CS378
Autonomous Multiagent Systems
Spring 2004

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Week 13a: Tuesday, April 20th

Good Afternoon, Colleagues

Are there any questions?

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- What if agents and humans act together?
- Is it irrational to be a participant in a common value auction?
- Are representative voting systems better?
- What's the best voting system?

Logistics

- Final tournament: Thursday, May 13th, 10:30am, ACES 6.304

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- Next week's readings

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Not all possible!

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- A pairwise method
- Smith set: smallest set of candidates such that each candidate in the set preferred over each candidate not in the set
- Every candidate in the Smith set is relevant

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- 40: B > C > A
- 12: C > B > A

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Overall: B $>$ C $>$ A

- Does that solve everything? What about cycles?

Class Discussion

Arpan Sura on voting systems

General Equilibrium

Consumers: utilities, endowments

Producers: production possibility sets

Variables: prices on goods

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  - Braess' paradox

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- Let o^* be the selected outcome
- Example: "split the dollar"
  - One person makes offer o
  - Other rejects with probaility $p(o)$ — based on offer
  - If rejects, both get nothing

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  - Contingencies
  - Leveled commitment (price)
- Coalitions
  - Formation
  - Optimization within
  - Payoff division

DRDM Summary

For many agents: voting, general equilibrium, auctions

For fewer agents: auctions, contract nets, bargaining

Possible in all: coalitions

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All self-interested, rational agents

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So decided to auction

Goals of mechanism

- Efficient allocation (assign to whom it's worth the most)
- Promote deployment of new technologies
- Prevent monopoly (or close)
- Get some licenses to designated companies
- No political embarrassments

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Revenue an afterthought (but important in end)

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- Reserve prices?
- How much information public?