CIS 565 2018 Final Project
GPU Rasterized and Ray Traced Real Time Rendering using WebGL

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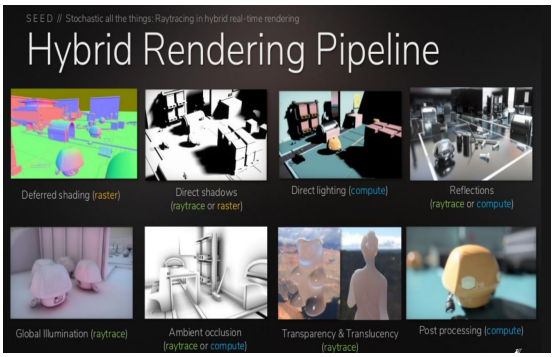
Overview

Real-time raytracing is a trendy topic recently in many fields. However this requires high-performance hardware to support, which increases the cost of accessibility. Hybrid real-time raytracing using both GPU rasterized and ray traced rendering is a good substitute or compromise for true real-time raytracing. Also we are planning to transplant this hybrid rendering to WebGL.

Weekly Milestones



11/19 Milestone 1:

1. Setup WebGL code framework
2. Deferred Shading (rasterize)

11/26 Milestone 2:

1. Direct Shadows (raytrace or rasterize)
2. Direct Lighting (compute)
3. Reflections (raytrace or compute)
4. Global Illumination (raytrace)
5. Ambient Occlusion (raytrace or compute)

12/03 Milestone 3:

1. Transparency & Translucency (raytrace)
2. Post-Processing (compute)
3. Setup demo scene and lighting

12/07 Final Presentation:

1. Optimization

Reference

- Real-time raytracing for interactive global illumination workflows in Frostbite: https://youtu.be/rhlGBCSv02M
- Rigid Gems Demo: http://www.rigidgems.sakura.ne.jp/index_en.html