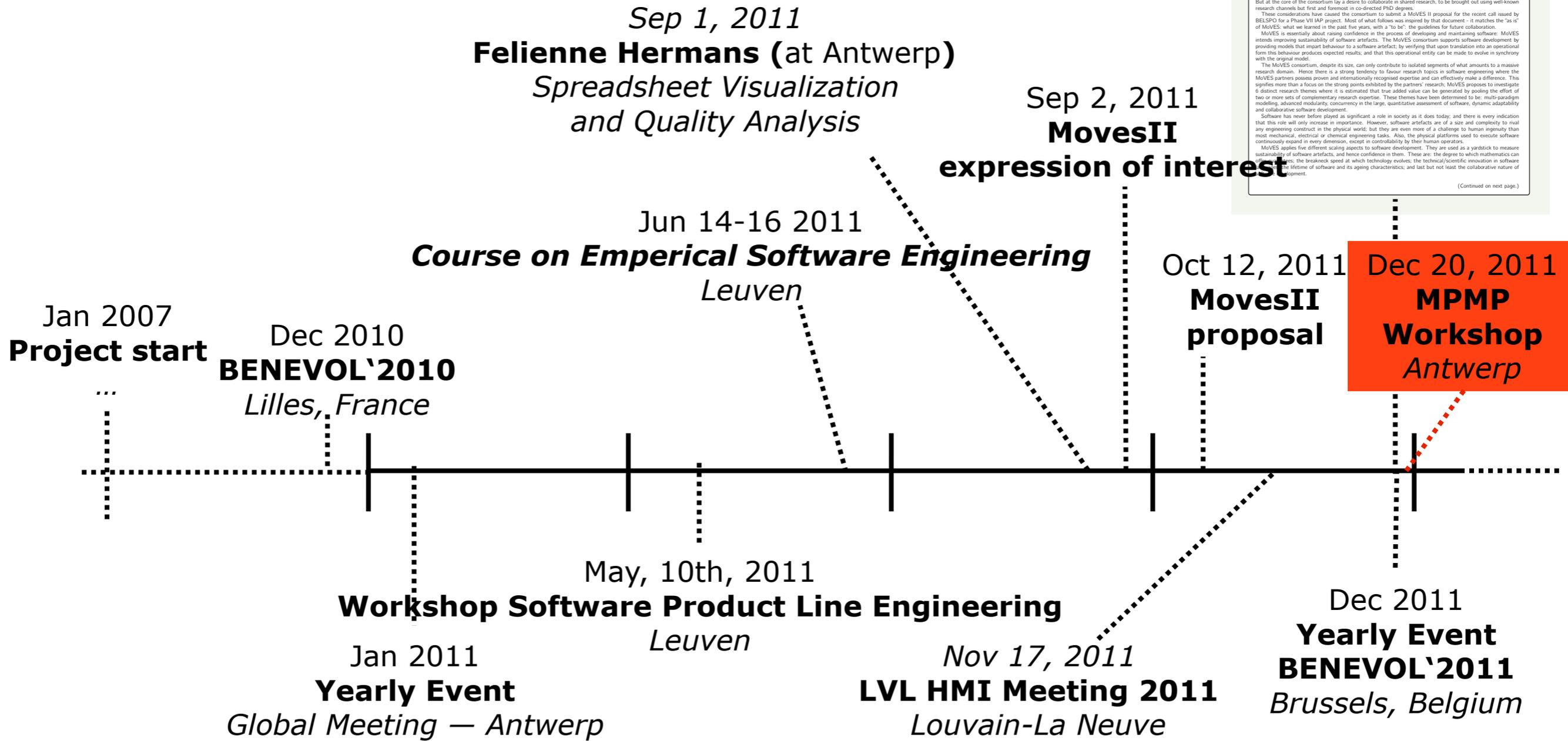
Modelling, Verification and Evolution of Software

Participants

- WP leader: UA (Prof. Serge Demeyer)
- VUB
- FUNDP
- KUL
- TUDelft (EU Partner)
- UCL
- UMons (Associated Partner)

Timeline

(local and semi-local events)



Editorial

Dear Reader,

At the end of these past five years of MoVES as an instance of Phase VI of the Belgian Federal IAP programme, it is proper to consider past, present and future of the consortium.

When the different partners assembled for the first time six years ago to consider submitting a project proposal, there were quite a few more questions than certainties about the mission of MoVES. But the consortium started with a unique pool of researchers specialised in advanced software engineering. It brought together 8 research teams from Belgian universities and in a supporting role teams from France and the Netherlands. These teams varied in size, age and research objectives, some deserved the status "emerging" while some had been in existence for 20 years. Prior contacts were informal at best and only in selected cases had led to tangible collaborations. Despite this fact, we can today safely state that MoVES has been an unqualified success: it resulted in bringing research groups from all over the country together in the exact sense that the IAP programme pursues.

Because there lies the true power of the MoVES consortium: bringing together multiple teams that previously had limited contact and produce a multiplier effect that was unattainable in the absence of MoVES. Possibilities were legion: shared participation in and organisation of conferences, workshops, summer schools; shared PhD programme events; shared dissemination of results using paper and digital media; branding MoVES at an international level. But at the core of the consortium lay a desire to collaborate in shared research, to be brought out using well-known research channels but first and foremost in co-directed PhD degrees.

These considerations have caused the consortium to submit a MoVES II proposal for the recent call issued by BELSPO for a Phase VII IAP project. Most of what follows was inspired by that document - it matches the "as is" of MoVES, what we learned in the past five years, with a "to be", the guidelines for future collaboration.

MoVES is essentially about raising confidence in the process of developing and maintaining software. MoVES intends improving sustainability of software artefacts. The MoVES consortium supports software development by providing models that impart behaviour to a software artefact; by verifying that upon transition into an operational form this behaviour produces expected results; and that this operational entity can be made to evolve in synchrony with the original model.

The MoVES consortium, despite its size, can only contribute to isolated segments of what amounts to a massive research domain. Hence there is a strong tendency to favour research topics in software engineering where the MoVES partners possess proven and internationally recognised expertise and can effectively make a difference. This signifies more than a focus on the strong points exhibited by the partners' research; MoVES proposes to investigate 6 distinct research themes where it is estimated that true added value can be generated by pooling the effort of two or more sets of complementary research expertise. These themes have been determined to be: multi-paradigm modeling; advanced modularity; concurrency in the large; quantitative assessment of software; dynamic adaptability and collaborative software development.

Software has never before played as significant a role in society as it does today, and there is every indication that this role will only increase in importance. However, software artefacts are of a size and complexity to rival any engineering construct in the physical world, but they are even more of a challenge to human signmity than most mechanical, electrical or chemical engineering tasks. Also, the physical platforms used to execute software continuously expand in every dimension, except in controllability by their human operators.

MoVES applies five different scaling aspects to software development. They are used as a yardstick to measure sustainability of software artefacts, and hence confidence in them. These are: the degree to which mathematics can be applied; the breakneck speed at which technology evolves; the technical/scientific innovation in software development; the lifetime of software and its ageing characteristics; and last but not least the collaborative nature of development.

(Continued on next page.)

Joint Papers

- Andy Zaidman (TUDelft) & Serge Demeyer (UA) & et. al.
 - Journal paper "Studying the co-evolution of production and test code ...",
In International Journal on Empirical Software Engineering
 - *Culmination of productive string of work*
 - *Reported earlier, but finally published !*
- Aram Hovsepyan (KUL) & Serge Demeyer (UA) & et. al.
 - paper accepted at 2011 ESEM (Symposium on Empirical Software Engineering and Measurement)
 - paper accepted at ESCOT workshop (co-located with ECOOP'2011)
 - PhD of Aram Hovsepan
 - *MoVES network needed for expertise + for conducting empirical studies*
- Mathieu Acher, Anthony Cleve (FUNDP), Philippe Collet, Philippe Merle, Laurence Duchien (INRIA) and Philippe Lahire
 - Reverse Engineering Architectural Feature Models (ECSA 2011)
 - *Result of post-doc mobility*
- Andy Zaidman (TUDelft), Johan Brichau (UCL)
 - Preface to the special issue on software evolution, adaptability and variability. Sci. Comput. Program.
 - *Best papers from BENEVOL series*
- Sylvain Degrandart, Serge Demeyer (UA), Jan Van den Bergh, Tom Mens (UMons)
 - *Submitted to SOSYM, Special Issue: SW & System Modeling with Graph transformations — major revisions*
 - *result from co-tutelle*

Research Artefacts

- Joint work on common case for “Mobile City Guide” (Context sensitivity)
UCL, UMons, UA
 - Appendix of PhD Sylvain Degrandart
 - Inspired by Mons Cultural Capital of Europe 2015
 - co-tutelle UA - Mons
- Project assignment for students @ UCL, Mons and VUB
 - (BA3 - Software Engineering)

Int'l Workshops

(at least one MoVES partner in organizing committee)

- IWPSE-EVOL 2011
 - co-located with ESEC/FSE 2011 Szeged, Hungary, Sept 5-6, 2011
- AOSD-VariComp 2011
 - Co-located with AOSD 2011, Porto de Galinhas, Brazil, 21 March 2011
- AOSD-VariComp 2012
 - Co-located with AOSD 2012, Potsdam, Germany, 26 March 2012
- ACES-MB (Workshop on Model Based Architecting and Construction of Embedded Systems)
 - Co-located, with MoDELS Wellington, New Zealand, 18 October 2011
- MPM 2011 (Multi-Paradigm Modelling)
 - Co-located, with MoDELS Wellington, New Zealand, 18 October 2011
- CAMPaM, 2011 (Computer Automated Multi-Paradigm Modelling)
 - McGill's Bellairs research institute, Barbados, 15-22 April