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

- <u>Students mailing list</u>:
  - 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

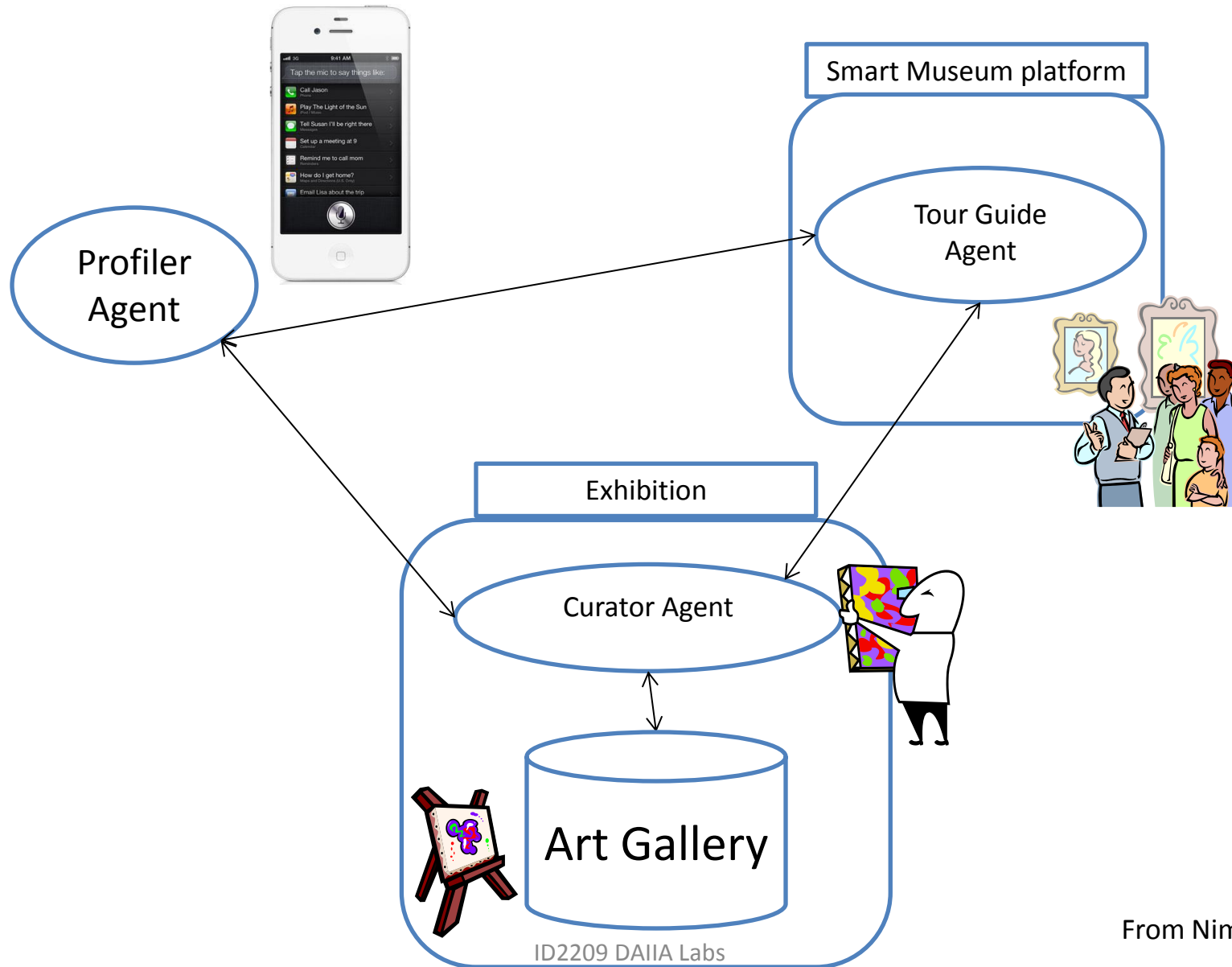| Labs /Dates	Presentation	Deadline
Homework 1	November 11	November 18 Presentation: November 20
Homework2	November 19	November 25 Presentation: November 27
Homework 3	November 25	December 02 Presentation: December 04
Project	November 25	December 11 Presentation: December 12

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 ...

From Nima Dokoohaki

SmartMuseum Agent Framework

Smart Museum platform

Tour Guide Agent

Profiler Agent

Exhibition

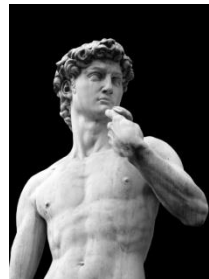Curator Agent
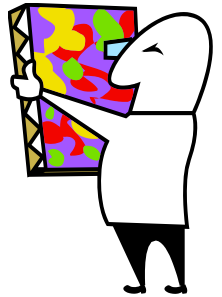
Art Gallery

From Nima Dokoohaki

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