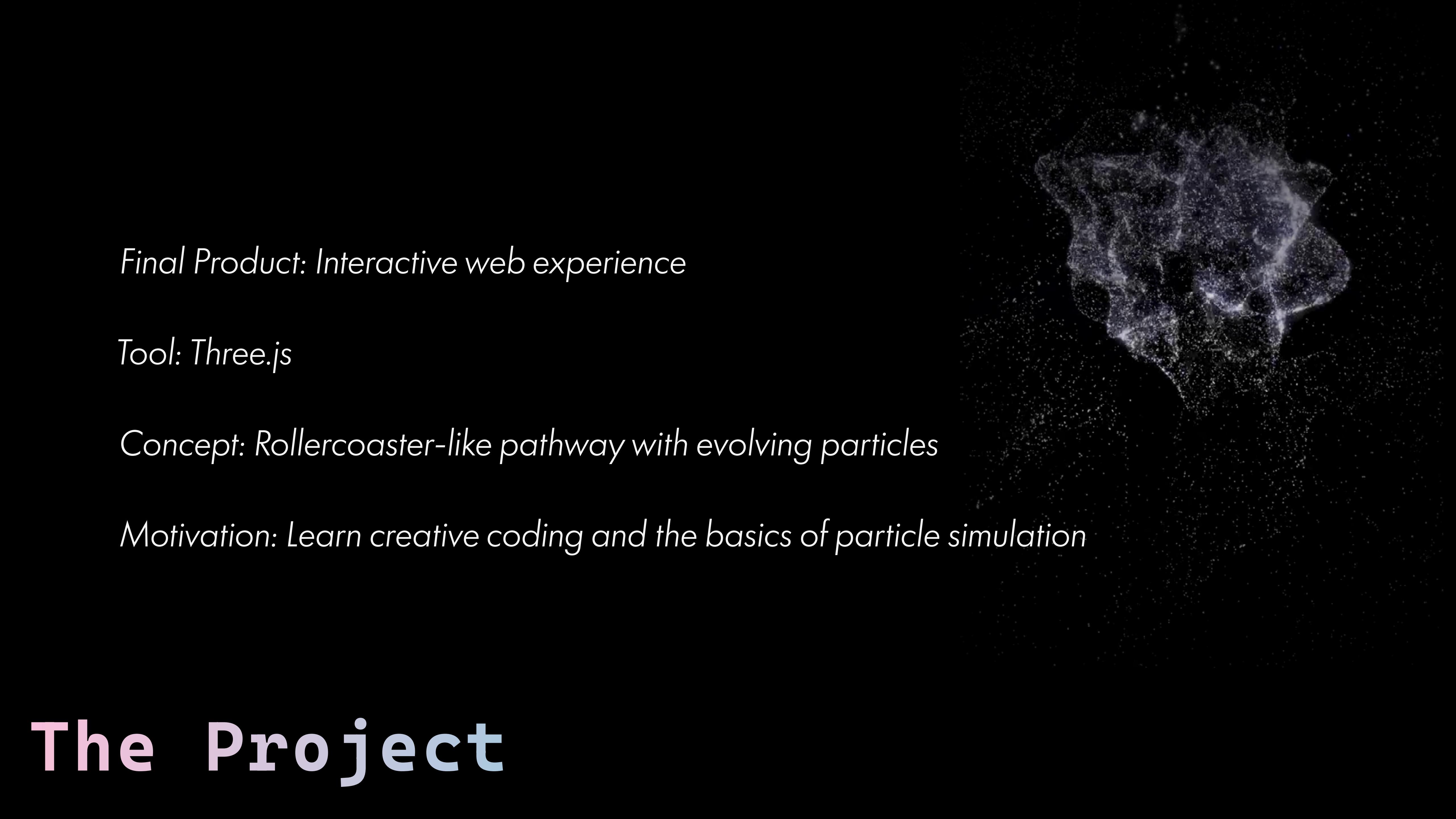




1ST TERM PROJECT

MARIA JENDE

Web-Based Particle Rollercoaster



Final Product: Interactive web experience

Tool: Three.js

Concept: Rollercoaster-like pathway with evolving particles

Motivation: Learn creative coding and the basics of particle simulation

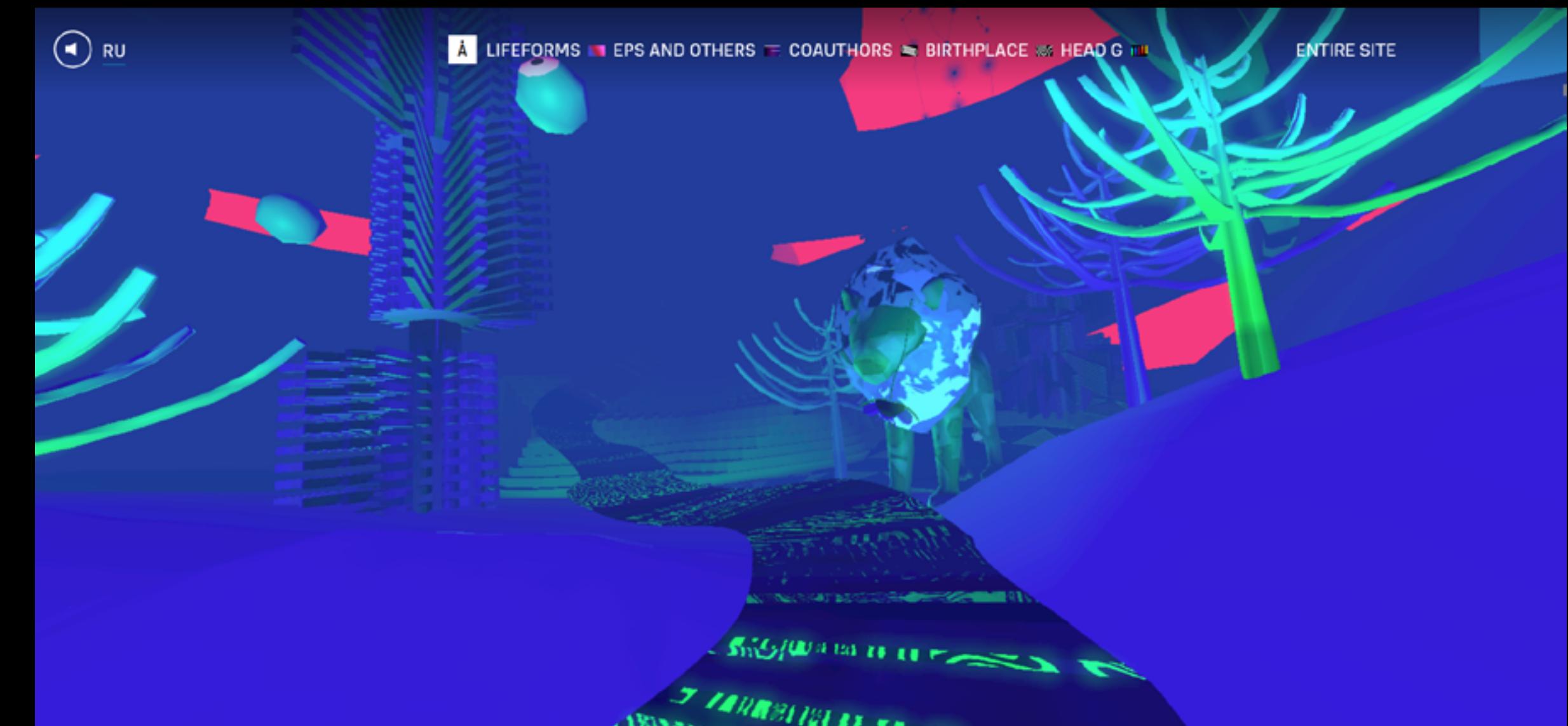
The Project

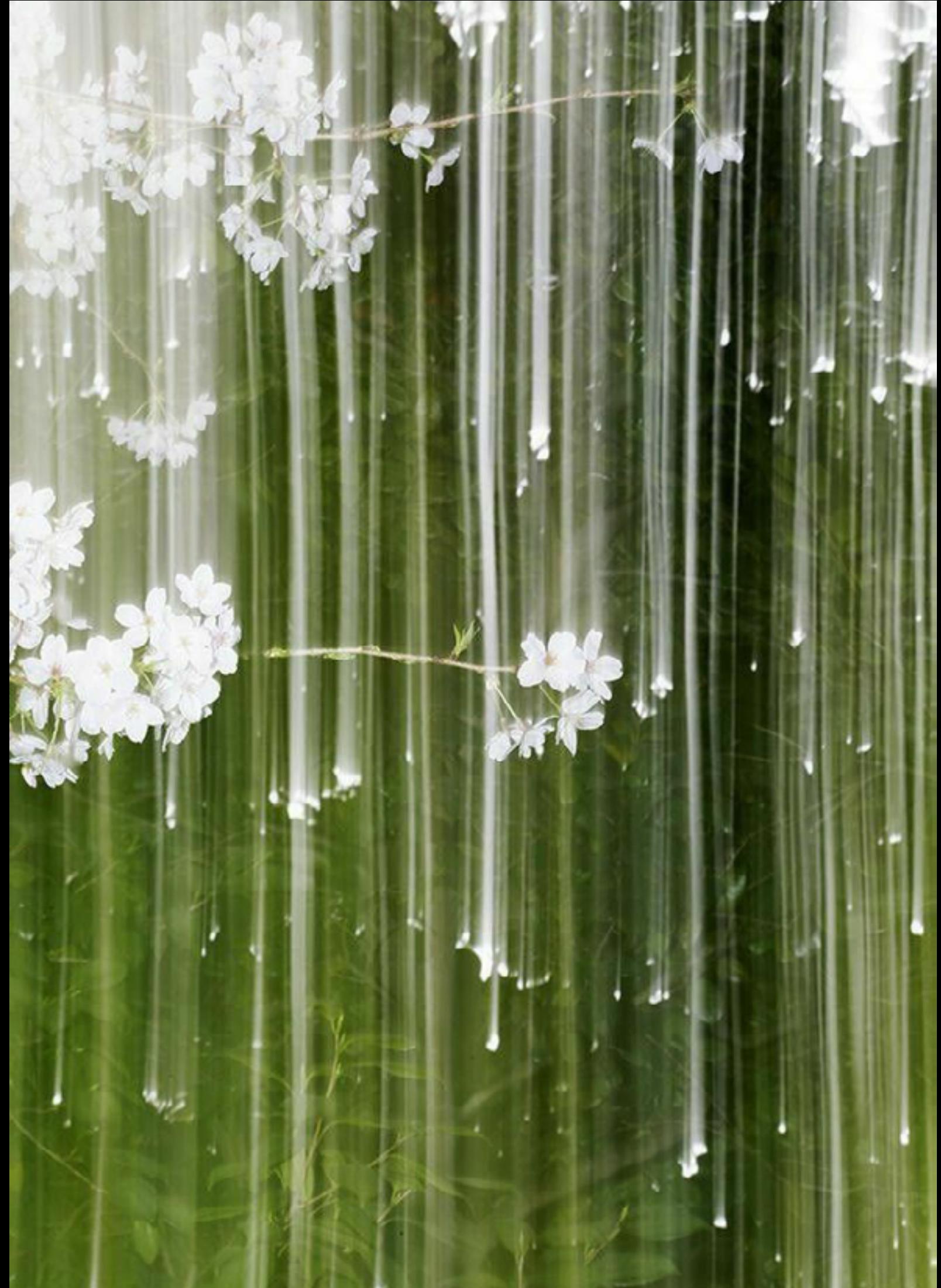
WebGL Particle Physics

The screenshot shows a 3D simulation titled "PARTICLE LOVE" by Edan Kwan. The scene features a dense, organic particle cloud composed of numerous small, glowing particles. A large, semi-transparent sphere is positioned in the center-right of the cloud. On the left side, there is a white silhouette of a person standing on a path. The interface includes a control panel on the right with sections for "Simulator", "Rendering", and "Post-Processing". The "Simulator" section contains sliders for "amount" (252k), "speed", "dieSpeed", "radius", "curlSize", "attraction", and a checked "follow mouse" option. The "Rendering" section includes sliders for "shadow" (0.45), "new particle" (checked), "base Color" (#e08898), "fade Color" (#edc5b5), and "background Color" (#334343). The "Post-Processing" section has sliders for "fbaa", "motionBlur" (checked), "motion distance" (120), "motion multiplier" (7), "motion quality" (medium), "bloom" (checked), "bloom radius" (1.3), and "bloom amount" (0.3). At the bottom right are buttons for "Particles: More", "Fewer", and "Reset". A message at the bottom left says "Press space key to toggle movement". The bottom right corner contains links to "Edan Kwan | Github | Youtube".



References





Moods



PARAMETERS FOR SCALING

- *Length of the experience*
- *Level of interactivity*
- *Complexity and variety of the particle simulation*

NICE TO HAVE

- *Particles forming actual shapes (e.g. flower, wave)*
- *Possibility to send a message to your future self at the end of the experience*

Scope

WORST CASE

(Interactive) web-based particle simulator with parameter controls

MIDDLE GROUND

Pathway experience with particles evolving along the way

BEST CASE

- + *Interactive particles, particles forming shapes*
- + *Message functionality at the end*

Scope



| | | |
|----------|------------|--|
| January | CW 2 | <i>Theoretical research, simple p5.js particle tests</i> |
| | CW 3 | <i>Starting with Three.js and web implementation</i> |
| | CW 4 | <i>Three.js particle tests</i> |
| | CW 5 | <i>Goal: test website with basic particle simulation / redefinition of final product</i> |
| February | CW 6-9 | <i>Implementation of rollercoaster function (interactivity)</i> |
| | | <i>Varying particle behaviour along the pathway</i> |
| March | CW 10-11 | <i>Buffer or nice-to-haves</i> |
| | 15/03/2025 | <i>Project deadline</i> |

Time Schedule



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