GitHub Gist

anonymous / **square.cpp**

Created just now

square.cpp C++

```
1  ////////////////////////////////////////////////
2  // square.cpp
3  //
4  // Stripped down OpenGL program that draws a square.
5  //
6  // Sumanta Guha.
7  ////////////////////////////////////////////////
8
9  #include <iostream>
10
11 #ifdef __APPLE__
12 #  include <GLUT/glut.h>
13 #else
14 #  include <GL/glut.h>
15 #endif
16
17 using namespace std;
18
19 // Drawing (display) routine.
20 void drawScene(void)
21 {
22    // Clear screen to background color.
23    glClear(GL_COLOR_BUFFER_BIT);
24
25    // Set foreground (or drawing) color.
26    glColor3f(0.0, 0.0, 0.0);
27
28    // Draw a polygon with specified vertices.
29    glBegin(GL_POLYGON);
30       glVertex3f(20.0, 20.0, 0.0);
31       glVertex3f(80.0, 20.0, 0.0);
32       glVertex3f(80.0, 80.0, 0.0);
33       glVertex3f(20.0, 80.0, 0.0);
34    glEnd();
35
36    // Flush created objects to the screen, i.e., force rendering.
37    glFlush();
38 }
39
40 // Initialization routine.
41 void setup(void)
42 {
43    // Set background (or clearing) color.
44    glClearColor(1.0, 1.0, 1.0, 0.0);
45 }
46
47 // OpenGL window reshape routine.
48 void resize(int w, int h)
49 {
50    // Set viewport size to be entire OpenGL window.
51    glViewport(0, 0, (GLsizei)w, (GLsizei)h);
52
53    // Set matrix mode to projection.
54    glMatrixMode(GL_PROJECTION);
55
56    // Clear current projection matrix to identity.
57    glLoadIdentity();
58
59    // Specify the orthographic (or perpendicular) projection,
60    // i.e., define the viewing box.
61    glOrtho(0.0, 100.0, 0.0, 100.0, -1.0, 1.0);
62
63    // Set matrix mode to modelview.
64    glMatrixMode(GL_MODELVIEW);
65
```

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66    // Clear current modelview matrix to identity.
67    glLoadIdentity();
68 }
69
70 // Keyboard input processing routine.
71 void keyInput(unsigned char key, int x, int y)
72 {
73    switch(key)
74    {
75           // Press escape to exit.
76       case 27:
77          exit(0);
78          break;
79       default:
80          break;
81    }
82 }
83
84 // Main routine: defines window properties, creates window,
85 // registers callback routines and begins processing.
86 int main(int argc, char **argv)
87 {
88    // Initialize GLUT.
89    glutInit(&argc, argv);
90
91    // Set display mode as single-buffered and RGB color.
92    glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
93
94    // Set OpenGL window size.
95    glutInitWindowSize(500, 500);
96
97    // Set position of OpenGL window upper-left corner.
98    glutInitWindowPosition(100, 100);
99
100   // Create OpenGL window with title.
101   glutCreateWindow("square.cpp");
102
103   // Initialize.
104   setup();
105
106   // Register display routine.
107   glutDisplayFunc(drawScene);
108
109   // Register reshape routine.
110   glutReshapeFunc(resize);
111
112   // Register keyboard routine.
113   glutKeyboardFunc(keyInput);
114
115   // Begin processing.
116   glutMainLoop();
117
118   return 0;
119 }
```