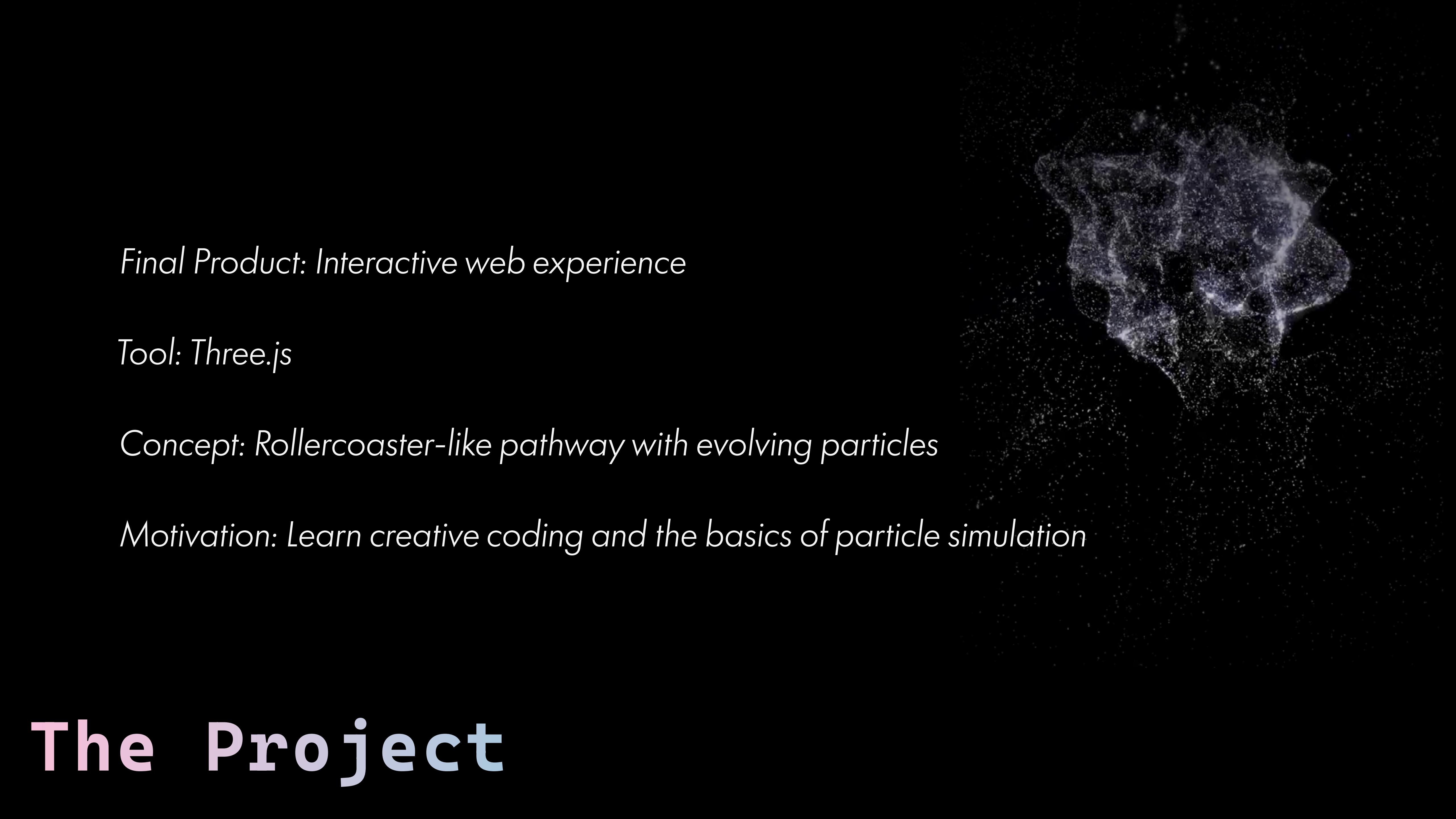




1ST TERM PROJECT

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*

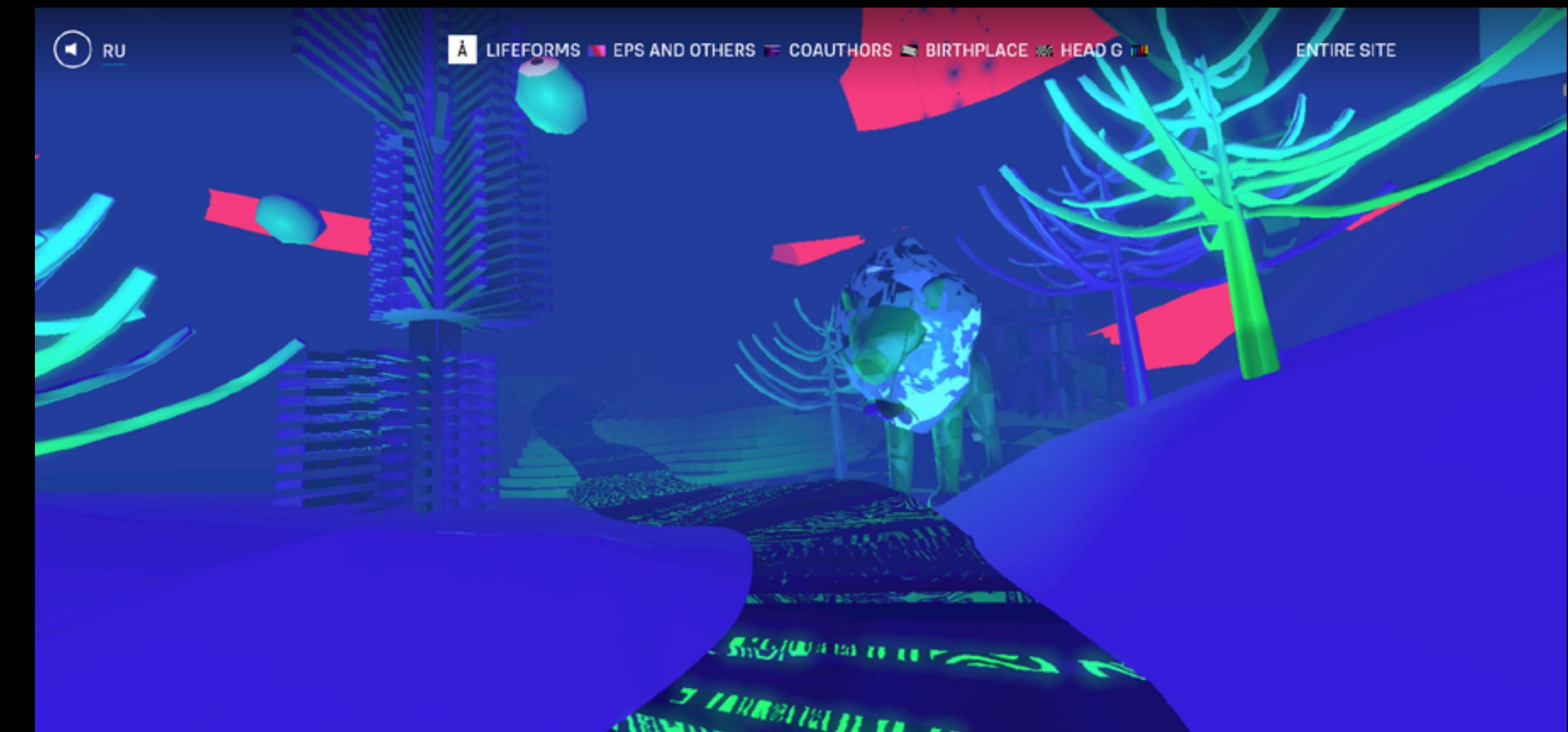
# The Project

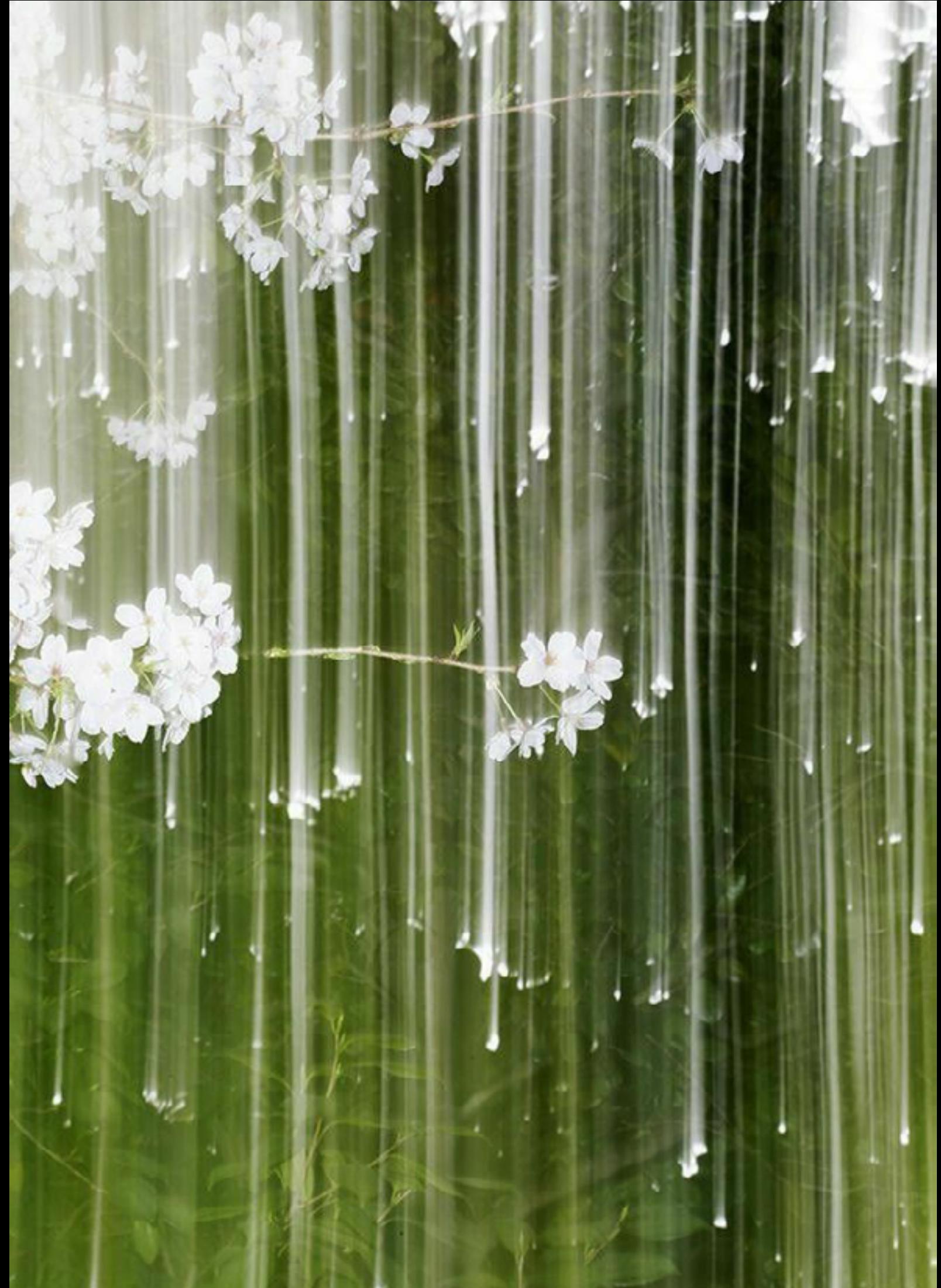
## WebGL Particle Physics

The screenshot shows a 3D simulation titled "PARTICLE LOVE" by Edan Kwan. The scene features a dense, organic particle cloud composed of numerous small, pinkish-red particles. A large, dark brown 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, there are buttons for "Close Controls", "Particles: More", "Particles: Fewer", and "Reset". A note at the bottom left says "Press space key to toggle movement" and a link to "Edan Kwan | Github | Youtube" is at the bottom right.



# 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



*1ST TERM PROJECT*

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