LECTURE IN WINTER TERM 2014/2015:

FUTURE-PROOF SOFTWARE-SYSTEMS

(Zukunftsfähige Softwaresysteme)

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Salisbury Cathedral: A beautiful example of timeless architecture (© Fotolia, with permission)

LECTURE OBJECTIVES

Software is the fuel which powers most of today's products and services. Their functionality, quality and competitiveness depend on the performance of their software. Banking systems, energy distribution grids, traffic control systems, cars, airplanes, trains, mobile phones, PCs, medical devices – and many more – run on more or less visible software.

Software – and the ability to produce software – has therefore become a key competitive factor in most industries. The quality, development cost, and time-to-market of software often decide over success or failure of a product or service. In order to enable a competitive industry, we need agile, dependable, resilient and affordable systems based on software – which in this lecture are introduced as "future-proof software-systems".

Future-proofness of a software-system is the result of its architecture. Only a well defined, adequate and consistently evolving architecture assures the necessary *business value*, *agility*, *resilience*, and other quality attributes. Fortunately, systems architecture has matured from a "black art" to a well founded system science today. Architecture is taught and implemented using architecture principles. This lecture focuses on the important architecture principles for future-proof software-systems – presenting the "IT architects toolbox".

In addition, the necessary context and the skills of a "future-proof software-systems engineer" are defined and explained. The lecture will contribute to the student's knowledge and skills to become valuable, leading software architects in their future companies.

SCHEDULE

The lecture is delivered Thursday from **11:10 – 14.30** in room **INF/051** on the following dates: 21.10.14; 4.11.14; 18.11.14; 2.12.14; 16.12.14; 13.1.15 and 27.1.15. Lecture language is English.

Please refer to the website of the lecture for short-time changes, for the download of the lecture slides and for additional information: http://st.inf.tu-dresden.de/teaching/fps

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