#include<iostream>

#include<GL/glut.h>

#include<math.h>

#include<string.h>

#include<stdio.h>

using namespace std;

#define PI 3.1428

int click;

float yRotationAngle = 0.0f;

void border();

void continuous();

void letters();

void lines(GLfloat x1,GLfloat y1,GLfloat x2,GLfloat y2)

{

glBegin(GL\_LINES);

glVertex2f(x1,y1);

glVertex2f(x2,y2);

glEnd();

}

void draw\_cir(GLfloat radius,GLfloat x,GLfloat y)

{

glPushMatrix();

glLoadIdentity();

glTranslatef(x,y,0.0);

glBegin(GL\_POLYGON);

for(double i = 0; i < 2\* PI; i += PI / 16)

glVertex3f(cos(i) \* radius, sin(i) \* radius, 0.0);

glEnd();

glPopMatrix();

glFlush();

}

void Character(float x, float y, char \*string)

{

int len ,i;

glColor3f(0.0,0.0,0.0);

glRasterPos2f(x,y);

len=(int) strlen(string);

for(i=0;i<len;i++)

{

glutBitmapCharacter(GLUT\_BITMAP\_HELVETICA\_18,string[i]);

}

}

void tiles()

{

for(int i=0;i<700;i++)

{

glRectf(0+i,0+i,10+i,10+i);

}

}

void drawLoop(GLfloat x1, GLfloat y1, GLfloat x2, GLfloat y2)

{

//Magnetic flux

glLineWidth(1.0);

glBegin(GL\_LINE\_LOOP);

glVertex3f(x1,y1,0.0);

glVertex3f(x2,y1,0.0);

glVertex3f(x2,y2,0.0);

glVertex3f(x1,y2,0.0);

glEnd();

}

void delay(int d)

{

for(int i=0;i<d;i++)

for(int j=0;j<d;j++);

}

void draw\_line()

{

glLineWidth(5.0);

lines(548.0,380.0,652.0,350.0);

lines(548.0,300.0,652.0,280.0);

lines(748.0,380.0,852.0,350.0);

lines(748.0,300.0,1003.0,260.0);

lines(460.0,250.0,460.0,600.0);

lines(457.0,600.0,954.0,600.0);

lines(1006,600,1203,600);

lines(1200,600,1200,422);

lines(1200,50,1200,395);

lines(1203,50,900,50);

lines(1000.0,260.0,1000.0,123.0);

glEnd();

}

void drawsym()

{

lines(1247,428,1258,428);

lines(1252,432,1252,422);

lines(1247,405,1258,405);

glEnd();

}

void draw\_battery()

{

glLineWidth(6.0);

lines(1160.0,420.0,1240.0,420.0);

glLineWidth(15.0);

lines(1180.0,400.0,1220.0,400.0);

glEnd();

glFlush();

}

void draw\_bar()

{

glRectf(550,220,850,500);

glEnd();

glColor3f(1.0,0.8,0.6);

glRectf(750,400,650,220);

glEnd();

}

void myinit(void)

{

glClearColor(0.1,0.3,0,1);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0.0,1300.0,0.0,700.0);

glMatrixMode(GL\_MODELVIEW);

}

void DrawTextXY(double x,double y,double z,double scale,char \*s)

{

int i; glPushMatrix(); glTranslatef(x,y,z);

glScalef(scale,scale,scale);

for (i=0;i < strlen(s);i++)

glutStrokeCharacter(GLUT\_STROKE\_MONO\_ROMAN,s[i]);

glPopMatrix();

}

//desscription page

void desc()

{

glClearColor(1,0.4,0,0);

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT|GL\_ACCUM\_BUFFER\_BIT| GL\_STENCIL\_BUFFER\_BIT);

glColor3f(0.7,0.8,0.6);

glRectf(542,620,778,675);

glColor3f(1,1,1);

DrawTextXY(550,630,0.0,0.19,"INFORMATION");

DrawTextXY(540,610,0.0,0.19,"------------");

border();

glColor3f(0,0,0);

DrawTextXY(360,500,0.0,0.09,"Significance Of Letters Indicating Parts And Project Description");

glColor3f(0.1,0.3,0.2);

for(int i=0;i<620;i=i+3)

DrawTextXY(340+i,490,0.0,0.09,"-.-");

glColor3f(0,0,0);

DrawTextXY(60,360,0.0,0.09,"G : Gong");

DrawTextXY(60,330,0.0,0.09,"E : Electromagnet");

DrawTextXY(60,300,0.0,0.09,"B : Battery");

DrawTextXY(60,270,0.0,0.09,"R : Spring Loaded Arm");

DrawTextXY(60,240,0.0,0.09,"K : Switch");

DrawTextXY(60,210,0.0,0.09,"T : Electrical Contacts");

glColor3f(0,1,1);

lines(55,190,69,190);

glColor3f(0,0,0);

DrawTextXY(78,187,0.0,0.09,": Magnetic Flux Lines");

glColor3f(1,0.6,0);

glRectf(300,80,1200,450);

glColor3f(0,0,0);

DrawTextXY(330,430,0.0,0.07,"Our project is aimed at creating the simulation of working of Electric bell - viz interrupter bell,animation using");

DrawTextXY(330,400,0.0,0.07,"OpenGL utilities. An electric bell is a mechanical bell that functions by means of an electromagnet. When an electric");

DrawTextXY(330,370,0.0,0.07,"current is applied, it produces a repetitive buzzing or clanging sound. Electric bells have been widely used at");

DrawTextXY(330,340,0.0,0.07,"railroad crossings, in telephones, fire and burglar alarms, as school bells, doorbells, and alarms in industrial");

DrawTextXY(330,310,0.0,0.07,"plants, since the late 1800s, but they are now being widely replaced with electronic sounders. In our project we are");

DrawTextXY(330,280,0.0,0.07,"showing the abstract view of working of an electric bell which involves animated scene of internal circuit of an");

DrawTextXY(330,250,0.0,0.07,"interrupter bell. We are implementing it using different primitives and functions available in OpenGL library and");

DrawTextXY(330,220,0.0,0.07,"combining them in required manner. Structure and appearance of objects and of their displayed Computer graphics is");

DrawTextXY(330,190,0.0,0.07,"largely interactive, the user controls the contents, images by using input devices, such as a keyboard, mouse or");

DrawTextXY(330,160,0.0,0.07,"touch sensitive panel on the screen.The project is coded in C++ language.");

DrawTextXY(600,120,0.0,0.095,"THANK YOU");

glFlush();

}

void screw()

{

glRectf(900,98,910,52);

glEnd();

}

void border()

{

glLineWidth(15.0);

glColor3f(1.0,1.0,1.0);

for(int i=0;i<10;i=i+3)

drawLoop(20+i,10+i,1280-i,690-i);

}

void initial(void)

{

glClearColor(1,0.4,0,0);

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT| GL\_STENCIL\_BUFFER\_BIT);

border();

glColor3f(1.0,0.8,0.6);

glRectf(33,23,1267,677);

glColor3f(0.7,0.8,0.6);

glRectf(548,620,823,675);

glColor3f(1,1,1);

DrawTextXY(550,630,0.0,0.19,"INITIAL SETUP");

DrawTextXY(546,610,0.0,0.19,"--------------");

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

drawsym();

glLineWidth(5.0);

glColor3f(1,0,0);

lines(650.0,250.0,457.0,250.0);

glColor3f(0.5,0.5,0.5);

draw\_bar();

glColor3f(1.0,0.0,0.0);

glRectf(260,400,460,400);

glColor3f(1.0,0.0,0.0);

glLineWidth(5.0);

draw\_battery();

glColor3f(1.0,0.0,0.0);

draw\_line();

glColor3f(0.5,0.5,0.5);

draw\_cir(148,220.0,360.0);

glColor3f(0.0,0.0,0.0);

draw\_cir(20,220.0,360.0);

glColor3f(1.0,1.0,1.0);

draw\_cir(18,220.0,360.0);

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

lines(234,374,206,346);

glColor3f(0.0,0.0,0.0);

letters();

glColor3f(0.5,0.5,0.5);

glRectf(550,100,850,130);

glColor3f(0.5,0.5,0.5);

draw\_cir(14,160,100);

glLineWidth(3.0);

glColor3f(0.0,0.0,0.0);

lines(172.0,100.0,980.0,100.0);

glLineWidth(8.0);

glColor3f(1.0,0.0,0.0);

lines(954.0,616.0,1006.0,616.0);

glColor3f(1.0,0.0,0.0);

draw\_cir(10,960,600);

draw\_cir(10 ,1000,600);

glColor3f(1.0,1.0,1.0);

draw\_cir(8,960.0,600.0);

draw\_cir(8,1000.0,600.0);

glColor3f(1,0.6,0);

screw();

glColor3f(1.0,0.0,0.0);

draw\_cir(24,1000,100);

glColor3f(1.0,1.0,1.0);

draw\_cir(17,1000,100);

Character(630,35,"BELL WORKING STIMULATION");

glFlush();

glEnd();

}

//Three display,display2,display3 for working

void display(void)

{

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT|GL\_ACCUM\_BUFFER\_BIT| GL\_STENCIL\_BUFFER\_BIT);

glClearColor(1,0.4,0,0);

border();

glColor3f(1.0,0.8,0.6);

glRectf(32,22,1268,678);

glColor3f(0.7,0.8,0.6);

glRectf(543,620,820,675);

glColor3f(1,1,1);

DrawTextXY(550,630,0.0,0.19,"WORKING SETUP");

DrawTextXY(543,610,0.0,0.19,"--------------");

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

drawsym();

glLineWidth(5.0);

glColor3f(1,0,0);

lines(650.0,250.0,457.0,250.0);

glColor3f(0.5,0.5,0.5);

draw\_bar();

glColor3f(1.0,0.0,0.0);

glRectf(260,400,460,400);

glColor3f(1.0,0.0,0.0);

glLineWidth(5.0);

draw\_battery();

glColor3f(1.0,0.0,0.0);

draw\_line();

glColor3f(0.5,0.5,0.5);

draw\_cir(148,220.0,360.0);

glColor3f(0.0,0.0,0.0);

draw\_cir(20,220.0,360.0);

glColor3f(1.0,1.0,1.0);

draw\_cir(18,220.0,360.0);

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

lines(234,374,206,346);

glLineWidth(8.0);

glColor3f(1.0,0.0,0.0);

lines(954.0,614.0,1006.0,614.0);

glBegin(GL\_POLYGON);

glColor3f(0.5,0.5,0.5);

glVertex3f(550.0,100.0,0.0);

glVertex3f(550.0,130.0,0.0);

glVertex3f(850.0,130.0,0.0);

glVertex3f(850.0,100.0,0.0);

glEnd();

glColor3f(0.5,0.5,0.5);

draw\_cir(14,160,100);

glLineWidth(3.0);

glColor3f(0.0,0.0,0.0);

lines(172.0,100.0,980.0,100.0);

glColor3f(1.0,0.0,0.0);

draw\_cir(10,960,600);

draw\_cir(10 ,1000,600);

glColor3f(1.0,1.0,1.0);

draw\_cir(8,960.0,600.0);

draw\_cir(8,1000.0,600.0);

glColor3f(1,0.6,0);

screw();

glColor3f(1.0,0.0,0.0);

draw\_cir(24,1000,100);

glColor3f(1,1,1);

draw\_cir(17,1000,100);

Character(630,35,"BELL WORKING STIMULATION");

glFlush();

glEnd();

}

void display2()

{

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT| GL\_STENCIL\_BUFFER\_BIT);

glClearColor(1,0.4,0,0);

border();

glColor3f(1.0,0.8,0.6);

glRectf(32,22,1268,678);

glColor3f(0.7,0.8,0.6);

glRectf(543,620,820,675);

glColor3f(1,1,1);

DrawTextXY(550,630,0.0,0.19,"WORKING SETUP");

DrawTextXY(543,610,0.0,0.19,"--------------");

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

drawsym();

glColor3f(0.0,0.0,0.0);

draw\_line();

glLineWidth(8.0);

glColor3f(1.0,0.0,0.0);

lines(954.0,614.0,1006.0,614.0);

glLineWidth(5.0);

glColor3f(0,0,0);

lines(650.0,250.0,457.0,250.0);

glColor3f(0.5,0.5,0.5);

draw\_bar();

glColor3f(0,1,1);

for(int i=0;i<25;i=i+5)

drawLoop(560+i,196+i,835-i,424-i);

delay(3000);

glColor3f(0.0,0.0,0.0);

lines(40,360,58,360);

lines(40,390,58,386);

lines(40,420,58,416);

lines(40,346,58,350);

glEnd();

glColor3f(0.0,0.0,0.0);

draw\_line();

glColor3f(0.5,0.5,0.5);

draw\_cir(148,220.0,360.0);

glColor3f(0.0,0.0,0.0);

draw\_cir(20,220.0,360.0);

glColor3f(1.0,1.0,1.0);

draw\_cir(18,220.0,360.0);

printf("/a");

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

lines(234,374,206,346);

glColor3f(0.0,0.0,0.0);

draw\_cir(10,960,600);

draw\_cir(10,1000,600);

glColor3f(1,1,1);

draw\_cir(8,960.0,600.0);

draw\_cir(8,1000.0,600.0);

glColor3f(1.0,0.0,0.0);

draw\_cir(24,1000,100);

glColor3f(1,0.6,0);

screw();

glColor3f(0.5,0.5,0.5);

draw\_battery();

glColor3f(1,1,1);

draw\_cir(17.0,1000.0,100.0);

glEnable(GL\_POLYGON\_SMOOTH);

glBegin(GL\_POLYGON);

glColor3f(0.5,0.5,0.5);

glVertex3f(550.0,157.0,0.0);

glVertex3f(555.0,186.0,0.0);

glVertex3f(852.0,145.0,0.0);

glVertex3f(846.0,117.0,0.0);

glEnd();

glLineWidth(3.0);

glColor3f(0.0,0.0,0.0);

lines(210.0,200.0,977.0,100.0);

glColor3f(0.5,0.5,0.5);

draw\_cir(14,196,200);

printf("/a");

glColor3f(0.0,0.0,0.0);

Character(630,35,"BELL WORKING STIMULATION");

glFlush();

glEnd();

}

void display3(void)

{

glClearColor(1,0.4,0,0);

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT|GL\_STENCIL\_BUFFER\_BIT);

border();

glColor3f(1.0,0.8,0.6);

glRectf(33,23,1267,677);

glColor3f(0.7,0.8,0.6);

glRectf(543,620,820,675);

glColor3f(1,1,1);

DrawTextXY(550,630,0.0,0.19,"WORKING SETUP");

DrawTextXY(543,610,0.0,0.19,"--------------");

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

drawsym();

glLineWidth(5.0);

glColor3f(1,0,0);

lines(650.0,250.0,457.0,250.0);

glColor3f(0.5,0.5,0.5);

draw\_bar();

glColor3f(1.0,0.0,0.0);

glRectf(260,400,460,400);

glColor3f(1.0,0.0,0.0);

glLineWidth(5.0);

draw\_battery();

glColor3f(1.0,0.0,0.0);

draw\_line();

glColor3f(0.5,0.5,0.5);

draw\_cir(148,220.0,360.0);

glColor3f(0.0,0.0,0.0);

draw\_cir(20,220.0,360.0);

glColor3f(1.0,1.0,1.0);

draw\_cir(18,220.0,360.0);

glLineWidth(2.0);

glColor3f(0.0,0.0,0.0);

lines(234,374,206,346);

glColor3f(0.0,0.0,0.0);

glColor3f(0.5,0.5,0.5);

glRectf(550,100,850,130);

glColor3f(0.5,0.5,0.5);

draw\_cir(14,160,100);

glLineWidth(3.0);

glColor3f(0.0,0.0,0.0);

lines(172.0,100.0,980.0,100.0);

glLineWidth(8.0);

glColor3f(1.0,0.0,0.0);

lines(954.0,616.0,1006.0,616.0);

glColor3f(1.0,0.0,0.0);

draw\_cir(10,960,600);

draw\_cir(10 ,1000,600);

glColor3f(1.0,1.0,1.0);

draw\_cir(8,960.0,600.0);

draw\_cir(8,1000.0,600.0);

glColor3f(1,0.6,0);

screw();

glColor3f(1.0,0.0,0.0);

draw\_cir(24,1000,100);

glColor3f(1.0,1.0,1.0);

draw\_cir(17,1000,100);

Character(630,35,"BELL WORKING STIMULATION");

glFlush();

glEnd();

}

//Letters to initial setup page

void letters()

{

DrawTextXY(220,515,0.0,0.19,"G");

DrawTextXY(860,370,0.0,0.19,"E");

DrawTextXY(880,75,0.0,0.19, "T");

DrawTextXY(950,570,0.0,0.19,"K");

DrawTextXY(1247,380,0.0,0.19,"B");

DrawTextXY(850,150,0.0,0.19,"R");

}

//About page

void About()

{

glClearColor(1,0.4,0,0);

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT);

border();

glColor3f(1.0,0.8,0.6);

draw\_cir(200,630,400);

glColor3f(0.7,0.8,0.6);

glRectf(570,620,690,675);

glColor3f(1,1,1);

DrawTextXY(580,630,0.0,0.19,"ABOUT");

DrawTextXY(569,610,0.0,0.19,"------");

glColor3f(1,0.6,0);

DrawTextXY(450,590,0.0,0.09,"VISVESVARAYA TECHNOLOGICAL UNIVERSITY");

DrawTextXY(397,580,0.0,0.09,"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

glColor3f(0,0,0);

lines(397,580,850,580);

glColor3f(1,0.6,0);

DrawTextXY(400,550,0.0,0.09,"MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING");

DrawTextXY(398,540,0.0,0.09,"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

glColor3f(0,0,0);

lines(397,540,870,540);

DrawTextXY(425,480,0.0,0.09,"DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING");

DrawTextXY(397,470,0.0,0.09,"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

lines(397,470,870,470);

DrawTextXY(415,420,0.0,0.09,"COMPUTER GRAPHICS MINI PROJECT USING OPENGL ON");

DrawTextXY(395,410,0.0,0.09,"--------------------------------------------------");

glColor3f(1,1.4,0.4);

glRectf(560,355,708,380);

glColor3f(0.1,1,0.3);

DrawTextXY(560,360,0.0,0.09,"INTERRUPTER BELL");

glColor3f(0,1,0);

DrawTextXY(558,350,0.0,0.09,"----------------");

glColor3f(1.5,0.28,0.0);

DrawTextXY(580,310,0.0,0.09,"2016-2017");

glColor3f(0,0,0);

lines(145,240,395,240);

glColor3f(1,0.2,1);

DrawTextXY(150,250,0.0,0.09,"DEVELOPED BY,");

glColor3f(1,0.0,0.5);

glRectf(145,170,395,240);

glColor3f(0.0,0.0,0.0);

DrawTextXY(150,220,0.0,0.08,"LESLY MAX DSOUZA");

DrawTextXY(300,220,0.0,0.09,"4mt14cs048");

DrawTextXY(150,200,0.0,0.09,"MANOJ KUMAR K");

DrawTextXY(300,200,0.0,0.09,"4mt14cs055");

glColor3f(1,0.2,1);

DrawTextXY(380,130,0.0,0.09,"Under The Guidance of,");

glColor3f(0.0,0.0,0.0);

DrawTextXY(380,110,0.0,0.08,"MR. JOHN P VEIGAS");

DrawTextXY(380,90,0.0,0.08,"DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING");

glutSwapBuffers();

glFlush();

glEnd();

}

/\*

void timer(int d)

{

int i=d;

while(i!=0)

{

i--;

}

}

\*/

//Function to show working

void on()

{

int i=0;

display3();

delay(20000);

while(i!=6)

{

display();

delay(15000);

display2();

delay(15000);

display();

i++;

}

display3();

}

//glutTimerFunc(100000,timer,1200);

//Conditon for menu

void dM(int id)

{

switch(id)

{

case 1:About();

break;

case 2:initial();

break;

case 3:on();

break;

case 4:desc();

break;

case 5:continuous();

break;

case 6:exit(0);

break;

exit(0);

default:

break;

}

}

//Function for auto

void continuous()

{

dM(1);

delay(25000);

dM(2);

delay(25000);

dM(3);

delay(25000);

dM(4);

delay(25000);

dM(6);

delay(40000);

}

void mykey(unsigned char key,int x,int y)

{

if(key=='A'||key=='a') dM(1);

if(key=='I'||key=='i') dM(2);

if(key=='S'||key=='s') dM(3);

if(key=='D'||key=='d') dM(4);

if(key=='C'||key=='c') dM(5);

if(key=='Q'||key=='q') dM(6);

else

return;

}

void mouse(int button,int state,int a,int b)

{

if(button==GLUT\_RIGHT\_BUTTON && state==GLUT\_DOWN)

click=0;

}

//Initial page

void dis()

{

glClearColor(1,0.4,0,0);

glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT);

drawLoop(20,10,1280,690);

glColor3f(1,1,1);

DrawTextXY(540,360,0.0,0.09,"CLICK RIGHT MOUSE BUTTON FOR MENU....");

glHint(GL\_PERSPECTIVE\_CORRECTION\_HINT, GL\_FASTEST);

for(int i=0;i<1100;i=i+250)

{

glColor3f(0.0,0.0,1.0);

glRectf(34+i,40,250+i,63);

}

glColor3f(0.0,0.0,0);

DrawTextXY(550,80,0.0,0.09,"Keys Of Operation");

glColor3f(0.5,1.2,1);

DrawTextXY(60,50,0.0,0.09,"A OR a: SHOW ABOUT");

DrawTextXY(290,50,0.0,0.09,"I OR i: SHOW CIRCUIT");

DrawTextXY(540,50,0.0,0.09,"S OR s: SHOW WORKING");

DrawTextXY(793,50,0.0,0.09,"D OR d: Information");

DrawTextXY(1070,50,0.0,0.09,"Q OR q: quit");

glColor3f(0.0,0.0,1.0);

glRectf(518,14,760,36);

glColor3f(0.5,1.2,1);

DrawTextXY(523,19,0.0,0.09,"C OR c: Automatic display");

glLineWidth(1.0);

for(int i=0;i<10;i=i+4)

{

glColor3f(1,1,1);

lines(29,100+i,1270,100+i);

}

glFlush();

glEnd();

}

void main(int argc,char \*\*argv)

{

glutInit(&argc,argv);

glutInitDisplayMode(GLUT\_SINGLE|GLUT\_RGB|GLUT\_DEPTH);

glutInitWindowSize(3000,3000);

glutInitWindowPosition(0,0);

glutCreateWindow("INTERRUPTER BELL");

glutCreateMenu(dM);

glBlendFunc(GL\_SRC\_ALPHA,GL\_ONE\_MINUS\_SRC\_ALPHA);

glEnable(GL\_LINE\_SMOOTH);

glLineWidth(2.0);

glPolygonMode(GL\_FRONT\_AND\_BACK, GL\_FILL);

glEnable(GL\_DEPTH\_BUFFER\_BIT);

glutFullScreen();

glutAddMenuEntry("ABOUT",1);

glutAddMenuEntry("SETUP",2);

glutAddMenuEntry("WORKING",3);

glutAddMenuEntry("INFO",4);

glutAddMenuEntry("AUTO",5);

glutAddMenuEntry("QUIT",6);

glutAttachMenu(GLUT\_RIGHT\_BUTTON);

myinit();

glutMouseFunc(mouse);

glutKeyboardFunc(mykey);

glutDisplayFunc(dis);

glutMainLoop();

}