ELTE-IKKK – Simulations Center

In cooperation with AITIA International, Inc.

With founding from the European Union
Agent-Based Simulation in Disaster Management

Possible uses of agent-based and agent-based participatory simulation in various aspects of disaster management and emergency response

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Outline

1. Introduction
2. Multi-Agent Simulation Suite
3. Experimentation and Optimization
4. Training Applications
Introduction - Disasters

- Recent unfortunate events (terrorism, natural disasters).
- Can not prevent disasters so we have to prepare for them.
- This is where agent based simulation can be of great use!
Multi-Agent Simulation Suite

- Scenarios implemented in the Multi-Agent Simulation Suite (MASS), developed at the authors’ organization.
- A solution candidate for modeling and simulation of complex social systems.
- General, web-enabled for both agent-based and participatory simulations.
- Rapid, high-level, 2D/3D, based on JAVA.
Experimentation and Optimization

• To experiment with and to optimize various possible disaster situations.
• Consequences of decisions can be studied and evaluated.
• Dependable patterns of collective behavior can be provided.
Training Applications

- Both in internal and public education/training applications.
- Participatory agent-based simulation.
- Computer ‘games’ that simulate real life situations with both real and artificial players.
Training Applications

• Cost-effective and easy means to deepen the trainees’ knowledge of rare situations and help developing the proper natural responses.

• External trainings for public relations operations, to explain disaster management to the general public.
Thank you for your attention!

To learn more about agent technology research at the Eötvös Loránd University and AITIA International please visit the following sites:

• http://www.inf.elte.hu
• http://www.aitia.ai/