

The Nature of Code

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Introduction

Prologue

- probability
- random number distributions (normal, custom, etc.)
- perlin noise

Part I: Physics

Chapter	Page Estimate (8.5x11)
1: The Building Blocks -- Vectors, Motion	25
2: Forces <ul style="list-style-type: none">-- made up forces-- attraction / magnetism-- friction / viscosity	20
3: Oscillation <ul style="list-style-type: none">-- trigonometry, waves-- pendulums, springs	25
4: Particle Systems <ul style="list-style-type: none">-- managing many things-- inheritance / polymorphism-- images, additive blending	25
5: Physics Libraries (box2d, toxiclibs) <ul style="list-style-type: none">-- Euler vs. Verlet integration	25

Part II: Generative

6: Steering: individual behaviors, group behaviors <ul style="list-style-type: none">-- include bin-lattice subdivision thingie?	35
7: Fractals: <ul style="list-style-type: none">-- Mandelbrot set-- Recursive shapes-- L-Systems	30
8: Cellular Automata	20

Part III: Smarts

9: Genetic Algorithms <ul style="list-style-type: none">-- searches-- interactive evolution-- ecosystems	30
10: Neural Networks <ul style="list-style-type: none">-- just the basics?	25

Other topics for web site / Nature of Code Book v.2.0

- collisions (w/o box2d)
- producer/consumer predator/prey models?
- ants
- termites
- prisoner's dilemma
- statistical learning
- bayes stuff
- pathfinding, astar?