CS378
Autonomous Multiagent Systems

Prof: Peter Stone
TA: Nate Kohl

Department of Computer Sciences
The University of Texas at Austin

Thursday, January 19th
Good Afternoon, Colleagues
Good Afternoon, Colleagues

Are there any questions?
Logistics

- Questions about the syllabus?
Logistics

- Questions about the syllabus?
- Class registration
Logistics

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

- Questions about the syllabus?
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  - Discussion list, including for Tuesday
- Problems with the assignment?
Logistics

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- Class registration
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- Problems with the assignment?

- Mailing list — announcements yesterday
Logistics

• Questions about the syllabus?

• Class registration
  – Discussion list, including for Tuesday

• Problems with the assignment?

• Mailing list — announcements yesterday
  – CC Nate and me on everything
Logistics

- Questions about the syllabus?
- Class registration
  - Discussion list, including for Tuesday
- Problems with the assignment?
- Mailing list — announcements yesterday
  - CC Nate and me on everything
- Install the simulator locally
Logistics

- Questions about the syllabus?
- Class registration
  - Discussion list, including for Tuesday
- Problems with the assignment?
- Mailing list — announcements yesterday
  - CC Nate and me on everything
- Install the simulator locally
- Assignments up through week 3
Words without (accepted) definitions

- Intelligence
- Agent
Words without (accepted) definitions

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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...
Intelligent (autonomous) Agents

- Autonomous robot
Intelligent (autonomous) Agents

- Autonomous robot

- Information gathering agent
  - Find me the cheapest?
Intelligent (autonomous) Agents

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

- Autonomous robot
- Information gathering agent
  - Find me the cheapest?
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  - Decides what to buy/sell and does it
- Air-traffic controller
Intelligent (autonomous) Agents

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- Information gathering agent
  - Find me the cheapest?
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  - Decides what to buy/sell and does it
- Air-traffic controller
- Meeting scheduler
Intelligent (autonomous) Agents

- 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
An Example
An Example

- You, as a class, act as a learning agent
An Example

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- **Actions**: Wave, Stand, Clap
An Example

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- **Observations**: colors, reward
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- **Goal**: Find an optimal *policy*
An Example

- 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

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- 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
  - Focus on the environment definition!

- RoboCup synthetic agents challenge
  - A bit dated

- Programming assignment