

ID2209

Distributed Artificial Intelligence and Intelligent Agents

Homework#1

Administration of labs

- We assume 2 members per group in all activities:
 - Home works
 - Project
- Less is fine (but no extra benefits to it!)
- More than 2 members per group is not appreciated!

Mailing lists

- Students mailing list:
 - Subscription to this mailing list is made on:
https://mailman.ict.kth.se/mailman/listinfo/id2209_students
 - If you want to post something to the list send an email to: id2209_students@mailman.ict.kth.se

Homeworks and Project

- **Three Homework**
- Almost ONE week time for each homework
- ~ 10 min presentation of the homework
- In-time submission and approval of **all** Homework, gives you 5 Bonus points
- You can get: **(maximum) 5 Bonus Points**

- **One Project**
- Almost TWO weeks for Project
- ~ 15 min presentation for project.
- In-time submission and approval of Project, gives you 5 Bonus points
- You can get: **(maximum) 5 Bonus Points**

Schedule and deadlines

| Labs /Dates | Presentation | Deadline |
|-------------|--------------|----------------------------------------------------|
| Homework 1 | November 11 | November 18 Presentation: November 20 |
| Homework2 | November 19 | November 25 Presentation: November 27 |
| Homework 3 | November 25 | December 02 Presentation: December 04 |
| Project | November 25 | December 11 Presentation: December 12 |

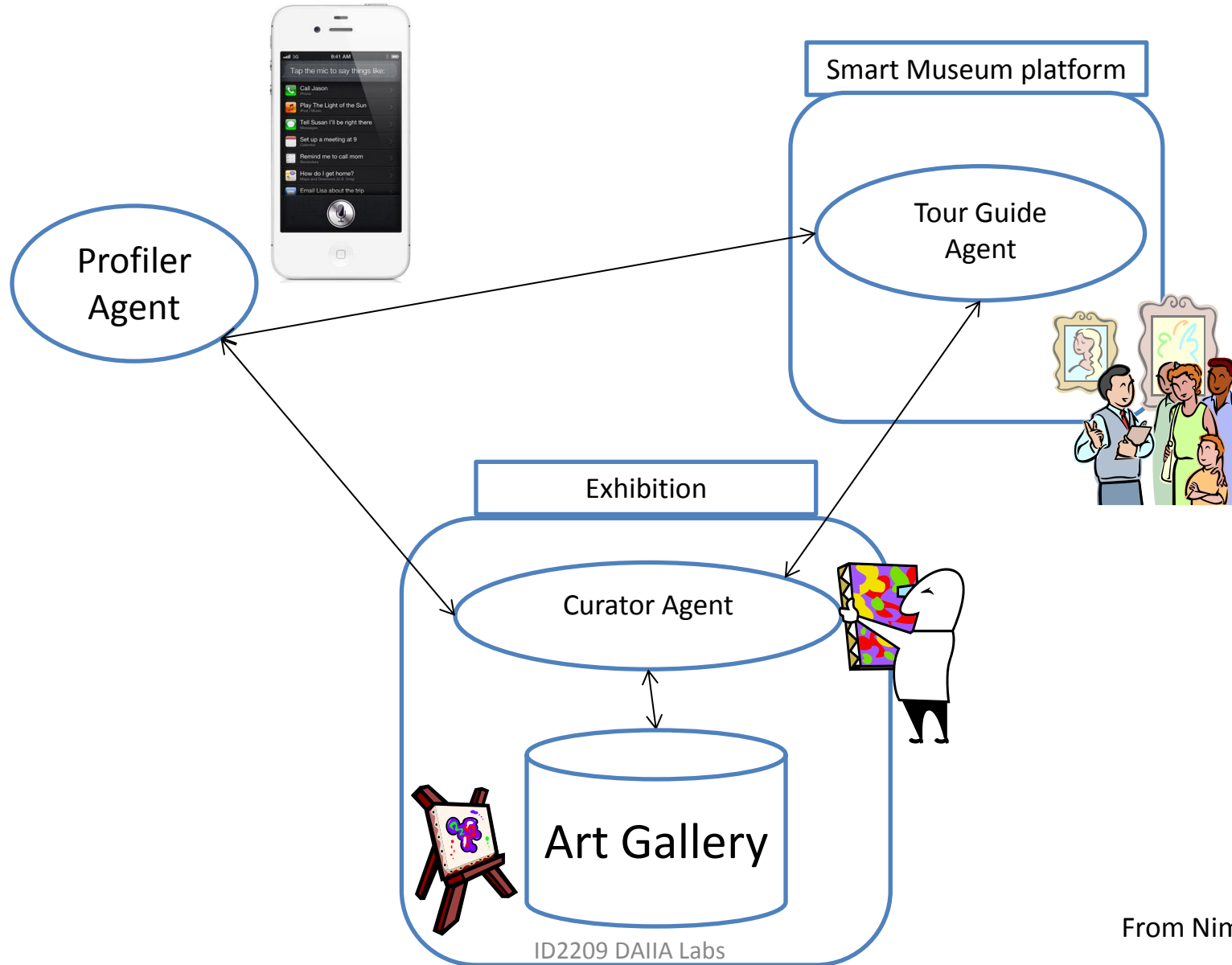
Homework#1

- Topics covered in this session:
 - Hands on experience with agent platforms
 - Programming and implementing software agents using JADE agent platform
 - Programming agents in the context of a practical scenario
 - Complementary material
- Hamid Mizani's JADE presentation
- Mihhail Matskin's JADE presentation
 - (Available on HW page)

Labs Theme: Virtual Exhibitions ...



SmartMuseum Agent Framework



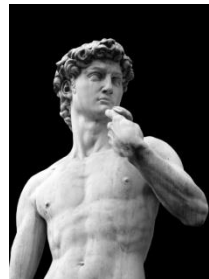
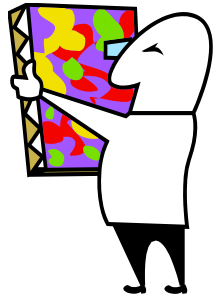
Agent Details -1

- Profiler Agents maintains the profile of the user.
 - The profile contains basic user information (age, occupation, gender, interest, etc) and visited items (in our case museum artifacts).
 - Profiler Agent travels around the network and looks for interesting information about art and culture from online museums or art galleries on the internet.
- Tour Guide Agent retrieves the information about artifacts in the gallery/museum and builds a virtual tour (upon the request) for profiler agent.
 - The virtual tour contains list of related items (based on user's interest, age, etc) .



Agent Details - 2

- Curator Agent monitors the gallery/museum.
- A gallery/museum contains detailed information of artifacts
 - such as id, name, creator, date of creation, place of creation, genre etc.



Interaction Among Agents

- The Profiler Agent interacts directly with Tour Guide Agent to get a personalized virtual tour.
- The Profile Agent interacts with Curator Agent to obtain detailed information about each of the items stated in the virtual tour.
- Tour Guide agent interacts with Curator Agent in order to build the virtual tour.

Task#1

- Implementation of Agent Behaviors
- Implement agent behaviors in JADE Framework with respect to scenario proposed.
- Behaviors should correspond to each category below:
 - Simple Behavior (at least 5 different behaviors):
 - CyclicBehaviour, MsgReceiver, OneShotBehaviour, SimpleAchieveREInitiator, SimpleAchieveREResponder, TickerBehaviour, WakerBehaviour
 - Composite Behaviors (at least 2 different behaviors):
 - ParallelBehaviour, FSMBehaviour, SequentialBehaviour

Task#2

- Using DF (Directory Facilitator) agent .
- In the context of the scenario proposed define the role of the DF agent and implement the following activities for agents (Profiler, TourGuide, Curator) with respect to scenario proposed:
 - Implement an agent that provides some service and registers it at DF.
 - 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.
 - Implement an agent that subscribes to DF and gets notified each time the desired service is published at DF.

Task#3 !

- Subscribe To Course Mailing list:
id2209_students@mailman.ict.kth.se

Deliverables

- A report document explaining what you did in this Homework
- Documented source code (with instructions for execution) of Implementation of Task#1 and Task#2
- Deadline **November 18**_23:59
- emailed by deadline to misha@kth.se, siskos.filotas@gmail.com and niksta@kth.se
 - with Subject “**DAIIA14 HW1**”.
 - Don’t forget to write full names of group members in the email and time reservation sheets.
 - A small demo (10 min) of running agents.
 - Email us the documented source code and Report by Deadline specified.

JADE Platform

- JADE (Java Agent Development Environment)
 - <http://jade.tilab.com/>
- Version 4.3.2 (current version)
- Simple registration needed on website

Additional resources on JADE platform

>> JADE Documentation:

<http://jade.tilab.com/documentation/tutorials-guides/>

- JADE Primer by J. Vaucher and A. Ncho -
Université de Montréal:

<http://www.iro.umontreal.ca/~vaucher/Agents/Jade/JadePrimer.html>

- Administrating the JADE platform. Tutorial for
beginners by David Grimshaw - Ryerson
University:

<http://sharon.cselt.it/projects/jade/doc/tutorials/JADEAdmin/index.html>

Materials taken from the web

- "Apps Expand Museum Horizons, iphone life magazine", 2011 March issue
 - <http://www.iphonelife.com/issues/2011March-April/AppsExpandMuseum>
- "Will mobile phone apps revolutionze museums", June 2010:
 - <http://www.museumsassociation.org/news/15062010-apps-news>