How To

Erik Brinkman
erik.brinkman@umich.edu

Elaine Wah
ewah@umich.edu

Updated: September 29, 2014

Contents

1 Add a New Agent

1) To add a new Agent, first create a class for it in the `entity.agent` package. A new agent will have to do a few things:

1. Extend an existing Agent class. There is an extensive hierarchy, but the most common extensible Agents are likely BackgroundAgent, MarketMaker, HFTAgent, or a subclass of one of those.

2. Create two constructors. One constructor will parse an EntityProperties object to determine what various properties to set. This constructor will then call the other one with the hard coded values. See ZIRAgent for a reference.

3. Create a unique strategy for itself. A strategy looks at all available information to the agent, which are usually stored in internal variables or the Agents corresponding InformationProcessors, and then returns a List of Activities to be scheduled. ZIRAgent will serve a reference point. By default, all BackgroundAgents have the ability to act again after a random amount of time. If you wish to have your agent do so, simply add all of `super.agentStrategy(currentTime))` to your list of activities if you also want your agent to act again according to standard settings.

2) Add a new `AgentType` to `systemmanager.Consts`. This will allow people to refer to your agent. This will function as the Agent's name.

3) Add a new entry in the switch statement inside `entity.agent.AgentFactory`. Here you should write code that will construct your agent type with the given parameters. The existing fragments inside AgentFactory should be enough to go off of.

You should now have a functioning agent! In order to add some to the simulation, simply add a line in the `simulation_spec.json` file with a key that matches the name of its `AgentType`, and a value that contains the parameters for your Agent. It may be helpful to read about adding a new parameter in Section 3, or reading about the simulation spec file in.

2   Add a Unit Test

3   Add a New Parameter

4   Add a Preset Market Model

5   Add a New Statistic