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**Description:** We plan to implement fluid simulation for a liquid. In addition to the basic simulation, we want to implement some additional features such as interaction with a solid that might be dropped into the liquid or a flowing source for a stream of the liquid. We intend to base the simulation off of a modifiable input file.

**Methods:** We plan to implement the Lagrangian method as discussed in lecture. Our initial plan is to implement first with a basic isotropic surface reconstruction and possibly move on from there. We plan on using OpenGL for rendering the completed simulation.

**Tasks Divided:** We plan on working together on most of the bigger picture parts. In generally the largest pieces will be the physics simulation, the surface reconstruction, and interaction with primitive solids. We will each individually specialize in one of these parts but work together in general.

**Extra Items:** One idea would be to implement an anisotropic surface reconstruction. Also we would like to parallelize the simulation. Another stretch goal would be to get the simulations to run in real time, and if we can get real time then perhaps also the ability to dynamically interact with the fluid as it runs. A final goal would be to take a single frame of the simulation and raytrace it.

**Instructional Staff:** We discussed the project with Aayush on Tuesday the 19th.