

# CE810 - Game Design 2

Recap

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Monday, 14 May 2018

University of Essex

# Game Design

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- Although we've used a different font...
- We're recapping this because it's important to what we're doing
- also, you've done exams since then...

- Tokens (aka entities)

# Richard's Hierarchy

- Tokens (aka entities)
- Rules

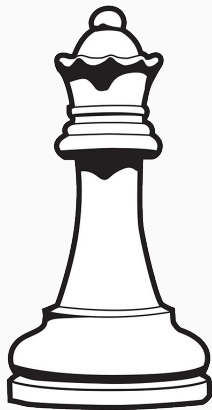
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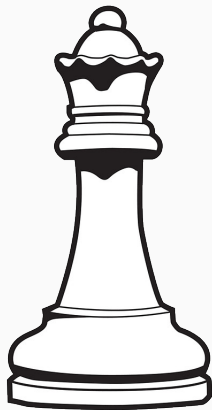
- Tokens (aka entities)
- Rules
- Features
- Gameplay

- Things that can act or be acted upon

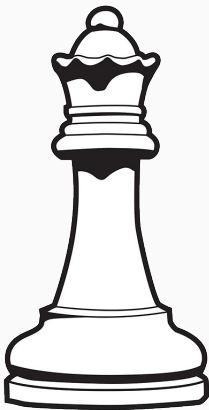




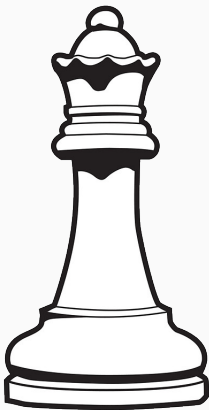
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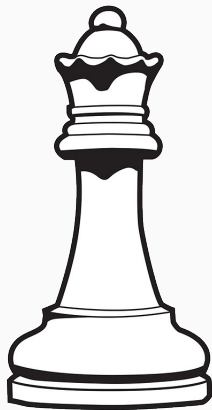
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- The **emergent feature** is “Defences need to be managed”
- Rules **together** with features form the **mechanics** by which gameplay emerges

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- Features emerge from interactions between game rules
- Gameplay emerges from iterations between features.

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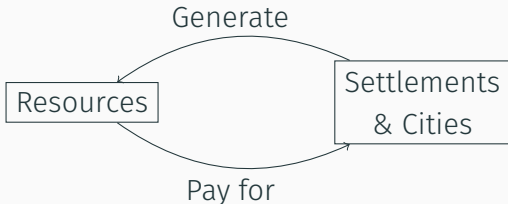
- In the same way that features emerge from rule interactions, gameplay emerges from feature interactions
- Gameplay is what players do in the game to have fun
- There are subjective degrees of gameplay

# Feedback Loops

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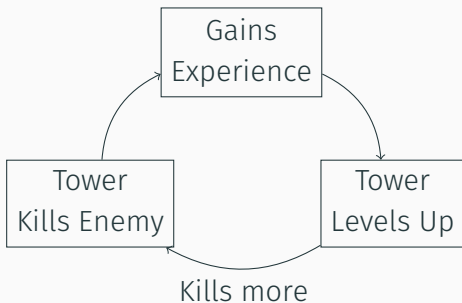
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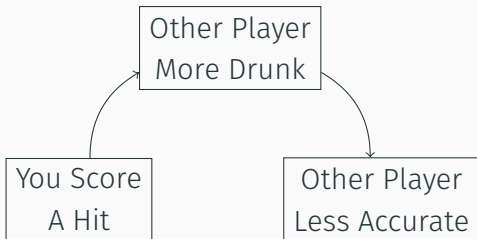
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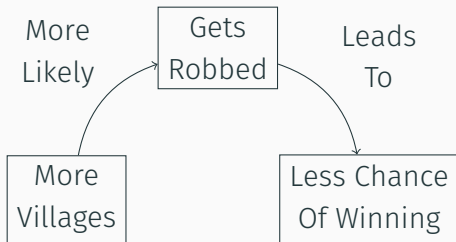
# Positive Feedback Loops

- In a positive feedback loop, the better you do something the easier it becomes.
- Your lead will increase if being ahead gives you an advantage
- Unstable and not good between players



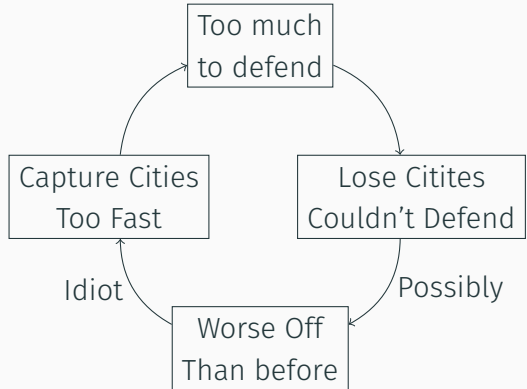
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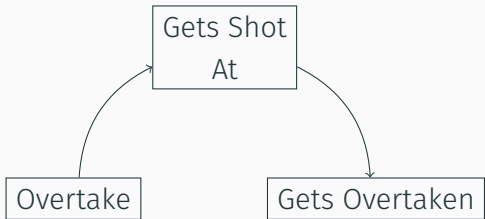
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# Negative Feedback Loops

- In a negative feedback loop, the better you do something the harder it becomes.
- Your lead will decrease if being ahead gives you a disadvantage
- Very good at all levels of gameplay



# Game Parameters

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## Exercise: Game Characteristics

### Question

Identify characteristics of a game genre, e.g. 2D Arcade Games

## Answer: Game Characteristics

- Game Rules

## Answer: Game Characteristics

- Game Rules
- Object Types



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## Answer: Game Characteristics

- Game Rules
- Object Types
- Vehicle Physics
- Input Controls
- Weapon Systems
- Game Views
- Level Designs
- AI Behaviour

- Collisions?

# Game Rules

- Collisions?
- Reward Structure



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# Game Rules

- Collisions?
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- Collisions?
- Reward Structure
- Game State transition structure
- Fundamental
- Small changes can radically alter the game

- Things to:

# Object Types

- Things to:
  - Shoot

# Object Types

- Things to:
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  - Collect

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# Object Types

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# Object Types

- Things to:
  - Shoot
  - Collect
  - Jump on
  - Protect
  - Infect
  - Bounce Off

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- Left - right?

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  - Rotation friction?

- Related to vehicle physics

## Question

Will AI's experience these changes?

# Input Controls

- Related to vehicle physics
- How the ship is controlled?

## Question

Will AI's experience these changes?

- Related to vehicle physics
- How the ship is controlled?
- Classic arcade or one touch controls?

## Question

Will AI's experience these changes?

- Things to vary include:

# Weapon Systems

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  - Damage
  - Size

- Fixed or Panning? Scrolling? Zooming viewport?

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- Can radically **alter** nature and difficulty of a game



- **Significant** impact on difficulty and interest

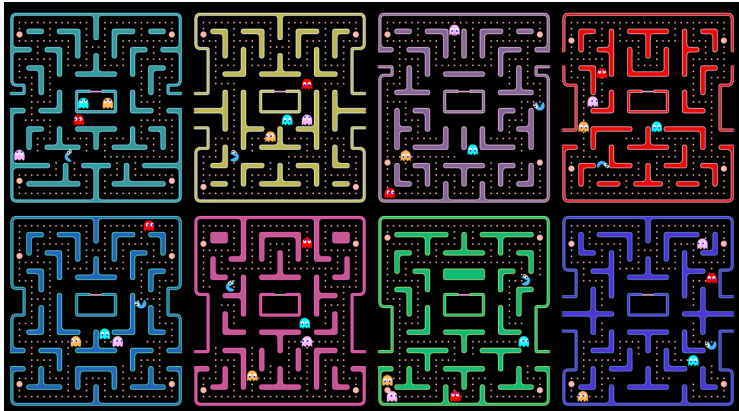
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- For asteroids focus on speed, size, and movement of the Asteroids

# Level Design



- Complex problem

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- Interesting AI can **make** or **break** a game



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- Keeping AI intelligent **without** being too powerful is hard

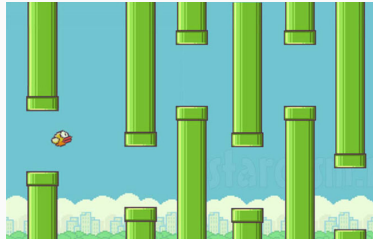
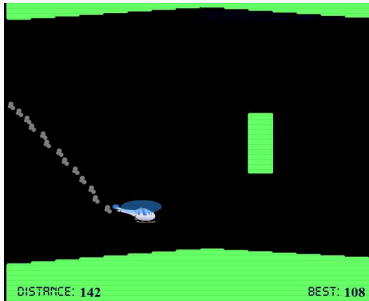
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- Need to **monitor** the player and tweak
  - Towards the **desired** player experience ...



# 'Inspiration'

There are great opportunities for mining minor variations on existing games





R. Bartle.

Lecture slides for ce810, part 1.

2018.



R. Koster.

*Theory of fun for game design.*

" O'Reilly Media, Inc.", 2013.