

Milestone Presentation

Particle Simulation

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CS 184 Computer Graphics

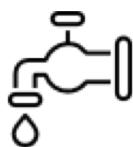
Position Based Fluids



Simulating fluids has been a long standing challenge in computer graphics



Our objective is to build a particle based method for fluid simulation in real time



We plan to study how incompressible flow can be simulated using a Position Base Dynamics (PBD) framework

📍 Current Progress

We followed these initial steps to begin creating a particle simulator

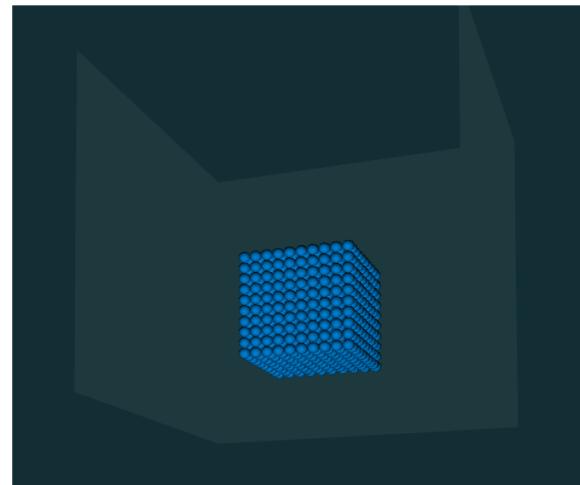
〰️ Initialize scene

Learn OpenGL
Build a box for particles
to live in



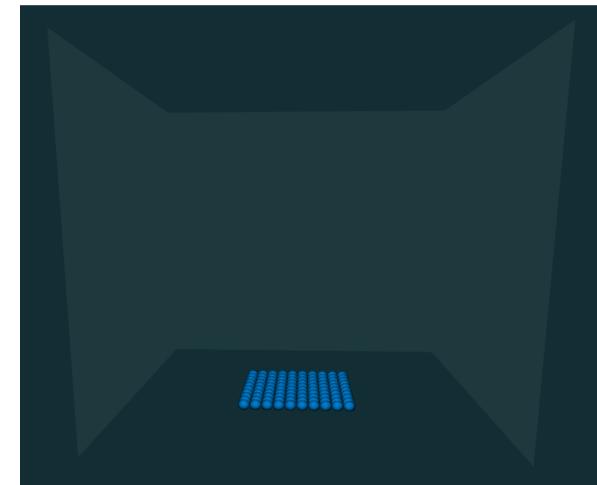
Initialize Particles

Each particle object has
position, radius, mass
and velocity



Implement gravity
and incompressibility

Following the paper by
Muller & Macklin





Next Steps

1. Debug our current implementation of incompressibility which yields buggy results
2. Figure our particle to particle collisions and resulting change in forces
3. Work on speedups and improvements to the current implementation