3.color cube with spin

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#include <stdlib.h> v#include <GL/glut.h>
GLfloat vertices[][3] = {{-1.0,-1.0,-1.0},{1.0,-1.0,-1.0}, {1.0,1.0,-1.0}, {-1.0,1.0,-1.0}, {-1.0,-1.0,1.0}, {1.0,-1.0,1.0}, {1.0,1.0,1.0}, {-1.0,1.0,1.0}};
GLfloat normals[][3] = {{-1.0,-1.0,-1.0},{1.0,-1.0,-1.0}, {1.0,1.0,-1.0}, {-1.0,1.0,-1.0}, {-1.0,-1.0,1.0}, {1.0,-1.0,1.0}, {1.0,1.0,1.0}, {-1.0,1.0,1.0}};
GLfloat colors[][3] = {{0.0,0.0,0.0},{1.0,0.0,0.0}, {1.0,1.0,0.0}, {0.0,1.0,0.0}, {0.0,0.0,1.0}, {1.0,0.0,1.0}, {1.0,1.0,1.0}, {0.0,1.0,1.0}};
void polygon(int a, int b, int c , int d)
{ glBegin(GL_POLYGON);
glColor3fv(colors[a]); glNormal3fv(normals[a]);
glVertex3fv(vertices[a]);
glColor3fv(colors[b]); glNormal3fv(normals[b]);
glVertex3fv(vertices[b]); glColor3fv(colors[c]);
glVertex3fv(vertices[d]);  glEnd(); }
void colorcube(void)
{ polygon(0,3,2,1);polygon(2,3,7,6);polygon(0,4,7,3);
polygon(1,2,6,5); polygon(4,5,6,7); polygon(0,1,5,4); }
static GLfloat theta[] = {0.0,0.0,0.0};
static GLint axis = 2;
void display(void)
{ glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT);
glLoadIdentity(); glRotatef(theta[0], 1.0, 0.0, 0.0);
glRotatef(theta[1], 0.0, 1.0, 0.0);
glRotatef(theta[2], 0.0, 0.0, 1.0);
colorcube(); glFlush(); glutSwapBuffers(); }
glNormal3fv(normals[c]); glVertex3fv(vertices[c]);
glColor3fv(colors[d]); glNormal3fv(normals[d]);
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void spinCube()
{ theta[axis] += 1.0;
if( theta[axis] > 360.0 ) theta[axis] -= 360.0;
glutPostRedisplay(); }
void mouse(int btn, int state, int x, int y)
{ if(btn==GLUT_LEFT_BUTTON && state ==
GLUT_DOWN) axis = 0;
if(btn==GLUT_MIDDLE_BUTTON && state
== GLUT_DOWN) axis = 1;
if(btn==GLUT_RIGHT_BUTTON && state
== GLUT_DOWN) axis = 2; }
void myReshape(int w, int h)
{ glViewport(0, 0, w, h);
glMatrixMode(GL_PROJECTION);
glLoadIdentity();
if (w <= h)
glOrtho(-2.0, 2.0, -2.0 * (GLfloat) h / (GLfloat) w, 2.0
* (GLfloat) h / (GLfloat) w, -10.0, 10.0);
else
glOrtho(-2.0 * (GLfloat) w / (GLfloat) h, 2.0 *
(GLfloat) w / (GLfloat) h, -2.0, 2.0, -10.0, 10.0);
glMatrixMode(GL_MODELVIEW); }
void main(int argc, char **argv)
{ glutInit(&argc, argv);
glutInitDisplayMode(GLUT_DOUBLE | GLUT_RGB |
GLUT_DEPTH);
glutInitWindowSize(500, 500);
glutCreateWindow("Rotating a Color Cube");
glutReshapeFunc(myReshape);
glutDisplayFunc(display);
glutIdleFunc(spinCube); glutMouseFunc(mouse);
glEnable(GL_DEPTH_TEST); glutMainLoop(); }
```