

## **A Basic analysis for modeling migration behavior in shopping area**

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### **ABSTRACT**

If we can know whether what information is collected and then human activities is carried out in city space, it can be very useful for the plan and design of the city space where it can be safe, and can work and move comfortably at a role. In recent years, the needs for such a human's detailed space activities model are increasing. It is mentioned because of the following reasons. Firstly, city structure has been developed and complicated. Secondly, by the development of an information technology, a possibility that the information service, such as Context-Aware Services, according to a personal position, or the purpose and the preference can be offered has increased. Moreover, it is an important background that the environment that can perform construction and verification of the model based on objective observation data has also been ready with development of the measurement technology of position or space information. Moreover, it is an important background that the environment that can perform construction and verification of the model based on objective observation data has also been ready with development of the measurement technology of position or space information.

In order to carry out fundamental orientation of modeling, the important elements which will specify migration behavior was probed in brainstorming first of all, and the framework of the model which especially took into consideration reference of the knowledge and information over a store or space and renewal of use, tasks, or preference and scheduling was built. In the measurement experiments, emphasis was put on extraction of the scheduling based on an individual task and individual preference. Moreover, the authors analyzed how the individual activity pattern would be concerned with change of an activity history or environment by performing three measurements to the same subject. Based on various knowledge acquired by positive analysis, the system which presumes "the round route when the store at which it is due to drop in is decided" which is the one side of an activities model by the genetic algorithm was built, and the simulation experiment was conducted on it. Consequently, in small-scale test area, high reproducibility could be shown, and although accuracy was not high, the locus of migration behavior could be presumed also in large-scale area.

By such space activities model, if an individual attribute and an individual space activities pattern can be associated, it will also become the possibility conversely from a space activities locus to presume an individual attribute. If the measurement technology of a position or space information accomplishes the further development, an individual activities locus and the space information on the circumference of one are always measured, and being database-ized as an activities history will also be considered in the future. If such environment is realized, it can guess what needs with it the individual has from the individual activities locus and the database of an activities history, and the information service according to individual needs can be offered. We are pleased that this research becomes one of the help for realizing such information service.