CS378 Autonomous Multiagent Systems Spring 2005

Prof: Peter Stone

TA: Mazda Ahmadi

Department or Computer Sciences
The University of Texas at Austin

Thursday, January 20th

Good Afternoon, Colleagues



Good Afternoon, Colleagues

Are there any questions?

Questions about the syllabus?

- Questions about the syllabus?
- Class registration

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?
 - Rescue: fire=red, police=yellow,
 - ambulance=white, civilians=green

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?
 - Rescue: fire=red, police=yellow,
 - ambulance=white, civilians=green
- Mailing list announcements yesterday

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?
 - Rescue: fire=red, police=yellow,
 - ambulance=white, civilians=green
- Mailing list announcements yesterday
 - CC Mazda and me on everything

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?
 - Rescue: fire=red, police=yellow,
 - ambulance=white, civilians=green
- Mailing list announcements yesterday
 - CC Mazda and me on everything
- Install the simulators locally

- Questions about the syllabus?
- Class registration
 - Discussion list, including for Tuesday
- Leftover problems with the assignment?
 - Rescue: fire=red, police=yellow,
 - ambulance=white, civilians=green
- Mailing list announcements yesterday
 - CC Mazda and me on everything
- Install the simulators locally
- Assignments up through week 3

Words without (accepted) definitions

- Intelligence
- Agent

Words without (accepted) definitions

- Intelligence
- Agent

All proposed definitions include too much or leave gaps.

Words without (accepted) definitions

- Intelligence
- Agent

All proposed definitions include too much or leave gaps.

But there are examples...

Autonomous robot

- Autonomous robot
- Information gathering agent
 - Find me the cheapest?

- Autonomous robot
- Information gathering agent
 - Find me the cheapest?
- E-commerce agents
 - Decides what to buy/sell and does it

- Autonomous robot
- Information gathering agent
 - Find me the cheapest?
- E-commerce agents
 - Decides what to buy/sell and does it
- Air-traffic controller

- Autonomous robot
- Information gathering agent
 - Find me the cheapest?
- E-commerce agents
 - Decides what to buy/sell and does it
- Air-traffic controller
- Meeting scheduler

- Autonomous robot
- Information gathering agent
 - Find me the cheapest?
- E-commerce agents
 - Decides what to buy/sell and does it
- Air-traffic controller
- Meeting scheduler
- Computer-game-playing agent

Not Intelligent Agents

- Thermostat
- Telephone
- Answering machine
- Pencil
- Java object



• You, as a class, act as a learning agent

- You, as a class, act as a learning agent
- Actions: Wave, Stand, Clap

- You, as a class, act as a learning agent
- Actions: Wave, Stand, Clap
- Observations: colors, reward

- You, as a class, act as a learning agent
- Actions: Wave, Stand, Clap
- Observations: colors, reward
- Goal: Find an optimal policy

- You, as a class, act as a learning agent
- Actions: Wave, Stand, Clap
- Observations: colors, reward
- Goal: Find an optimal policy
 - Way of selecting actions that gets you the most reward

How did you do it?



How did you do it?

- What is your policy?
- What does the world look like?

Self-Introductions

Speak loudly

Self-Introductions

- Speak loudly
- Name, year, major

Self-Introductions

- Speak loudly
- Name, year, major
- At least one other thing about yourself

Discussion

An autonomous agent is a system situated within and a part of an environment that senses that environment and acts on it, over time, in pursuit of its own agenda and so as to effect what it senses in the future.

Is this a good definition?

Discussion

An autonomous agent is a system situated within and a part of an environment that senses that environment and acts on it, over time, in pursuit of its own agenda and so as to effect what it senses in the future.

- Is this a good definition?
- The authors claim to give a "formal" definition of agents.
 Do they?

Discussion

An autonomous agent is a system situated within and a part of an environment that senses that environment and acts on it, over time, in pursuit of its own agenda and so as to effect what it senses in the future.

- Is this a good definition?
- The authors claim to give a "formal" definition of agents.
 Do they?
- Can you do better?

Next week: More on Agents

- Textbook reading
 - An example of an agent
- RoboCup synthetic agents challenge
 - A bit dated
- Programming assignment