Austin Wiley
CMPM163
HW3-B

A particle effect I've always found interesting is the water effects from *Super Mario Sunshine*, which are seen throughout the game and resemble small, semi-transparent beads that blend together when close enough to each other. In the screenshot below, you can see two "streams" of the water particles in question. They have a white "center", which is fairly distinct and doesn't blur as much with the adjacent particles, and the transparent "bubble" around them, which seems to marge with any connected bubbles.

When separated, the surrounding bubble is more plainly visible, indicating that there is some kind of particle proximity detection going on rather than deforming a cylindrical mesh in the shape of a water stream, as one might do for a less dynamic system.

As for how I imagine this system works, I believe each water particle is made of of a single mesh representing the white core of the particle, which is made to resemble specular lighting without too much calculation, and a transparent hull outline that doesn't render itself further than the first mesh the camera sees. The white core is likely somewhat transparent, and from the screenshots, the mesh stretches in the direction it is flying, being more transparent the further from the local center it is. A transparent hull outline would give the blending effect seen in the outer layers, as not rendering anything beyond the first layer would give the illusion that two close outlines are actually a single mesh, even though they aren't.

Part B:
My partner for the final is Jacob Thompson.