Towards an Artifact Model for Requirements to IT-enabled Product Service Systems

Abstract:

The development of IT-enabled product service systems (PSS) - a combination of physical technological elements (products) and service elements - poses various challenges because of their complexity and the involvement of multiple domains. Classical requirements engineering (RE) addresses these problems only insufficiently. This paper proposes an artifact model for the requirements to PSS, which helps in overcoming these problems. The results generated by RE or the development activities are called artifacts. The artifact model defines different types of artifacts and their interrelations. This provides a structure which facilitates the handling of a large number of requirements. The applicability of the presented artifact model is demonstrated in an example where the artifact model is applied to a real-life product. We show that the requirements can be modeled using the artifact model, and that common problems of RE can be avoided in this way.

Intellectual Contribution: