Composition as a Data Problem

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The composition of separately sourced artifacts is at the heart of most systems, including software systems. However, the approach to use peer-to-peer composition of truly independently created components has mostly failed - and so has the attempt to create markets for such components. At the same time, we can observe an explosive growth of component frameworks that travel under many different names, but that all enable the asymmetric composition of dedicated components that plug into such frameworks. Popular examples include plug-ins for developer tools or apps for consumer platforms. Such components thrive in for-pay markets, as ad-supported free and "freemium" offerings, and as open-source projects. A more recent trend is to move from scripted composition of components to scripted adaptation of data. This move from code scripting to data mashups is empowering as it enables a much larger group of people to address their own needs. In this talk I will tour the development from component models to component frameworks to data composition and conclude with a demo of some recent work done in the ongoing project code-named "Montego".

About the Speaker
Clemens Szyperski holds a Masters in Electrical Engineering / Computer Engineering from RWTH Aachen, Germany, and a PhD in Computer Science from ETH Zurich, Switzerland. He has worked as an entrepreneur (co-founder of Oberon microsystems and its spin-off Myriad Group), as an academic researcher (ICSI postdoc scholarship at UC Berkeley, California and associate professor at QUT, Australia), as a consultant, as an industrial researcher (Microsoft Research), and as a software engineer in various roles (architect, development engineer, development lead at Microsoft). Clemens holds seven patents, with many more pending, and has worked on several products, including the .NET Managed Extensibility Framework (MEF). Clemens has authored a number of influential books (notably, Component Software and Software Ecosystem) and papers. He has served on numerous international program committees and helped create, steer, and run CompArch, a well-established federated conference on software composition and architecture. He has served several international research funding bodies, including the NSF.