Multi-Agent Programming Contest 2010
Participation Registration Template

[Author]

[Institute]

Abstract. Please follow the given template structure for your submission by answering the questions as concisely as possible, not exceeding the total of **5** pages. It is vital to explain in this submission a *description* of the system, the methodology/tools/infrastructure used and the (team) strategy that you plan to use in the contest.
Please send your submission by email to Jürgen Dix (dix@tu-clausthal.de) no later than August 9th. If modifications are necessary, we will directly ask you to submit a final version on August 16th.

1 Introduction

Note: the information you provide in this section will be made available to all participants. We will put it on the homepage.

1. What is the name of your team?
2. Who are the members of your team? Please provide names, academic degrees and institutions.
3. Which platform/architecture do you use?
4. Who is the main-contact?
5. How much time (man hours) will you have invested (approximately) until the tournament?

2 System Analysis and Design

1. How is your system specified and designed?
2. Did you use any existing multi-agent system methodology such as Prometheus, Gaia or Tropos?
3. Which strategies and algorithms do you plan to use?
4. How are the following agent features implemented: *autonomy*, *proactiveness* and *communication*m *team working*, and *coordination*?
5. Is your system a truly **multi**-agent system or rather a centralised system in disguise?

3 Software Architecture

1. Which programming language do you plan to use to implement the multi-agent system?
2. How would you map the designed architecture (both multi-agent and individual agent architectures) to programming codes, i.e., how would you implement specific agent-oriented concepts and designed artifacts using the programming language?
3. Which development platform, tools and techniques are you planning to use?

Please give reasons why you have chosen the methods explained above.

4 Agent team strategy

Please address the following points, or at least comment if not applicable:

1. Describe the navigation algorithms:
   - obstacle avoiding
   - strategy for finding and herding cows
   - opponent blocking
2. Describe the team coordination strategy (if any)
3. Does your team strategy use some distributed optimization technique w.r.t. e.g. minimizing distances walked by the agents?
4. Describe and discuss the information exchanged (and shared) in the agent team.
5. Describe the communication strategy in the agent team. Can you estimate the communication complexity in your approach?
6. Did your system do some background processing? Under background processing we understand some computation which happened while agents of the team were *idle*, i.e. between sending an action message to the simulation server and receiving a perception message for the subsequent simulation step.
7. Possibly discuss additional technical details of your system like e.g. failure/crash recovery and alike.