JADE
Java Agent DEvelopment Framework - Exercises

Integrated Master's in Informatics Engineering

Intelligent Agents

2017/2018

Synthetic Intelligence Lab

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Useful Links

- http://jade.tilab.com/

- http://jade.tilab.com/doc/tutorials/JADEProgramming-Tutorial-for-beginners.pdf

- http://jade.tilab.com/doc/api/jade/core/Agent.html

- http://jade.tilab.com/doc/api/jade/core/behaviours/Behaviour.html

- http://jade.tilab.com/doc/api/jade/lang/acl/ACLMessage.html

First Multi-Agent Exercise

Library Record Simulation System:

- Create 2 types of Agents (Librarian and Costumer) where:

1. Librarian presents a list of available books;

2. Costumer presents an interest in requesting a book (1 new Costumer every 1 second);

3. Costumer applies for the book. Librarian confirms if the book exists in the library catalogue.

   - **Book exists:** register the book as unavailable in the Library Record System;

   - **Book doesn't exist:** informs the user that it is not possible;

Second Multi-Agent Exercise

Taxi System:

- Create 3 types of Agents (Manager, Taxi and Costumer) where:

1. Each Taxi is located at different (x,y) coordinates / positions;

2. Costumer is located at (x1,y1) and wants to go (x2,y2) (1 new Costumer every 1 second);

3. Each Taxi is registered in DF;

4. Based on Costumer request, the Manager must verify:

   • Which Taxi is nearby to the Costumer (use DF);

   • Request the Taxi to transport the Costumer;

   • In the end, the selected Taxi must be positioned in the (x2,y2) coordinates;

   • Count the number of times each Taxi was selected;

References

- JADE: Java Agent DEvelopment framework:

  - http://jade.tilab.com/

- Bellifemine F., Caire G., Greenwood D., Developing Multi-Agent Systems with JADE, John Wiley & Sons, ISBN: 978-0470057476, 2007.

- Giovanni, Caire; TUTORIAL, J. A. D. E. JADE programming for beginners., 2003.

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