

We undersigned would like to nominate the following paper for an SPLC Most Influential Paper Award:

“Using Feature Diagrams with Context Variability to Model Multiple Product Lines for Software Supply Chains”, by Herman Hartmann and Tim Trew, presented at SPLC 2008.

This was one of the first papers to discuss context variability, and the first paper that represents context explicitly in a feature model. This work solves an existing problem in the industry, thus contributing to the application of feature modelling. The paper provided a new concept in feature modelling, which provided a solid foundation for further research in several areas.

Since feature models often become large and have complex dependencies, the configuration process becomes problematic and structuring feature models has therefore been a continuous topic of research since its inception. The work in this paper allows for a systematic derivation of a product that fits within its environment (Ali et al. IST 2013) and work by subsequent authors have provided an algebraic foundation for this approach (Batory & Shepherd University of Texas 2011). This work also clearly illustrated the problem of multiple product lines and presented an elegant solution, for which other have provided a theoretical foundation and additional practical support (Acher PhD Thesis 2011). This paper identified the challenges and provided a solution for merging overlapping feature models, which has been improved and implemented in tools by subsequent authors (Acher et al. SCP journal 2013). Furthermore, it is used to facilitate a better understanding of contextual information in requirements (e.g. Tun et al. SPLC2009) and to structure variability (Heuer & Pohl Vamos2014).

More recent work in product lines has focused on context aware and dynamic product lines. Here the system must adapt at run time to a changing context. The explicit modelling of the variability of the context has shown to be instrumental in this emerging area. While the work in this paper provided examples of static configuration, it has also proved, without fundamental changes, to be an effective modelling approach for dynamic configuration. Prior to this paper, there was little consensus as to how feature modelling could capture context in dynamic product lines; this paper provided a modelling approach that achieves this. The approach has been adopted and developed further by numerous researchers (Acher et al. Models2009, Capilla et al. IEEE Computer 2014, Bosch et al. IEEE Software 2015, Mens et al. COP'16).

The modelling approach in this paper is intuitive and straightforward. Therefore, it has quickly been adopted by practitioners and included in various courses and text books (e.g. Kang & Lee Variability Modeling 2013, Sheng et al. CRC 2017).

We strongly support the nomination of this paper. It has shown to be instrumental in the structuring of feature modelling, has been the basis for variability modelling in context aware systems and has been quickly adopted by the industry.

Raian Ali (Bournemouth University, United Kingdom)
Mathieu Acher (University of Rennes I, France)
Rafael Capilla (Rey Juan Carlos University, Spain)
Kim Mens (University of Louvain, Belgium)