A Tool Suite to Model Service Variability and Resolve It Based on Stakeholder Preferences

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Abstract. Modern information and communication technology creates new possibilities to enable participative, collaborative service design. We present a novel approach of integrating stakeholder preferences into service design. Our approach is based on modeling multiple service configurations, thus including variability into the service design. Stakeholders can evaluate value-relevant service aspects on a web-based deliberation platform. Ultimately, all stakeholder opinions are aggregated to hint the service engineer on the preferred way to implement the service. In this demo we present our tool suite to model services and their variability and the server that handles the opinions stated on the deliberation platform.

Keywords: Service Variability Modeling, Participatory Design, Preferences.

1 Introduction

Participative service design promises valuable input for and increased acceptance of the implemented service. Especially the design of public services, that have tight budget constraints and very large target groups, profits from integrating diverse stakeholder opinions. The COCKPIT project [1] aims to develop a new methodology and corresponding tool suite, shown in this demo, to enable specifically citizens' participation in the design and re-design of public services.

2 Concept, Implementation and Benefits of the Tool Suite

Our tool suite includes the *public service modeler* to capture generic information about the public service, for example stakeholders, requirements or legal information. Additionally, a process modeling component is included to capture the to-be process of the public service. The *Service Feature Model designer (SFM designer)* models variability of a service using *service feature modeling* [2]. *Service*

features represent alternative implementation aspects of the service, for example process elements or resources. Based on a complete service feature model, the *valuation server* automatically constructs an *evaluation* and publishes it on the web-based *deliberation platform*. In a *poll*, stakeholders *vote* on their preferences regarding *attribute types* that describe value-relevant aspects of the service features. The valuation server assesses the vote and immediately feeds back the *service configuration* that ideally matches the stated preferences. At the end of the evaluation, an aggregated preference is provided to continue the service design under consideration of all collected opinions. The great benefit of our tool suite is that it provides an integrated approach wherein the collected stakeholder opinions are directly matched to service design choices.
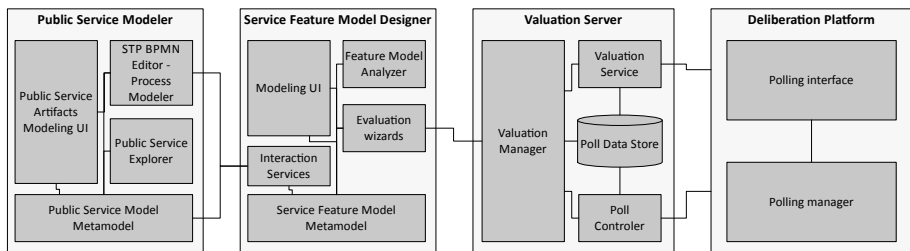

Fig. 1. Architecture overview of the tool suite

Figure 1 shows the tool suite's components and their relationships. REST interfaces realize the interaction between the valuation server and the other components.

3   Demonstration Overview

The demonstration shows how the overall toolkit can be utilized to support stakeholder integration in the modeling of a scenario from the COCKPIT project. We provide the screen case online[1].

References

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2. Wittern, E., Zirpins, C.: On the Use of Feature Models for Service Design: The Case of Value Representation. In: Cezon, M., Wolfsthal, Y. (eds.) ServiceWave 2010 Workshops. LNCS, vol. 6569, pp. 110–118. Springer, Heidelberg (2011)

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[1] http://www.youtube.com/watch?v=Nyodp4dJk4U