



# Adding Realistic Depth of Field

Clinton Hopkins

# Initial Goals

- Create a realistic depth of field
  - F-Stop
  - Aperture
  - Focal Length

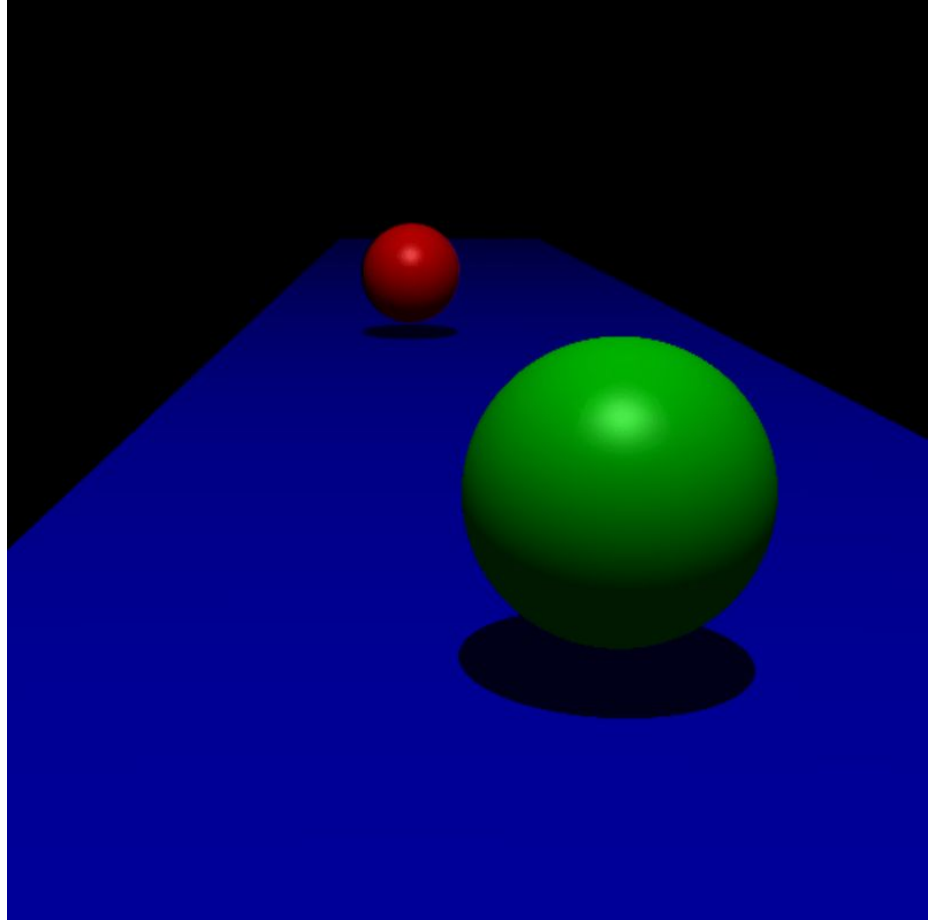


Graphic: <https://marwenphotoblog.wordpress.com/wp-content/uploads/2012/04/dof-comparison3.jpg>



## Previous Results

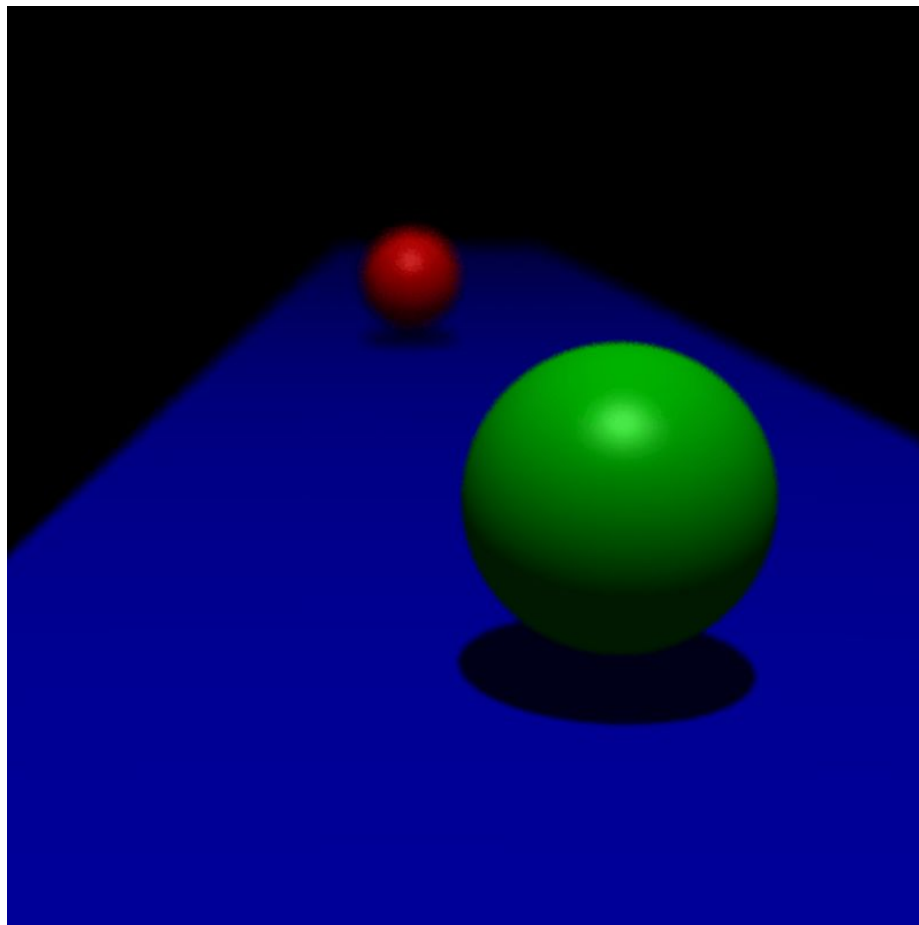
f/22





## Previous Results

f/1.4





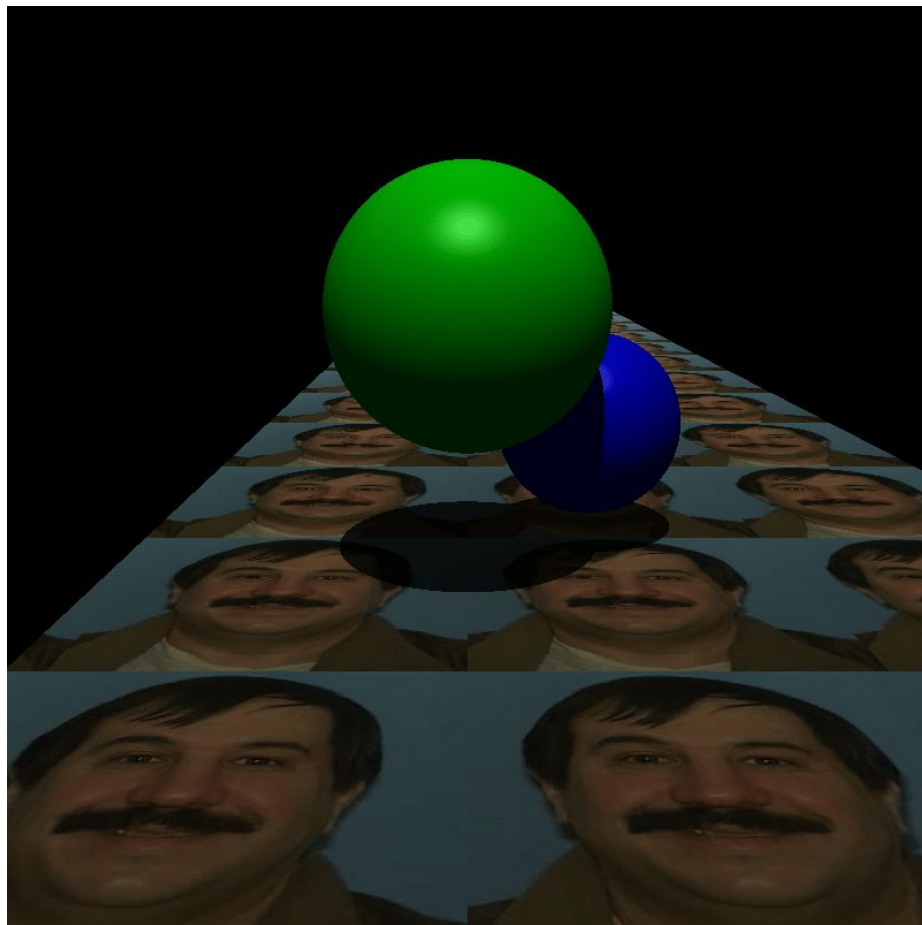
# Updates

- Added an image “shader”
- Added super-sampling to reduce aliasing
- Added multi-threading
- Reproduced the initial goal scene



## An Image Shader

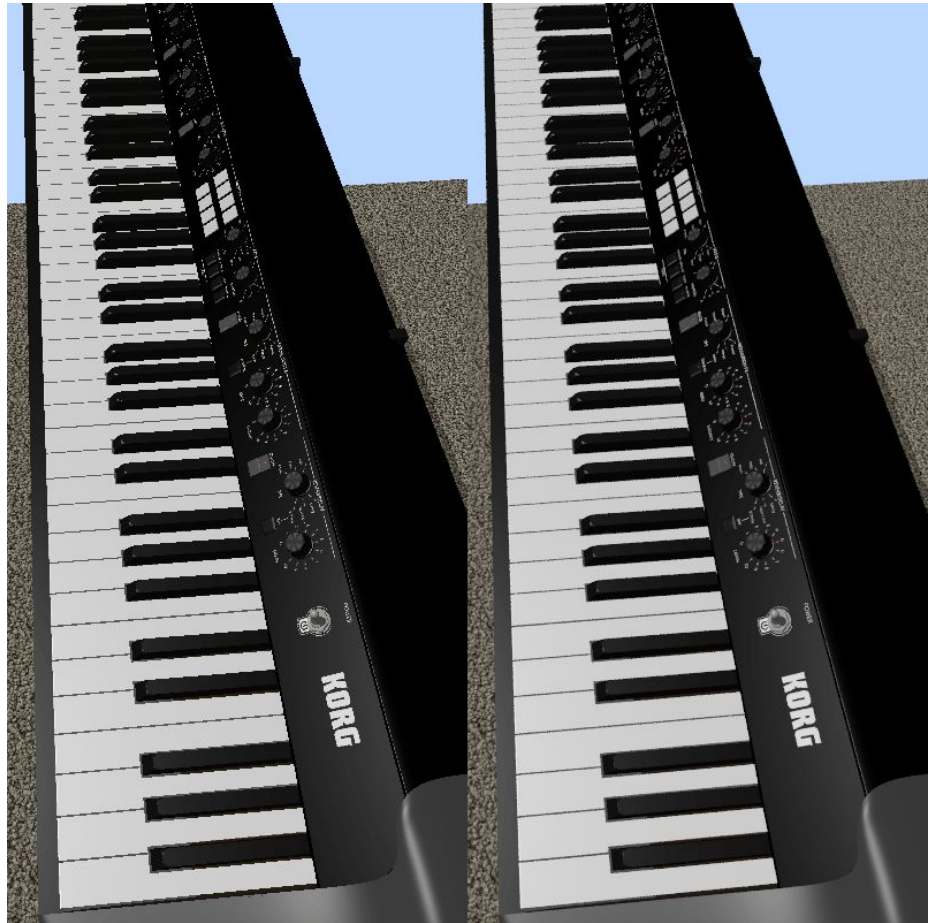
The MTL file I used is based on texture images





# Super Sampling

Reduced aliasing





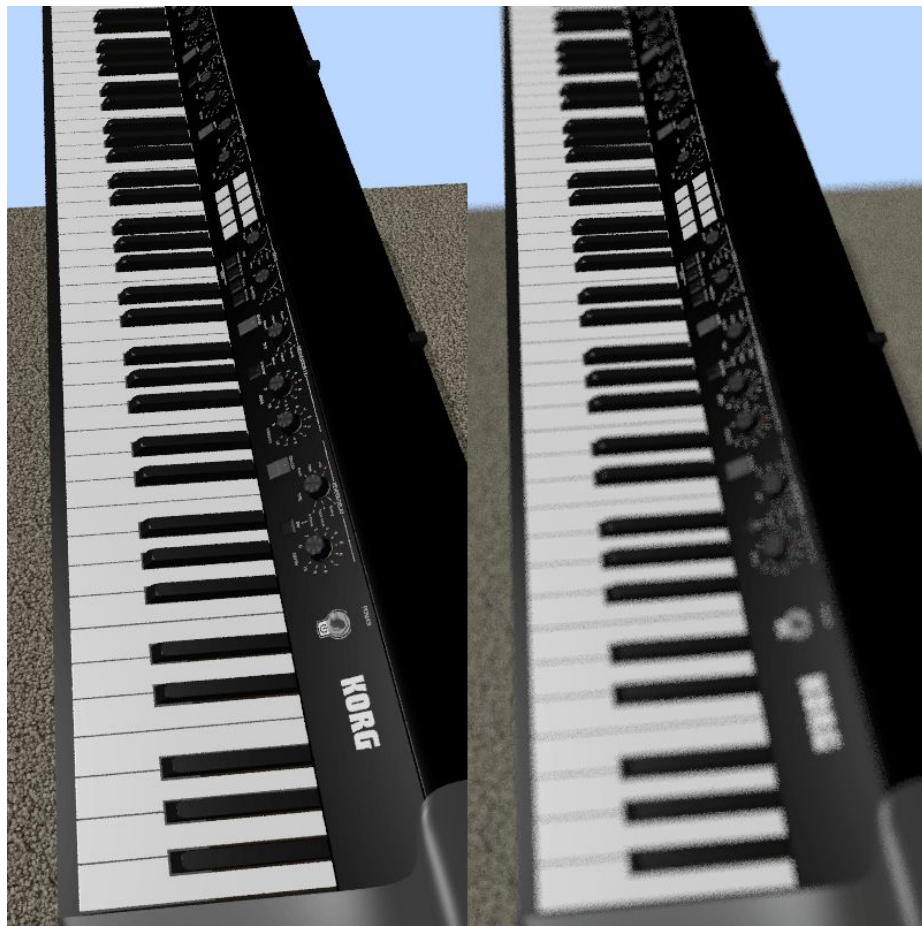
## Multi-threaded (1.1 million triangle mesh)

Rays per pixel	Single	Multi
5	4 m 48.79 s	1 m 37.61 s
25	29 m 19.18 s	8 m 53.42 s
50	DNF	17 m 40.85 s





## The Goal Scene





# Thank you — Any Questions?

Topic	Slide #
Initial Goals	2
Previous Results	3-4
Updates	5-8
Final Results	9