

**CS378**  
**Autonomous Multiagent Systems**  
**Spring 2005**

**Prof: Peter Stone**  
**TA: Mazda Ahmadi**

Department of Computer Sciences  
The University of Texas at Austin

Week 8a: Tuesday, March 8th

# Good Afternoon, Colleagues

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Are there any questions?

# Logistics

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- Anyone at the job talk?

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- Next week's readings posted

# Proposals

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- My comments in black, Mazda's in blue

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  - Have **something** implemented and evaluated

# Readings Overview – OASIS

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- Concretization of BDI
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  - No constant reevaluation

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**Implemented in an airport!**



# Class Discussion

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Will Rogers on BDI

# General Domain Characteristics

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**Can't just use decision theory**



# Decision Theory

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Example

# Air-traffic Management

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70–80 agents at a time

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- One agent per aircraft
- Sequencer
- Wind modeller
- Coordinator
- Trajectory checker

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Keep schedule until complete or impossible

# BDI

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**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.

# Electric Elves: Human Org. Support

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- Proxy agents for meeting scheduling
- Activities within an individual research project
- Meeting planning with participants outside the organization

# Challenges

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- Adjustable autonomy
- Reliable information access
- Capability matching
- Agent coordination
- Scaling up to continual, reliable usability

# Technologies

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Used continuously for several months



# Question

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