

NTUST: 2023 Advanced Computer Graphics

Homework#3: Animate a flying camera along the trajectory of the equator of the 3D earth model

Date Due : 2023. Nov. 21<sup>th</sup> Thu. **PM11:55**, and upload to Moodle2. (around 2 weeks)

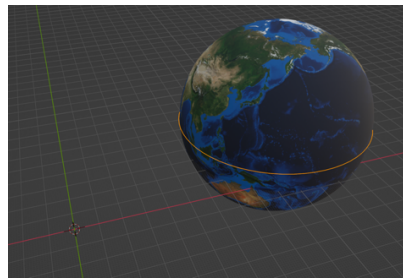
Description :

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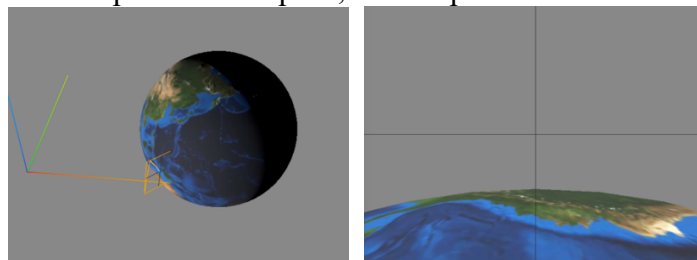
1. Write a program (javascript, python or C/C++) to read the earth model (Earth.glb file from NASA website) and create a flying camera along the trajectory of the equator.
2. Carefully locate your camera and adjust its pose in the virtual environment. Note: the up-direction of the camera should be the reversed vector of gravity.
3. Create an animation perform the viewing scene from your virtual camera.
4. Geometry info: the center coordinate of the earth is (110,30,10), and its radius is 50.
5. You need to submit **1+1** items
  - (1). **Source code** in javascript (or C/C++/C#/python et. al. to proof the concept), **with simple comment**,
  - (2). Optional: if you have Execute file (including all necessary dynamic link files),
6. Reference Grade: Correctly put camera on the surface of earth to perform an animation (75%), and correctly align the orientation of the camera (25%).

Hint:

1. Relevant layout in 3D environment:



2. Reference camera position and pose, and snapshot of reference result.



3. Reference trajectory [[LINK](#)] and animation result [[LINK](#)].  
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