

Service CAD System

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In our laboratory, we are carrying out research in service engineering by focusing on service as an element that adds more value to any product. Service engineering aims at providing engineering methods for analysis, design, and development about service. And also, as an application of service engineering, we propose a service CAD(Computer Aided Design) system(Fig.1)[1], which supports engineers to design services. A prototype system of the service CAD, which is called “Service Explorer,” (Fig.2) has been developed.

Service design is to clarify customer requirements and structures that satisfy those requirements. The concept of service CAD system is based on conventional CAD systems, which are mainly used for physical products. By introducing research result of service engineering, designers can analyze customer requirements and design service on a computer.

Service Explorer can make service visible, can simulate a behavior of service, and can provide a framework to manage knowledge about service. Furthermore, a reasoning function which is based on analogy is available in order to support creative service design. A service case described on various view points is stored in a service case base, and then the data can be used as information among designers and as material for a later service design. In addition, a designer is able to evaluate the service multilaterally. For example, to calculate the customer satisfaction or to analyze the importance of the service elements by using the customer requirements. In order to support decision making, mathematical techniques such as AHP(Analytic Hierarchy Process) method, and Dematel method are employed in these evaluations. A designer is able to improve the service by using the result of evaluations.

Keywords: Service Engineering, Service Design , Service CAD

References

- 1) Arai, T. and Shimomura, Y., Proposal of Service CAD System -A Tool for Service Engineering-, Annals of the CIRP, 53-1, (ISSN 1660-2773), (2004), 397-400.

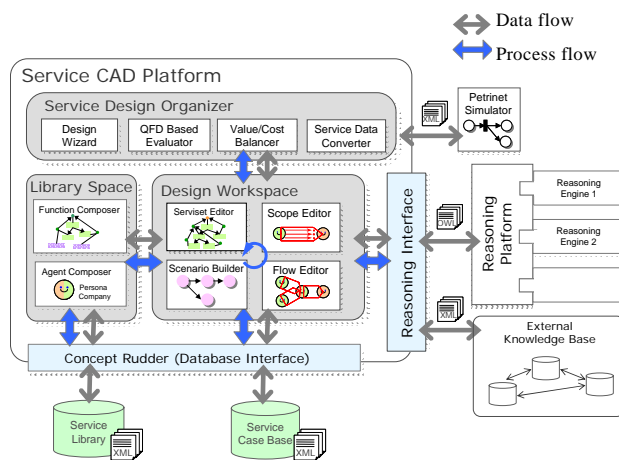


Fig. 1 A concept scheme of service CAD system



Fig. 2 Screenshots of Service Explorer