

Theses in the area of Sustainability in Information and Communication Systems

Today not only cost should be taken into account when planning, developing, configuring and operating software systems, but also environmental, social, and human sustainability. Sustainability, commonly defined as meeting “the needs of the present without compromising the ability of future generations to satisfy their own needs” (Brundtland et. al 1987), is an important part of society, politics and economics nowadays. Organizations have started to realize that not only cost savings can be reached with sustainability but even long-lasting business success. Thus, next to values like cost, time, and quality, also sustainability is a goal to reach when planning, developing, configuring and operating software systems. Moreover, when developing software systems one needs to take a holistic approach and look at software engineering in its entirety from an engineering viewpoint. Therefore, to integrate sustainability in software systems not only the systems but also the underlying business processes need to be taken into account.

But, in traditional process management and software engineering approaches sustainability and processes are not sufficiently integrated. Sustainability is usually not explicitly described in the relevant process and software development models. In order to realize sustainability awareness in information and communication systems, one must have sustainability conceptualized and integrated into the complete information and communication system lifecycle from the system developing to the underlying business processes.

Possible Thesis titles are:

- Green Business Process Management
- Sustainability Aware Business Process Management
- Modeling Sustainability in Business Processes
- Sustainability in and for Software Engineering
- Sustainable Requirements Engineering
- Conception for a Sustainable Modeling Language
- ...

More details will be provided upon request.

I am really interested in this area and also welcome and personal suggestions. For further information please contact Stefanie Betz (Stefanie.betz@kit.edu, 0721 60844553).

(Thesis can be written in English or German).