CG1 WS 20/21 - Exercise 6: 3D Effect

Technische Universität Berlin - Computer Graphics
Date 04. February 2021 **Deadline** 10. February 2021
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Stereo View (2 points)

Stereoscopic images have been used to create 3D perception from 2D flat media. There are many different techniques available. The fundamental idea is based on binocular disparity that view in the left eye differs from the one in the right eye. By fusing those slightly different images, we could estimate the distances of objects and perceive 3D information.

In this exercise you are going to implement a basic stereo 3D effect. The stereo effect generates a pair of images using two different view directions. The two generated images can be used by head-mounted stereo displays (e.g. in virtual reality(VR) or using special view techniques like cross view or parallel view. No skeleton code is provided for this exercise and feel free to use any of your own framework. The tasks in detail are:

1. Construct a scene and render its corresponding stereo view. The scene should be controllable using `OrbitControls`. The basic idea is to render the scene twice using two different cameras and show them side by side. The camera positions only differ slightly in x direction. Implement a gui that can control the distance between the two views. Negative values should be allowed too. (*2 point*)

   Restriction: You are not allowed to use `StereoCamera` or `StereoEffect`. You have to implement two separate cameras for the renderings.

Requirements

- Exercises must be completed individually. Plagiarism will lead to exclusion from the course.
- Submit a `.zip` file of the `src` folder of your solution through ISIS by **10. February 2021, 23:59**.
- *Naming convention*: {firstname}_{lastname}_cg1_ex{#}.zip (for example: jane_doe_cg1_ex6.zip).
- You only hand in your `src` folder, make sure your code works with the rest of the provided skeleton.