Multi-Agent Programming Contest (2012 Edition) Read Me First

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This document package is intended to convey all knowledge that is required to successfully participate in the **Multi-Agent Programming Contest** 2012. We provide a scenario description that contains all relevant information about the environment. And we provide the means for connecting your agents to the *MASSim*-platform.

1 Aims & Scope

The **Multi-Agent Programming Contest** is an attempt to stimulate research in the area of multi-agent system (MAS) development and programming (MAP) by

1. identifying key problems,

2. collecting suitable benchmarks, and

3. gathering test cases which require and enforce coordinated actions,

that can serve as milestones for testing multi-agent programming languages, platforms and tools. We also expect that participating at the contest helps to debug existing systems and to identify their weak and strong aspects.

Additionally, for this year's **Contest** we would like to highlight the two following key problems that the participants should keep in mind when developing their multi-agent system:

1. *agent cooperation* and *agent coordination* is encouraged even more, and

2. *team decentralization* should be taken into account.

We think, developing good strategies for these two key problems helps to perform well in the **Contest**.

2   Contents of This Document Package

About the scenario itself:

- The file `scenario.pdf` contains a full description of the Multi-Agent Programming Contest 2012 scenario called *Agents on Mars.* There we describe the environment and the semantics of the environment's evolution.

We explain how to start the server and to set up a tournament:

- The file `massim-server.pdf` explains how you can start the server and modify its configuration file.

Additionally, we explain three different means for connecting your agents to the *MASSim*-platform, each one on a distinct level of abstraction:

- The file `protocol.pdf` explains how you can connect your agents on the lowest level, that is that you are supposed to faithfully implement the client-server communication-protocol, that is described in this file. This means that you are expected to establish and maintain an authenticated TCP/IP connection to the *MASSim*-server and communicate with it by exchanging XML-messages.

- The file `eismassim.pdf` on the other hand explains an EIS[1]-compatible *environment-interface* that implements the above-mentioned communication-protocol. This very interface establishes and maintains authenticated connections to the server and reduces acting and perceiving to invoking Java-methods and evaluating call-backs.

- Finally, the file `javaagents.pdf` elaborates on a very simplistic *dummy*-agent team that we have implemented for testing the environment. You can of course extend these agents with the artificial intelligence you have in mind, but we do not encourage this. Note that these dummy-agents make use of the above-mentioned environment-interface.

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[1]`http://sf.net/projects/apleis`

2.1 Technical Support and Organisational Issues

We are running a mailing list for all the inquiries regarding the Multi-Agent Programming Contest. Feel free to subscribe if you are interested in further details on the contest. Subscription for participants is mandatory. The list's address:

<div align="center">

`agentcontest2012@in.tu-clausthal.de`

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To subscribe, please send an e-mail to

<div align="center">

`agentcontest2012-subscribe@in.tu-clausthal.de`

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The most recent information about the Multi-Agent Programming Contest can be found on the official web site `http://www.multiagentcontest.org/2012/`.

Qapla'!