Software Engineering Seminar (WiSe 2020/21)

Formal Design of Self-Adaptive Systems

Description

Designing and evaluating systems that adapt themselves is inherently difficult, therefore methods to aid this are required. To combat this problem one of the most basic options in software engineering is to formally model the system that is supposed to be evaluated. Several different formal modelling methodologies [1, 2, 3] were introduced recently. They tackle the problem by either offering a way to model communication patterns [4] in *self-adaptive systems* [1] or modelling the system using models like petri-nets [2] or timed automata [3].

The goal of this seminar work is to give an overview over the design and challenges of self-adaptive systems. The state-of-art approaches for formal modelling have to be discussed and future work opportunities layed out.

References

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