

CS344M
Autonomous Multiagent Systems
Spring 2008

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Good Afternoon, Colleagues

Are there any questions?

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- relaxing constraints - turns, etc. - how did it affect performance?
- accident prediction
- Could follow more closely?
- OASIS - how doing in real world?

Logistics

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- Start on the projects!

Surveys

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 - Classes are fun!

Intersection Management

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Class Discussion

Tyler Pearson on Distributed vs. Centralized control

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Implemented in an airport!

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Can't just use decision theory

Decision Theory

- Choice nodes: system gets to choose
- Chance nodes: environment selects randomly

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Deliberation Functions

- Maximin: aim for a best, worst case
- Expected utility: aim for a best expected case

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Example

Air-traffic Management

70–80 agents at a time

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- One agent per aircraft
- Sequencer
- Wind modeller
- Coordinator
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Keep schedule until complete or impossible

Beliefs: All possible wind velocities and trajectories

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Desires: Pruned to only keep the right ETA

Intentions: Pruned further to keep only the best in terms of fuel consumption, etc.

Question

- Are we ready for free flight and automatic proxy agents?

Continue ML crash course

- Genetic algorithms/programming
- Reinforcement learning
- **Neural networks**