

# **Lecture 1:**

# **Introduction**

**Game Design**

**Fall 2023**

**Julian Togelius**

# Who is Julian?

- Wanted to understand the mind, turned to philosophy...
- ...then to artificial intelligence and robotics...
- ...now does AI for games
- [julian.togelius@nyu.edu](mailto:julian.togelius@nyu.edu)



# Has Julian designed any games?

- Yeah, sort of, but not recently
- Recently, he has mostly helped build games for developing better AI algorithms
- Also, co-founded modl.ai, a startup for bringing AI advances to improve game development

# Who is M?

- 5th year PhD student studying Game Design and AI
- Focus in collaborative creative content generation (3CG)
- Making games for 13+ years
- [mlc761@nyu.edu](mailto:mlc761@nyu.edu) | MasterMilkX



they / them



# Who are you?

- Name
- Favorite game
- Game design experience?

# This class

- Several basic ideas of game design, illustrated by famous games
- Six prototype games done in *randomly assigned* triples
- One group project, where you flesh out one of your prototypes in groups of 4-5
- Animating idea: you learn to design by prototyping, and prototyping a lot is great
  - Failure is fine and expected!

# Course Schedule

- Today: Intro to the class and our first lecture!
- Until ~Halloween: Prototypes
- After ~Halloween: Project
- Dec 18th: Final project presentation

# Topic Schedule (preliminary)

- Intro and Minimalism
- Game Feel
- Characteristics of Games
- Resources
- Level Design
- Procedural Content Generation
- Final Project Details & maybe a surprise bonus lecture?
- No lectures, just project feedback



Discord

The answer to all your  
questions

# Game Engines

- You can use whatever you want, but the end result must run in a browser
- Unity is fine, but perhaps overkill  
(see the “How to make a video game” tutorial)  
[https://www.youtube.com/channel/UCYbK\\_tjZ2OrlZFBvU6CCMiA](https://www.youtube.com/channel/UCYbK_tjZ2OrlZFBvU6CCMiA)
- Other “big engines”: Godot, Unreal
- Many alternative, simpler engines: Game Maker Studio, Pico-8, PuzzleScript, Twine, Bitsy, RPG Maker, Construct 2...
- See blog post by Ahmed Khalifa:  
[https://www.gamasutra.com/blogs/AhmedKhalifa/20170315/293689/Game\\_Engines\\_Galore.php](https://www.gamasutra.com/blogs/AhmedKhalifa/20170315/293689/Game_Engines_Galore.php)
- Or write the game from scratch in JavaScript / TypeScript

# Working in triples

- During the first part of the semester, you will be working *randomly assigned* in triples
- New assignment every week
- Let us know if this absolutely does not work

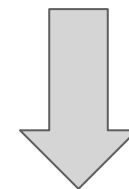
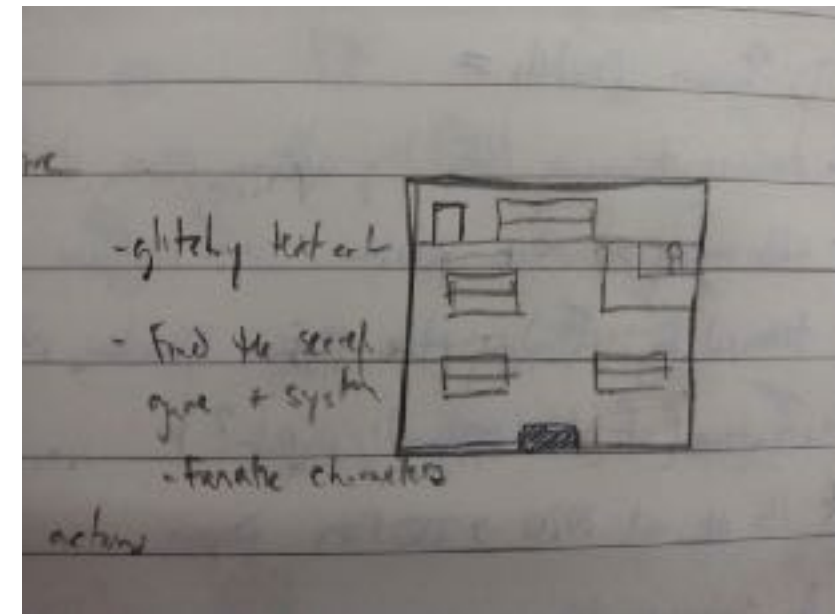
# Submission



Upload to [itch.io](https://itch.io)

# How to scope a prototype

- Use the “thumbnail” technique for ideas
- Don’t spend too much time on one area
- Design
  - Art
  - Core Mechanics
  - Debugging
- Reuse resources (i.e. code, sprites)
- Minimalize
- “Follow the fun”



# Prototype Presentation (tips)

- Build a small presentation
- Have people test your game before the presentation
  - Ideally people who didn't work on the game
- Use GIFs and Images!
- Talk about your design decisions (and why!)
- Analyze your game systems

# Peer feedback

- Every week each one of you will be assigned to play and, anonymously, critique three submitted games
- Please be fair, balanced, and constructive

# Grading

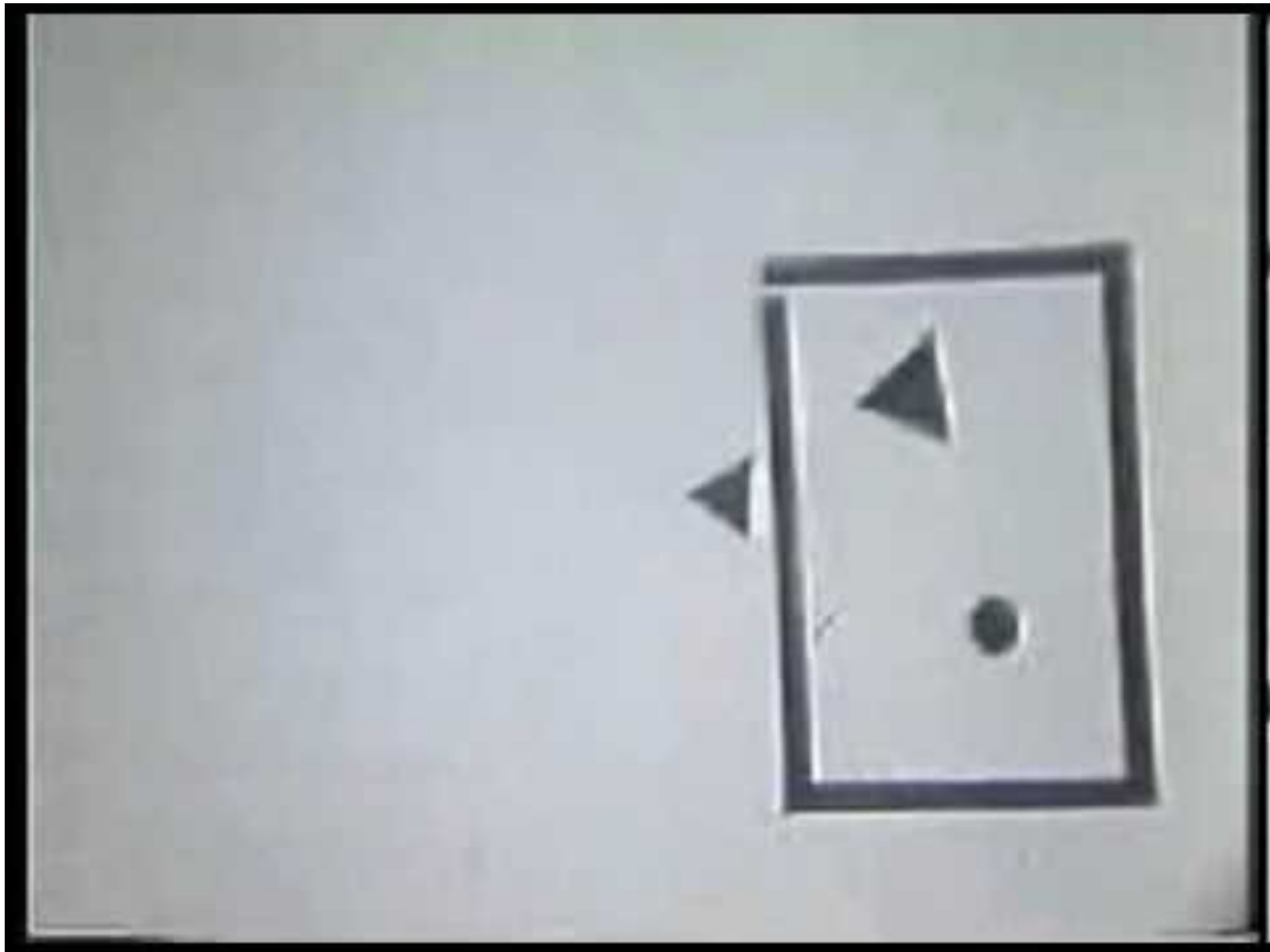
- 40% Your best three prototypes
- 10% Giving peer feedback
- 10% Attendance
- 40% Final game project



**This week's theme:**  
**Minimalism**

This week's theme:  
Minimalism

# Heider and Simmel



# Canabalt Crane



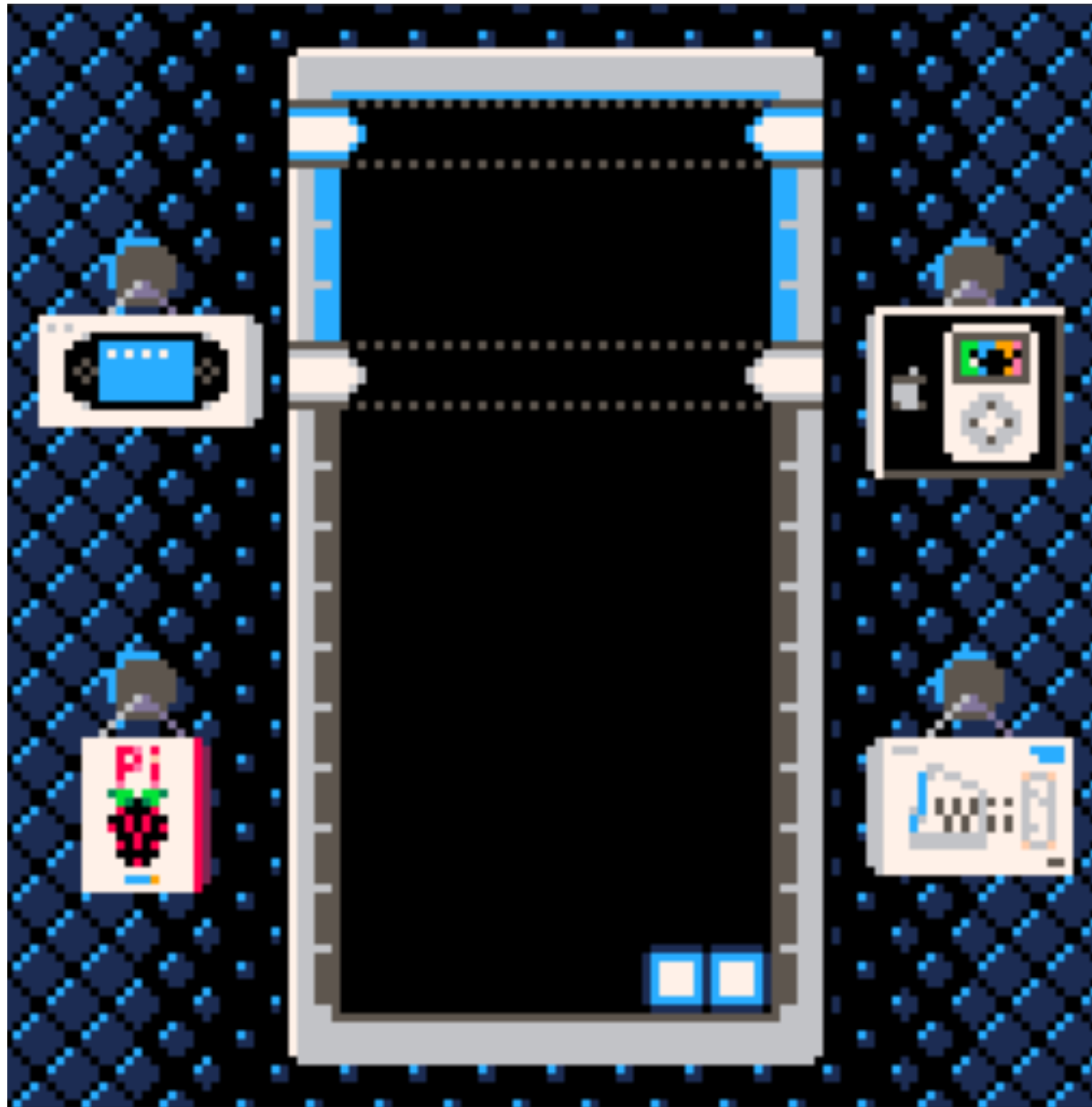
# Super Hexagon



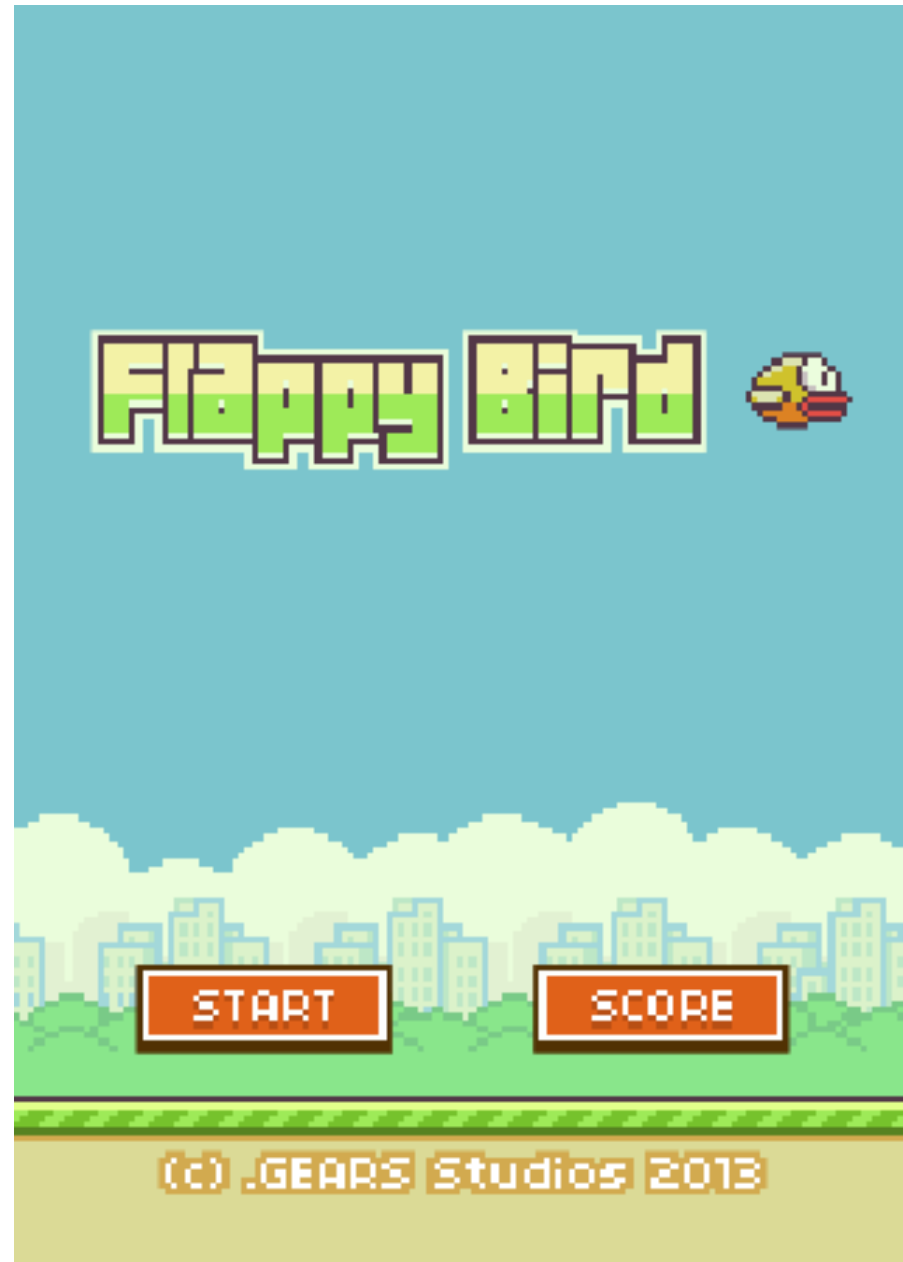
# Osmos



# Stacker Arcade Game

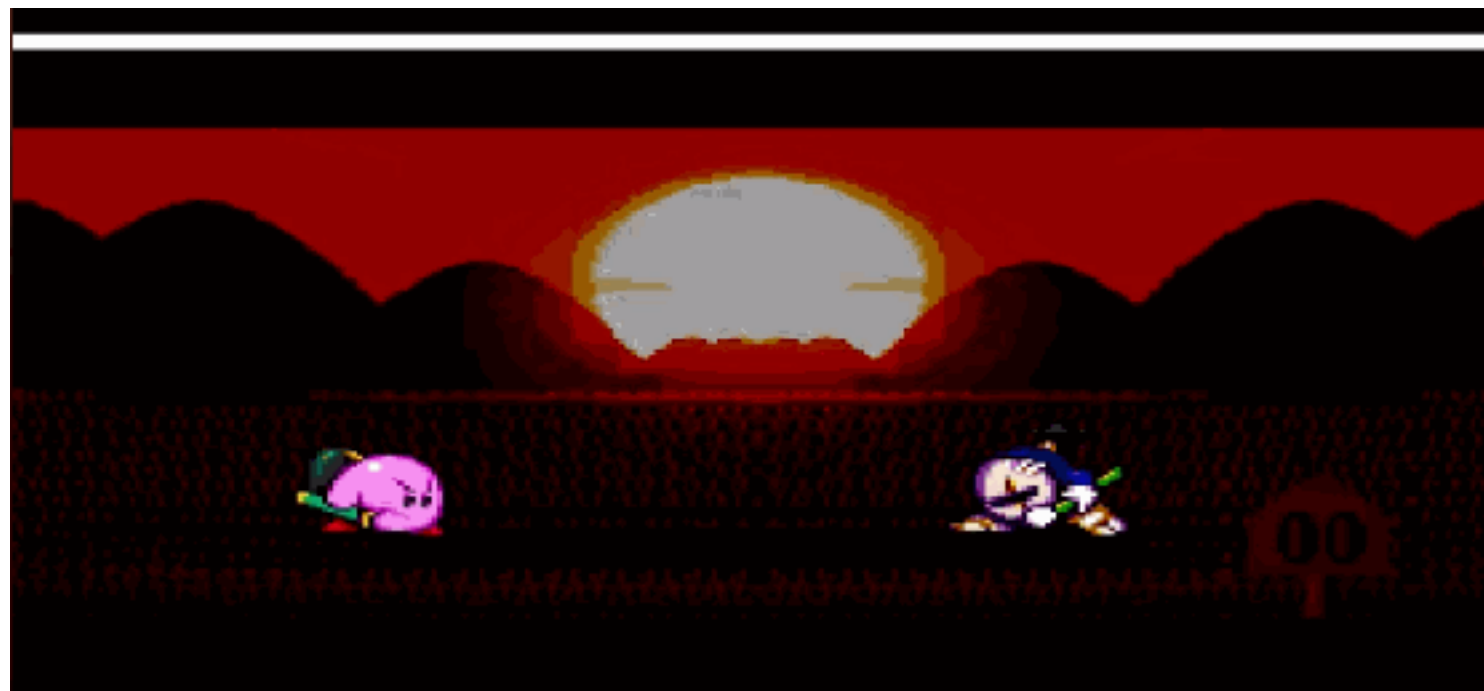
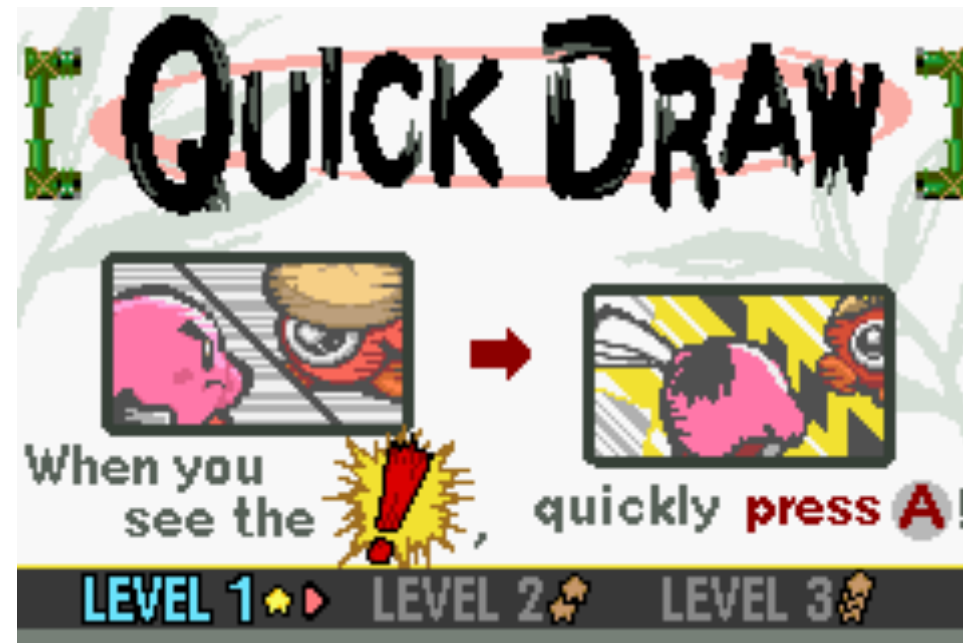


# Flappy Bird





# Kirby Samurai Minigame



# More Examples?

**Play more games!**

itch.io

bitsy

puzzlescript

# Why Minimalism?

- Hardware constraints
- Teams were very small, sometimes only 1 person
- Limited field knowledge
- Game development was not yet an established career
  - Hard to spend lots of time on something that does not pay

# Constraints can be Good!

Self-imposed helps you scope!

Promotes **exploration, convergence, and novelty**

**Minimalism is a way to scope your design.**

# Your mission

- Read the “Towards Minimalism in Game Design” paper
- Make a one-button game (a key press or mouse click)
  - No mouse movement or joystick axis allowed
- Only simple geometric shapes (circles, squares, triangles) are permitted

# Game Innovation Lab Showcase

- Tomorrow Tuesday, 2 pm
- room 610, 370 Jay St