Update Report for

Camera Views with 3D Projection

From

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This update report is to update and report the progress which is to perform multiple camera views with 3D projection in computer graphics.

Summary

In last 2 weeks, I researched the particle system. As I studied, I realized that most paper works regarding the particle system is written in 1990s to early 2000s. I concluded that the particle system is not applicable for the final project, therefore, I moved on to start other project ideas.

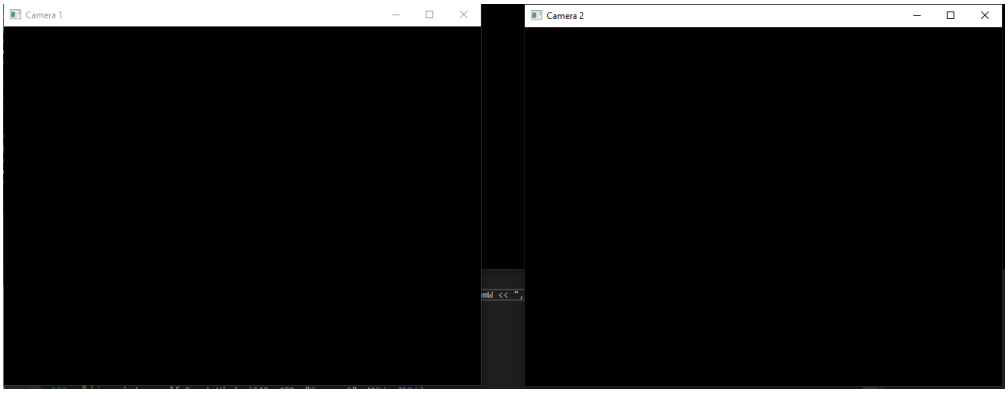
I thought of working on painterly rendering animation, because I have implemented painterly rendering for my assignment. However, the painterly rendering was having same issues. Most of the paper works are written in 1990s, and there has been no further development. After the researches, I have decided to not work on implementation of research paper works of computer graphics.

Instead of implementing the research paper works of computer graphics, I have initiated another project. This project is to work with view frustrum and 3d projection in computer graphics. I'm planning on performing a camera view on the room to project 3d view over the object. Even though I had less time to do since I had to change the project, I have cleared these goals:

- Display two windows (represents camera)
- Enable it to take inputs

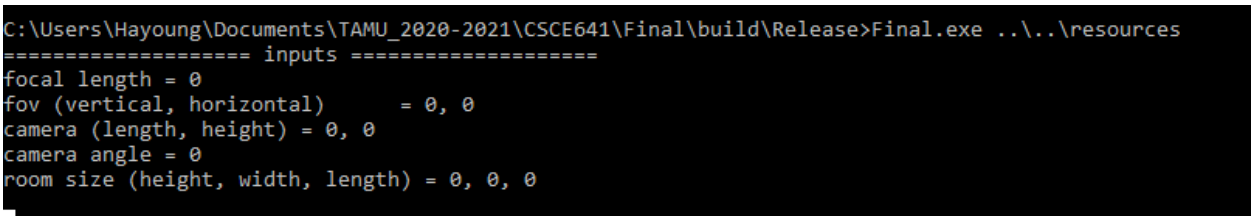
Analysis

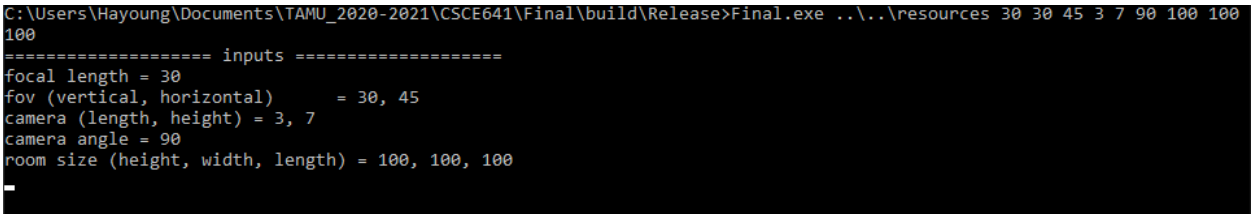
1) Display two windows



As it is displayed above, I could display two windows using openGL library. Since I have not created any objects in the scenes, both windows will display black screen currently. From here, I need to make keys, cursors, and mouse positions to work smoothly on each window. The first window will show the whole view of camera and object. The second window will show the point of view of the camera.

2) Taking inputs





The images above show how the program is taking inputs. The user should define a directory of resources at least. Currently, I set initial values of inputs to 0, so it's showing the initial values when I do not give other values on command line. If I give values, it will take that input values as it is displayed above. From this point, I need to implement computation of fov and focal length to represent 2 camera views with 3D projection.

Plan

I am clearly aware of the fact that I have less time compared to other students. However, changing the project idea was necessary for me, that I would even tighten the schedule to achieve this project. In order to complete this on time, I have created a list of goals and a table of schedules:

- Load obj file for the object (human object)
- Simulate room environment with given inputs
- Simulate two point of views from each window

Tasks	**Date of Tasks (by Weeks)**			
Goal 1				
Goal 2 and 3				
Task: Testing / Debugging				
	20		27	
	November			