

Worldwide Network for More Quality

KIT Researchers Involved in GlobaliSE Project: Methods and Tools for Distribute Software Development



Outsourcing is a usual matter in software development, the results are not always satisfactory. (Photo by: Markus Stark)

Constant lack of skilled workers and growing competitive pressure are forcing medium-sized enterprises in Baden-Württemberg to partly outsource their software development to abroad and to frequently put up with quality deficiencies. These deficiencies shall be eliminated by the GlobaliSE project in which scientists from KIT, the Research Center for Information Technology, and the University of Mannheim cooperate. The project is funded by the state of Baden-Württemberg with an amount of EUR 1.4 million.

The most frequent reason of outsourcing in software development is a lack of skilled workers. Often, the result is far from being satisfactory, explains Professor Ralf Reussner, the coordinator of the project: "If companies are far away from their developers, requirements on the software to be developed often are not fulfilled". Many outsourcing projects fail due to excessive costs resulting from methods that are not suited for distributed software development. According to Reussner, medium-sized enterprises often do not know

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how the quality of the results of outsourced development tasks can be checked systematically. "As large enterprises have more financial means, they can gather experience, and this is necessary." To counteract this clear competitive disadvantage of medium-sized enterprises in terms of outsourcing, more intelligent forms of distributed software development are needed. Software development projects have to be split up in a reasonable manner in order to keep activities worth protecting and needing a close contact to the customer within the country and to outsource non-complex standard tasks. In this way, explains Reussner, "it is possible to secure German jobs and know-how and, at the same time, to make use of synergy effects by an intelligent outsourcing of specific activities to other countries." In addition, it is important that enterprises can further develop their software independently of an external developer. This is the objective of the GlobaliSE project. Economists and information scientists under the direction of professors Reussner and Andreas Oberweis from KIT and the project manager Ralf Trunko from the Research Center for Information Technology analyze the integrated lifecycle of business processes and enterprise software: In the course of a business process, new requirements are constantly made on the software to support this process. The scientists are working on a more efficient derivation of these requirements. At the same time, they want to adapt the process to the technical development and eliminate media breaks, for instance.

GlobaliSE also focuses on distributed quality assurance methods. They shall help to find out which components are responsible for the failure of the software and identify the responsibilities. The scientists intend to implement a certification scheme as it is used in the training sector: "A software inspection scheme is lacking. Often, products are not checked according to standards that have long been common practice in other engineering disciplines", says Reussner.

Several medium-sized enterprises in Baden-Württemberg accompany the project that is part of the state's Research Association on Enterprise Software. This association has been founded to ensure practical relevance of the research results. An advisory board consisting of scientists and representatives of industry provides for the scientific support of the project. Annual public status colloquia will serve as platforms for technology and know-how transfer to industry.

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg that fulfills the tasks of both a university (former Universität Karlsruhe (TH)) and a research institution of the Helmholtz Association (former Forschungszentrum Karlsruhe). KIT is an institution of internationally excellent research and teaching in natural and engineering sciences with 8000 employees and 18500 students. Its annual budget amounts to 700 million Euros. KIT focuses on the knowledge triangle of research – teaching – innovation.

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