Advanced Graphics – May 2010

Fish in Tank

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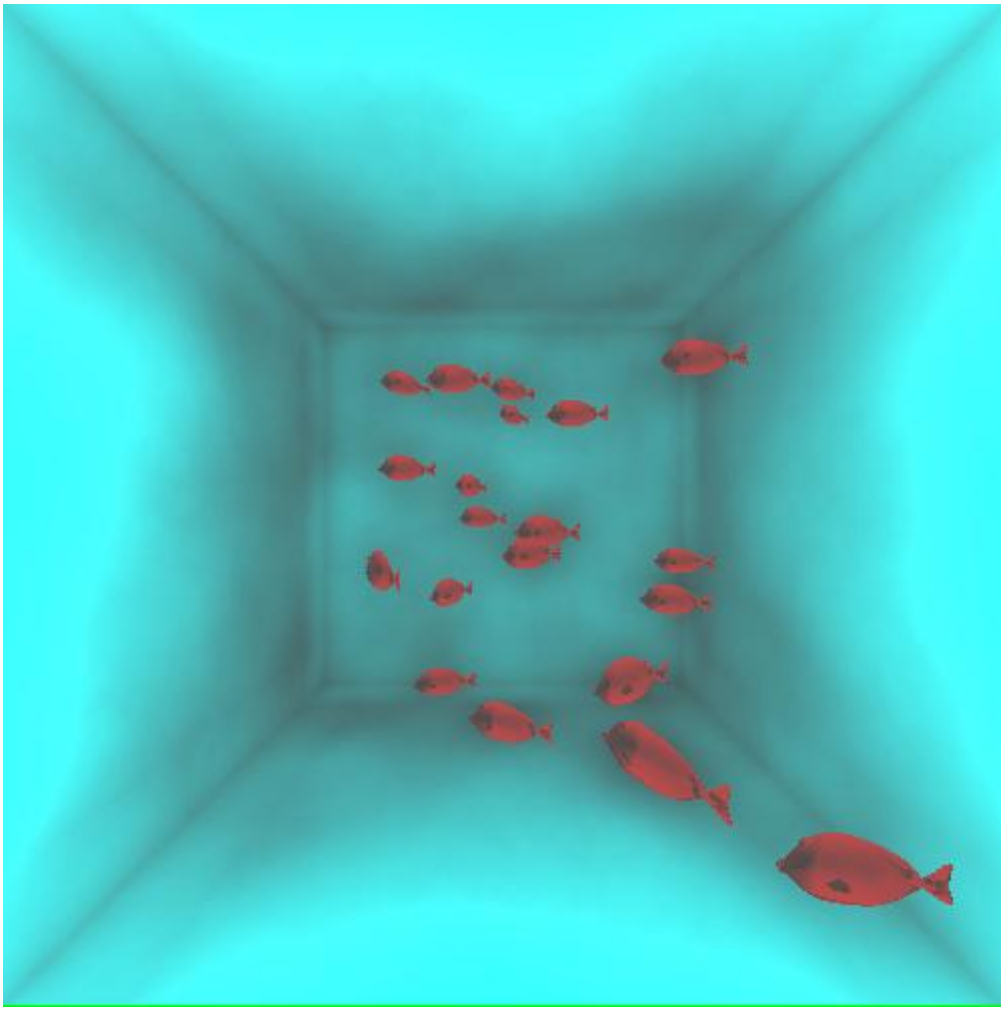

Figure 1 - High Resolution with Volumetrics

- Volumetric Photon Mapping
  - Photon mapped with single light behind the camera
  - Modeling of Volume
    - Logarithmic volume slightly denser at the bottom
    - Absorption and scatter probabilities are dependent on the density
  - Shot photons out of the camera
    - 100k for regular map

        - 100k for volumetric map
    - Used Gaussian filtering for the walls and the fish.
- Fish
    - Positioned with a random translation which kept them inside the box
    - Started with AI algorithm which positioned the fish but got too complicated to keep them in the tank

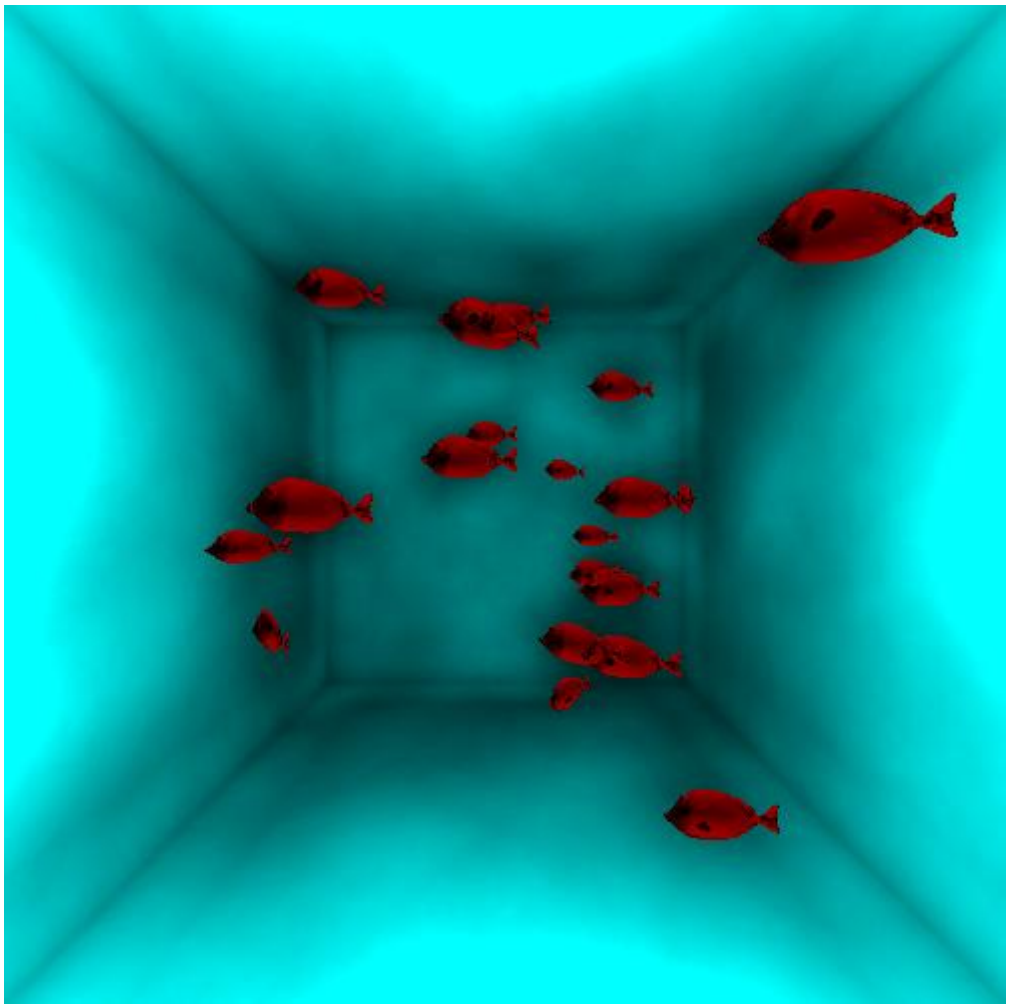

Figure 2 - High Resolution without Volumetrics

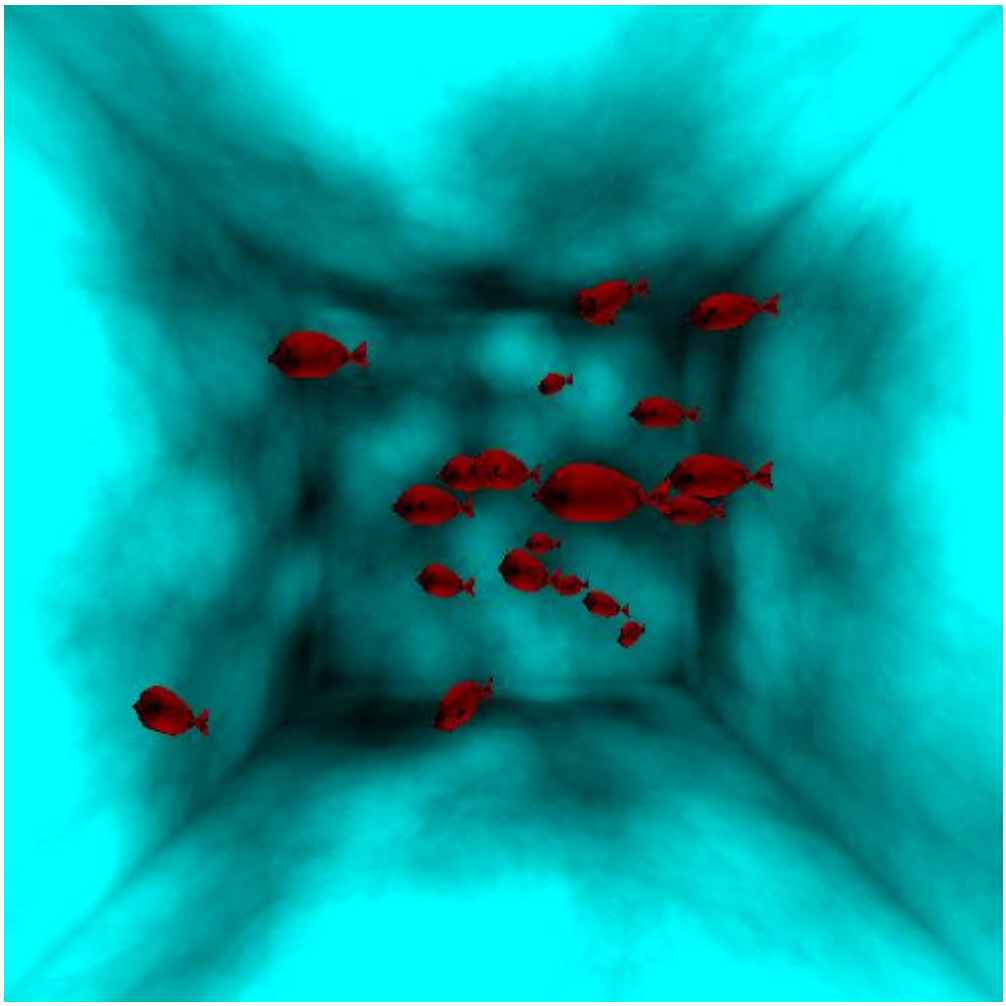

Figure 3 - Low Resolution (10k photons)