Service CAD System
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In our laboratory, focusing on service as an element that realizes to develop more added-value product, we are carrying out researches of service engineering, which provides engineering methods for service design, development and manufacturing. As an application of service engineering, we aim at developing a service CAD (Computer Aided Design) system (Fig.1)[1], which supports engineers to design services. The prototype system of a service CAD, which is called "Service Explorer," (Fig.2) has been developed.

By using Service Explorer, a designer can arrange and describe a service by means of the concept of sub models which are called flow, scope and view model [1]. The described service is registered in a service case base. It is expectable that the data is used for information among designers and material for later service design. In addition, by evaluating the service based on QFD (Quality Function Development), the importance of customer's needs are decomposed to the importance of each component of the service. Mathematical techniques such as AHP (Analytic Hierarchy Process) method and Dematel method are employed in the evaluation. A designer is able to improve the flow and/or realization structure of the service by using the evaluation result.

At a moment, the following researches are studied from the view point of supporting service design.

(1)Develop a framework which enables to obtain knowledge about service design from service case base and to manage them properly.

(2)Propose other evaluation methods that include various mathematical technique in order to support decision making in service design.

(3)Develop a mechanism that gives us new design solutions by applying various reasoning to service cases and/or service design knowledge in the database.

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.
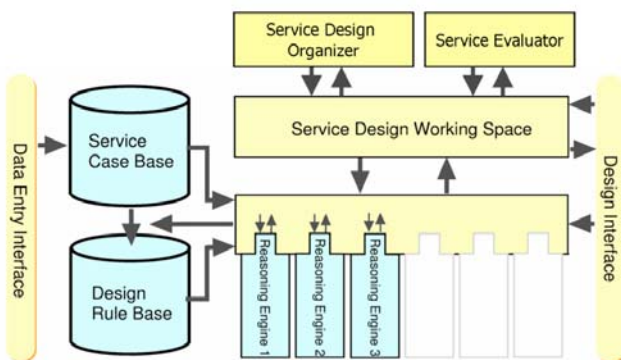
Fig1. A Concept Scheme of Service CAD System   Fig2. Screenshots of Service Explorer