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Author(s)	潘, 永波
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Description	Supervisor: 由井 蘭 隆也, 先端科学技術研究科, 修士 (知識科学)

A Design Pattern to Draw Regional Services and Its Application to Local Residents' Service Design

YONGBO PAN

School of Science of Technology
Japan Advanced Institute of Science and Technology
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Due to the declining birthrate and aging population, and population migration to the metropolitan areas, the regional depopulation problem has been progressing in Japan. The population of the region is unequally distributed and the problem of ageing population continues to grow. Such an aging population in the region causes important issues to support regional maintenance and regional revitalization. In order to solve these regional issues, various regional services are necessary to implement.

First, the fifty cases of the area cooperation services by Yamato Transport were analyzed by the actor diagram, in which three actor has each basic role; a public institution, a delivery company, and local residents. The results showed that 37 case of 50 cases could be sketched by using the three basic actors, and the remained thirteen cases could be sketched by adding new actors.

Next, the service design pattern to design regional services by cooperation between a public institution, an enterprise, and local residents, was developed and the design pattern has the three fundamental guides, described as follows;

(Guide 1) Basic pattern: the basic pattern is constructed by the three basic roles of actors including the Local residents, a public institution, and an enterprise. The

variety of service can be designed with the changes of an enterprise (as third party). (Guide 2) New pattern: the through the increase of new roles, constitute a variety of new regulation services.

(Guide 3) Interaction: an exchange between actors shall be services, goods, money, and so on.

Finally, the service design patterns were used by local residents and university students, living in Ishikawa prefecture and Niigata prefecture, to make a design of regional cooperative service. The results are shown are as follows;

(Result 1) The local residents tend to design regional services related to regional maintenance. The number of service patterns from the local residents are fewer than those from the analysis of the Yamamoto's cases. The local residents didn't design the regional services, such as such as taxes payment, disaster response, sightseeing, and industrial revitalization, appeared in the Yamato company's cases. On the other hand, the local residents proposed four new services, which were related to regional conservation, regional activation, and support for daily life.

(Result 2) Comparing with the services designed by the local residents, those designed by university students were not limited to regional maintenance, and included regional activation services. The university students didn't design the regional services, such as taxes payment, disaster preparedness, and disaster response, appeared in the Yamato company's cases. On the other hand, the university students proposed twenty new regional services, such as support for food industry, support for public transportation, support for regional education, and support for industrial renewal.

Above results, the service design pattern could assist design of new regional service by local residents or university students, and then diversity of regional service design requires various participants, not only local residents but also third party, such as university student or enterprise.