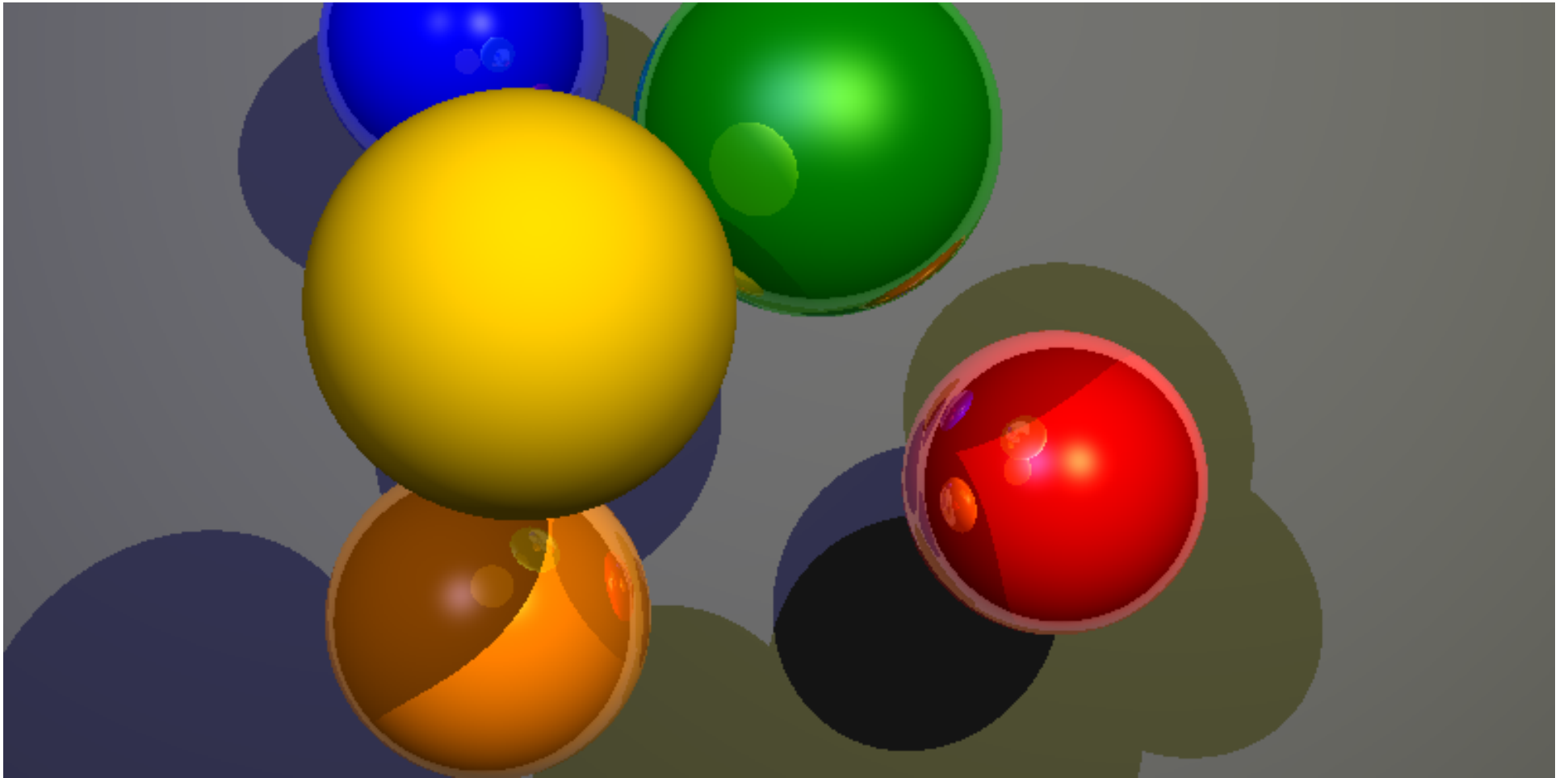


Computer Graphics

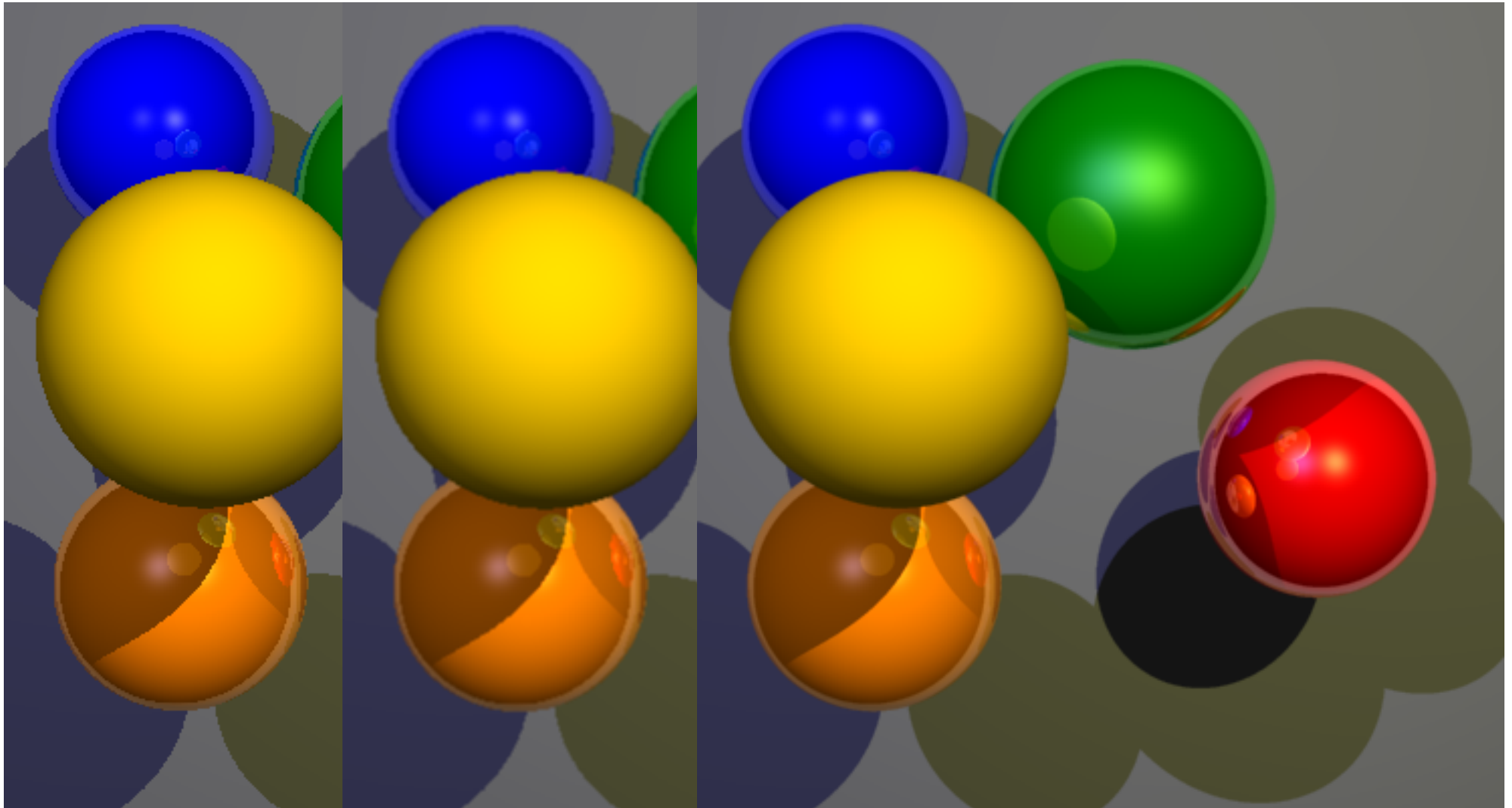
week 4

Jan Paul Posma (1775707)

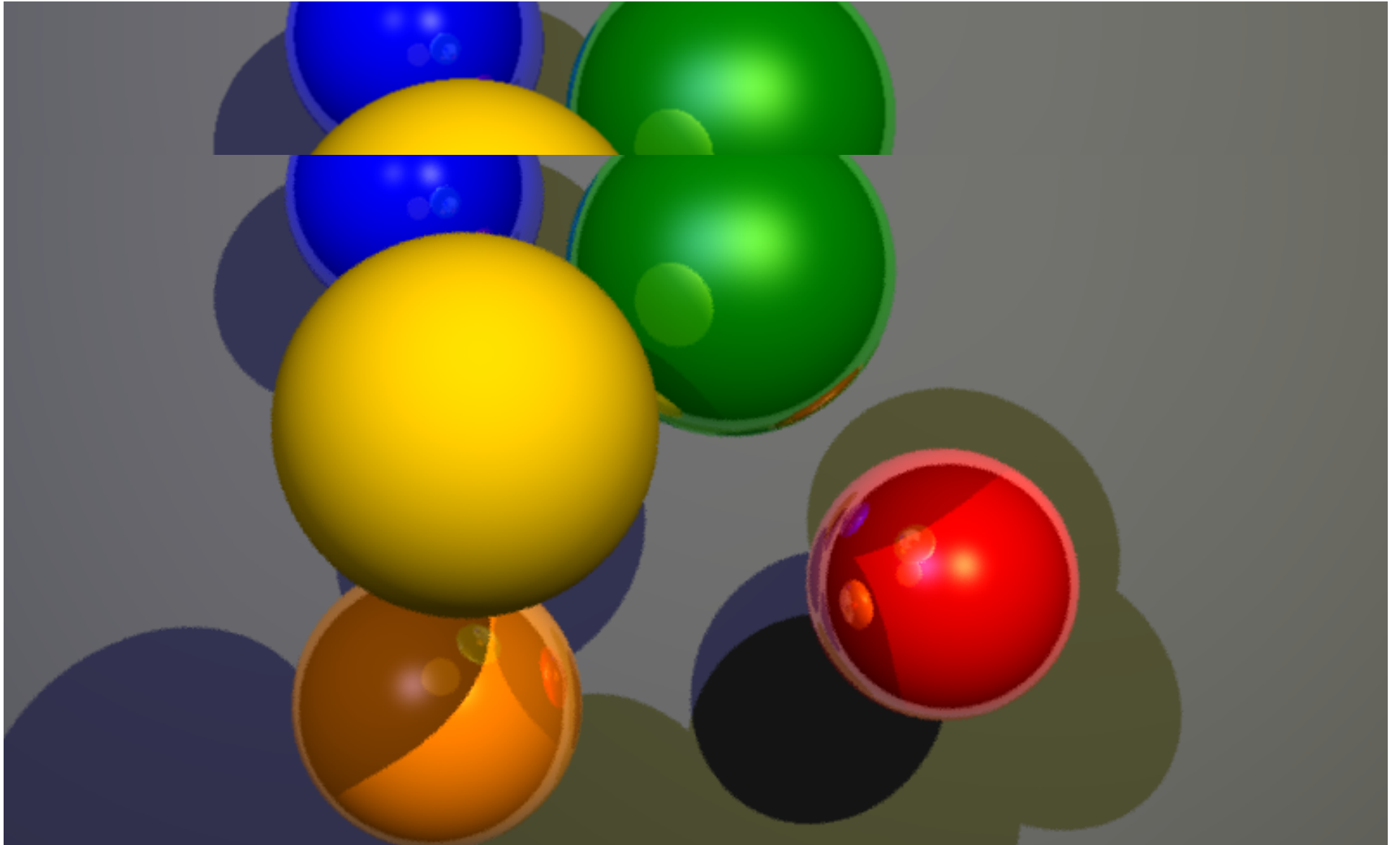
Roan Kattouw (1770993)



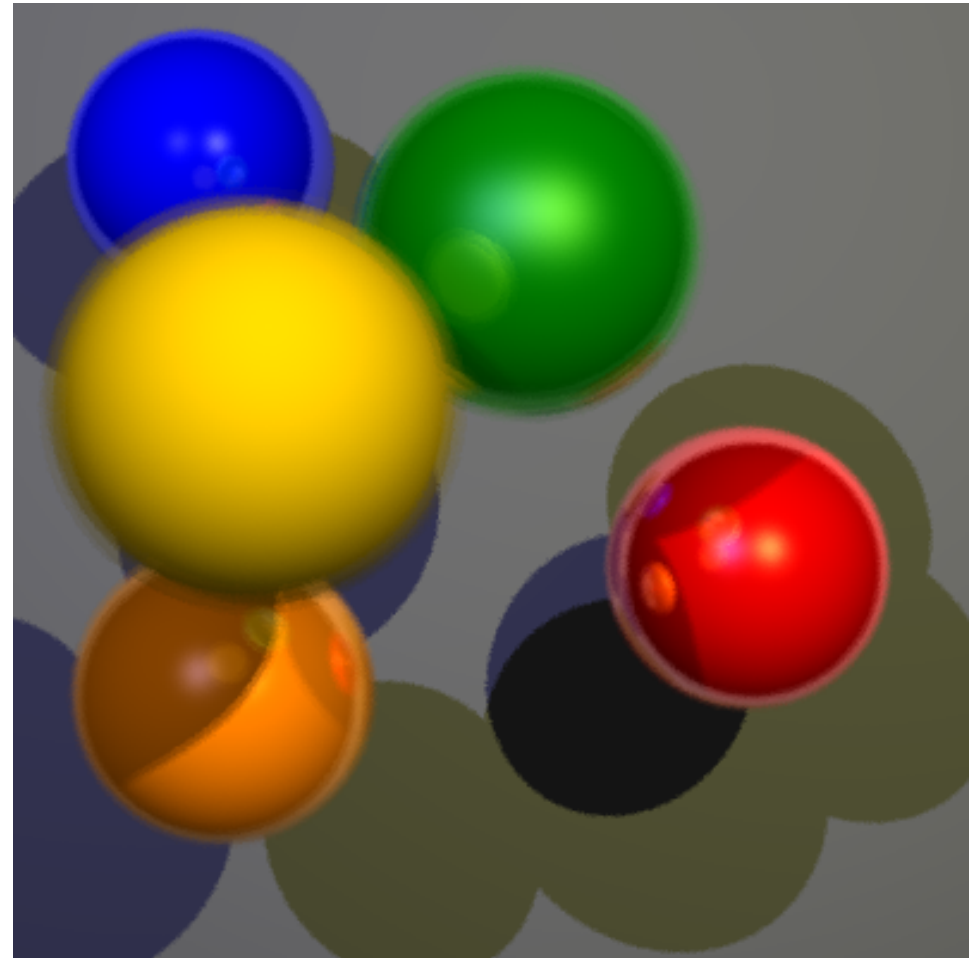
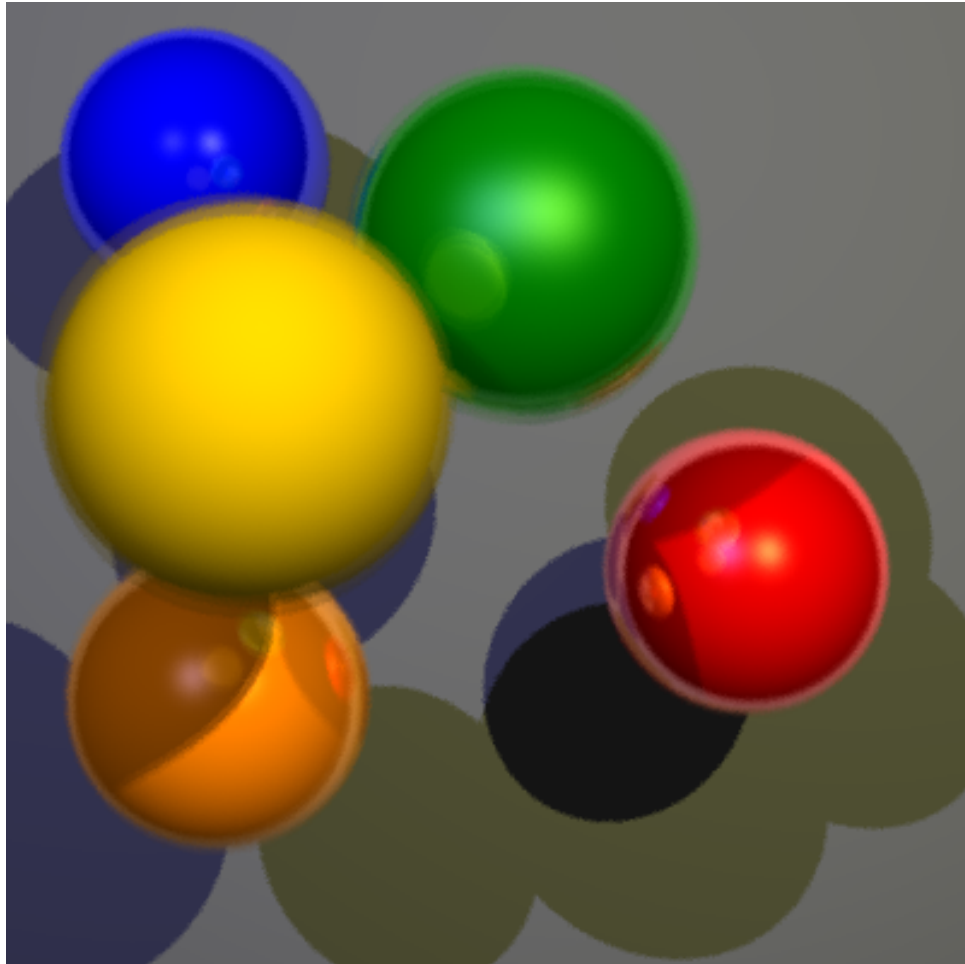
Started off with camera object



Super-sampling! (1x1, 2x2, 4x4)



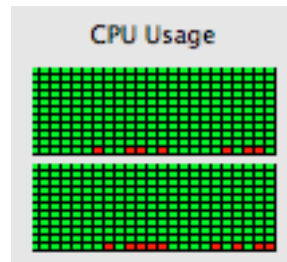
Jitter: random x-y offsets for each subpixel

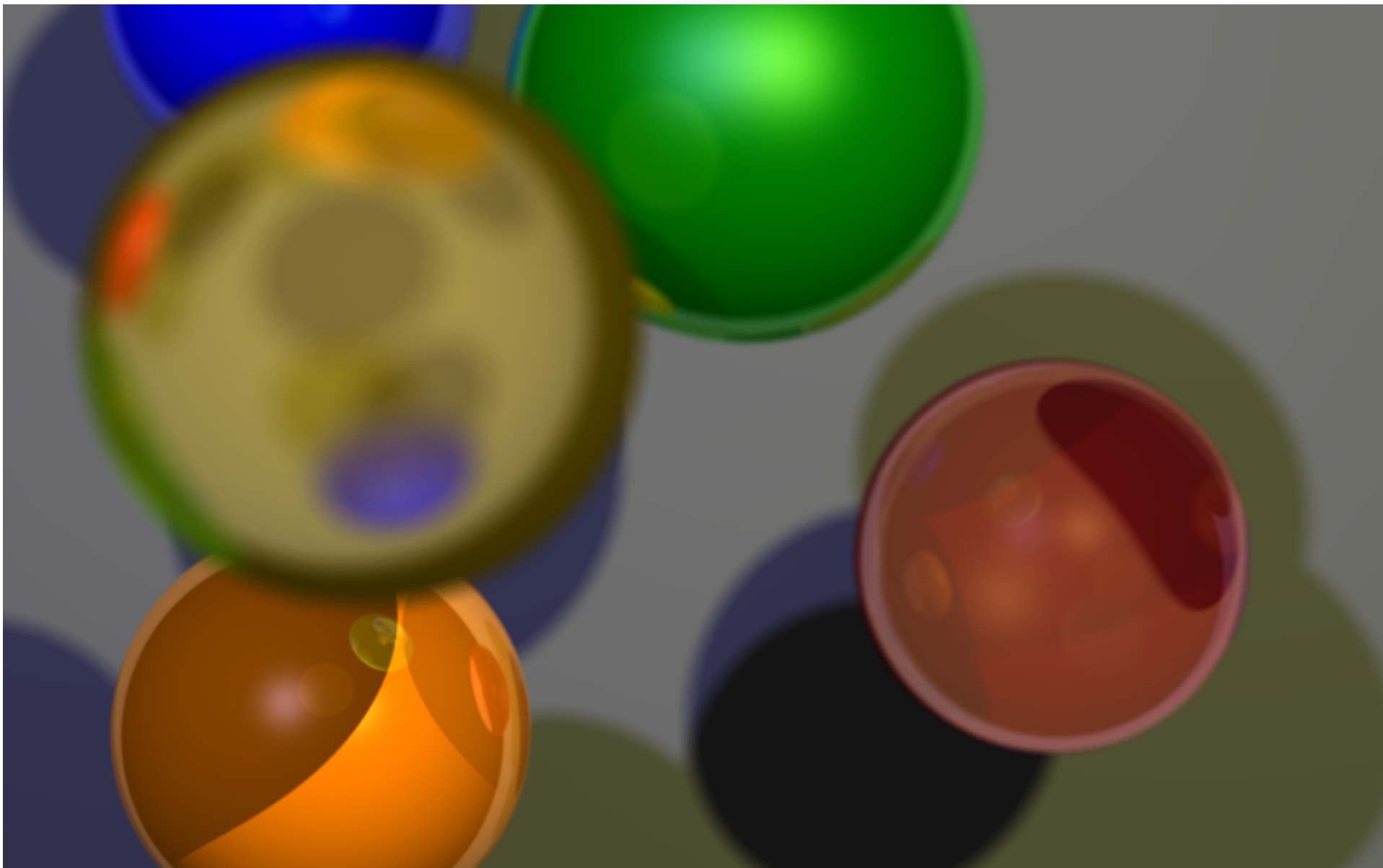


Normal depth of field, and with offsets based on subpixels

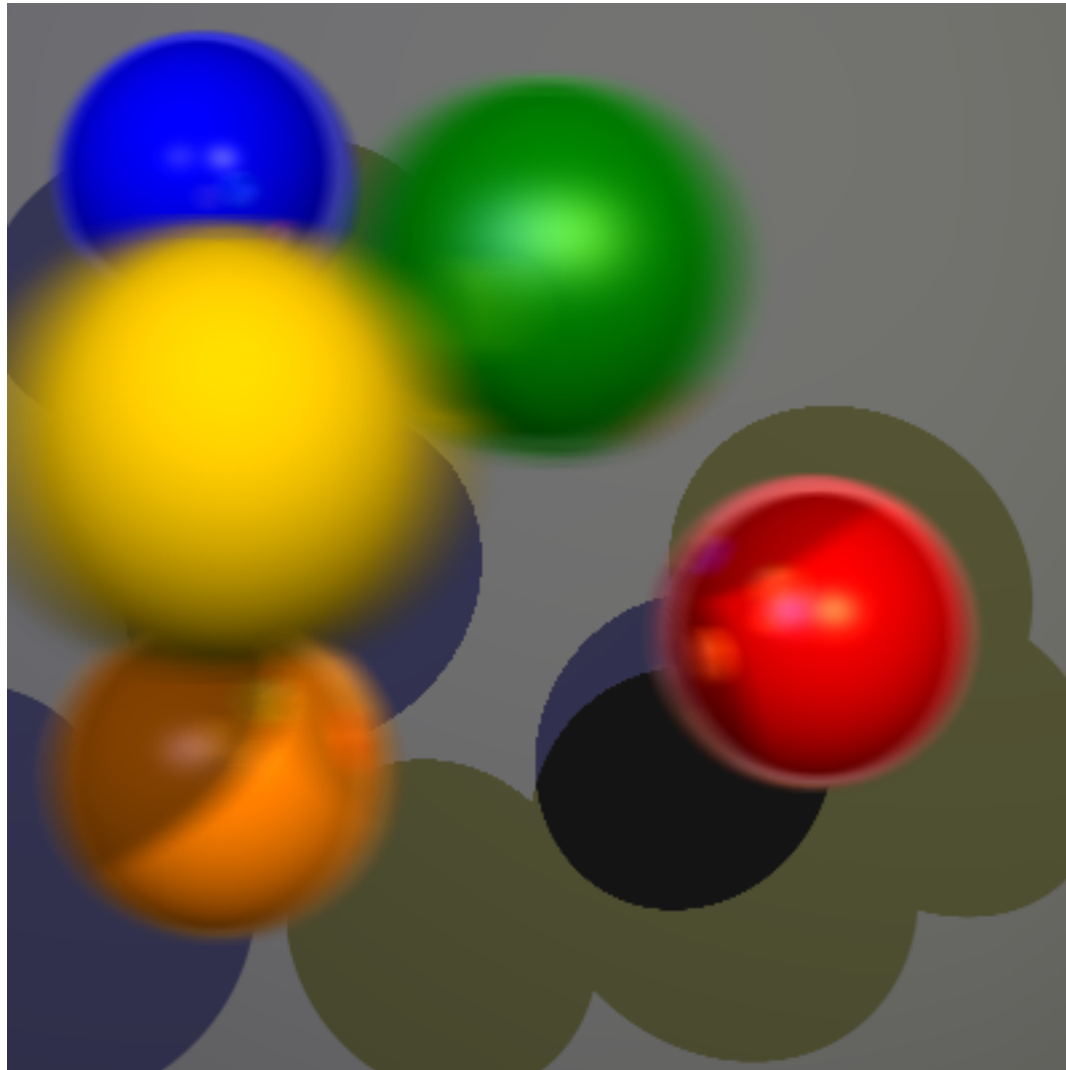
Things are starting to get slow:
OpenMP! :)

some additions of *#pragma omp parallel for*
and *-fopenmp*

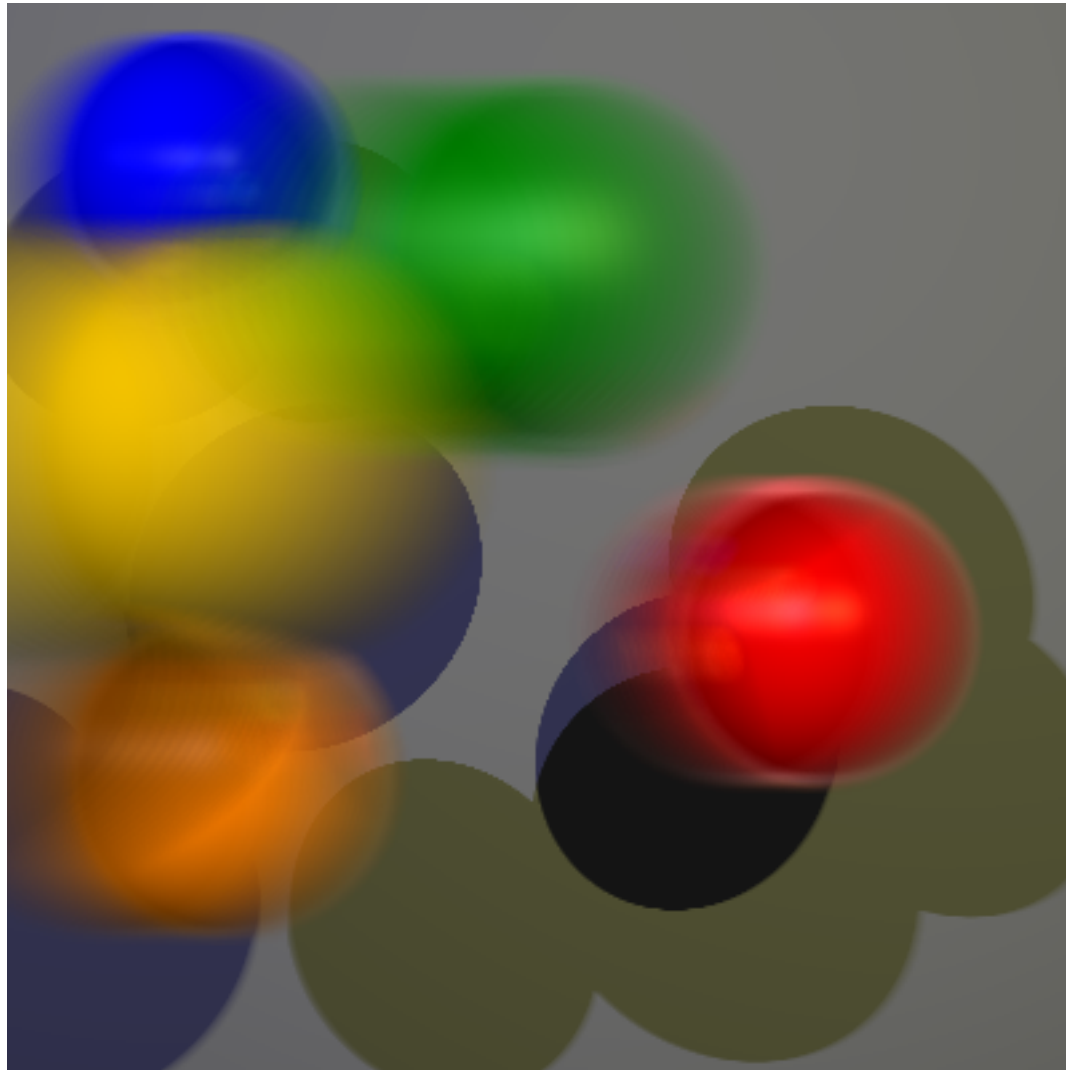




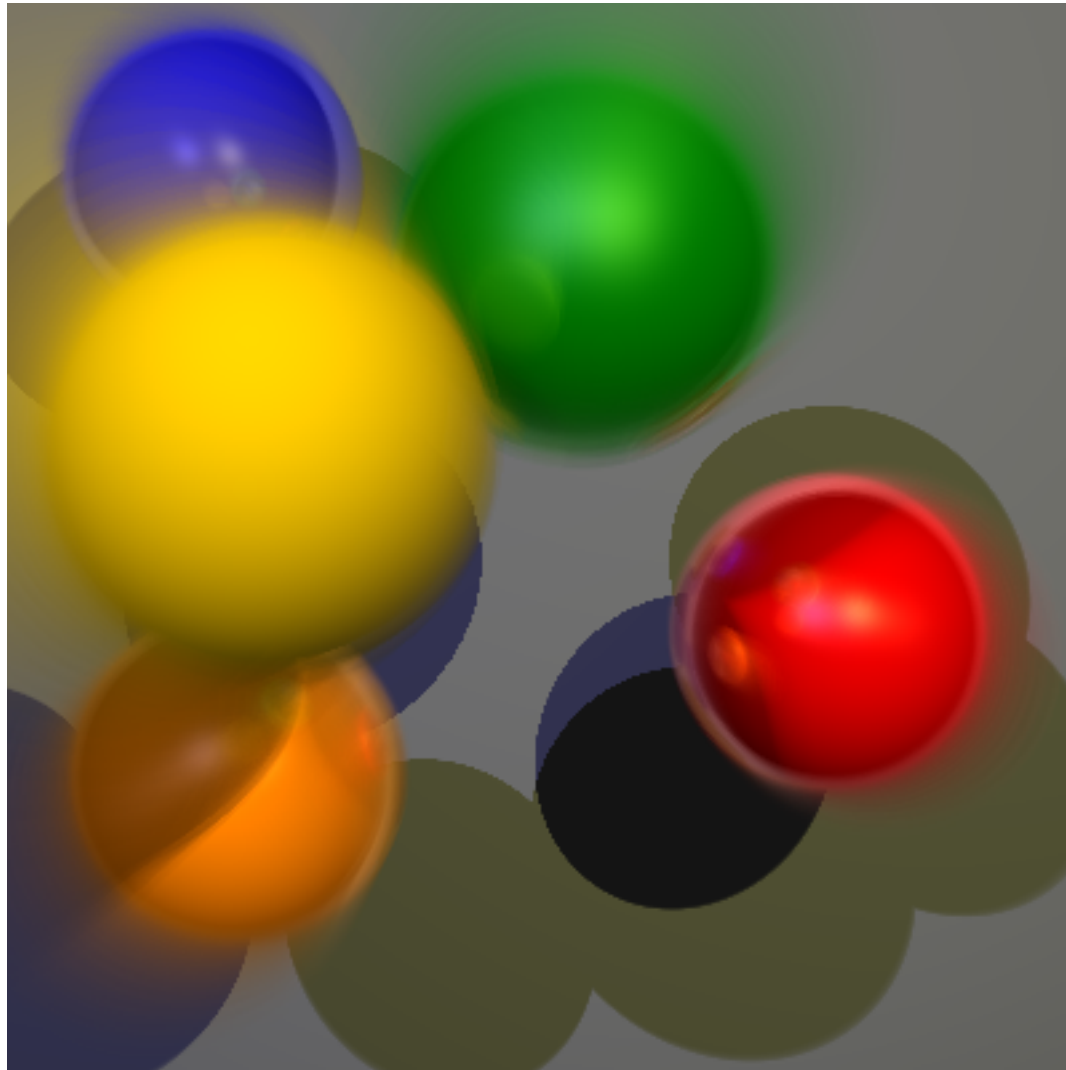
High-res image!



Motion blur: only velocity



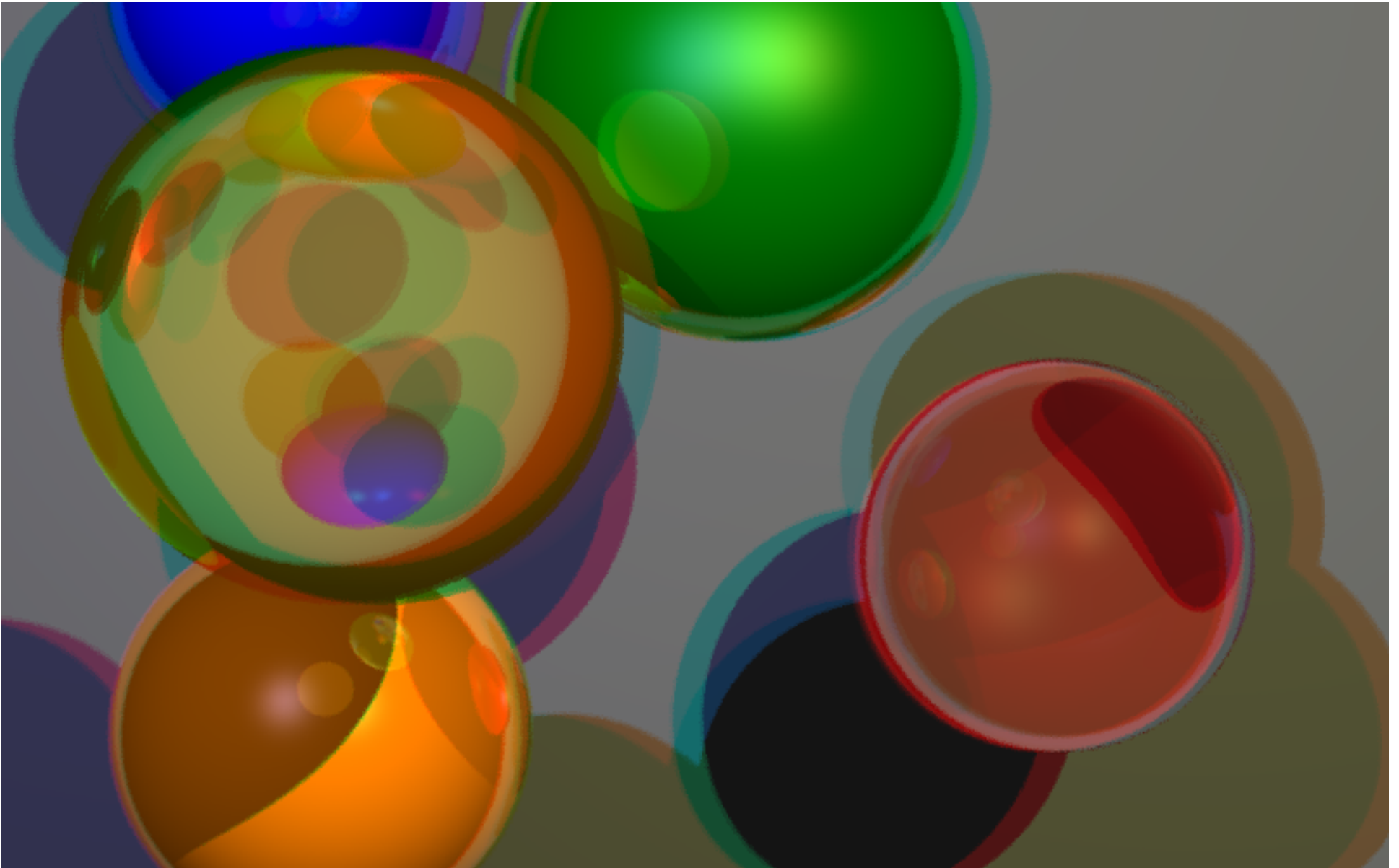
Velocity + acceleration



Neat effects! ;)



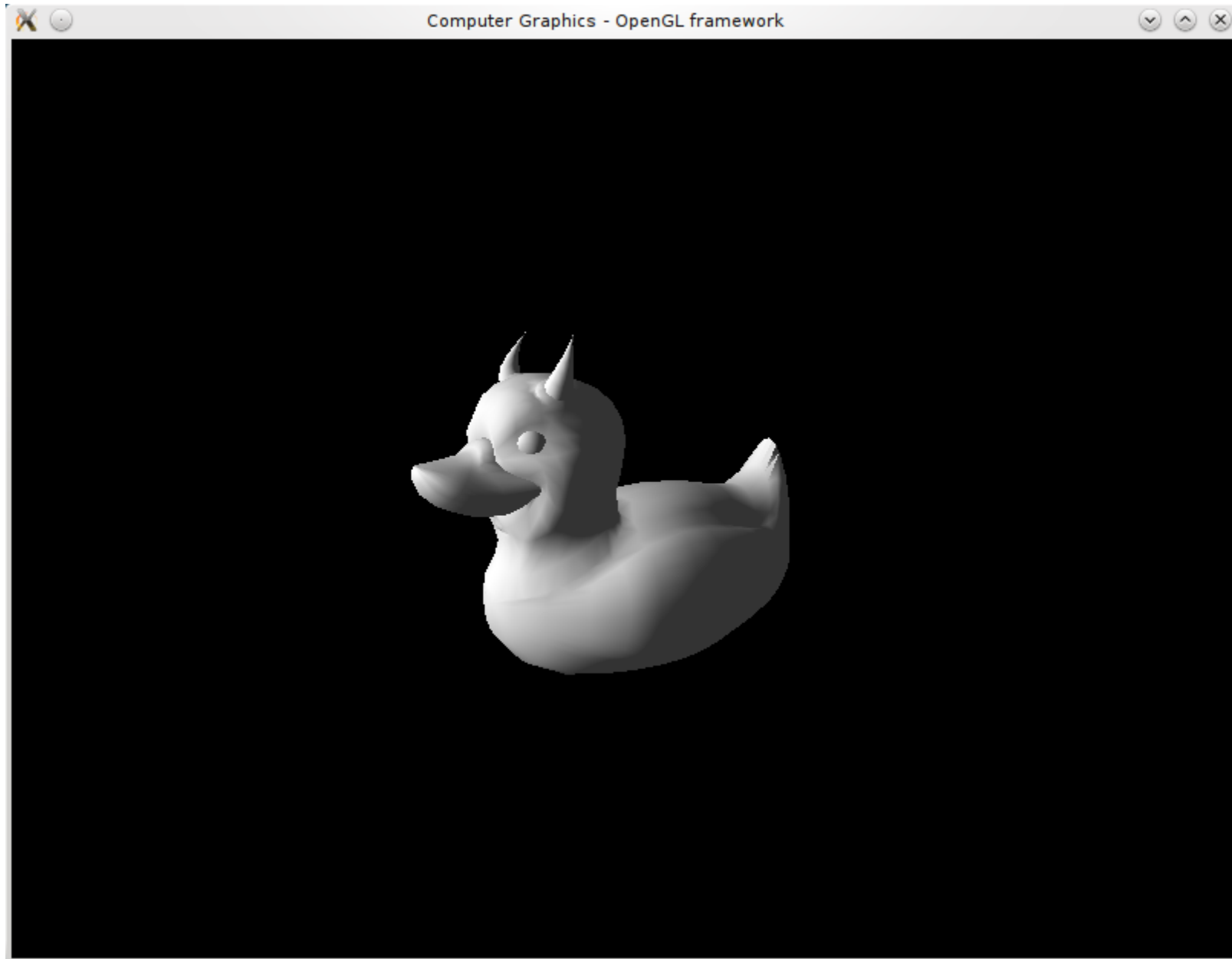
Put on your red/cyan 3D glasses for this one! :D



Anaglyph! Color(Left.r, Right.g, Right.b)

Can we run this on Millipede, pretty pretty please? :)

OpenGL: 3D meshes



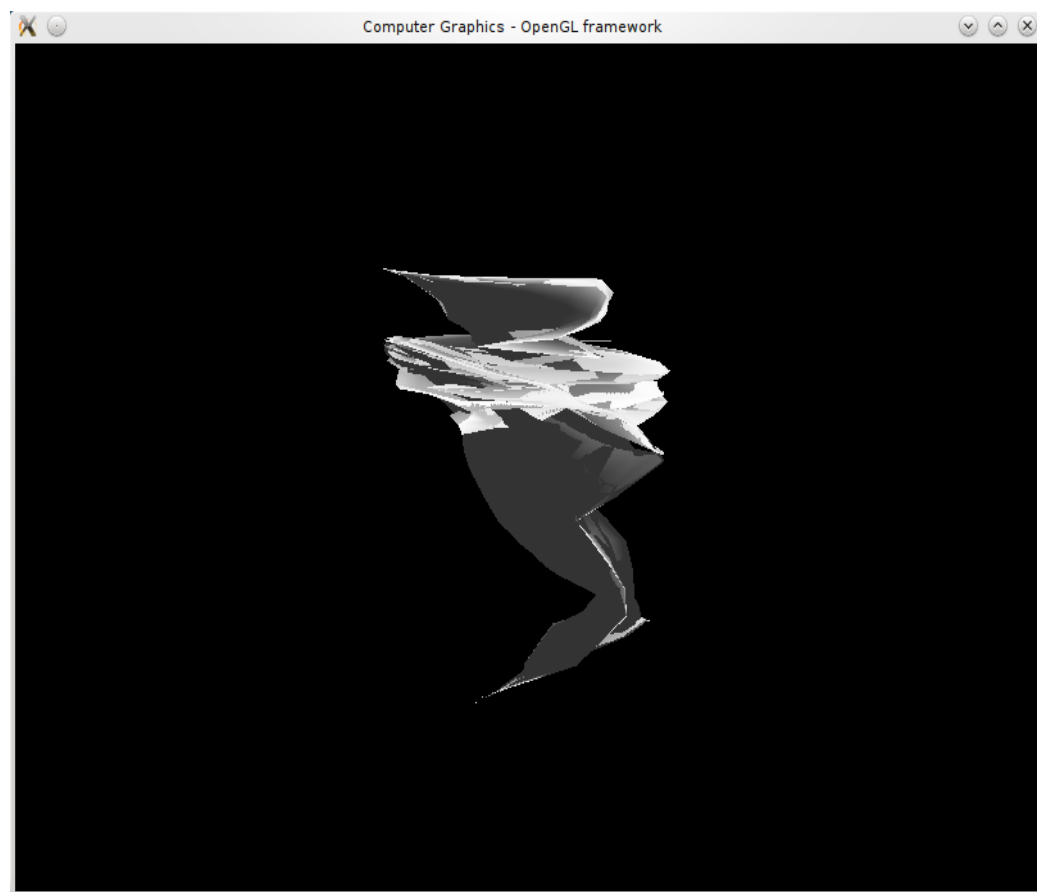
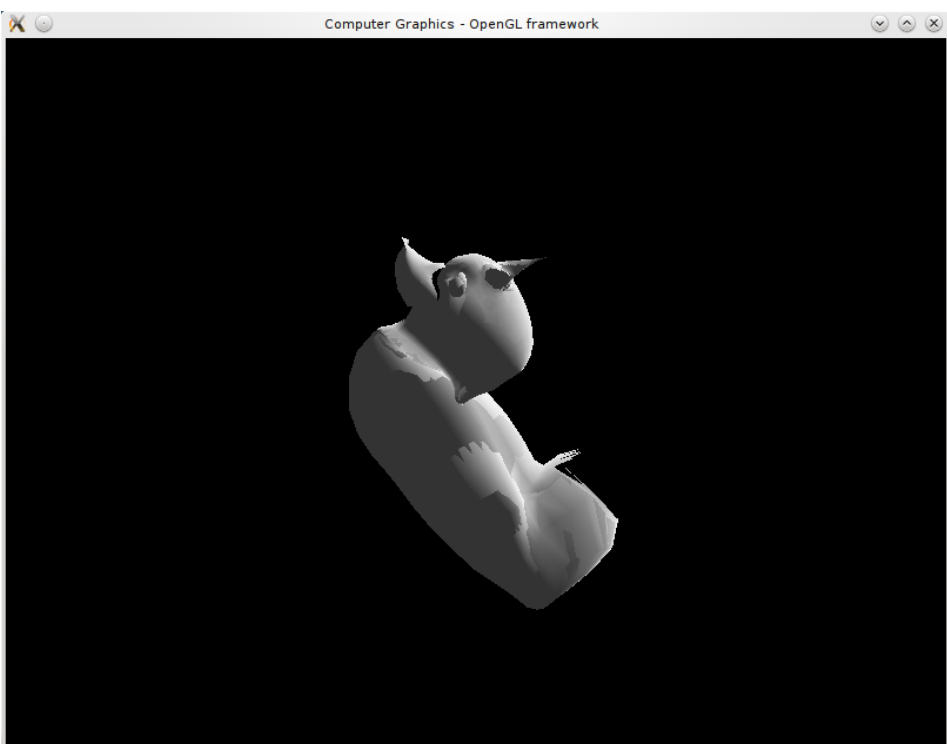
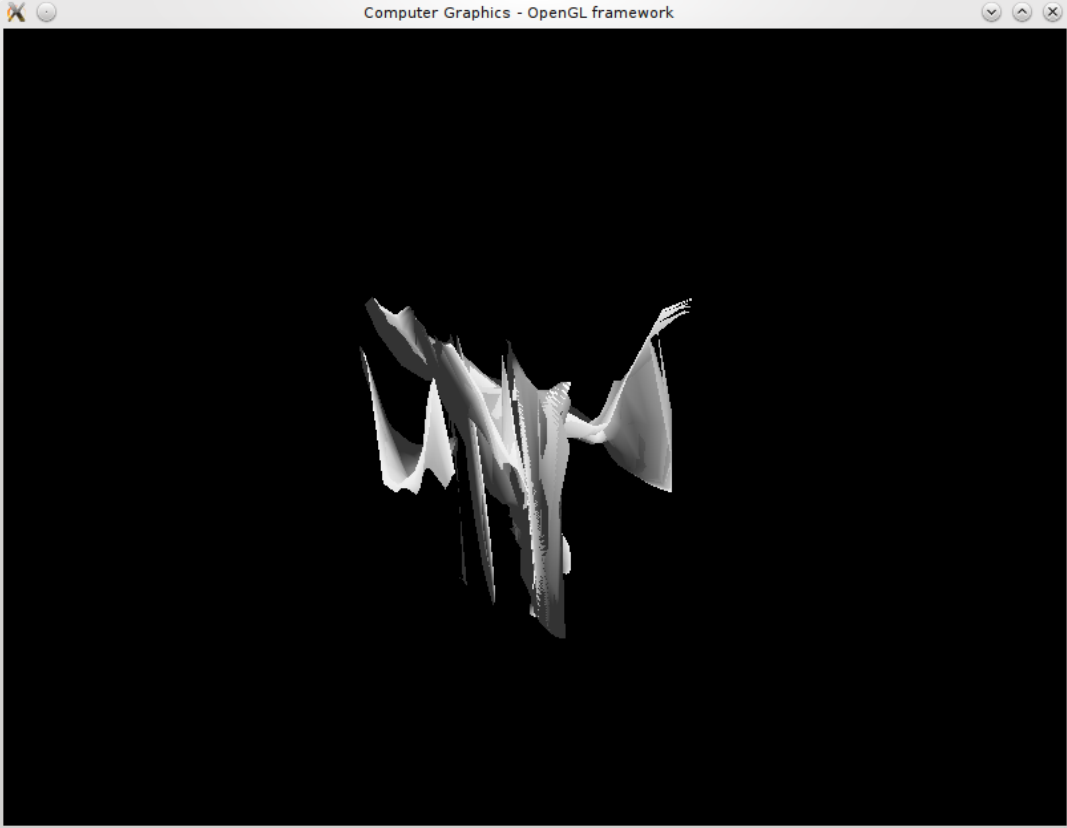
Interleaving **vertices** and **normals**

RIGHT: **Nx Ny Nz Vx Vy Vz**

WRONG: **Vx Vy Vz Nx Ny Nz**

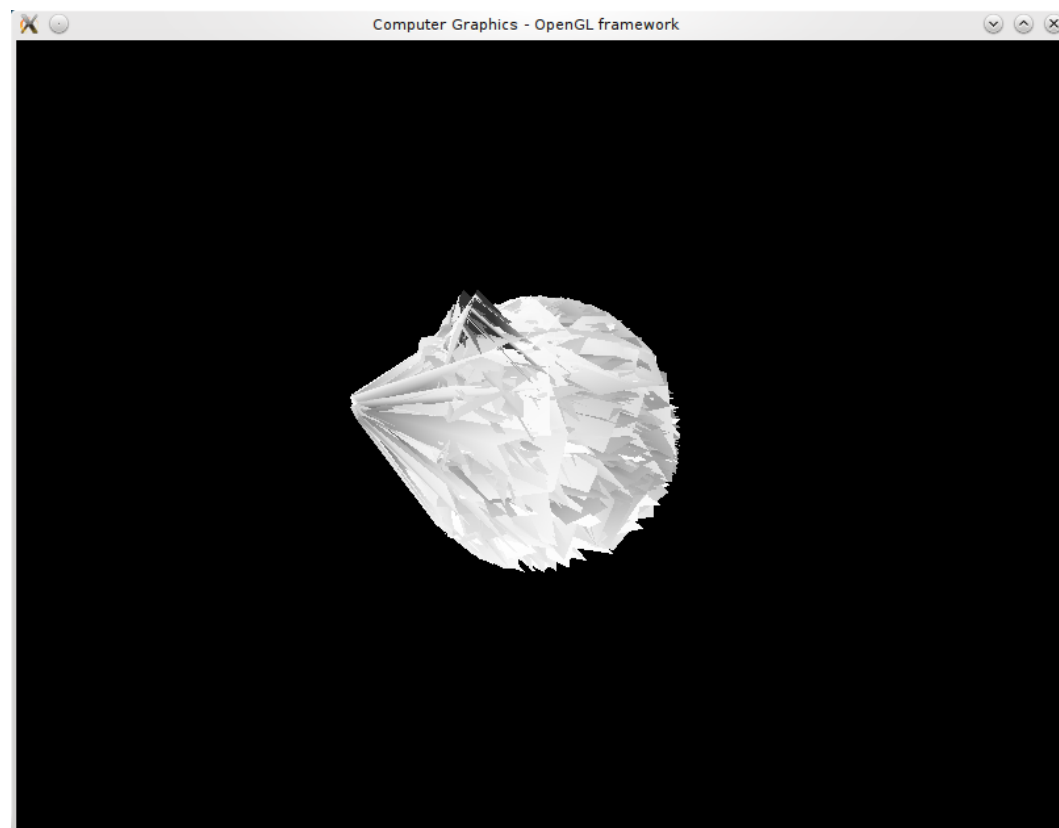
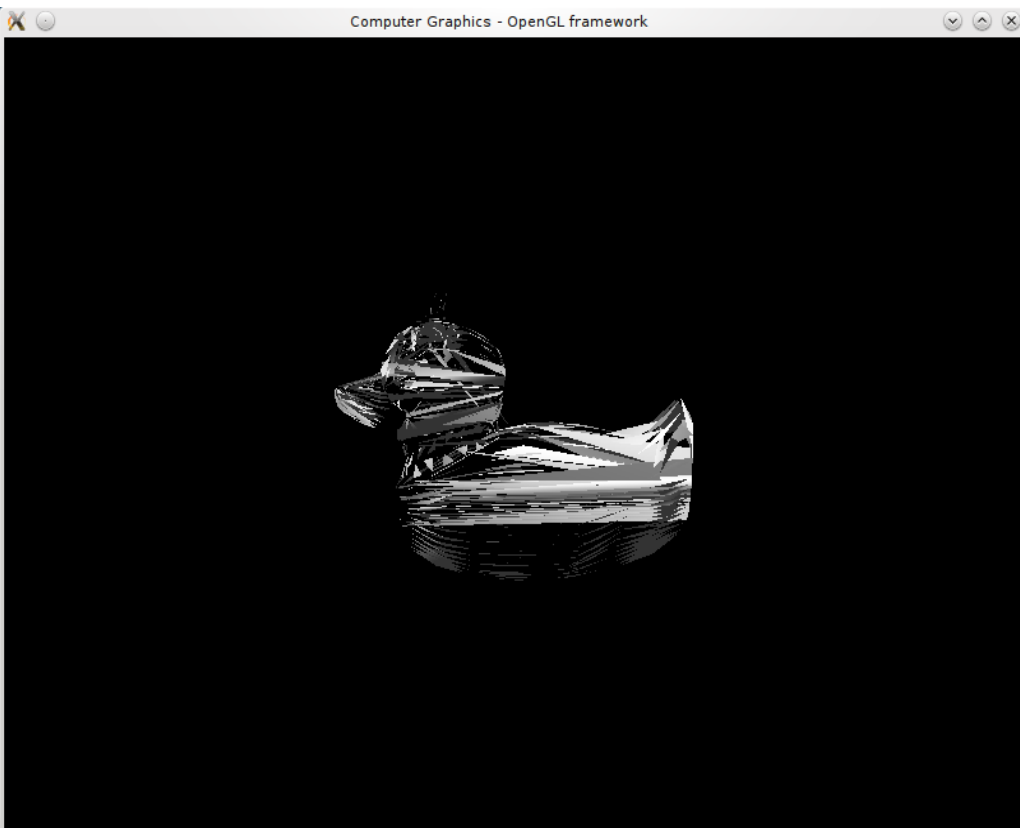
WRONGER: **Nx Vx Ny Vy Nz Vz**

WRONGEST: **Vx Nx Vy Ny Vz Nz**

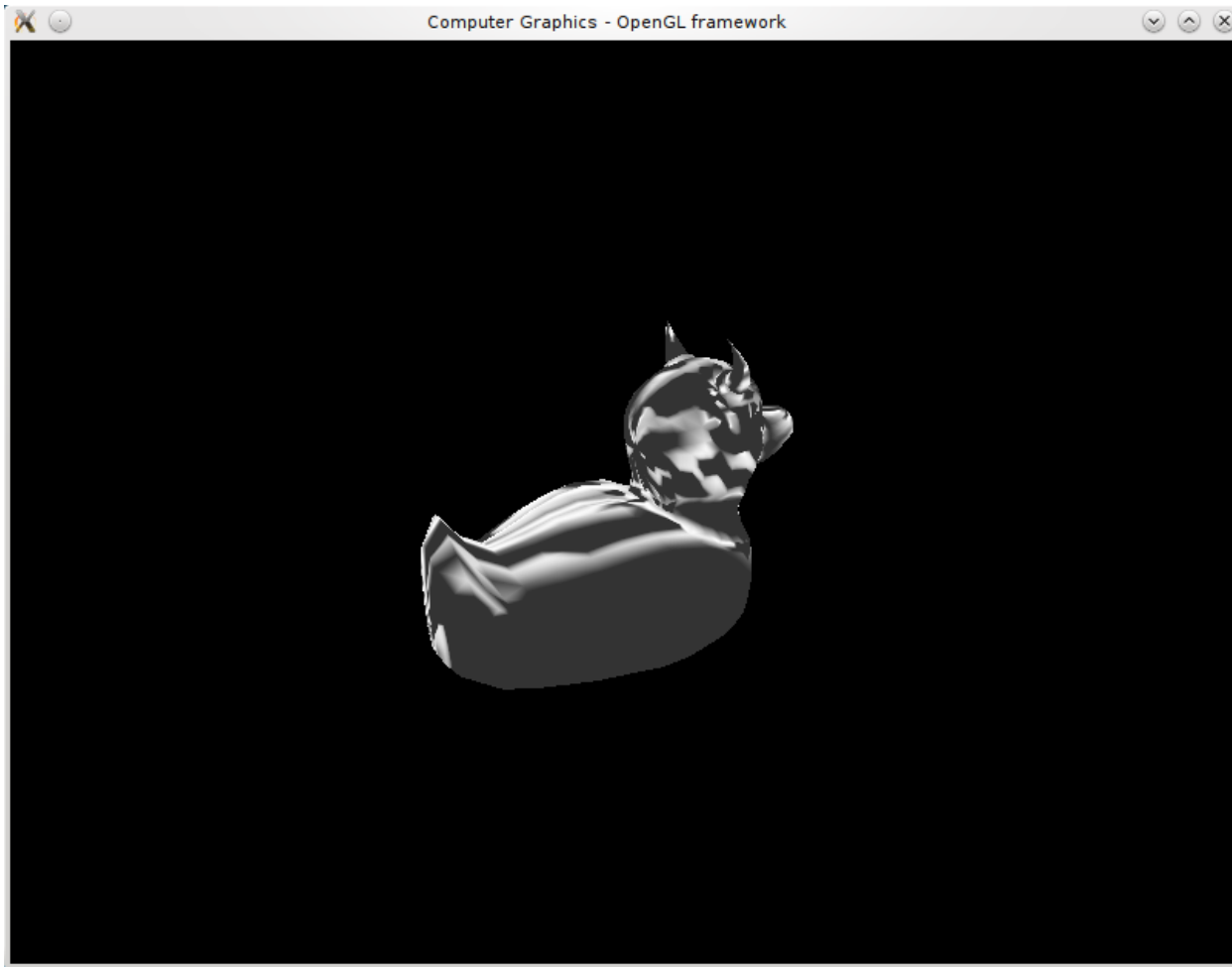


IBO pitfalls

- Indices are per-vertex. not per-float or per-byte
 - so don't multiply them by 3
- `gl*Pointer()`'s stride parameter expects # of bytes between one vector and the next, not # of bytes to skip
 - except when it doesn't (zero)

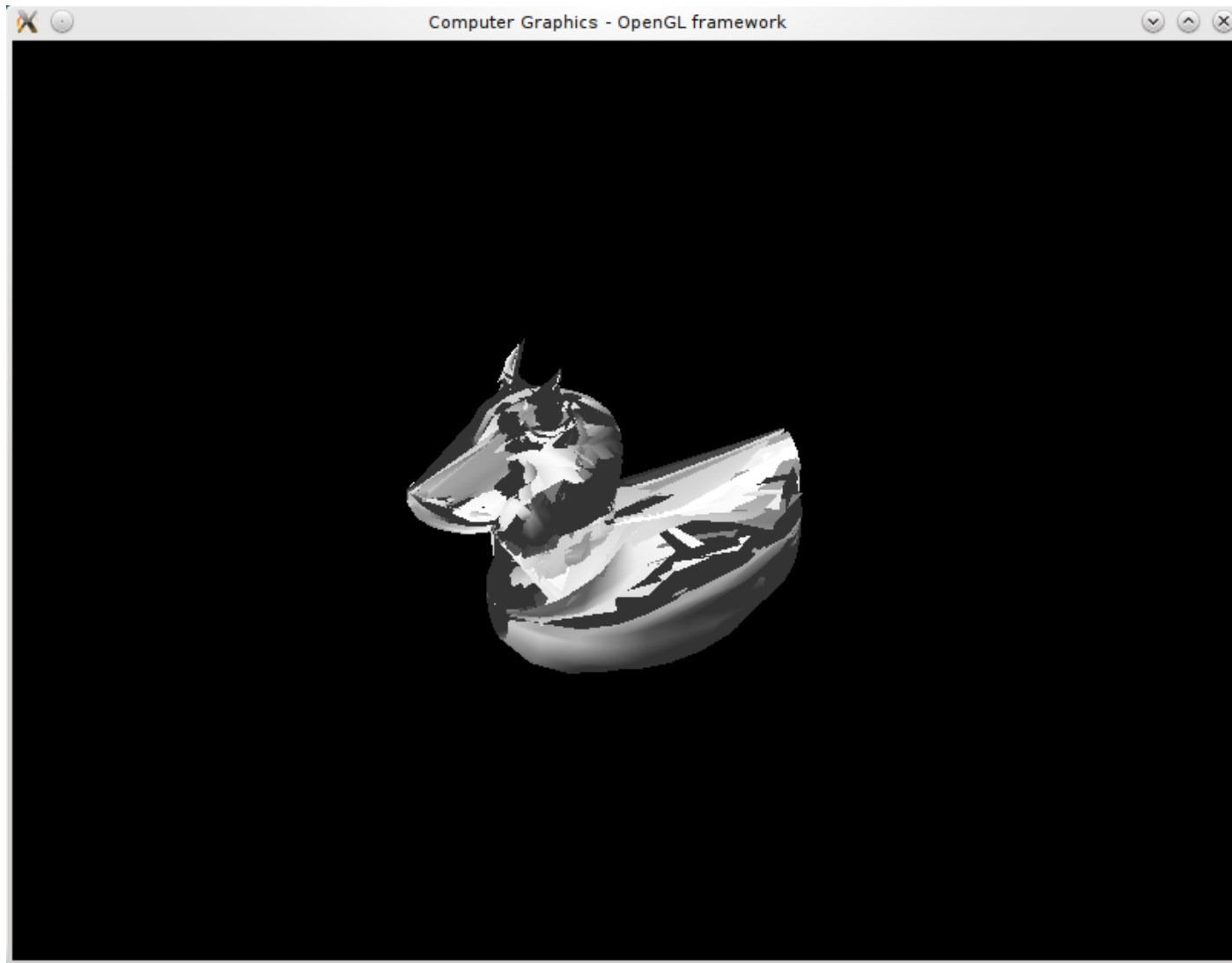


Packed normal array



GLM packs the normals array to reuse duplicated normals for smoothed edges, so *vindices* and *nindices* aren't necessarily equal. For IBO we need them to be, though, so we need to unpack the normals array before transferring it to the buffer.

Mysterious breakage



Something's wrong with the normals here, but I don't remember how this happened :)