

Creative Code Week 6 – Sound & Interaction

Author: Liana Bourdon

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Overview

Week 6 focused on using sound and interaction through p5.sound, a JavaScript library that adds audio synthesis and analysis to p5.js. The goal was to design a small interactive system where the user can create and control sound while also visualizing it on screen.

Tools and Frameworks

- p5.js (v1.11.10) – Used for interactive graphics and animation.
- p5.sound (v1.4.0) – Adds sound generation and amplitude analysis to p5.js.
- Ruby on Rails 7.2 – Hosts the web app and manages asset loading.
- Bootstrap 5.3 – Handles layout and page styling.
- Heroku – Used for hosting the deployed site.

Project Description

The Week 6 project is an interactive sound visualizer that reacts in real time to audio generated by p5.sound. The user controls the pitch and volume using mouse movement, and the visualization responds with color and motion. The waveform can be changed by pressing the spacebar or keys 1–4, cycling through sine, triangle, square, and sawtooth waves.

Features

- Mouse X controls pitch (frequency) and Mouse Y controls volume (amplitude).
- Circular ring visualizer expands and contracts based on sound amplitude.
- Hue and color continuously change with the sound's intensity.
- Smooth transitions give the animation a fluid, organic feel.
- Waveform toggle with spacebar adds variation in tone and visual pattern.

Requirement Checklist

Requirement

Conditional Statements

Demonstrated In

Mouse click toggles the oscillator on/off

Loops	For-loop draws each bar in the circular ring
Custom Variables	hue, waveIndex, ampAnalyzer, RING_BARS
Functions	ease(), drawFooter()
User Input	Mouse and keyboard controls
Randomness	Randomized starting frequency each click

Technical Notes

- Local copies of p5 and p5.sound are used for offline reliability.
- The canvas and layout are centered and responsive using Bootstrap.
- The main JavaScript file is stored in app/assets/javascripts/week6.js.
- The view template (6.html.erb) loads scripts locally without CDN dependencies.