

Creative Code – Week 10 (Networks)

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Overview

This project creates a two-player Pong game using `p5.js` and `p5.party` to demonstrate real-time shared state across browsers. Each player connects to the same “party room” and controls one paddle, while the host manages ball physics and scoring. The result is a fun, synchronized, browser-based experience that highlights the potential of creative multiplayer coding.

Tools & Libraries

- `p5.js` – Canvas drawing and interactivity.
- `p5.party` – Lightweight WebSocket-based shared state synchronization.
- **HTML/CSS** – Layout and Rails site integration.

Design & Functionality

The first player to connect becomes the **host** and controls the left paddle with the **W/S** keys. A second player joins and controls the right paddle with the **Up/Down arrows**. The host serves the ball with the **Space bar**, initiating a rally that both players see in real time. Scores update instantly in both browsers, and when the ball is missed, the host resets the round automatically.

Implementation Notes

The shared state object tracks:

- Ball position, velocity, and direction.
- Paddle coordinates for both players.
- Scores and current play state.

Only the host updates physics and scoring to maintain consistency. Both clients continuously update their paddle positions, keeping gameplay smooth and synchronized with minimal latency.

Reflection

Developing this project revealed how even simple games illustrate complex distributed design issues such as latency, ownership, and synchronization. By leveraging `p5.party`, I learned how to design cooperative systems that merge creative coding with multiplayer networking. The project successfully extends “creative code” beyond the desktop into interactive, connected experiences.

Files

- `app/assets/javascripts/week10.js`
- `app/views/creative_code/weeks/10.html.erb`
- `public/downloads/week10/Creative_Code_Week10_Liana_Bourdon.pdf`

Summary: A two-player Pong built with `p5.js` and `p5.party`, demonstrating synchronized gameplay, shared state, and networked creativity in a fun, accessible format.