

CS378
Autonomous Multiagent Systems
Spring 2004

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Week 3a: Tuesday, February 3

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Programming assignment questions?

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- Next week's readings up
 - Multiagent Systems – an overview
 - Another overview (optional)
 - Pushing Brooks' approach to MAS

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 - Multiagent Systems – an overview
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 - Free-form response

Writing

- Direct, articulate responses
 - Thesis sentence
 - Supporting argument
 - Demonstrate that you know what you're saying

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One way that TCA departs from Rodney Brooks' design principles is that TCA employs a central control module. TCA's central component routes messages to the various connected modules and maintains control information. Brooks' designs, on the other hand, connected perception directly to actions, bypassing any form of central control and also any central representation of the world.

Michael Littman's Talk

- Any reactions?

Brooks' Goals

- Autonomous mobile agents that are seen as intelligent
- No interest in demonstrating how humans work
- No interest in applications
- Timely, robust, do something

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Subsumption Architecture

Class Discussion: Joon Chuah

- Subsumption vs. TCA
- Which is better (and for what)?

RoboCup vs. Video Games

- What's the difference?

RoboCup vs. Video Games

- What's the difference?
- 3D simulator

RoboCup Synthetic Agents Challenge

- Learning Challenge
- Teamwork Challenge
- Opponent Modeling Challenge

Learning Challenge

- early years – Offline individual, collaborative learning

Learning Challenge

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- then some online skill and collaborative team learning

Learning Challenge

- early years – Offline individual, collaborative learning
- then some online skill and collaborative team learning
- Open challenge – on-line adversarial learning
 - Especially during a single game

Teamwork Challenge

- early years – hard-wired positions

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- now, more flexible teamwork
 - plan decomposition – roles, play modes
 - executing team plans – ISIS
 - contingency planning – not so much

Opponent Modeling Challenge

- First: Build in models

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- Off-line review – statistical engines

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- Open challenge:
 - On-line tracking (Andou)
 - On-line strategy recognition

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- Open challenge:
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- Recent years – coach
 - Omniscient view
 - Standard language
 - Coachable teams

CMUnited-98

- The details of a complete agent
- Any comments?