

# Games I: Design and Architecture

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*Week 04 (09/18) Formal Elements and Physical Games*

# Concept Document

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What is the essence of your game idea?

- In one to two paragraphs
- In one sentence?

What are the formal elements?

- Players, Objectives, Procedures, Rules, Resources, Conflict, Boundaries, Outcome

What are the dramatic elements?

- Challenge, Play, Premise, Character, Story

What are the dynamic elements?

- Objects, Properties, Behaviors, Relationships

# Players

- **Voluntary** participants that partake and consume
- Active, invested, make **decisions**
- **Accept the rules and constraints**
- Competitor, explorer, collector, achiever, joker, artist, director, storyteller, performer, craftsman



# Objectives

- The **goal(s)**
- **Work** toward the objective is a measure of one's **involvement**



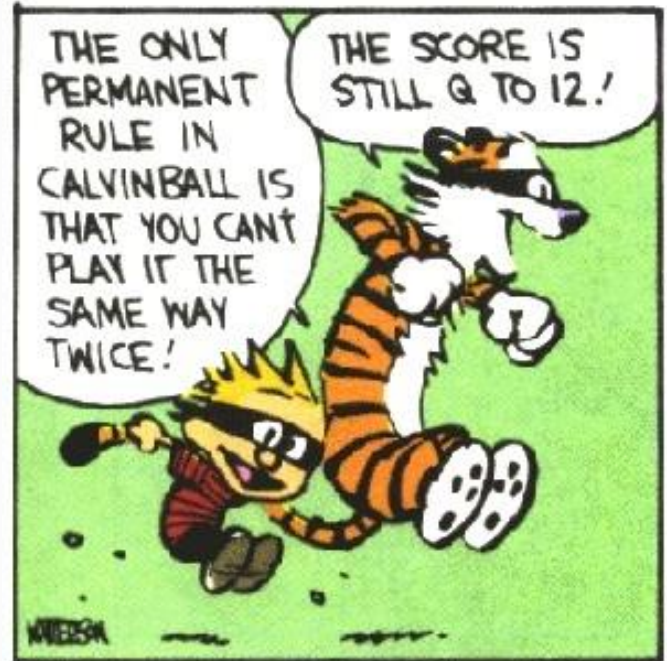
# Procedures

- The **actions**
- What players can **do** to **achieve** the game's **objectives**



# Rules

- Authority stems from **an implicit agreement by the players**
- Define **constraints**
- Define **concepts, objects**
- Clarify all possible situations

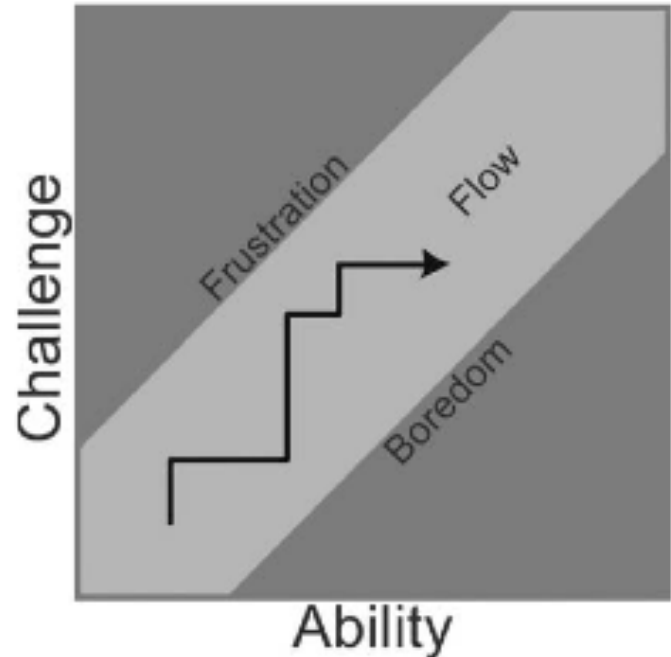


# Conflict

- **Relationship** between the **objective** and the **rules/procedures**
- Obstacles, opponents, dilemmas
- Tasks that are **satisfying** to complete
- “**Just the right amount**” of difficulty

**Flow** = between boredom and frustration

- The merging of **action** and **awareness**
- **Experience** as an **end in itself**
- Loss of self-consciousness
- Paradox of control



# Boundaries

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- Conceptual or Physical
- The “magic circle”
  - The game world is separate from the real world





# Outcome

- **Uncertain**
- **Measurable**
- **Unequal**
- **Motivator**
  - If predictable, you stop caring
- **Different every time**
  - Unlike books/film



# Challenge

- Created by **conflict**
- Must be **balanced** by **resources** and **obstacles**, or else becomes either frustrating or boring (remember **flow**)



# Play

- Play itself is not a game (toy)
- To engage a game is to play it
- The amount of movement available within the system



# Premise

Gives **context** to the formal elements

Setting



# Character

**Agents** through which stories are told  
**Vessels** for our own **participation**



# Story

- Differs from premise in that it **unfolds within the game**

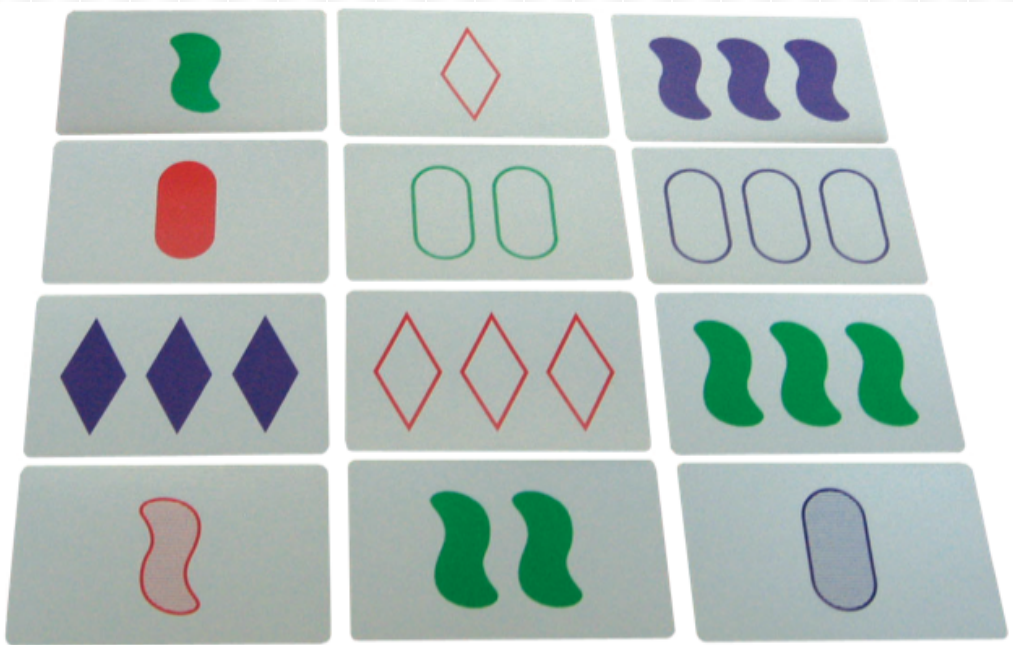


# System Dynamics

- **Objects** = **basic building blocks** of a system
  - Interact with each other and the game world
  - Board game pieces, players, avatars, environments
- **Properties** = qualities, attributes, values, parameters of objects
- **Behaviors** = potential **actions** an object may take in a given **state**
  - More behaviors = less predictable
- **Relationships**
  - Without these, it's not a system, just a collection (adding numbers to a collection of cards)
  - Can be **introduced by player decisions**, or by **chance**, or according to **rules**
  - Can **change** (checkers reaching the end of the board)
  - May change as **characters' needs** change

# Set

A **set** is **three cards** whose individual features are either **all the same** or **all different**





# Set - System Dynamics

	1	2	3	Unique Cards
Shape	Oval	Diamond	Squiggle	3
Number	1	2	3	9
Pattern	Solid	Clear	Striped	27
Color	Green	Red	Purple	81

# Set - System Dynamics

	1	2	3	Unique Cards
Shape	Oval	Diamond	Squiggle	3
Number	1	2	3	9
Pattern	Solid	Clear	Striped	27
<b>Color</b>	<b>Green</b>	<b>Red</b>	<b>Purple</b>	<b>81</b>
<b>Background</b>	<b>White</b>	<b>Black</b>	<b>Grey</b>	<b>243</b>
<b>Border</b>	<b>Silver</b>	<b>Gold</b>	<b>Onyx</b>	<b>729</b>
<b>Animation</b>	<b>Still</b>	<b>Blinking</b>	<b>Rotating</b>	<b>2187</b>

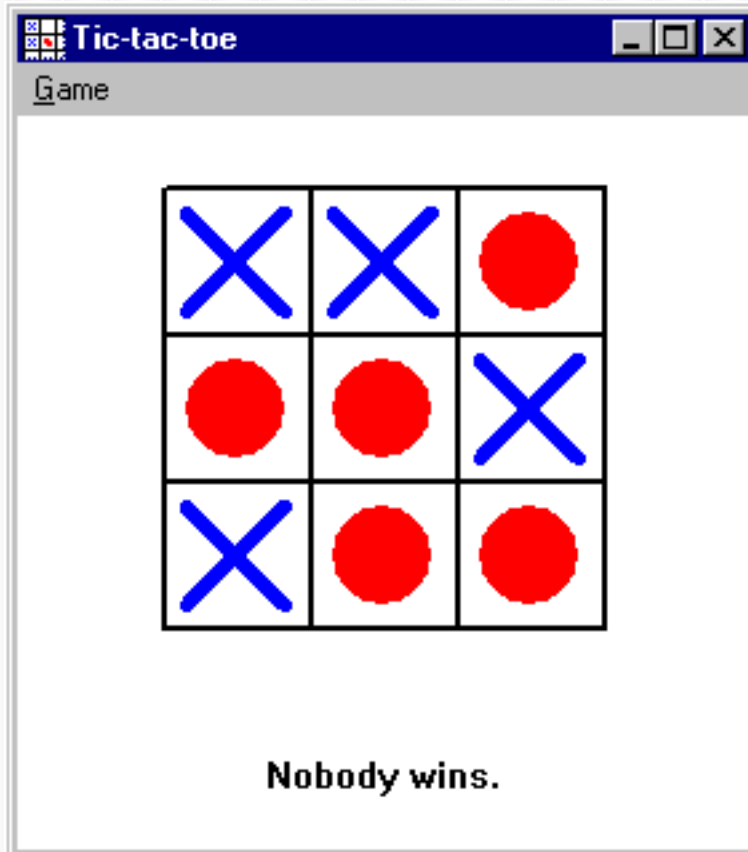
# Game Deconstruction

**Materials:** A piece of paper, two pens, two players

1. **Draw 3 dots randomly** on the paper. Choose a player to go first.
2. The first player **draws a line from one dot to another dot.**
3. Then that player **draws a new dot anywhere on that line.**
4. The second player also draws a line and a dot:
  - The **new line must go from one dot to another**, but **no dot can have more than three lines coming out of it.**
  - Also, the **new line cannot cross any other line.**
  - A line **can go from a dot back to the same dot** as long as it doesn't break the “**no more than three lines**” rule.
5. The players take turns **until one player cannot make a move.** The **last player to move is the winner.**

**Identify the formal elements!**

# Three Player Tic-Tac-Toe



# Assignments for Week 05 (09/25)

[Download Instructions as .pdf](#)

Read [Game Design Workshop](#) - Chapter 7: Prototyping (pgs. 175 - 212)

[Individual] Dynamic Element Analysis

- Choose a board game
- Make a list of all the objects in the game and their properties
- Add a description of the behaviors for each object (consider different game states)
- Describe the relationships between objects

[Group] Start Physical Prototype! Think about:

- Materials
- Rules
- Diagram Core Gameplay

# Dynamic Element Analysis

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## Individual Assignment for Week 05 (09/25)

- Choose a board game
- Make a list of all the objects in the game and their properties
- Add a description of the behaviors for each object (consider different game states)
- Describe the relationships between objects

# Start Physical Prototype

- Materials
  - Make a list of those you will need
  - Start gathering them
- Rules
  - Look at some existing rule sheets
  - Draft a version of your game's rule sheet
- Diagram Core Gameplay
  - Systems
  - Procedures
  - Resources/Goals/Obstacles

