

Agent-based Crisis Management Simulator

(CRISISSIM version 1.0)

User guide

Installation

Download the installer at: <http://crisissim.sourceforge.net/>

Execute the file `crisissim-setup.jar` and follow the instructions.

Launch the simulator GUI

The current version of CRISISSIM requires java version 1.5.0. Before running the simulator, make sure that java 1.5.0 is installed and is the default version on your system (CRISISSIM is not compliant with Java 1.6).

Two script files are provided to launch the GUI depending on your platform:

Windows: Execute the shortcut `CrisiSim` located in the start menu, or the script file `start_model.bat` located in the root directory of the simulator.

Unix / Linux / MacOS X: Execute the script file `start_model.command` located in the root directory of the simulator.

Configure a simulation run

The simulation parameters are displayed in the *parameters* panel.

In this version of the model, two parameters can be set:

- The *crisis scenario* that can be chosen among the 48 predefined scenarios.
- The *default random seed* that is used for all the random generation (executing several times the same scenario with the same default random seed will always generate the same configuration and so produce the same results).

The predefined scenarios are described in the tables 1 and 2 (see below). They correspond to the scenarios presented in the paper we have submitted to AAMAS. Used-defined scenarios can be created by adding a new scenario description file in `CrisisSim/freeze_dried_data/crisis.scenario`.

Scenario num	Fires	Casualties
001	10 small	10
002	10 small	25
003	25 small	10
004	25 small	25
005	10 large	10
006	10 large	25
007	25 large	10
008	25 large	25
009	3 small, 3 medium, 3 large	10
010	3 small, 3 medium, 3 large	25
011	8 small, 8 medium, 8 large	10
012	8 small, 8 medium, 8 large	25

Table 1: Environment configurations

Label	Organisations
H-H	8 firemen (<i>hierarchy</i> structure) 4 medics (<i>hierarchy</i> structure)
H-N	8 firemen (<i>hierarchy</i> structure) 4 medics (<i>network</i> structure)
N-H	8 firemen (<i>network</i> structure) 4 medics (<i>hierarchy</i> structure)
N-N	8 firemen (<i>network</i> structure) 4 medics (<i>network</i> structure)

Table 2: Organisational configurations

Execute a simulation run (using the button bar)

	Initializes the simulation using the <i>scenario</i> and the <i>random seed</i> provided in the parameters panel.
	Runs the simulation
	Pauses the simulation
	Runs the next step of the simulation
	Stops the simulation
	Resets the simulation

The *run options* panel allows the user to control the speed of the simulation.

Map display

During a simulation run, activities occurring on the map can be observed on the *map display* (figure 1).

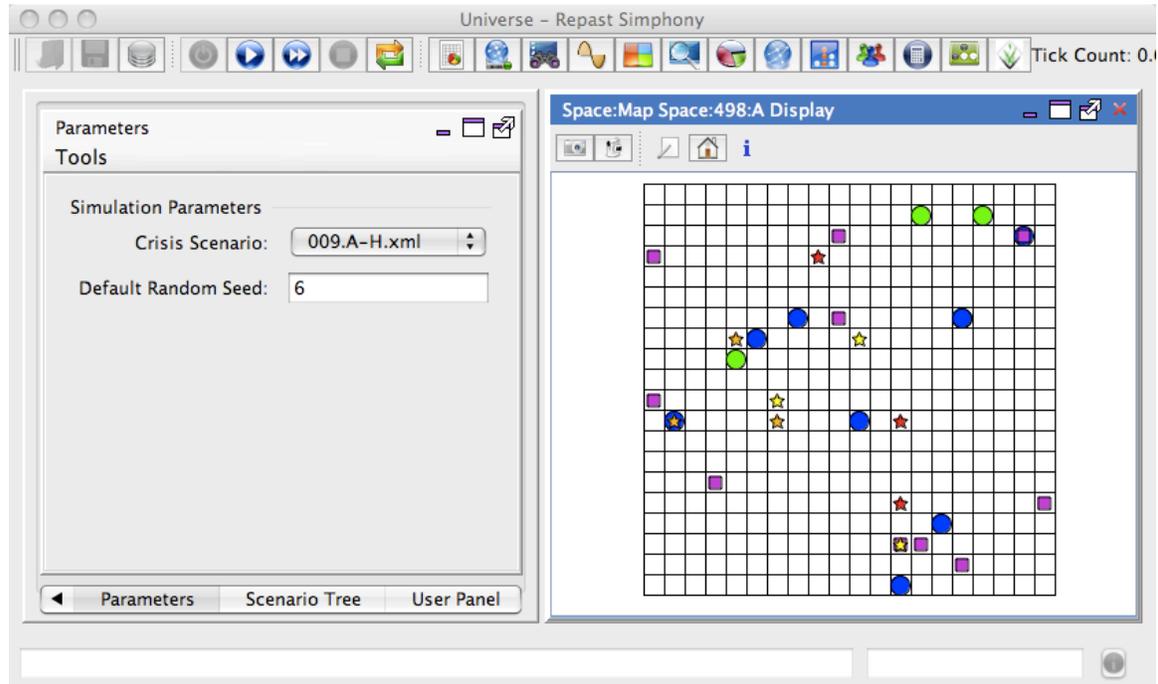


Figure 1: Map display screenshot

On the *map display*, the blue circles represent firemen, and the green circles represent medics. Pink squares represent casualties, and stars represent fire (yellow for small fires, orange for medium fires, and red for large fires).

Simulation results and logs

At the end of each simulation run, a line describing the results of this run is added to the file `RunResult.txt` located in `CrisisSim/CrisisSim/output/`.

The HTML logs of the last run can be found in: `CrisisSim/output/log`.

In the current settings of the simulator, all the loggers are activated, making the logs very verbose. It is possible to tune the logging system, in particular to activate or deactivate specific logger, by changing the Log4j configuration file (see the Log4j documentation): `CrisisSim/lib/gui.log4j.properties`.

Sources and Javadoc

The sources are available at: `CrisisSim/src`.

The Javadoc is available at: `CrisisSim/docs`.