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Human behavior simulation with consideration for family member interactions

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With the spread of the Internet, a lot of home appliances are networked. Many companies are deploying the housing dedicated service. The reason is to build a home network in the home, it has been generalized. There are a variety of services for the home network. For example, energy management, safety and security of the house, which is health care. Services of many for the home will be provided. "Visualization" service, to display the current energy usage in real time. It is intended to reduce energy consumption. Introduction cost is low, introduction into general are expected because of its high feasibility. In this service, reduction behavior of energy consumption is a human judge. Therefore, the height of the individual power-saving consciousness of the influence the reduction of energy consumption.

To provide a new service to be provided to the households in the house. To do this, a be tested in advance, it is necessary to demonstrate the effectiveness to the user. The test there are two approaches. And a demonstration experiment to obtain the cooperation of the subject in fact, is a simulation to reproduce human behavior on the computer. In the demonstration experiment, seeking the cooperation to a plurality of subjects, providing a well-equipped house of the test environment. Furthermore, since the long-term experimental time needed, consuming enormous cost. In the case of the simulator, the experiment time, the cost of environmental construction, the experimental scale, completeness, in an advantage. However, it is difficult to correctly reproduce the human behavior. Therefore, it is necessary to indicate the validity. Compared for these techniques, we decided to develop a simulator.

In the previous study, of human behavior simulator framework it has been defined. Thereby, it becomes possible to cope with various human behavior in a house. By dy-

namically switch between the human behavior model, has been reproduced a reaction of the user was difficult to achieve.

The development of human behavior simulator and a framework for reference. Allowing interaction development of human behavior simulator that takes into account the change in human behavior by among family members. In the case of more than one person in the case of individuals, changes in human behavior in the house occurs. In a shared space in the house, for the presence or absence of use, such as TV and air conditioning, it is different it is also not uncommon opinion among the family. In such a case, actions to be prioritized from an implicit rule in the family are determined. The results are reflected in the environment of the shared space. An object of the present invention is to develop a human behavior simulator to determine the state in light of the change of the course of action in individuals and families.

Summarized the results of the research. It showed the need for human behavior simulator that achieves interaction among family members. It defines the interaction among family members. By analyzing details of the action, it was born diversity in the output of schedule. In order to realize the interaction between the family, it was to build a family action model. And, interaction among family members is an exhaustive list of action classification that occurs. Based on the family relationships in the house ranks, to determine the priority actions. Then, the model with respect to priority actions of the family. The model basis, proposed two techniques for reproducing the interaction between families. The two techniques, and techniques for mounting focusing on family module, a method for mounting attention to individual modules. Performing implemented in accordance with two approaches. By performing the verification at the same experimental environment, to compare the two approaches. Accordingly, a method for mounting about the family module is enabled. Based on these studies, implementation of the human behavior simulator that takes into account the interaction among family members. It was thus realized that to improve the relevance of human behavior simulator in the house.