Where Are My Constraints and What Do They Constrain?

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Abstract.   The adoption of product lines in industrial practice is challenged by feature interactions. In theory, adding a single feature to a product line can double the number of products. In practice, constraints between the features drastically limit the number of useful products. Where do we find those constraints? What do we do with those constraints? And where on earth are all the smart technologies that help our overwhelmed engineers? Since 2007, I am involved in the development of FeatureIDE. In this keynote, I would like to share experiences made with product-line research and its application to industrial practice.

About Thomas Thüm.   Thomas Thüm is a professor for the Construction and Analysis of Secure Software Systems at the University of Ulm since January 2020. His research interests range from Software Engineering and Formal Methods to Artificial Intelligence and Security. In particular, his research focuses on variability and evolution of software systems. From 2015 to 2019, he was a postdoctoral researcher at the TU Braunschweig in Ina Schaefer's institute. He received his Ph.D. in 2015 from the University of Magdeburg under the supervision of Gunter Saake. His Ph.D. thesis received the Dissertation Award 2015 of the University of Magdeburg and his master's thesis the Software Engineering Award 2011 of the Ernst Denert Foundation. He coauthored more than 100 peer-reviewed publications and is known for his contributions to the famous open-source project FeatureIDE. Since 2020, he is an associate editor for ACM Transactions on Software Engineering and Methodology (TOSEM).