

# Full Game Descriptions

## Survivor

### 1. Background

**Survivor** pits players against each other in a version of “truel” with communication. Each player controls a group (either a cowboy band **or** a pirate ship) that has:

Resource	Meaning
Lives (cowboys / pirates)	The number of crew members still alive. When this reaches zero the player is eliminated.
Ammo / Cannon	Shots you can fire on a turn.  At the start of every turn each player receives a fresh batch (default = 3).

Every turn all players decide, in secret, who to attack and how many shots to fire. After everyone has submitted their orders, the actions are resolved **simultaneously**:

- Each shot consumes one unit of ammo.
- Each shot removes one life from the target.

The round ends with an update of lives, elimination notices, and a fresh ammo allotment for the next turn.

### 2. Game flow

1. **Ammo distribution** – every surviving player receives a fresh set of ammo (3 by default).  
*Players may attack several opponents, but the sum of shots must not exceed current ammo.*
2. **Elimination** – any player whose lives drop to 0 or below is declared eliminated and can no longer act.
3. **Feedback** – every player receives a text observation that includes:
  - Who attacked whom (but **not** how many shots were fired).
  - How many lives they lost this turn.
  - The list of remaining players.

### 3. Information structure

Information	Visible to the player
Your own lives and ammo	<input checked="" type="checkbox"/>
Lives and ammo of other players	<input type="checkbox"/> (hidden)
Who attacked whom after the turn resolves	<input checked="" type="checkbox"/> (but <b>not</b> shot counts)
Current turn number & total eliminated players	<input checked="" type="checkbox"/>

Thus, the game is a **partial-information** contest: players must infer opponents' strength from their attacks and decide how aggressively to spend your ammo.

### 4. Scoring

*The goal:* survive as long as possible while eliminating everyone else.

Score is **the number of opponents eliminated before the player**, i.e. as long as a player stays alive, their score rises by one point **each time another player is eliminated**.

### 5. End of Game

The match ends **when either**:

1. Only one player is still alive, **or**
2. The maximum number of turns defined in the configuration (by default 10) is reached (but players are not informed of the maximum turns).

### 6. Introductory Prompts Used (2 possible framings)

- a) "You lead a ship of pirates on the Caribbean. There are {x} other pirate ships. Each pirate ship needs a certain number of pirates aboard to survive. At the beginning of each turn, each pirate ship gets a certain amount of canon. You can only see the amount of live pirates and canon on your own ship. At the end of the turn, each pirate ship simultaneously decides which other ship to attack and with how many shots. You will see who attacked who, but not the amount of shots used. When a ship loses all its pirates lives, it is eliminated and can no longer fight."
- b) "You lead a band of cowboys in the wild west. There are {x} other cowboy bands. Each cowboy band needs a certain number of live cowboys to survive. At the beginning of each turn, each band of cowboys are distributed a certain amount of ammunition. You can only see the amount of live cowboys and ammunition in your band. At the end of the turn, each cowboy leader simultaneously decides which other band to attack and with how many shots. You will see who attacked who, but not the amount of shots used. When a band loses all its cowboys lives, it is eliminated and can no longer fight."

# Coalition

## 1. Background

The game is a negotiation exercise in which **each player** must decide whether to join a coalition and how much of the shared “pie” it will claim.

Two story-lines (scenarios) are available with the same mechanics but differ in flavour:

Scenario	Setting
<b>1 – Politics</b>	You lead a political party after an election. The parliament has 100 seats; parties own a share of those seats. A government can be formed only if the coalition controls <b>more than 50 seats</b> and the coalition together asks for <b>no more than 20 ministries</b> .
<b>2 – Real-Estate</b>	You are a landowner negotiating a joint development project worth <b>20 million</b> . The property is split into ownership percentages. A venture can go ahead only if the partners own <b>more than 50%</b> and they <b>ask together for no more than 20 million in profits</b> .

In both cases the goal for each player is to be part of a successful coalition *and* to claim as large a share (ministries or dollars) as possible.

## 2. Game Flow

### Each Negotiation Round (turn)

Step	What the player does
<b>Submit proposal</b>	Send <b>one</b> proposal that contains: <ul style="list-style-type: none"><li>• Amount – an integer from <b>0 to 20</b> (ministries or million dollars you want).</li><li>• Partners – a list of <i>other</i> player names you would like to form a coalition with.</li></ul>
<b>Resolution</b>	After all valid proposals are collected, the engine looks for a <i>mutually consistent</i> group:. If such a group exists <b>and</b> it satisfies both resource limits ( <b>≤ 20 ministries / \$20 M</b> ) <b>and</b> majority representation ( <b>&gt; 50 seats / &gt; 50 % land</b> ), the coalition is accepted immediately.

## 3. Information Structure

What the player sees	Details
<b>Initial briefing</b>	<ul style="list-style-type: none"><li>• Full list of all players' names.</li><li>• Each player's representation (seats or land %) which was kept symmetric.</li></ul>
<b>During the game</b>	After each round players are informed whether an agreement was reached and shows all proposals submitted in that round.

## 4. Scoring

- **Budget / Allocation** – When a coalition is formed, each member receives exactly the amount they asked for in their proposal.
- **Score Update** – The received amount is that player's score.
- **No agreement** – If no coalition is reached by every player's score stays at **0**.

## 5. Terminal Conditions

The game stops as soon as *one* of the following occurs:

1. **Successful coalition** – A mutually consistent group meeting both the resource cap ( $\leq 20$ ) and the majority rule ( $> 50$  representation) is found.
2. **Maximum rounds reached** – default set to 5 (players are aware of this).

## 6. Introductory Prompt Used (2 Possible Framings)

a) "You are the head of a political party right after the national elections. There are {x} parties altogether. The results of the elections were as follows:{distribution}. There must be at least 51 seats of the parliament represented to form a government. Since no party has passed the threshold to form a government by itself, there will need to be a coalition. Under the constitution, the government controls no more than 20 ministries. Each member of the coalition will administer a share of those ministries. Parties outside the coalition are not part of the government and will not control any ministries. For a coalition agreement to enter into force, the participating members must agree on the division of the ministries between them. If there is no agreement, a government will not be formed, and all parties will have zero ministries in that election cycle. There is a maximum of {y} rounds of negotiation to build a coalition in an election cycle."

b) "You are a real estate tycoon, negotiating a potential joint development project in a lucrative property. There are {x} other land owners in the property, who are potential partners for this venture. The land ownership of the property is distributed in the following percentages: \n{distribution}. In order for the development project to go forward, the partners in the project must represent at least 51 percent of the land ownership between them.

The development project has a projected value of 20 million dollars. In the joint venture agreement for the project, the participating members must agree how much each gets, out of the 20 million dollar value. Those who are not part of the agreement will not receive any of the value of the project. If there is no agreement, then there is no project and all land owners will have zero added value. There is a maximum of {y} rounds of negotiation."

# Tragedy of the Commons

## 1. Background

- A shared natural resource (fish in the sea or grass on a field) can be used by many players at once. If everyone takes too much, the resource collapses and nobody gets anything.
- **Two story settings:**
  1. **Fishermen** – each month you decide how many tonnes of fish to haul from a common fishing ground.
  2. **Farmers** – each month you decide how many cattle to graze on a shared pasture.

The game illustrates the classic “tragedy of the commons” dilemma: individual profit versus collective sustainability.

## 2. Game Flow (Turn-by-Turn)

Phase	What Happens
<b>Start of Turn</b>	All players are shown the current month, the amount of resource left in the commons, and their personal cumulative total.
<b>Decision</b>	Each player independently submits a single number – how much fish (tonnes) or cattle they want to take this month. The submission must be a non-negative integer/float not exceeding the total amount currently available.
<b>Simultaneous Resolution</b>	All submissions are summed. That total is removed from the commons.
<b>Regeneration</b>	After removal, the commons “grows back” by adding half of what remains (capped at 200 units).
<b>Feedback</b>	Players receive a short narrative: how much was taken in total, what the new resource level will be next month, and any special messages if the commons collapses.
<b>Score Update</b>	Each player’s personal score increases by the amount they just took.

## 3. Information Structure

- **Scenario description** – “You are a fisherman/farmer...”.
- **Current month number** (starts at 1).
- **Resource level** – e.g., “100 tonnes of fish left” or “100 cattle can graze”.
- **Player’s personal total** – cumulative amount taken so far.
- **Hidden** – how much other players took.

## 4. Scoring

- **Score = Total amount successfully taken** over all completed months.
- After each turn, the score is increased by exactly the number submitted (provided the commons has not collapsed).

## 5. Terminal Conditions

The game ends **as soon as** one of the following occurs:

1. **Resource collapse:** The commons falls below **10 units** (tonnes or cattle). In that case no player receives anything for that month and the game stops immediately.
2. **Maximum turns reached:** A preset limit (5 by default) is hit. This allows a finite-length session even if the resource remains viable (but players are not informed of the preset maximum rounds).

## 6. Introductory Prompt Used (2 Possible Framings)

a) "You are a fisherman. Each month, you must decide how many tonnes of fish you draw from the fishing grounds.

There are {x} other fishermen who each make a similar decision in parallel.

The fishing grounds start with 100 tonnes of fish.

Each month after fishing, the amount of fish increases by 50% of what was left.

If the amount of fish in the grounds falls below 10 tonnes, then no one gets any fish that month and the grounds must be abandoned due to overfishing."

b) "You are a farmer. Each month, you must decide how much grass to graze from the fields. There are {x} other farmers who each make a similar decision in parallel.

The amount of grass in the grazing grounds currently support a maximum of 100 cattle grazing at a time.

Each month after grazing, the amount of grass increases by 50% of what was left.

If the amount of grass in the field falls below the ability to support 10 cattle, then noone benefits from the grass that month and the fields must be abandoned due to overgrazing.

# Scheduler

## 1. Background

- **Game type:** Coordination game with conflicting preferences (a classic *Battle of the Sexes* generalized to multiplayer).
- **Two story-lines:**
  1. **Secretaries** – each week try to pick a day for a meeting between managers.
  2. **Friends** – each week you try to decide on one activity to do together.
- **Goal:** All players must agree on the *same* option (a day or an activity).
- **Conflict:** Every player has a private ranking of the options; what is best for one may be worst for another.

## 2. Game Flow

Phase	What Happens
Setup	<ul style="list-style-type: none"><li>• The number of players is fixed.</li><li>• A list of possible days/activities is created – its length equals the number of players.</li><li>• Each player receives a private preference table (ranking) that includes all options plus “None” (the outcome when no agreement is reached). Rankings are rotations of each other.</li></ul>
Round (Week)	<ol style="list-style-type: none"><li>1. Players read the scenario description and see their own preference ranking.</li><li>2. <b>Simultaneous move:</b> each player submits <b>one</b> proposal – a single day or activity,</li><li>3. The system checks whether <i>all</i> proposals are identical.<ul style="list-style-type: none"><li>• <b>If yes:</b> that option becomes the week’s outcome.</li><li>• <b>If no:</b> the outcome is “None” (no meeting / no activity).</li></ul></li><li>4. All players receive a short feedback message describing what happened, plus a personal comment telling them whether the chosen option was their top-ranked one or not.</li><li>5. Scores are updated.</li><li>6. The internal state records the week number and the result for each player; then the next round begins.</li></ol>
Repeat	Repeat until the pre-set maximum number of weeks is reached.

### 3. Information Structure

What players know before they act	What stays hidden (private)
<ul style="list-style-type: none"><li>The story (secretaries or friends).</li><li>The complete list of available days/activities.</li><li>Their own preference ranking (e.g., "Monday = 5, Tuesday = 2 ...").</li></ul> <p>After each round they receive:</p> <ul style="list-style-type: none"><li>A common observation ("All agreed on Tuesday" or "No agreement, proposals were ...")</li><li>A personal note that references <i>their</i> ranking (e.g., "Your manager says it wasn't the best day").</li></ul>	<ul style="list-style-type: none"><li>Other players' rankings (needs to be communicated)</li></ul>

### 4. Scoring

- Each option has a numeric value for each player equal to its **rank** in that player's table. *Higher rank = higher value.*
- The special outcome "**None**" always carries a value of **0** (the worst possible).

Outcome	Points added to every player
Agreement on option X	The player's own rank-value for X (e.g., 4 points if X is the fourth-best day for that player).
No agreement ("None")	<b>0</b> points for everyone.

*Scores are cumulative across weeks.* At the end of the game each player's total reflects how often the group landed on choices they liked.

### 5. Terminal Conditions

The game ends automatically after a fixed number of rounds, by default 5 (but players are not informed of this limit).

### 6. Introductory Prompt Used (2 Possible Framings)

a) "You are a secretary. Each week, you try to coordinate with the other secretaries to set up a meeting between your respective managers. There are {x} other secretaries to coordinate with. The available days for the meeting are: "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday". You must all agree on one of the days for there to be a meeting in the coming week."

b) "You are a group of friends. Each week, you try to coordinate a joint activity. There are {x} other friends to coordinate with. The available activities are: "Movie", "Skating", "Cafe", "Swimming", "Dancing", "Bowling", "Karaoke". You must all agree on one of the activities for it to take place."

# HUPI

## 1. Background

HUPI is a turn-based multiplayer contest built around the idea of “**the highest unique number wins.**”

- **Scenario 1 – Stock Exchange:** Players bid an integer price ( 1–10 ) for a newly offered stock. The highest *unique* bid gets the share.
- **Scenario 2 – Game-Show Doors:** Players pick one door numbered 1-10. The highest *unique* door is opened and its prize goes to that player.

## 2. Game Flow

Step	What Happens
Round Start	A new stock is announced (scenario 1) or the doors are ready (scenario 2).  Every player must choose a single integer between 1 and 10.  Choices are submitted <b>simultaneously</b> – no one sees anyone else’s pick before submitting.
Resolution	The engine looks at all submissions: <ol style="list-style-type: none"><li>1. Identify which numbers were chosen by <i>only one</i> player (the “unique” bids).</li><li>2. Among those unique numbers, the highest value wins the round.</li></ol>
Feedback	All players receive a short message that lists every player’s choice and explains why they won or lost (e.g., “your price was not high enough,” “someone else also chose your door”).  Winners are told they earned the stock/prize for that round.
Score Update	The winner’s personal score goes up by 1; everyone else’s score stays the same.
Next Round	If the maximum number of rounds has not been reached, a new round begins with fresh choices.

## 3. Information Structure

- **Initial Briefing (once)** – Text that explains the scenario, the number of opponents, and the goal (“maximise your stocks” or “get the prize”).
- **Round Observation (after each turn)** – A single message visible to every player that contains:
  1. A list of all players’ choices for the round.
  2. Personalized notes on why a choice succeeded or failed.
  3. The score increment for that round (+1 for the winner, 0 otherwise).

All information is public; there are no hidden cards or secret states.

## 4. Scoring

Outcome	Points Earned
Win a round (your number is the highest unique one)	+1
Lose a round (your number is duplicated or lower than another unique number)	0

Scores are simply tallied counts of how many times a player has been the winner. The final ranking is based on who accumulated the most points after all rounds.

## 5. Terminal Conditions

- The game ends automatically when the round counter exceeds the default 5 turns (players are not aware of this limit).
- There is no early-exit rule; the only way to finish a match is to play through all configured rounds.

## 6. Introductory Prompt Used (2 Possible Framings)

a) "You are participating in a special stock exchange.

At each round, a single new stock is offered for a \*\*whole integer\*\* price of up to 10 dollars. However, a bid cannot be cleared in the system if there is another simultaneous bid by someone else at an equal price. Of the bids that are \*\*unique\*\*, the \*\*highest\*\* one will be accepted. Therefore, the stock will go to the bidder offering the \*\*highest unique\*\* price. For example, if there was only one bid for 10 dollars, then the stock goes to the one that bid 10 dollars. But if there were two bids for 10 dollars and one bid for 9 dollars, then the stock goes to the one that bid 9 dollars. There are {x} other bidders at the exchange with you. "

b) "You are participating in a game show. At each round, contestants choose from one of ten doors, numbered 1 to 10, behind which there are prizes. If two or more contestants choose the same door, that door will not be opened.

Of the contestants that choose a \*\*unique\*\* door, the \*\*highest\*\* numbered door will be opened. Therefore, the prize will go to the contestant that chose the \*\*highest unique\*\* number door. For example, if there was only one contestant that chose door 10, then the prize goes to that contestant. But if there were two contestants that chose door 10 one chose that door 9, then the prize goes to the one that chose door 9.

There are {x} other contestants in the game show with you. "