

CS395T
Agent-Based Electronic Commerce
Fall 2006

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Week 4a

Good Afternoon, Colleagues

Are there any questions?

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- Open vs. closed loop strategies
- Collusion
- Realism

Logistics

- Thursday class in **RAS 312**

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- SCM readings

Bayes Nash Equilibrium

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 - Is there a dominant strategy equilibrium?
 - What if I tell you, I'll take what you tell me as your value and compute for you the correct thing to do given what other people bid?

Incomplete Information Games

- We each get one of 3 cards: 1,2,3
- If we both fold, we both lose nothing
- If one raises and one folds, the raiser gets 1
- If both raise, the one with the higher card gets 5
- Zero sum

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Card 3	R	5, -5	1, -1
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		Card ?	
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Card 1	R	-5, 5	1, -1
	F	-1, 1	0, 0

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With more numbers and/or different payoffs, bluffing can be a part of the Nash Equilibrium

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- Individually rational?
- Ex ante, yes
- Ex post, no

Vickrey-Clarke-Groves

- Groves: efficient, strategy-proof
- Pivotal: individually-rational

	utility
camera alone	\$50
flash alone	10
both	100
tripod	20

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- Groves: efficient, strategy-proof
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camera alone	\$50
flash alone	10
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	utility
camera	\$60
flash	20
tripod	30

questions

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- What is the allocation?

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- What is the allocation?
- What are the payments?
- Why is it strategy proof?
- What are choice set monotonic, negative externality, single-agent effects?

Computational considerations

- Why is this mechanism a burden on the bidders?

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- 16 rooms per auction; 16th-price ascending auction; quote is ask price; no resale
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Entertainment: MU/AP/AW days 1-4 (12)

- Continuous double auction; initial endowments; quote is bid-ask spread; resale allowed

Client Preferences and Utility

Preferences: randomly generated per client

- Ideal arrival, departure days
- Good Hotel Value
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Score: Sum of client utilities – expenditures