

Homework 1 (02-11-2007)

Submission Deadline (11-11-2007)

Question 1: Implementation of Agent Behaviors

Consider/Propose scenario(s) and implement all of available agent behaviors in Jade Framework. (Take very simple scenario(s), for example take a very small FSM (finite state machine) for FSMBehaviour)

Simple Behaviour

CyclicBehaviour, MsgReceiver, OneShotBehaviour, SimpleAchieveREInitiator,
SimpleAchieveREResponder, TickerBehaviour, WakerBehaviour

Composite Behaviours

ParallelBehaviour, FSMBehaviour, SequentialBehaviour

Some agents should combine more than 2 different behaviours. And at least one agent should be able to parse input parameters.

Question 2: Using DF (Directory Facilitator) agent

1. Implement an agent that provides some service and registers it at DF.
2. Implement an agent that can discover all registered services at DF, asks user for its choice and then displays the parameters expected to use that service.
3. Implement an agent that subscribes to DF and gets notified each time the desired service is published at DF.

Question 3: Creating your own DF agent

Specify a domain and Implement your own DF agent (inheritance from default DF). That sub-DF should register services from only a particular domain. Out-of-domain requests for registering/discovery etc should be ignored. (You can link this with Question 2)

Question 4: JADE and Other Agent Platforms (Bonus Points 02)

There are number of implementations of agent platforms which conform to the FIPA Specifications. Perform a comparison of at least 01 other Agent Platforms with JADE.

Your comparison should comprise of

- i). Architecture of Platform
- ii). Services provided by Platform
- iii). Comparison of implementation of a simple scenario same as Question 2 (i.e. Service Implementation, Service Registration, and Service Discovery)
- iv). List some notable projects which used that platform.
- v). your personnel opinion/judgment about the platform as compared to JADE.

You can take part iii) as your starting point, and explain the architecture and services the platform provides from a practical point of view.

Agent Development Kit, FIPA-OS, JACK Intelligent Agents, ZEUS, SAGE ... just to name a few other FIPA Complaint implementations. (Feel free to use some other FIPA Complaint Implementation)

Deliverables

Documented Source Code (with instructions for execution) and Report for Bonus question emailed by deadline (11th November) to ahaseeb@kth.se with Subject "DAIIA07 HW1"

NOTE: You don't need to write report for First 03 Questions, Documented Source Code would suffice.

A small demo (10 min) of running agents. Demo applies for Bonus question as well.

Time Slots for Demo:

Monday 12th November: 12 – 2 pm, & 5 pm – 8 pm (30 slots 10 min each). Slots sheet will be on 8th Floor elevator C. **No Demo for HW1 after Monday, so if you have issue with Monday then we can have it earlier but not latter**