**USER MANUAL**

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1. Draw polygon

* You can draw a polygon by clicking the left button of the mouse. Polygons are drawn around the coordinates you click.
* Press 1 to triangle, press 2 to square, and press 3 to draw an ellipse.
* Press ESC to exit drawing mode; the initial state is to exit drawing mode.

1. Rotate polygon

* Drag the mouse in rotate mode to rotate the polygon.
* The rotate mode switching method is described later in Mode Switching.
* When you drag (left to right) or (down to up) : It rotate counterclockwise
* When you drag (right to left) or (up to down) : It rotate clockwise

1. Scaling polygon

* Drag the mouse in scale mode to scaling the polygon.
* The scale mode switching method is described later in Mode Switching.
* When you drag (left to right) / (right to left): It increase/decrease scale along local/world x-axis
* When you drag (down to up) / (up to down) : It increase/decrease scale along local/world y-axis

1. Translate polygon

* You can Translate the polygon using the arrow keys.

1. Mode Switching

**!! You should press key in English (If the mode is changed correctly, it will be displayed on the terminal)**

- There are two types of modes. First one is scale/rotate, second one is global/local transform mode.

- The initial state is scale & global mode.

- If you want to change to rotate mode, press ‘s’ key. And if you want to scale mode back, press ‘s’ key again.

- If you want to change to local mode, press ‘g’ key. And if you want to global mode back, press ‘g’ key again.

<Memo>

I made it in two ways. Both are the same as using the matrix transform, but the method used is different.

hw1.py used numpy multiplication and hw1\_2.py used glMultMatrixf().

hw1.py has implemented local transform, but hw1\_2.py has not yet completed the implementation.

There is no reflection function.