Intro to Game Design
Deeper into Games: Social Dynamics in Games

Fall 2015
Mondays & Wednesdays 9:30 AM-12:15 PM

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The Chip-Taking Game

• Each player holds up five fingers
• Take turns going around a circle, counter-clockwise
• On your turn, point at another player. That player must lower one finger.
  • Winner is “last one standing” (last one with any fingers up!)

What skill is involved in the chip-taking game?
How do you win at this game?
Is it interesting?
Understanding Politics in Games
"A multi-sided game with a high level of targeted interaction will tend to be a chip-taking game."
"A multi-sided game with a high level of targeted interaction will tend to be a chip-taking game."
Other kinds of targeted interaction: trading, attacking, healing, giving resources, supporting in combat
Dungeon Raiders

Non-targeted interaction: Bidding!
Dungeon Raiders

Non-targeted interaction: Bidding!

• Each player gets **12 tokens** (keep your # of tokens hidden)
• **Reveal one card** from the deck each round
• Decide **how many** of your tokens you want to bid to **defeat & score** that card (you may bid as many as you’ve got!)
• Reveal your bid—if no tie, **all tokens** in **everyone’s** bid are discarded
• Highest bidder scores that card (highest score at end wins!)
• If bids tie, nobody loses tokens. Keep that card out and reveal another card next to it: now you’re bidding to defeat & score a group of creatures
Mississippi Shipping

_Differently “targeted interaction” due to shared investment_
Sixteen Tons

Politics... and bidding!
Sixteen Tons

*The basic version first*

- Place colored pieces on the colored squares
- 4 players take turns in order as indicated on the board
- On your turn, move any piece adjacent or diagonal
- If your two pieces are adjacent (*not* diagonal) you win
Sixteen Tons

*Full version: double targeting... and bidding!*

- Place colored pieces on the colored squares
- Each player starts with 3 currency (play money or real!)
- 4 players take turns in order as indicated on the board
- On your turn, say “put me to work”
- Any other player may now pay you in currency to tell you any piece to move and where (adjacent or diagonal)
- You *must* take the highest bid offered; if a tie, you decide which
- If nobody pays you, you decide your own move
- First player with both pieces adjacent (*not* diagonal) wins
Sixteen Tons
Cooperation/Competition Patterns: Wolves and Sheep

Decide *silently* if you’re a wolf or a sheep.
On the count of three, hold out a fist if you’re a wolf, or an open hand if you’re a sheep.

Keep your hands out! Count the number of wolves and sheep in the group.
Cooperation/Competition Patterns: Wolves and Sheep

**WOLF**

If the group is mostly WOLVES, “Lean Pack!”
- Get 2 points if you’re a wolf
- Get 0 points if you’re a sheep

**SHEEP**

If the group is mostly SHEEP, “Predator Feast!”
- Get 5 points if you’re a wolf
- Get 3 points if you’re a sheep

Keep track of your points! (Take some tokens)
Cooperation/Competition Patterns: Wolves and Sheep

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- Get 2 points if you’re a wolf
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If the group is mostly SHEEP, “Predator Feast!”
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Keep track of your points! (Take some tokens)
**WINTER IS COMING!** Will your ecosystem survive?

Add all the points you’ve earned together.

Now take the number of players you have and multiply by 10: this is your goal.

If you have less than the goal amount, everyone freezes to death.

If you have more than the goal, the two players with the most points survive.
Cooperation/Competition Patterns: Wolves and Sheep

If the group is mostly WOLVES, “Lean Pack!”
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Winter survival: # of players x 10
Cooperation/Competition Patterns: The Prisoner’s Dilemma

The Prisoner’s Dilemma
The Prisoner’s Dilemma

Imagine you’re a criminal who’s been arrested along with your partner in crime.

The police don’t have enough evidence to throw the book at you.
Cooperation Problems: The Prisoner’s Dilemma

The Prisoner’s Dilemma

• If neither of you confess, you’ll get a minimum sentence of one year in prison.

• If one of you confesses, but the other doesn’t, the one that confesses will get early parole for turning “state’s evidence”… but the other will take the fall and get a heavy sentence.

• If both of you confess, then the heavy sentence will be split between the two of you.
Cooperation Problems: The Prisoner’s Dilemma

Let’s look at a “payout matrix”

Each prisoner has two options:

<table>
<thead>
<tr>
<th></th>
<th>PRISONER 1</th>
</tr>
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<tbody>
<tr>
<td></td>
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(Outcomes in green zones)

PRISONER 2 (outcomes in blue zones)
Cooperation Problems: The Prisoner’s Dilemma

If both stay quiet, One year in prison

PRISONER 1
CONFESS (State’s Evidence)
STAY QUIET

PRISONER 2
CONFESS (State’s Evidence)
STAY QUIET

1 Year
1 Year

(outcomes in green zones)
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Cooperation Problems: The Prisoner’s Dilemma

If both confess, 40-year sentence is split between them

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Cooperation Problems: The Prisoner’s Dilemma

But if one turns state evidence and the other doesn’t…

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40 Years
Cooperation Problems: The Prisoner’s Dilemma

Which is the best outcome for them?

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But what if they can’t communicate and we look only at Prisoner 1’s choices?

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If Prisoner 1 doesn’t know what Prisoner 2 is doing, which penalty looks better in either case?
**Cooperation Problems: The Prisoner’s Dilemma**

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If Prisoner 1 doesn’t know what Prisoner 2 is doing, which penalty looks better in either case?

…and of course, the authorities know this. They set it up.
Cooperation Problems: The Prisoner’s Dilemma

You can even apply this to chores and roommates...

ROOMMATE 1
(outcomes in green zones)

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Cooperation Problems: The Prisoner’s Dilemma

How do you think organized crime handles this?

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Cooperation Problems: The Prisoner’s Dilemma

They add some additional “payouts”

PRISONER 1
(State’s Evidence)

CONFESS
(outcomes in green zones)

STAY QUIET

PRISONER 2
(outcomes in blue zones)

CONFESS
(State’s Evidence)

STAY QUIET

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The Prisoner’s Dilemma in Games: Coordination & Betrayal

Ducking, who cares about your dad, all he does is eat beef jerky all day.

Petsy, you are EVIL! Poison Ivy! NO! NO! NO!

TEAMWORK!

YES! YES! OHHH GOD YESSS!

bubler...bubler...

I'm thinking that this is what becomes of those who pretend to be French.

You can change your lotion if you vant, before the turn ends.
Now for something slightly different: Werewolf

VILLAGERS (6) vs. WEREWOLVES (2)
Werewolf Rules

• **Your secret card** says if you’re a werewolf (W) or a villager (V)
• During **the day** everyone discusses & votes on who’s a werewolf and should be executed. You must vote but can vote not to kill anyone. If one player gets more votes than any other options, they die.
• Dead players are **out of the game** and can only watch (sorry)
• During **the night** everyone closes their eyes. The narrator tells the werewolves to open their eyes, and then they silently communicate about who their victim will be & show the narrator, then close their eyes. (One werewolf can also still kill.)
• **Back to daytime:** the narrator announces who was murdered during the night, and discussion & voting continues.
• **Once all of one side or the other is dead** the game is over.
Advanced Werewolf: New Roles

• **The Minion** is on the werewolf’s side, and finds out on the first night who the werewolves are. (Before the werewolves open their eyes, the narrator tells the minion to open their eyes and the werewolves to put their thumbs up.)

• **The Seer** can detect werewolves. Each night after the werewolves’ turn, the narrator tells the seer to open their eyes; the seer points at one player and the narrator nods if that player’s a werewolf.

• **The Night Watch** can protect a player from werewolf attack and opens their eyes to show the narrator who’s protected before the Werewolf turn.
A pattern that promotes more cooperation: the Stag Hunt

<table>
<thead>
<tr>
<th></th>
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<th>Rabbit</th>
</tr>
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<tr>
<td>Stag</td>
<td>5, 5</td>
<td>0, 3</td>
</tr>
<tr>
<td>Rabbit</td>
<td>3, 0</td>
<td>3, 3</td>
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</table>

- Two hunters can each decide whether to hunt rabbit alone or hunt stag together
- Rabbits can be caught alone: you get 3 food
- Stags can only be caught by working together and are worth ten food, giving each hunter 5
Characteristics of Games: Races and Brawls

Race or Brawl?
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Race or Brawl?
Characteristics of Games: Races and Brawls

Race or Brawl?

SETUP
Count 10 tokens for each player and put them in a single central pile. Shuffle the cards into a face-down deck. Deal a hand of 3 to each player.

EACH TURN
Draw a card and play a card. Then discard the card unless another rule tells you to keep it.

If this happens: Then do this:

You play a 1

THIEF: Take 1 token from any other player.

You play a 2

FARM: Keep the 8 in front of you. At the start of your turn, each farm gives you 2 tokens for each farm you own.

You play a 3

MERCHAND: Take 5 tokens

You play a 4

KNIGHT: Take 4 tokens

You play a 5

ROYALTY: Take 5 tokens
Races

Characteristics of Races

• “built up” from single-player games
Characteristics of Races

- “built up” from single-player games
- measurement of performance based on score or time
- (usually) little or no “interactivity” (aka interference)
- (usually) little or no politics & kingmaking
- (usually) players can be “logically eliminated”
Races: Interactivity (or Interference)

Characteristics of Races

• “built up” from single-player games
• measurement of performance based on score or time
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Characteristics of Brawls

- “built up” from a fundamentally two-player game
- hard to imagine a truly single-player version (not 1.5 player!)
- often won by the “last one standing”
Characteristics of Brawls

• “built up” from a fundamentally two-player game
• hard to imagine a truly single-player version (not 1.5 player!)
• often won by the “last one standing”
• *(usually)* involve “interactivity” (aka interference)
• *(often)* involve politics – but this can be shaped!
• *(sometimes)* involve logical elimination… unless there’s a lot of politics!