

## 十一、研究計畫中英文摘要：

### **Pattern-oriented Design Agent (PDA): Building the interactive agent model by using design patterns**

#### **Abstract**

Recently, the agent-based model have been widely applied in economy, ecology, environmental planning and population forecast. Pedestrian's movements in urban environments are main issues for urban designers in urban spatial planning and analysis. However, the varied outcomes of crowds due to interactions between individuals and environments require further exploration. The planners who face the task of shaping spaces need an interface for comparing different design alternatives in terms of their attractiveness as well as their effectiveness. The agent technique is presently an important research field of artificial intelligence which had been used for many different applications. Thus, this study depicts a Pattern-oriented Design Agent approach for creating a model of user behaviors in urban environments. The main tasks of this project include three parts: 1) collecting materials related with the design pattern and regards micro-scale urban spaces as its target ; 2) To set up the interactive agent system based upon that each agent has characteristics, which defines a model to conduct the interface with agent-script; 3) To test the functionalities, we will present a demonstrative case to illustrate how the Pattern Design Agent play out in a real application, to find out any differences that may be existed under the web-based examination.

Keywords : design pattern, interactive, agent model, script, behavior