Project 4

Inside World

Adv Interactive Prototyping, Fall 2020 Clyde He Instructor: Maxim Safioulline

Inside World

Context & General Concept

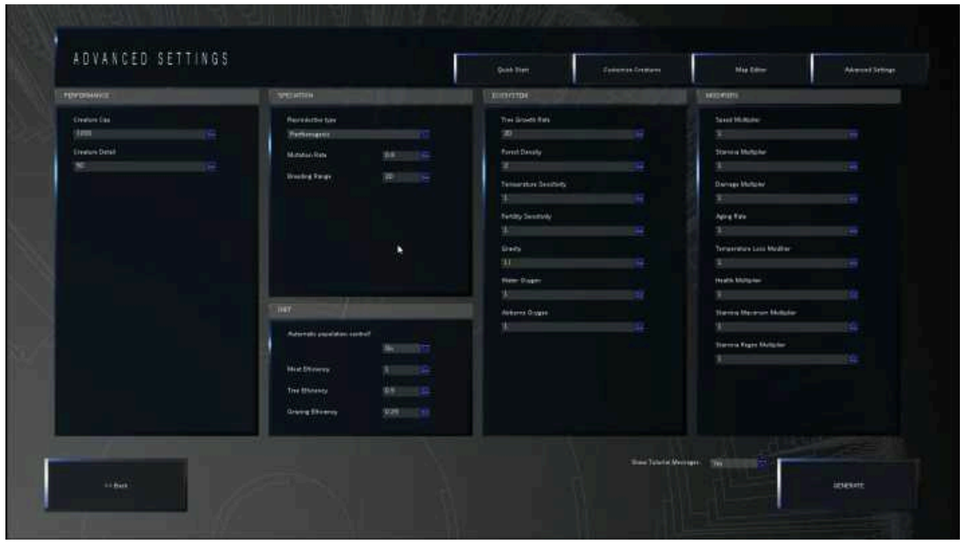
In this project I anticipatel consider this project a hybrid between game and data visualization, where the program will collect the user's basic gestures and behaviors. These data will be altering different parameters in a self-evolving world.

The general concept of "Inside World" is that I tend to simulate a virtual world adapted and adjusted by different parameters and movements I created in my room. The parameters including motion, temperature, light, sound, etc. from various parts and furniture in my room. A life or mini civilization will be generated at the beginning of a day, and the progress/final result will be displayed at the end of the day. Parameters like time and brightness will affect life generation, and other parameters will alter the environment.

Inside World

Impetus

I'm fascinated and inspired by a game called "Species", which allows the players to customize different parameters in an environment, including gravity, temperature, atmosphere, etc.. It enables the player to see how a lifeform can be evolved and altered based on the previous settings. I hope to create something resemblant yet more interesting: change the world with a real in-door environment rather than punching numbers on the screen.



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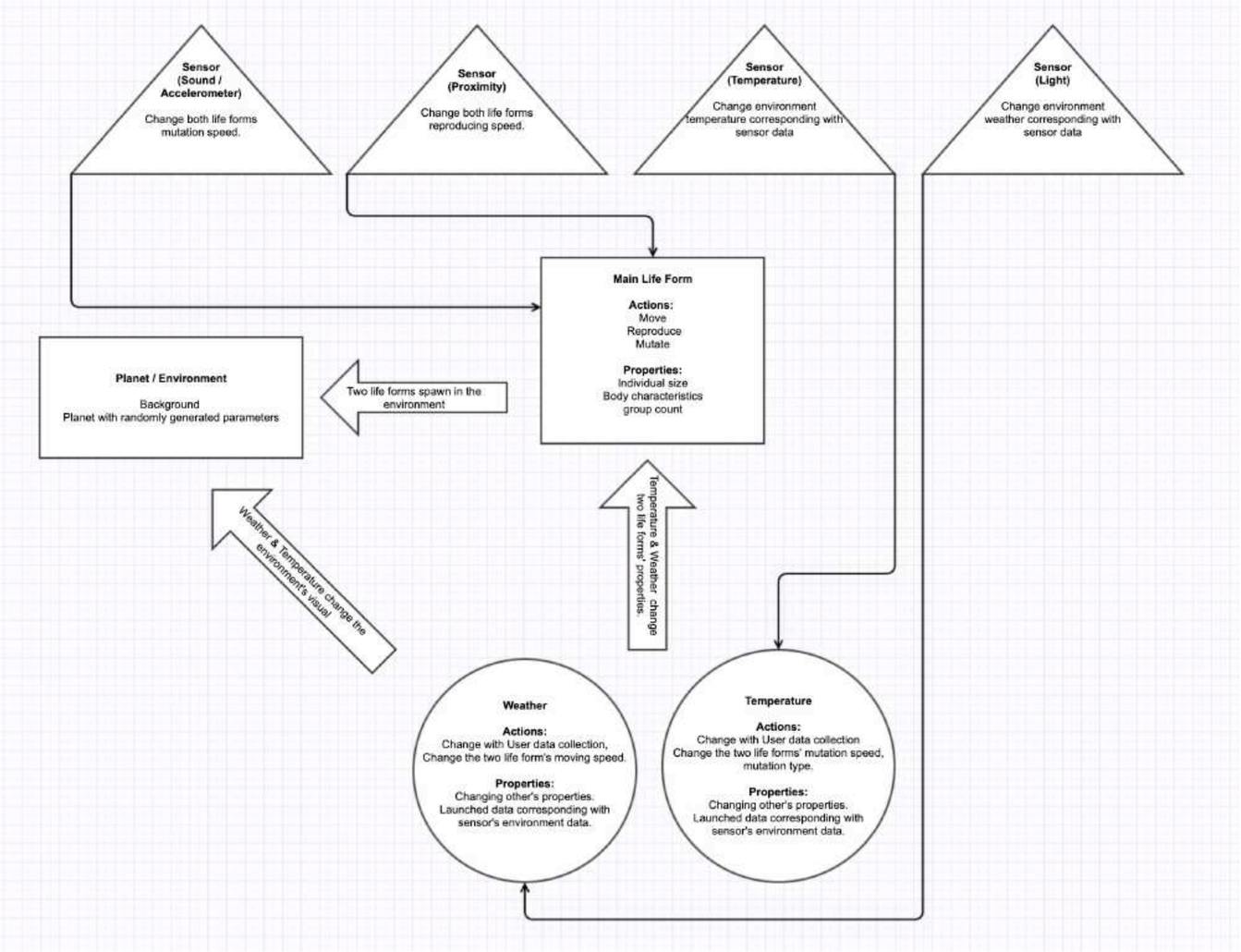
Goals & Tools

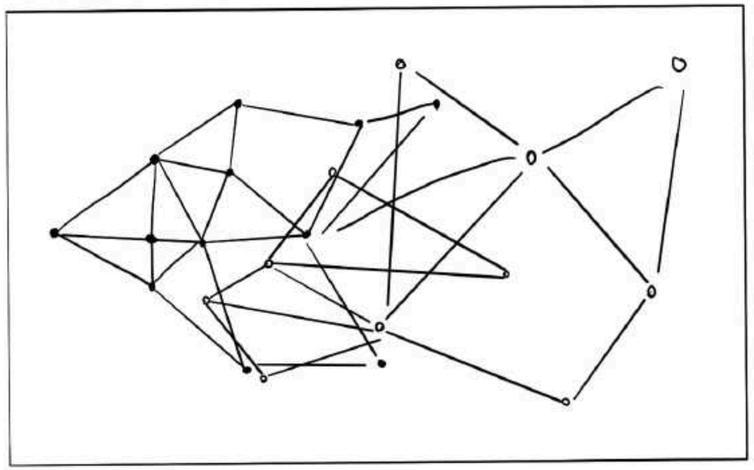
I think the project's goal is how the environment or life is represented in different procedural outcomes. Different daily-activity can change the setting drastically, which results in the extinction or mutation of the lifeform. Such open-ended representation can be the most exciting outcome.

The project's tools are going to involve particle boards connected with sensors including proximity, temperature, light, and sound sensors. The whole devices is going to be placed in a fixed location in the room and evolve throught the day. They are going to be transferring data through serial connection and then processed by Processing.

Inside World

Diagram & Ideations





Environment Parameters: Temperature + → moving speed +

Light + → spawning speed +

Sound + → Connection Range −

Movement + → Endurance −

Single unit parameters: Pos x, y, Endurance, Speed, Current Temp.

Rules: map temperature gradient based on real world data.

(spawning: temp −, Endurance +)

Single unit connection made with closest two.

opposite site enter triangle zone → Endurance

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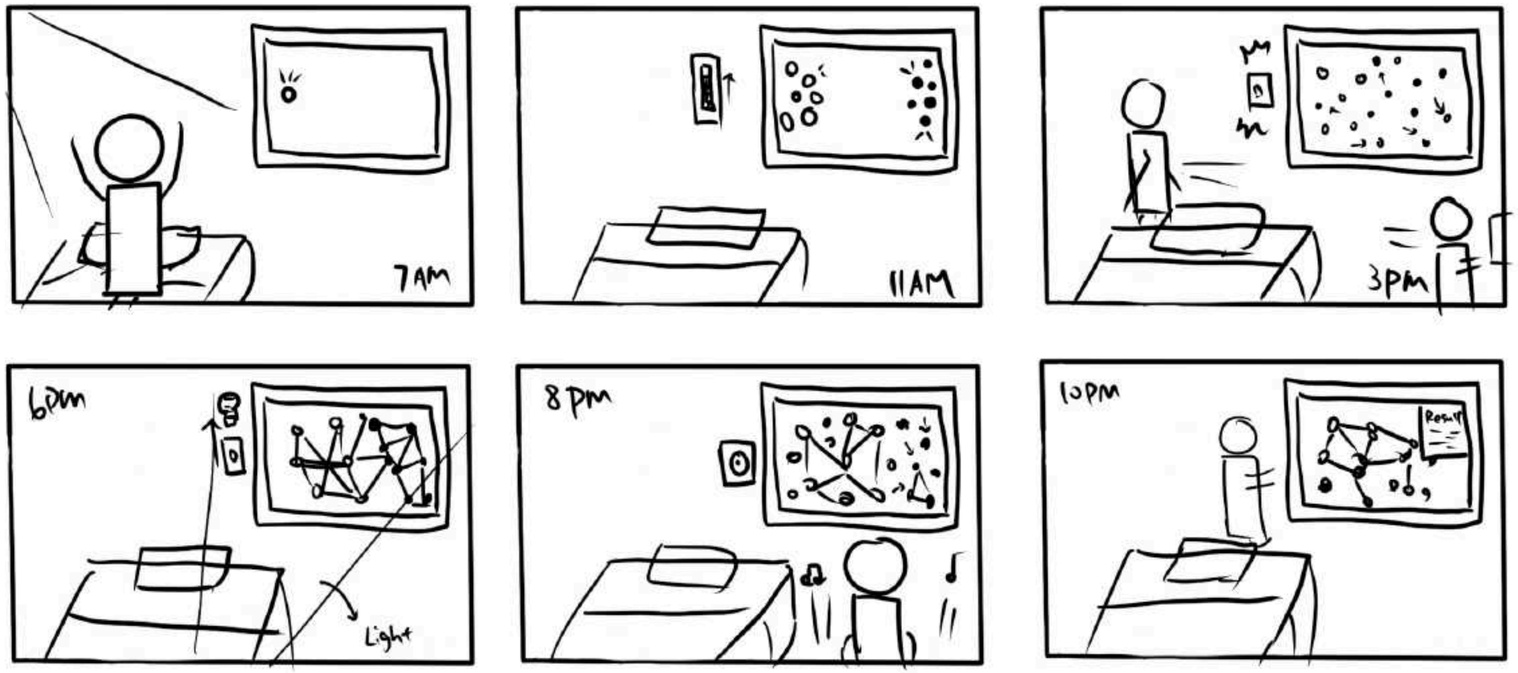
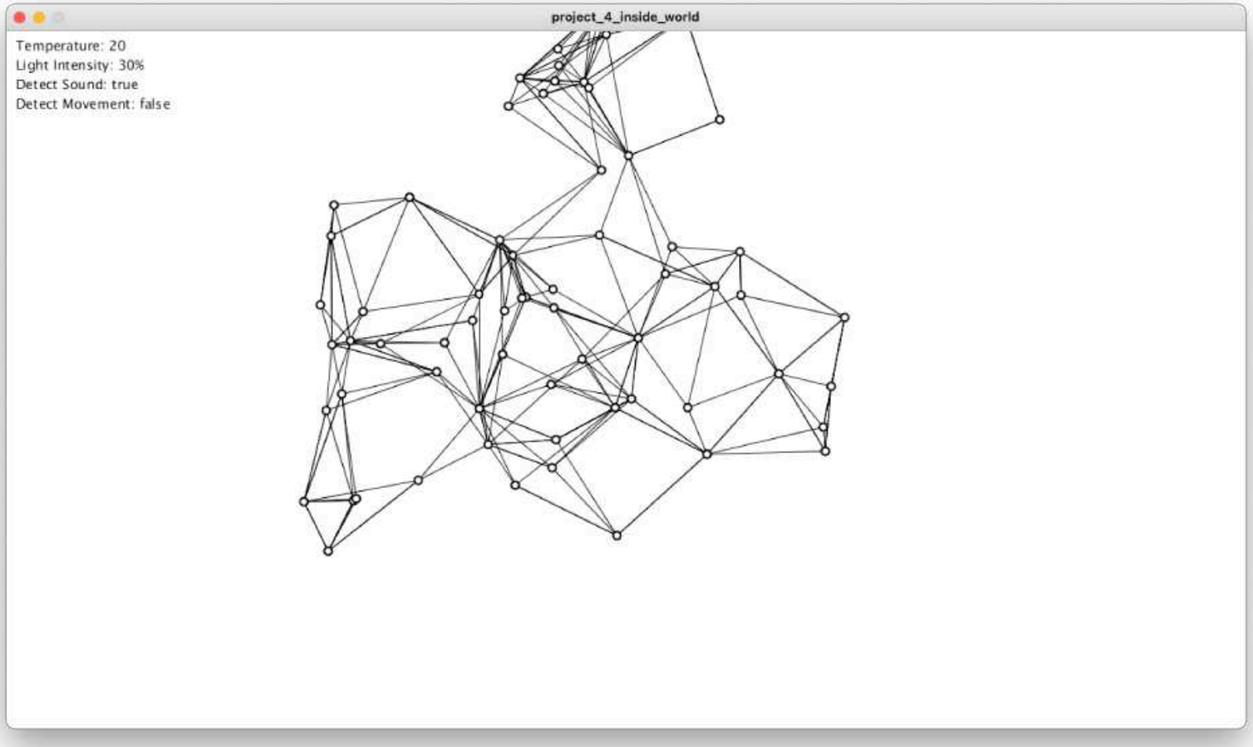
Storyboard

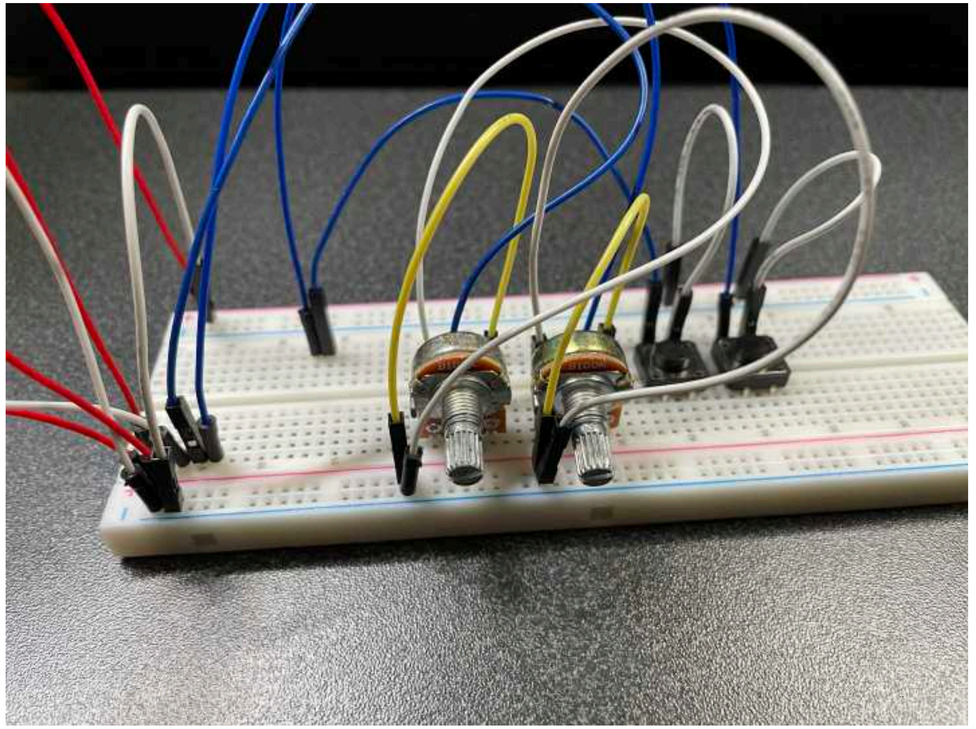


I originally started with a storyboard that was purposefully designed to have a "practical usage" in the real world, but sooner I began to realize it is not necessary to promote that idea via competition or only been used under a specific required environment. This was when I started to pivot my whole project into a more harmonious direction: where time, daily life, and cocreation play a vital role in this prototype.

Inside World

Version 1



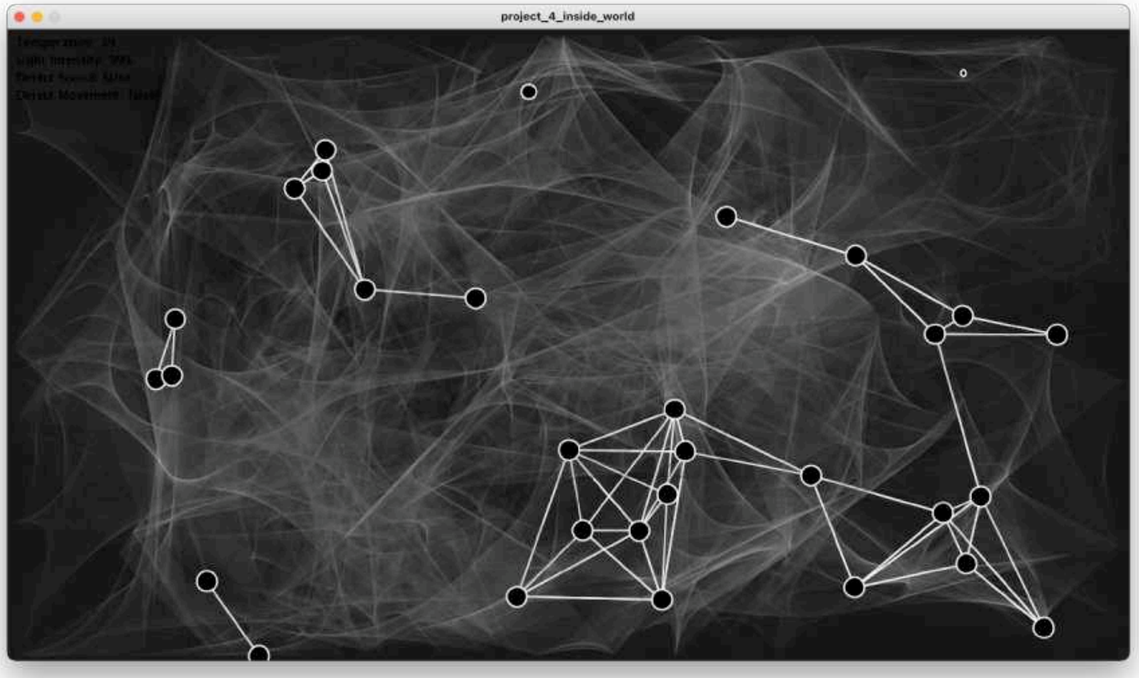


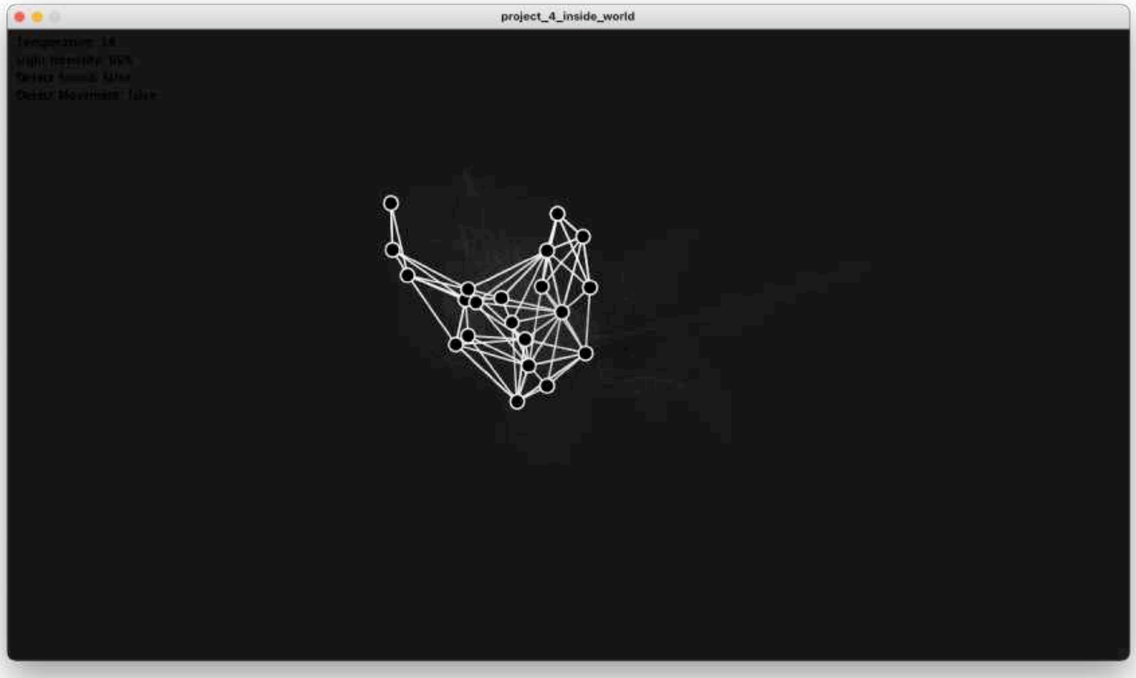
- Idea & form validation

- Fast Test Bench Building

Inside World

Version 2





- Trail / Pattern Forming

- Movement & Algorithm Tweaking

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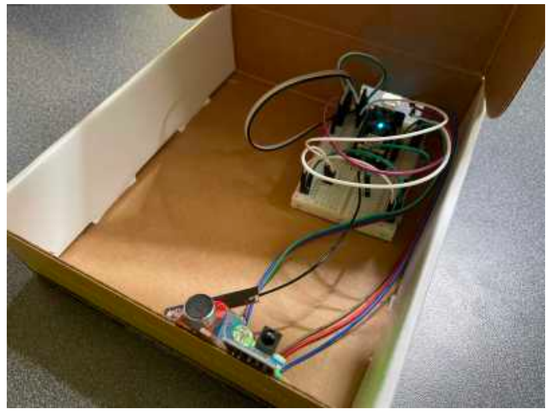
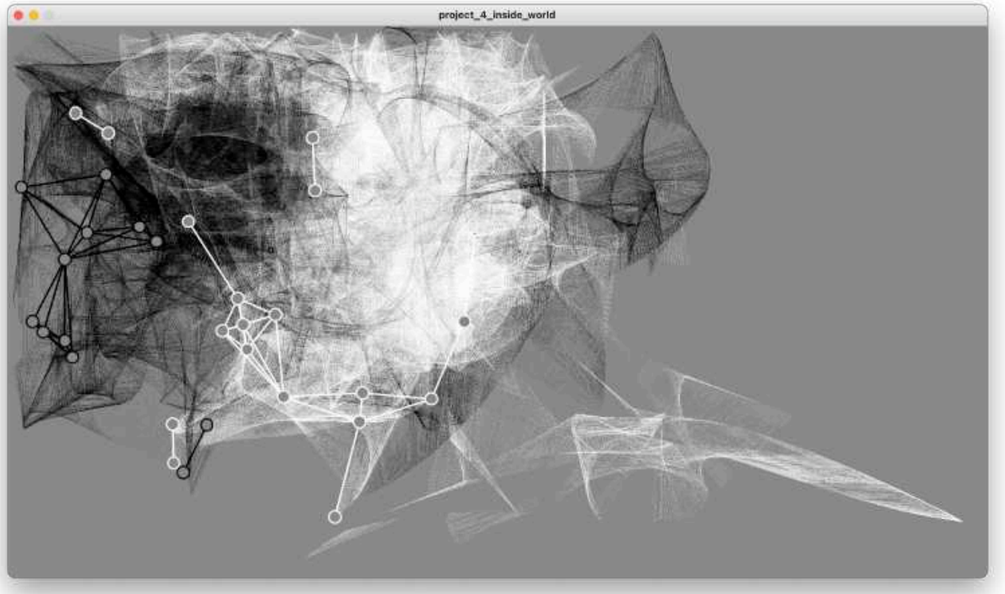
Final Version





- Connecting & Adjusting Sensor

- Color & Form Adjustment

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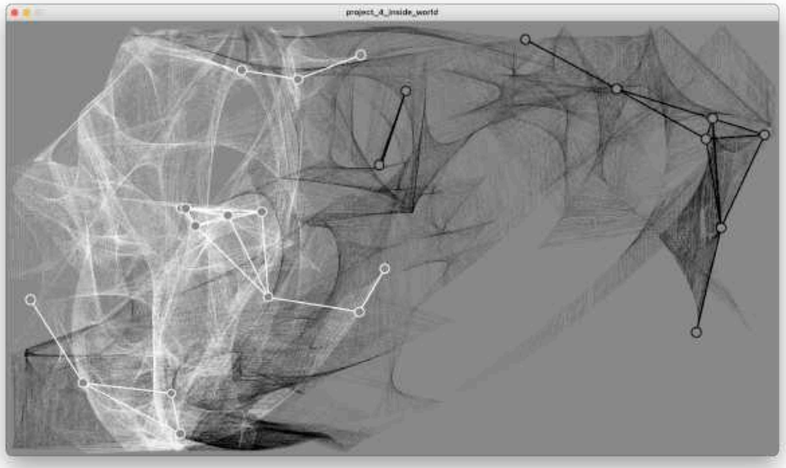
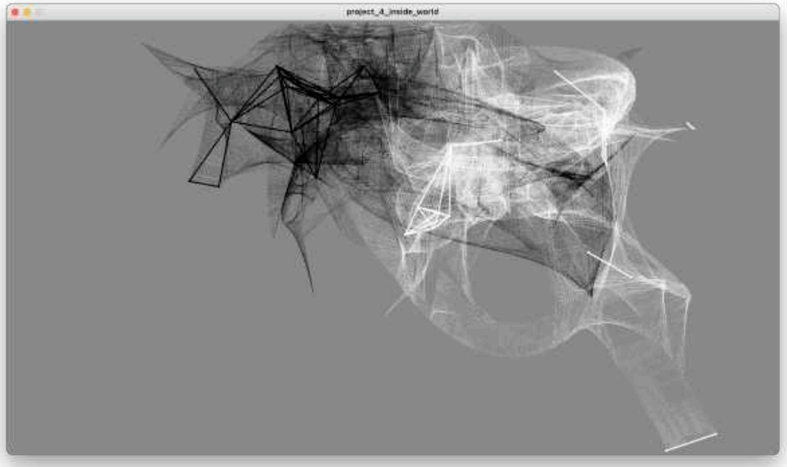
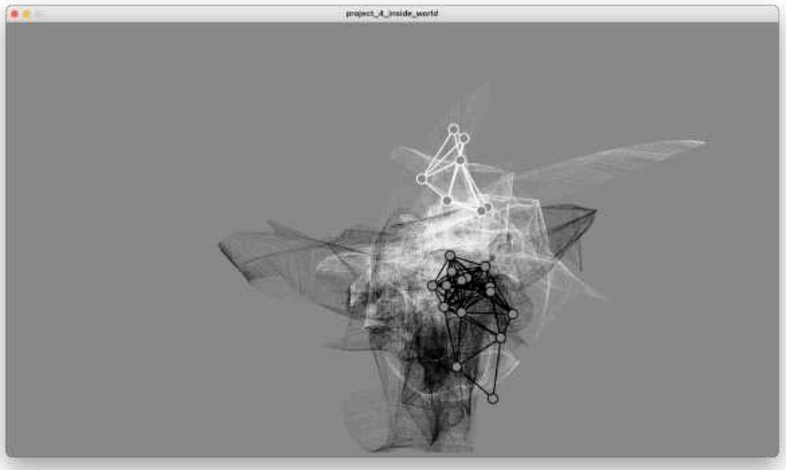
Final Version



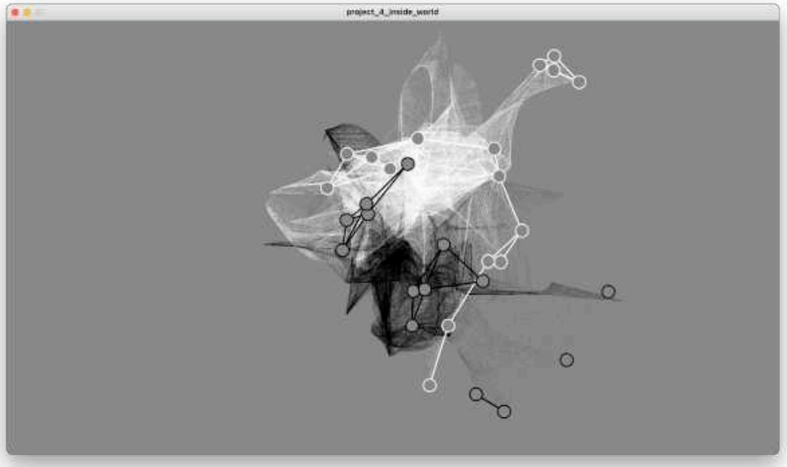
High-Temperature
Spread Out



Dark Condition
Small Individual



Low-Temperature
Gathered



Bright Condition
Large Individual

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Future Steps

- Further tuning the balance of the self-evolving system.
- Possible 3D rendering for more dimensions & interactions.
- Color variations based on attributes and environments.
- Daily summary & more intuitive interactions.

Thank You