Design Requirements: Challenges and Approaches

Matthias Jarke
RWTH Aachen University and Fraunhofer FIT
Information Systems, RWTH Aachen University
D-52074 Aachen, Germany
jarke@cs.rwth-aachen.de

One early definition of requirements engineering has been the “establishment of a vision in context”. As software technologies transcend all aspects of life, technology, and business, the contexts to be considered are becoming ever more rich and more dynamic – cyberphysical systems and social software mark just two of the important trends.

The visions are changing as well; for example, attractiveness and excitement factors bring user experience design and marketing to the forefront of competitive advantage that have rarely been considered in RE research. In the financial crisis, we have once again learned how important costs are but we still poorly understand the costing and the financial impacts of complex projects. Systems that cross organizational boundaries require novel ways of requirements negotiations, plus an emphasis on security and trust. And platforms have found their way from the traditional engineering sector into software engineering, albeit with different pro’s and con’s. In sum, the nature of the software-intensive industries is rapidly changing, and in several different directions that seem hard to reconcile.

In a recent paper, based on empirical studies and interdisciplinary debates, some research and practice needs for RE resulting from this “brave new world of design requirements” [1] have been proclaimed, emphasizing the needs for (a) an even deeper understanding of the intertwining of requirements with (organizational) implementation and contexts; (b) better support for the dynamic co-evolution of requirements and architectures/platforms; and (c) better ways to deal with unexpected evolution and emergent phenomena, given the ever growing level of system complexity.

This debate originates in part from HCI, business and architecture research outside the usual RE community. The purpose of the panel at RE 2011 is to explore if and how the above-mentioned challenges have, can, and should influence RE research.

REFERENCES