

Talk Uwe Aßmann

RoSI Workshop, Wednesday, 28 September 2022, 10:00

Title: Contextual Guarded Programming for Contextual Self-Integrated Systems (CoSIS)

Abstract: Many cases of context-oriented role-based programming can be reduced to guarded programming, in which the guards are arranged in several dimensions of concerns. We present an architectural framework for Contextual Self-Integrated Systems (CoSIS) in which contexts are tested and queried by guards protecting program slices ("contextual guards"). Many current concepts such as roles, feature toggles, aspects, decorator layers and rings can be explained as specific contextual guards in the CoSIS-framework. We also show how two or more CoSIS-style systems can be composed easily, defining a simple class of self-integrating systems. Because contextual guards can be defined in software, hardware, and middleware, they provide a uniform framework for self-integrating computing systems, going far beyond docker-based system composition.