Due: Sep 8 11:59pm (midnight)

Project 1a

Points: 15

Purpose

This project teaches: moving objects via the mouse in OpenGL

Set up

Use the <code base> to get started.

Remarks

- Keep in mind that the OpenGL window's origin (0,0) is on the bottom-left, whereas the mouse reports with (0,0) on top-left
- In order to get the mouse-to-world coordinate mapping you can:
  - Use `glfwGetCursorPos` to retrieve your cursor position.
  - After you have gotten your CursorPos use the `glm::unProject(glm::vec3(---,---, 0.0), ModelMatrix, ProjectionMatrix, Viewport);` function to get your world coordinates. Here "---" is a place-holder for your code and the names of the other arguments may be different.
  - Feel free to consult the OGL documentation with regard to these functions.

Task 0: Change the name of the window

Change the title of the window to your name and your UFID, e.g. "Firstname Lastname (ufid)"

Task 1: Create Scene

Display 8 points on the screen each of a different color and arranged in a circle.

Task 2: Picking

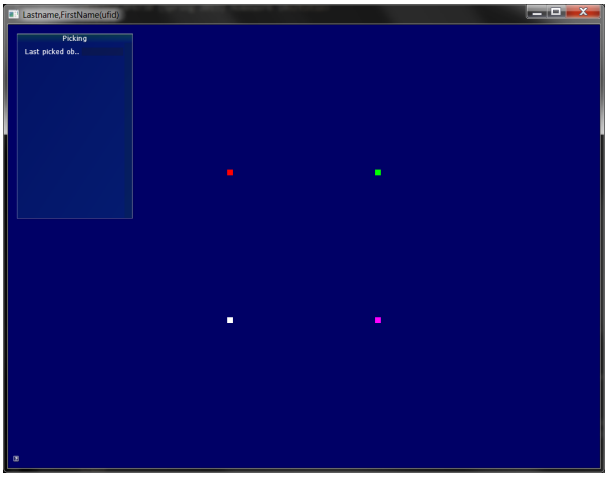
Upon mouse click, change the color of the selected point to highlight it. Restore the original color upon release.

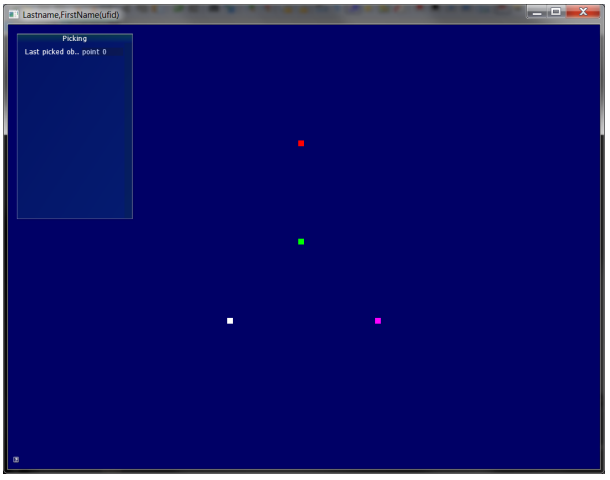
Task 3: Dragging

Implement the ability to move the points with the mouse

Bonus:

Make all points suitably larger in size.





WHAT TO SUBMIT

- All of your **source files** (.cpp's, shaders, etc) as in link
- A **link** to a screen capture of your running program showcasing the implementation of all of the tasks using recordit (Mac, Win) or similar software.
  For bigger tasks a screen capture per task would be necessary.
  NOTE: Make sure your programs compile and run on the lab machines in E313 as the grading would be done on them.

GRADING

- Failure to fulfill the submission requirements will result in a grade of 0.
- For regrading:
  - Come to the TA's office hours.
  - Be ready to download your submission from Canvas and show it running.