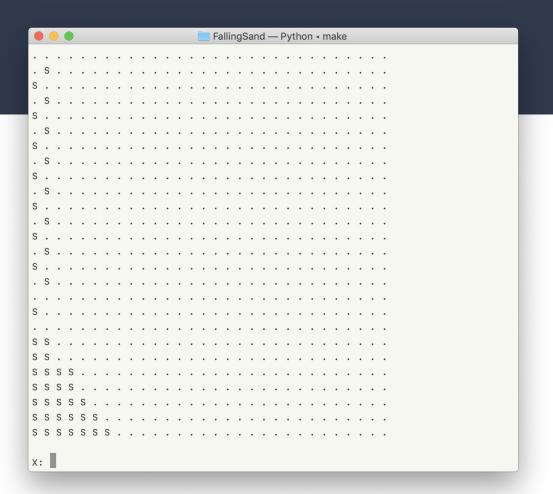# Falling Sand
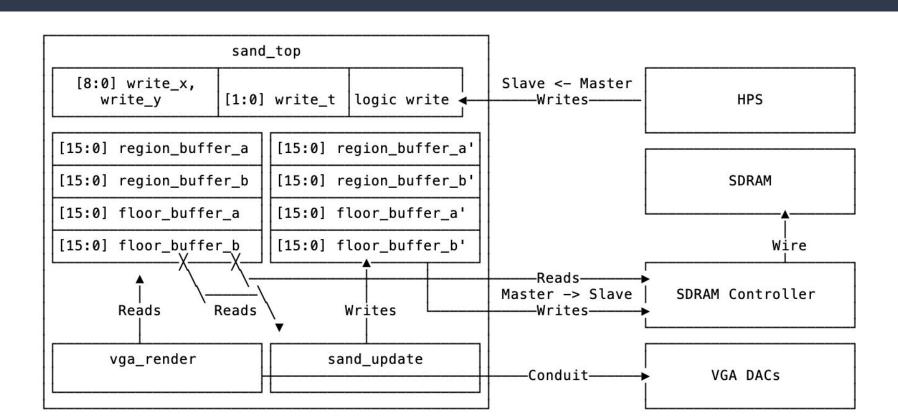
Jeremy Adkins   JA3072
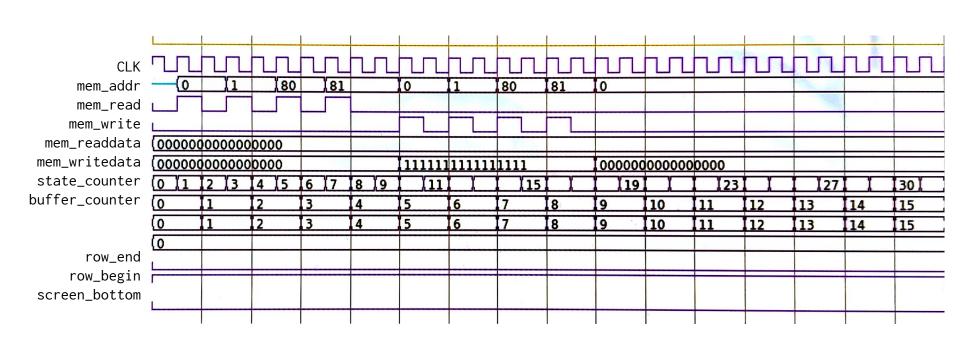James Kolsby   JRK2181
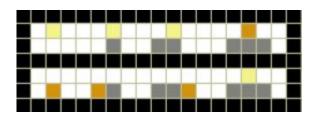
Prototype

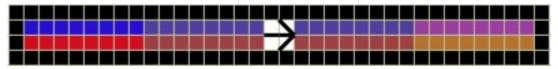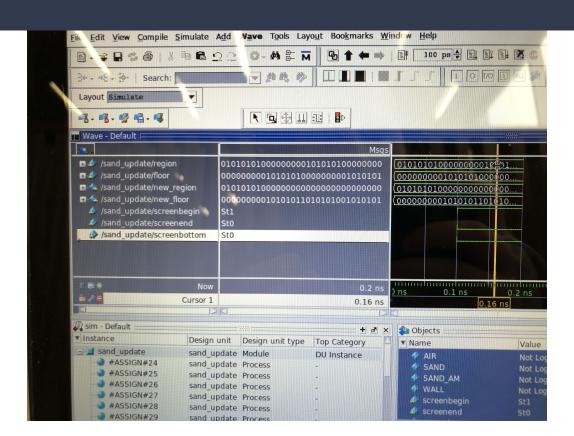# Top Level

Timing

VGA

Physics

Particle transforms were based on surrounding particles.
We used 4 particle types:
Air, Sand, Sand_AM, and Wall

To ensure there was no "columning error", trapping sand within an 8 pixel wide partition, each tested value was 4 SDRAM words from memory - two from the current row, and 2 beneath it. The second column of chunks becomes the first column of chunks in the next iteration.

Physics

Challenges

SDRAM access - the SDRAM controller escaped us. We tested it by using read/write verification signals represented by blue and red particles in our chunk. Red and Blue stripes appeared at 8 pixel intervals, verifying our VGA driver but revealing that SDRAM continued to not actually store values.