CS378
Autonomous Multiagent Systems
Spring 2005

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The University of Texas at Austin

Week 12a: Tuesday, April 12th

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Final tournament time

  - Friday, 5/13 at 2pm

Distributed Rational Decision Making

Self-interested, rational agent

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The protocol is key

Evaluation Criteria

- Social welfare

- Pareto efficiency

- Stability

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- Efficiency (computational, communication)

Auctions vs. voting

- Auctions: maximize profit

  – result affects buyer and seller

- Voting: maximize social good

  – result affects all

Class Discussion

Ani Popova on taking a class vacation

Gibbard-Satterthwaite

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What about Clarke tax algorithm?

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- Push-over: Rank someone higher to get someone else elected

  – e.g. in a protocol with multiple rounds

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Criterion of independence of irrelevant alternatives. If one set of preference ballots would lead to an an overall ranking of alternative X above alternative Y and if some preference ballots are changed without changing the relative rank of X and Y, then the method should still rank X above Y.

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Non-dictatorship. There should not be one specific voter whose preference ballot is always adopted.

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Not all possible!

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Peter Stone

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- Does that solve everything? What about cycles?