Abstract

The human model as an agent in the earthquake disaster evacuation planning is not merely simulate motion control but the other challenge is how to measure some aspects of human behavior as a flexible intelligent agent.Prometheus methodology is applied to simulate an agent-based evacuation planning when going on inside the building. Interaction and communication between agents during the evacuation through protocols and capabilities shows that real human behavior may be presented in a computer simulation.

Two scenarios at the time of the earthquake evacuation of the building, which human agents can immediately leave the building without encountering obstacles such as buildings collapsed, and the human agents who found obstacles at the time of evacuation. Ant Colony Optimization (ACO) algorithm that has been modified used to determine as an evacuation route in the process. Consistency of the simulation model built examined using Prometheus Design Tool (PDT).

Keywords: evacuation planning, multi-agent simulation, Prometheus methodology, Ant Colony Optimization, human behavior.