

Capture Panorama Using Spherical Light Probe and HDRI Application.

Overview

In this project, I plan to explore one of the ideas referred in lecture, which is capturing scene using spherical mirror (or light probe) and transforming it into a panorama image. Since the quality of the resulting image relies on the lighting of the environment and the capture of the lights, I think it wise to apply multiple capture with different shutter speed and fuse into the final image, as a section of HDRI application.

Objective

This project aims to explore a series of certain techniques relevant to the course. I believe that in the process of field study and applications I can get a deeper understanding and find new contents in the related aspects.

Milestones

There are several essential steps in this project that represent the overall progress:

1. Preparation of light probe, digital camera; selection of scene and capture of the raw images.
2. Implement and run the HDRI fusion program to form an HDR image
3. Transform part of the image corresponded to the probe, which would result in a panoramic image
4. (If time allow) Convert this image into a texture and render it on a skybox/spherical geometry using common graphic library.
5. Repeat the whole process on different locations and adjust the parameters if the result is not satisfactory.