CS344M
Autonomous Multiagent Systems

Patrick MacAlpine

Department or Computer Science
The University of Texas at Austin

Good Afternoon, Colleagues

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Programming assignments
  - How did it go?

Logistics

- Programming assignments
  - How did it go?
  - Assignment 3 is assigned

Pengi

- Penguin chases monsters in a maze
- Can kill them with ice blocks
- Monsters can kill penguin by touching it

Pengi

- Penguin chases monsters in a maze
- Can kill them with ice blocks
- Monsters can kill penguin by touching it
- What would it mean to do planning in this domain?

Pengi

- Penguin chases monsters in a maze
- Can kill them with ice blocks
- Monsters can kill penguin by touching it
- What would it mean to do planning in this domain?

Group 1: Design a Pengi controller using subsumption

Group 2: Design a Pengi controller using 3T

RoboCup Synthetic Agents Challenge

- Learning Challenge
- Teamwork Challenge
- Opponent Modeling Challenge

Learning Challenge

- early years – Offline individual, collaborative learning

Learning Challenge

- early years – Offline individual, collaborative learning
- 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

Teamwork Challenge

- early years – hard-wired positions
- now, more flexible teamwork

Teamwork Challenge

- early years – hard-wired positions
- now, more flexible teamwork
  - plan decomposition – roles, play modes

Teamwork Challenge

- early years – hard-wired positions
- now, more flexible teamwork
  - plan decomposition – roles, play modes
  - executing team plans – ISIS

Teamwork Challenge

- early years – hard-wired positions
- 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

Opponent Modeling Challenge

- First: Build in models
- Off-line review – statistical engines

Opponent Modeling Challenge

- First: Build in models
- Off-line review – statistical engines
- Open challenge:
  - On-line tracking (Andou)
  - On-line strategy recognition

Opponent Modeling Challenge

- First: Build in models
- Off-line review – statistical engines
- Open challenge:
  - On-line tracking (Andou)
  - On-line strategy recognition
- Recent years – coach
  - Omniscient view
  - Standard language
  - Coachable teams