3D Boids

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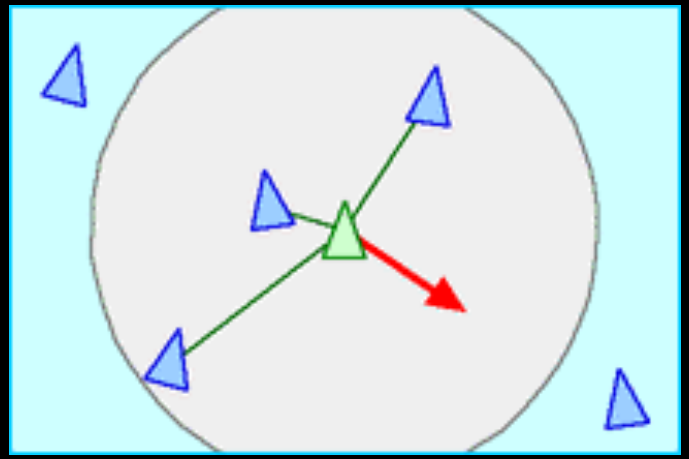
Boids

- Flocking simulation
  - Proposed by Craig Reynolds in 1986
- Three basic rules
  - Separation
  - Alignment
  - Cohesion

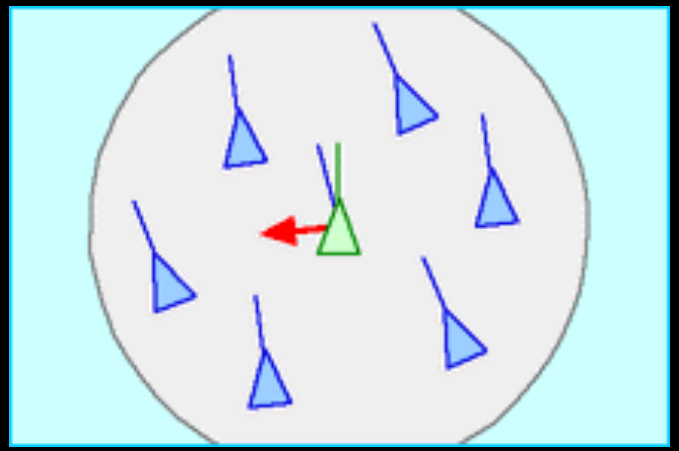
Separation

- Boids must not collide with other boids
- Add up all the vectors that point in the opposite direction of the vector between this boid and another boid



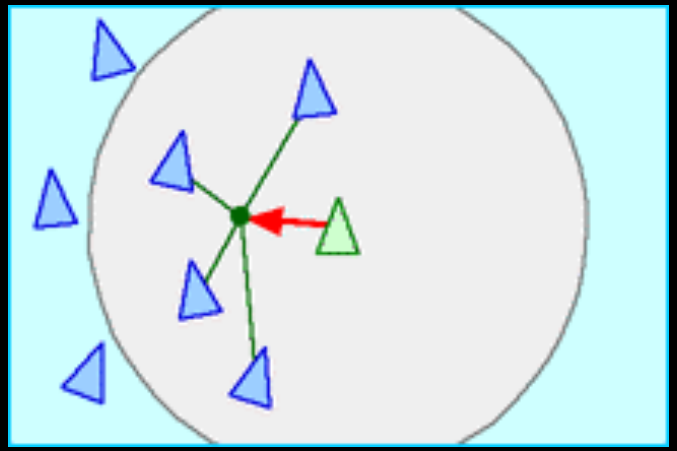
Alignment

- Boids must attempt to match the velocity of nearby boids
- Find the average velocity of the flock and make the current boid's velocity some percentage closer to the flock's velocity



Cohesion

- Boids must attempt to stay near the center of the flock
- Find the center of the flock and make the current boid’s position some percentage closer to that position



Other Features

- Flockiness
- Repulsion/Attraction
- Perching

Demo