THE **NATURE** OF **CODE**

DANIEL SHIFFMAN

SESSION 1 RESOURCES

RANDOM WALKER INSTRUCTIONS

1: Creating your Walker

- Create your own object that moves around the screen. What is it? A butterfly? An alien? Be as creative as you like. The object should have three vectors: position, velocity, and acceleration. Use randomness or perlin noise as part of its movement.

- Use the random walker code example as a model, you can find this in the resources section.

2: Project Specifications

- Design of random walker needs to visually different than the example

- Be sure to comment your code

- Only use p5 libraries

3: Submission Instructions

- Create a zip file with the following components:

    - Sketch File named sketch.js
    - Include all p5 libraries used
    - Include index.html file named index.html

- Submit your file to the Assignment 1 Random Walker Coursework.

You should feel free to design your own assignment. If you are stuck for an idea here are some suggestions:

- Create a random walker with dynamic probabilities. For example, can you give it a 50% chance of moving in the direction of the mouse?

- Gaussian random walk is defined as one in which the step size (how far the object moves in a given direction) is generated with a normal distribution. Implement this variation of our random walk.

- Try implementing a self-avoiding walk.

- Try implement the random walk known as a Levy Flight.

- Try a walk in 3D, for example: http://en.wikipedia.org/wiki/Quantum_Cloud.

- Use the random walker as a template to simulate some real-world “natural” motion. Can you develop a set of rules for simulating that behavior? Ideas: nervous fly, hopping bunny, slithering snake, etc. Consider the challenge of using minimal visual design, i.e. black and whie primitive shapes. Can you give your “being” a personality? Can it express emotions -- happiness, sadness, fear?

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