



Cocktail Mixing Simulation

- Final Presentation -

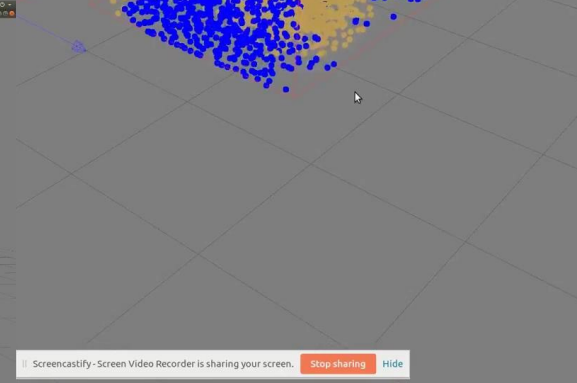
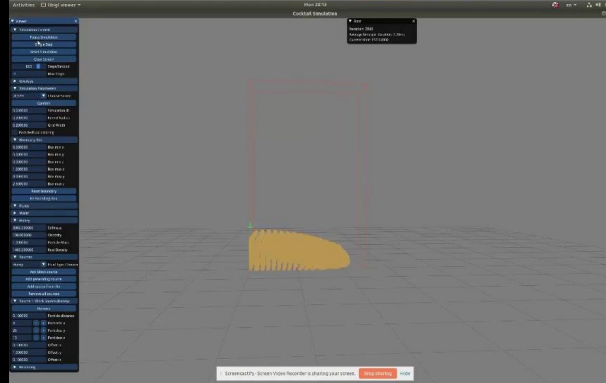
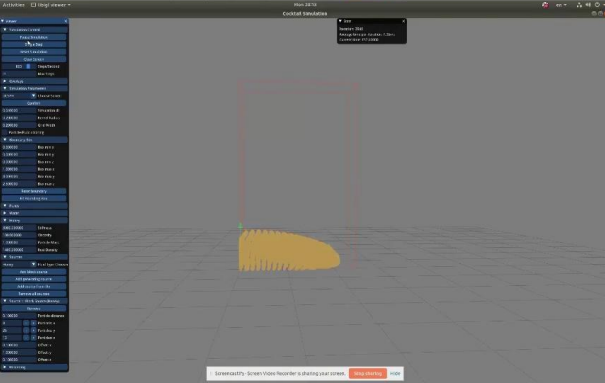
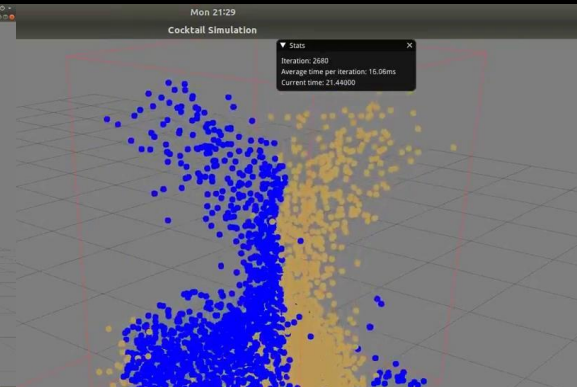
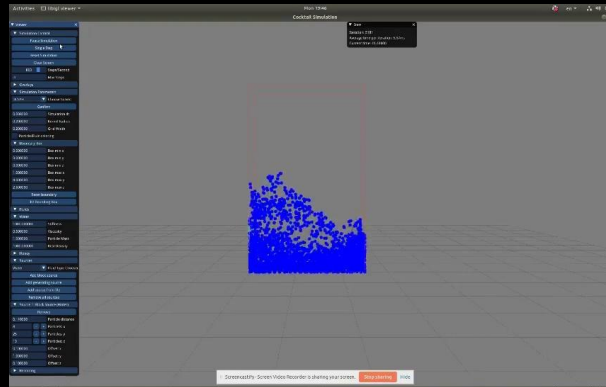
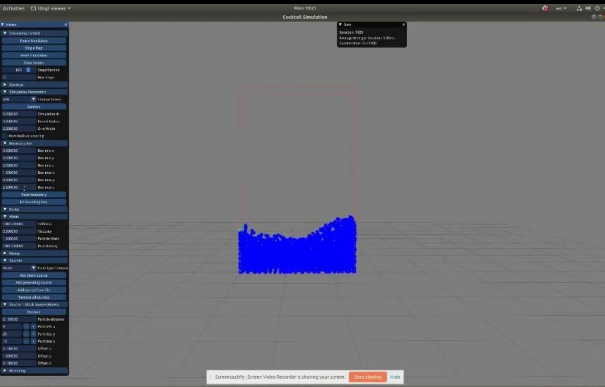
Group 5

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Milestones: Summary

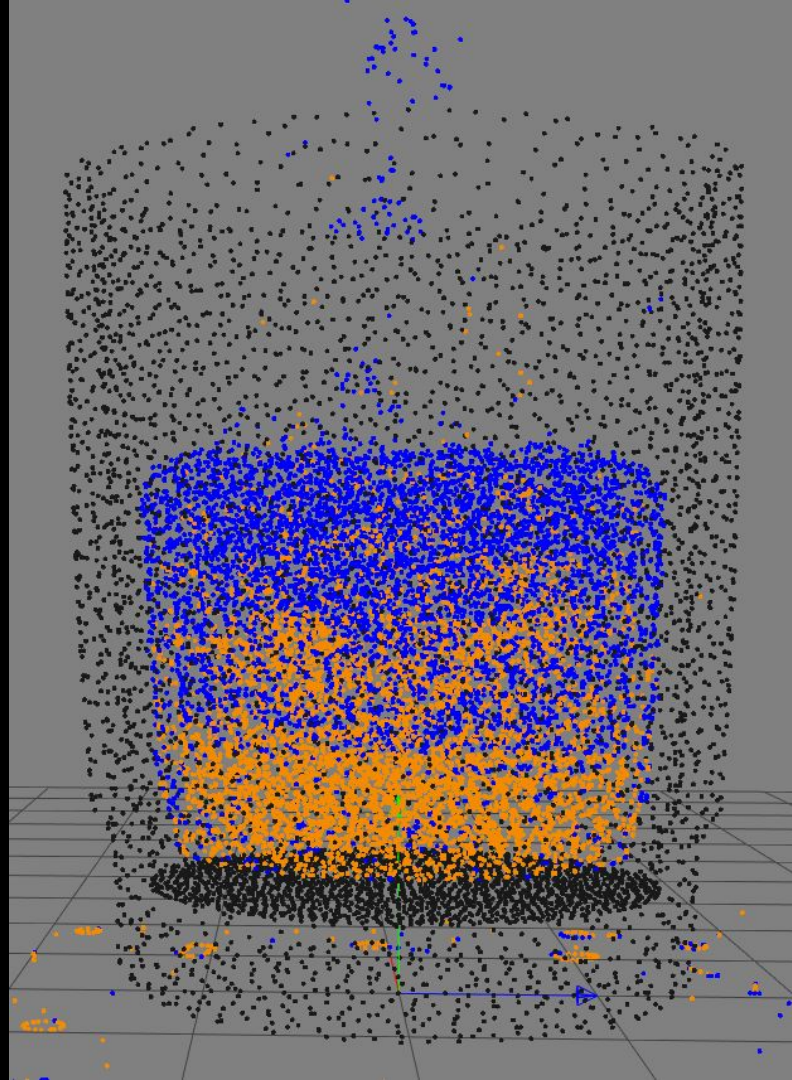
- SPH based - Particle Fluid Simulation
 - Density Contrast SPH Interfaces
[Solenthaler 08]
- Many bonus tasks completed, e.g.:
 - Arbitrary boundaries
 - Improved Performance
 - Surface Extraction & Rendering

Stability: Tested many scenarios



Complexity

- 3D
- Liquids with different properties
- Density Contrast SPH (DCSPH)
- Surface tension
- Arbitrary particle boundaries



Surface Tension

Performance

- Multi Threading
- Optimized neighbor search
- Optimized kernels

Example on the right:

- Real Time
- 10k Particles (incl. boundary)

Rendering

- Generate mesh
 - Surface extraction using SDF definition as in [1] and Marching Cubes
- Rendering
 - With Blender and Stop Motion OBJ [2]



[1] Particle-based Viscoelastic Fluid Simulation, [Clavet 05]

[2] <https://github.com/neverhood311/Stop-motion-OBJ>

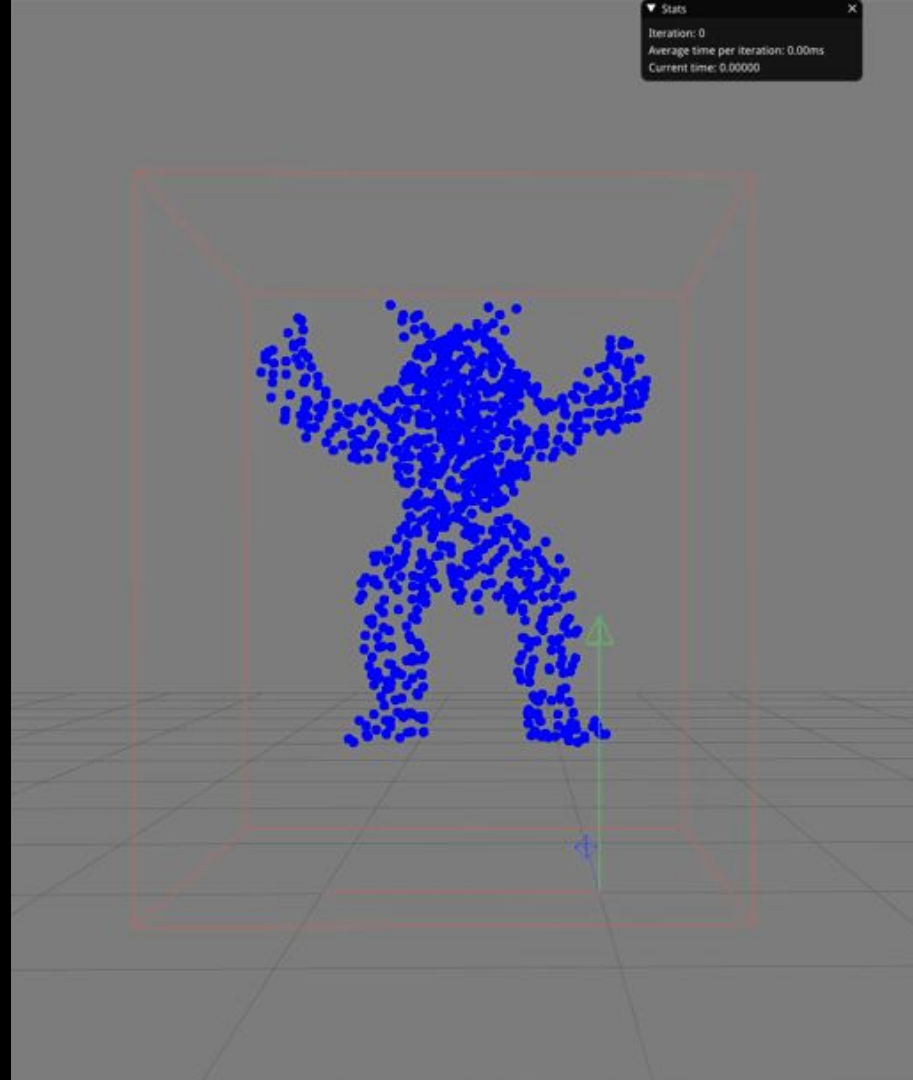


Demo



Thanks for your attention!

Questions?



Demo









