CS378
Autonomous Multiagent Systems
Spring 2005

Prof: Peter Stone
TA: Mazda Ahmadi

Department or Computer Sciences
The University of Texas at Austin

Week 5a: Tuesday, February 15th

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Programming assignment 4 - any questions?

Logistics

- Programming assignment 4 - any questions?

- Professor lunches: http://www.utacm.org/calendar

Logistics

- Programming assignment 4 - any questions?

- Professor lunches: http://www.utacm.org/calendar

- Next week's readings posted

Logistics

- Programming assignment 4 - any questions?

- Professor lunches: http://www.utacm.org/calendar

- Next week's readings posted

    – Are these readings "right?"

Logistics

- Programming assignment 4 - any questions?

- Professor lunches: http://www.utacm.org/calendar

- Next week's readings posted

    – Are these readings "right?"
    – Do you read as a believer or a cynic?

Logistics

- Programming assignment 4 - any questions?

- Professor lunches: http://www.utacm.org/calendar

- Next week's readings posted

  – Are these readings "right?"
  – Do you read as a believer or a cynic?
  – Where are we going from here?

Student-led Discussion

- Eric Tschetter on when communication is useful

UTCS Department of Computer Sciences
The University of Texas at Austin

ACL Desiderata

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

Semantics: unambiguous, address location and time

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

Semantics: unambiguous, address location and time

Implementation: efficient, networking issues hidden, amenable to partial implementation

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

Semantics: unambiguous, address location and time

Implementation: efficient, networking issues hidden, amenable to partial implementation

Networking: usable on top of existing protocols

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

Semantics: unambiguous, address location and time

Implementation: efficient, networking issues hidden, amenable to partial implementation

Networking: usable on top of existing protocols

Environment: interoperability with other languages

ACL Desiderata

Form: simple, readable, concise, easy to parse and generate, extensible

Content: well-defined primitives, flexible content

Semantics: unambiguous, address location and time

Implementation: efficient, networking issues hidden, amenable to partial implementation

Networking: usable on top of existing protocols

Environment: interoperability with other languages

Reliability: reliable, secure, authentication possible, error handling

Three-layer organization

- **Content: free-form (domain-dependent)**

Department of Computer Sciences

The University of Texas at Austin

Three-layer organization

- **Content: free-form (domain-dependent)**

- *Communication: who is sending, etc.*

Three-layer organization

- **Content: free-form (domain-dependent)**

- *Communication: who is sending, etc.*

- Message: performatives and fields (standard)

Three-layer organization

- **Content: free-form (domain-dependent)**

- *Communication: who is sending, etc.*

- Message: performatives and fields (standard)

```
(tell
    :sender stock-server
    :content (PRICE IBM 14)
    :receiver joe
    :in-reply-to ibm-stock
    :language LPROLOG
    :ontology NYSE-TICKS)
```

ACLs – Current Landscape

"Languages exist to serve a purpose, namely the communication between willing—and occasionally unwilling—participants"

ACLs – Current Landscape

"Languages exist to serve a purpose, namely the communication between willing—and occasionally unwilling—participants"

- There are different options

- Subtle differences

UTCS

Department of Computer Sciences
The University of Texas at Austin

ACLs – Current Landscape

"Languages exist to serve a purpose, namely the communication between willing—and occasionally unwilling—participants"

- There are different options

- Subtle differences

- Why a standard?
  – What are the pros and cons?

ACLs – Current Landscape

"Languages exist to serve a purpose, namely the communication between willing—and occasionally unwilling—participants"

- There are different options

- Subtle differences

- Why a standard?
  - What are the pros and cons?
- How are they created?

ACLs – Current Landscape

"Languages exist to serve a purpose, namely the communication between willing—and occasionally unwilling—participants"

- There are different options

- Subtle differences

- Why a standard?
  - What are the pros and cons?
- How are they created?

- Sample FIPA applications on resources page

Soccer server communication

- What is the soccer server communication protocol?

- How does it relate?

Soccer server communication

- What is the soccer server communication protocol?

- How does it relate?

- Does an ACL make sense in the soccer server? If so, under what circumstances?

An example protocol next week

UTCS *Department of Computer Sciences*
The University of Texas at Austin