Car Moving in a linear Path

Submitted in partial fulfillment of the requirements
of degree of

S. E. Computer Engineering

By

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CERTIFICATE

This is to certify that the project entitled**"Car Moving in a Linear Path"**is a bonafide work of**"Jaimin Solanki(33), Rohan Tondlekar(39), Keegan Vaz(42), Alex Victor(43)"** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of S.E. in Computer Engineering

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Principal

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Abstract

Our project is a demonstration in which the car would be moving in a straight line from left to right on the screen , we have different functions like Line, Rectangle, Circle, Flood Fill ,Boundary Fill, etc. We have tried to implement the topics in CG which we learnt this semester. Our project can be used for educational purposes such as in Explaining Linear Motion of a Car with little modification as per user.

Contents

Introduction

Our Project is an animation of a Car Performing Linear motion in a straight line from left to right on the screen. In this we used different functions to create different parts of the car and for the movement of the car from left to right.

Problem Definition

Applications of Computer Graphics were implemented to show the design of the car and animation of the car from the left to the right of the screen. Also, different shapes and line functions were used to design the car.

Scope

To Demonstrate Linear Motion along a straight path. This output could be used for Educational Purposes like animated videos explaining physics concepts like speed and velocity.

Implementation

Code:

```
#include<graphics.h>
#include<conio.h>
int main()
{
   int gd=DETECT,gm, i, maxx, cy;
   initgraph(&gd, &gm, "C:\\TURBOC3\\BGI");
   setbkcolor(WHITE);
   setcolor(RED);
   maxx = getmaxx();
   cy = getmaxy()/2;
   for(i=0;i<maxx-140;i++)
      {
      cleardevice();
      line(0+i,cy-20, 0+i, cy+15);
      line(0+i, cy-20, 25+i, cy-20);
      line(25+i, cy-20, 40+i, cy-70);
      line(40+i, cy-70, 100+i, cy-70);
      line(100+i, cy-70, 115+i, cy-20);
      line(115+i, cy-20, 140+i, cy-20);
```

```
        line(0+i, cy+15, 18+i, cy+15);
        circle(28+i, cy+15, 10);
        circle(28+i, cy+15, 7);
        circle(28+i, cy+15, 5);
        line(38+i, cy+15, 102+i, cy+15);
        circle(112+i, cy+15,10);
        circle(112+i, cy+15,7);
        circle(112+i, cy+15,5);
        line(122+i, cy+15 ,140+i,cy+15);
        line(140+i, cy+15, 140+i, cy-20);
        rectangle(50+i, cy-62, 90+i, cy-30);
        setfillstyle(1,BLUE);
        floodfill(5+i, cy-15, RED);
        setfillstyle(1, LIGHTBLUE);
        floodfill(52+i, cy-60, RED);
        delay(70);
         }
    getch();
    closegraph();
    return 0;
}
```

Functions Used:

- Line
- getmaxx()
- Rectangle
- BoundaryFill
- FloodFill
- Circle

Results(Snapshots)

Video Link:

https://github.com/Keegan-CalibrantTech/Linear-Car-Movement/blob/master/Final%20cut.mp4

Conclusion

We are able to showcase a car moving from left to right in a straight line on the screen by implementing the CG Topics Learned in this Semester.

References

https://www.geeksforgeeks.org/introduction-to-computer-graphics/