

Assignment6 - Bonus

Shader Buffer

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Deadline

Tuesday, 31 March 2020 at 23:55.

Task

- Create a Uniform Block for storing the view and projection matrices in your shaders. (15%)
- Create an identical struct in the application that stores the two matrices. (15%)
- Create a Uniform Buffer Object and bind the struct to the Uniform Block. (20%)
- When one of the matrices changes, update the data in the Uniform Block. (20%)
- Comment the code extensively. (10%)
- **Additional Task:** (20%)
 - In the planet shader, create a light struct (for grouping the light properties) and a Storage Block which stores a dynamically sized array of lights.
 - In the application, create an identical struct and an array containing a random number of lights (5 to 10).
 - Create a Shader Storage Buffer, bind its range to the Storage Block and upload data to it.
 - In the shader, iterate over the lights and compose the lighting summing the effect of the different lights.

Tips & Suggestions

- The new matrices contained in the UBO should replace the matrices used before.
- Pay attention to the buffer layout and alignment/padding.
- **WARNING:** in order to obtain the bonus you have to complete at least the 70% of the assignment!