**Session 8: Two-dimensional Object Animation**

**Intended Learning Outcome:**

1. Students will be able to implement the movement of object in the display.
2. Students will be able to better understand about axis (X, Y) wise movement and controlling.

**Expected Skills:**

1. Better Understanding about axis (X,Y)
2. Clear idea about polygon drawing with any variable

**Tools Required:**

1. CodeBlocks
2. OpenGL and GLUT using CodeBlocks.

**Session Detail:**

***Moving 2D object:***

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#include<windows.h>

#ifdef \_\_APPLE\_\_

#include <GLUT/glut.h>

#else

#include <GL/glut.h>

#endif

#include <stdlib.h>

#include <math.h>

float p=-10.0; // Display Measurement with ortho starting from the left -10 and right 10

void display(void)

{

glClear(GL\_COLOR\_BUFFER\_BIT);

if(p<=10) //moving limit with the display measurement

p=p+.005; // changing the object position for redisplaying

else

p=-10; // For backing the object continuously

glutPostRedisplay(); // To redraw the object in the display

glBegin(GL\_QUADS);

glColor3f(1.0, 1.0, 1.0);

glVertex2f(p,3); // To draw the object position from the left limit,p

glVertex2f(p+3,3);

glVertex2f(p+3,-3);

glVertex2f(p,-3);

glEnd();

/\*

glBegin(GL\_QUADS);

glColor3f(1.0,1.0,0);

glVertex2f(-2,3);

glVertex2f(1,3);

glVertex2f(1,-3);

glVertex2f(-2,-3);

glEnd();

\*/

glFlush();

}

void init(void)

{

glClearColor (1.0, 0.0, 0.0, 0.0); // Background Color

glOrtho(-10,10,-10,10,-10,10); // To specify the coordinate & Specify the distances to the nearer and farther depth clipping planes.

}

int main()

{

glutInitDisplayMode (GLUT\_SINGLE | GLUT\_RGB); //Single Frame

glutInitWindowSize (600, 600);

glutInitWindowPosition (100, 100);

glutCreateWindow ("moving\_object");

init(); // Set up constants with default values

glutDisplayFunc(display);

glutMainLoop(); // It enters the GLUT event processing loop.should be called at most once in a GLUT program. Once called, this routine will never return. It will call as necessary any callbacks that have been registered.

return 0;

}

Sample Output:

N.B: It will move in the display.

