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**Annexure I**

**Micro Project Proposal**

# "Program To Display A Moving Car"

## 1. Aims/Benefits of the Micro-Project:

1. Understanding the computer graphics and applications like moving car.

2. To find working mechanism of graphics by using computer graphics.

3. To understand the graphics, functions and execution of the 'C' program.

## 2. Course Outcome Addressed:

1) CO1 - Manipulate visual and geometric information of images.

2) CO2 – Implement standard algorithms to draw various graphics objects using C program.

3) CO3 – Develop programs for 2-D and 3-D Transformations.

4) CO4 – Use projections to visualize objects on view plane.

5) CO5 – Implement various clipping algorithms.

6) CO6 – Develop programs to create curves using algorithms.

## 3. Proposed Methodology:

Here we are using for loop statement to create moving car.

We have added functions like delay, line and circle to make the body of car

And many more.

By using this function we are able to move car in proper direction with time controlling function that is delay function.

## 4.Action Plan:

| Sr. No. | Details of Activity | Planned Start date | Planned Finish date | Name of Responsible Team Members |
|---|---|---|---|---|
| 1 | Search the topic | 06/04/2021 4:00pm-5:00pm | 13/04/2021 4:00pm-5:00pm | Akshay Dashrath Gitte |
| 2 | Search the information | 20/04/2021 4:00pm-5:00pm | 27/04/2021 4:00pm-5:00pm | Harsh Moreshwar Kale |
| 3 | Algorithm developing | 04/05/2021 4:00pm-5:00pm | 08/05/2021 4:00pm-5:00pm | Sujit Sudhakar Sukane |
| 4 | Flowchart developing | 11/05/2021 4:00pm-5:00pm | 15/05/2021 4:00pm-5:00pm | Akshay Dashrath Gitte |
| 5 | Function making | 18/05/2021 4:00pm-5:00pm | 22/05/2021 4:00pm-5:00pm | Harsh Moreshwar Kale |
| 6 | Coding developing | 25/05/2021 4:00pm-5:00pm | 29/05/2021 4:00pm-5:00pm | Harsh Moreshwar Kale |
| 7 | Debugging | 01/06/2021 4:00pm-5:00pm | 05/06/2021 4:00pm-5:00pm | Akshay Dashrath Gitte |
| 8 | Finalizing Project with its report | 07/06/2021 4:00pm-5:00pm | 09/06/2021 4:00pm-5:00pm | Sujit Sudhakar Sukane |

## 5. Resources Required:

| Sr. No. | Name of resource / material | Specification | Quantity | Remarks |
|---|---|---|---|---|
| 1 | Computer | WINDOWS 11, 8GB RAM, 160GB HDD | 1 | |
| 2 | Operating System | WINDOWS 11 | 1 | |
| 3 | Compiler | Turbo C/GCC/VS code | 1 | |
| 4 | Browser | Chrome | 1 | |

## Names of Team Members with Roll No.'s:

| Sr. No. | Enrollment No. | Name of Team Member | Roll No. |
|---|---|---|---|
| 1 | 2110950049 | Akshay Dashrath Gitte | 01 |
| 2 | 2110950051 | Harsh Moreshwar Kale | 03 |
| 3 | 2110950159 | Sujit Sudhakar Sukane | 60 |
| 4 | | | |
| 5 | | | |

**Mr. Kazi A.S.M.**

**Name and Signature of the Teacher**

**Annexure – II**

## Micro-Project Report

# "Program To Display A Moving Car"

## 1. Rationale:

Creating a Simple Program that displays a Moving car from left to right on screen by programming on Turbo C.

## 2.Aims/Benefits of the Micro-Project:

1. Understanding the computer graphics and its applications like moving car.

2. To find working mechanism of graphics by using computer graphics

3. To understand the graphics, functions and execution of the 'C' program

## 3. Course Outcomes Achieved:

1) CO1 - Manipulate visual and geometric information of images.

2) CO2 – Implement standard algorithms to draw various graphics objects using C program.

3) CO3 – Develop programs for 2-D and 3-D Transformations.

4) CO4 – Use projections to visualize objects on view plane.

5) CO5 – Implement various clipping algorithms.

6) CO6 – Develop programs to create curves using algorithms.

## 4. Literature Review:

Here we are using for loop statement to create moving car.

We have added functions like delay, line and circle to make the body of car

And many more. By using this function we are able to move car in proper direction with time controlling function that is delay function.

And like this Our car start moving on the screen using for loop.

- ❖ Initgraph()-

This Initgraph function in one of most important function from graphics.h library in 'C' Language.

- With this function we initialize (start) graphics in our computer system.
- After this function we will write our remaining graphics program.

**Syntax:**

```
initgraph(&gd, &gm, " ");
```

**Important Points about Initgraph function:**

- The expression provided in the path means here " " double quotes argument must path to BGI file from Turbo C.

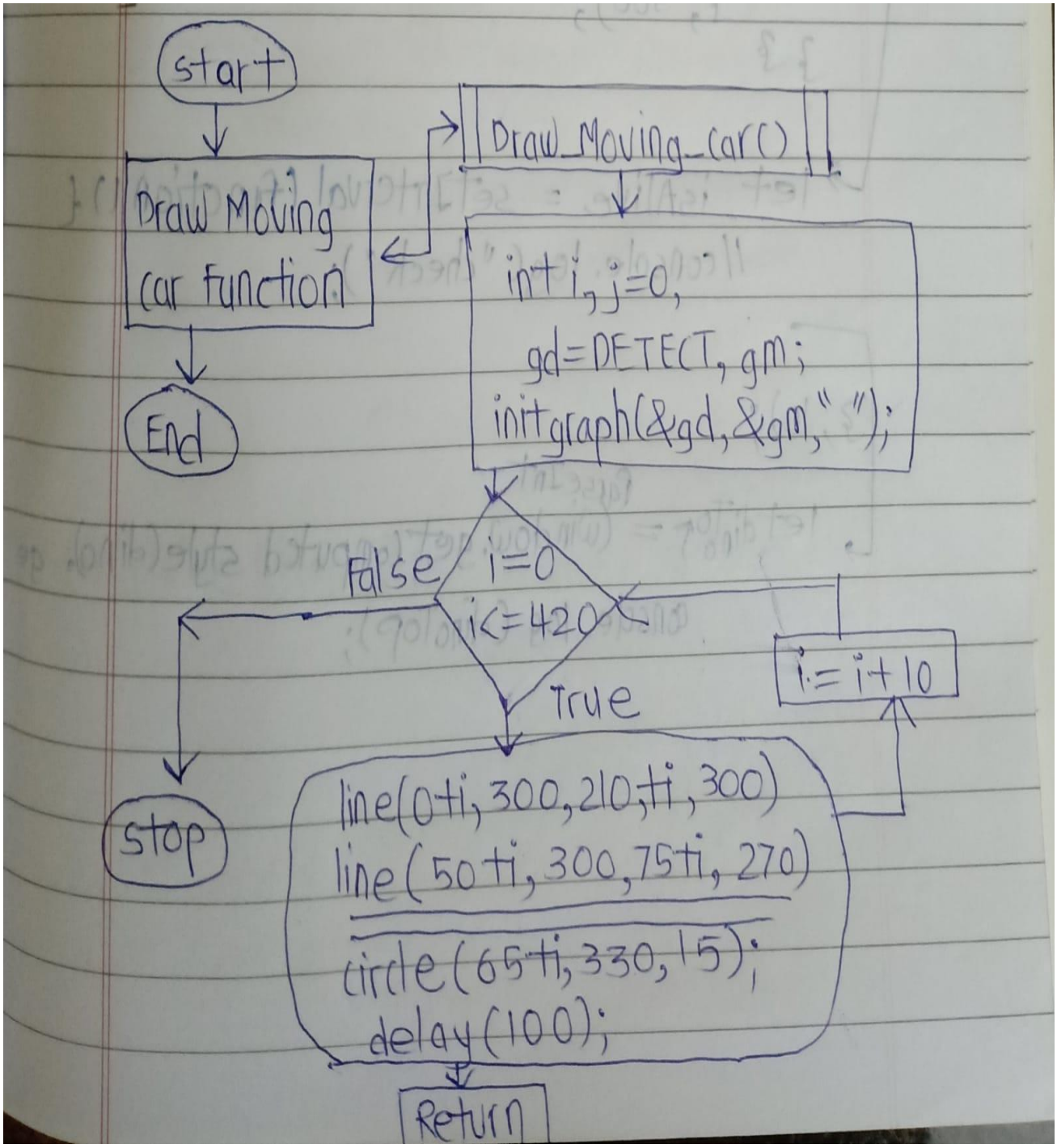
**Valid expressions for initgraph() function:**

```
void main(void)
{
 int gdriver = DETECT, gmode;
 // Path =>>> "C:/TURBOC3/BGI"
 initgraph(&gdriver, &gmode, "C:/TURBOC3/BGI");
 closegraph();
}
```

- **Graphics must be get closed with closegraph() function.**
  - ➢ To design moving car we have to use for loop to iterate.
  - ➢ To print car body we used line and circle functions.
  - ➢ To make the land for car we used a line function supported by graphics.h header file.
  - ➢ We make the draw_moving_car() to embed the all code into it.
  - ➢ And then this function is get called inside the int main function.
  - ➢ Lastly we will close the graphics with closegraph() function.

## 5 Actual MethodologyFollowed:

### 5.1 Flow Chart:



**5.2 Source Code:**

```
#include <graphics.h>
#include <stdio.h>

// Function to draw moving car
void draw_moving_car(void) {

    int i, j = 0, gd = DETECT, gm;

    // Passed three arguments to initgraph
    // function to initialize graphics mode
    initgraph(&gd, &gm, " ");

    for (i = 0; i <= 420; i = i + 10) {

        // Set color of car as red
        setcolor(WHITE);

        // Thease lines for bonnet and
        // body of car
        line(80 + i, 330, 130 + i, 330);

        // Line right of right wheel
        line(210 + i, 330, 160 + i, 330);

        delay(100);

        // To erase previous drawn car, draw
        // the whole car at same position
        // but color using black
        setcolor(BLACK);

        // Lines for bonnet and body of car
        line(0 + i, 300, 210 + i, 300);
        line(50 + i, 300, 75 + i, 270);
        line(75 + i, 270, 150 + i, 270);
        line(150 + i, 270, 165 + i, 300);
        line(0 + i, 300, 0 + i, 330);
        line(210 + i, 300, 210 + i, 330);
```

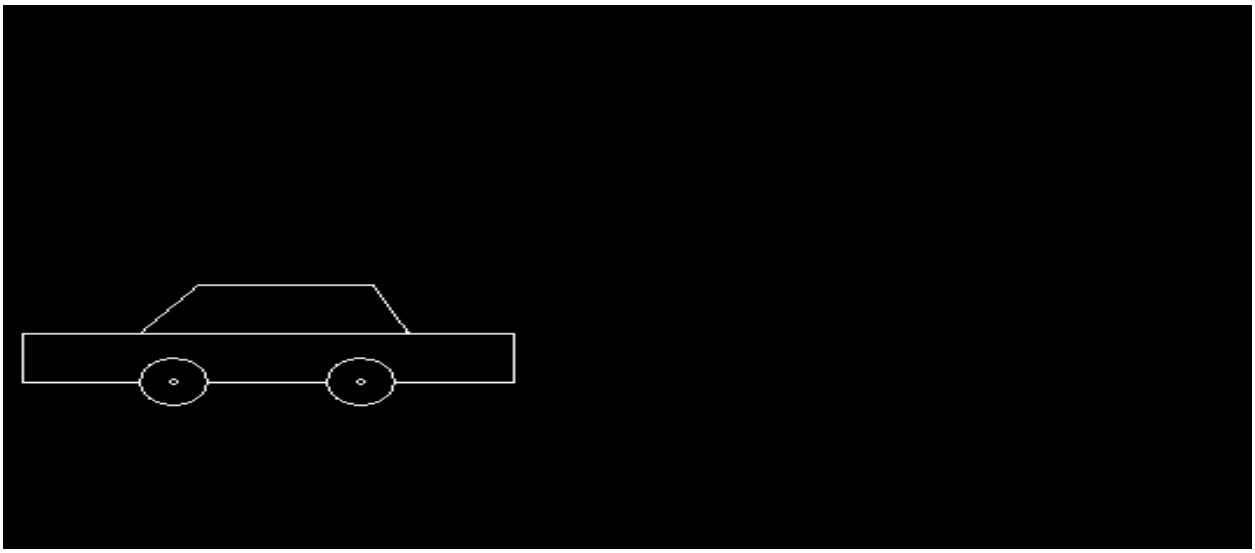
```
        // For left wheel of car
        circle(65 + i, 330, 15);
        circle(65 + i, 330, 2);

        // For right wheel of car
        circle(145 + i, 330, 15);
        circle(145 + i, 330, 2);

        // Line left of left wheel
        line(0 + i, 330, 50 + i, 330);

        // Line middle of both wheel
        line(80 + i, 330, 130 + i, 330);

        // Line right of right wheel
        line(210 + i, 330, 160 + i, 330);
    }
```

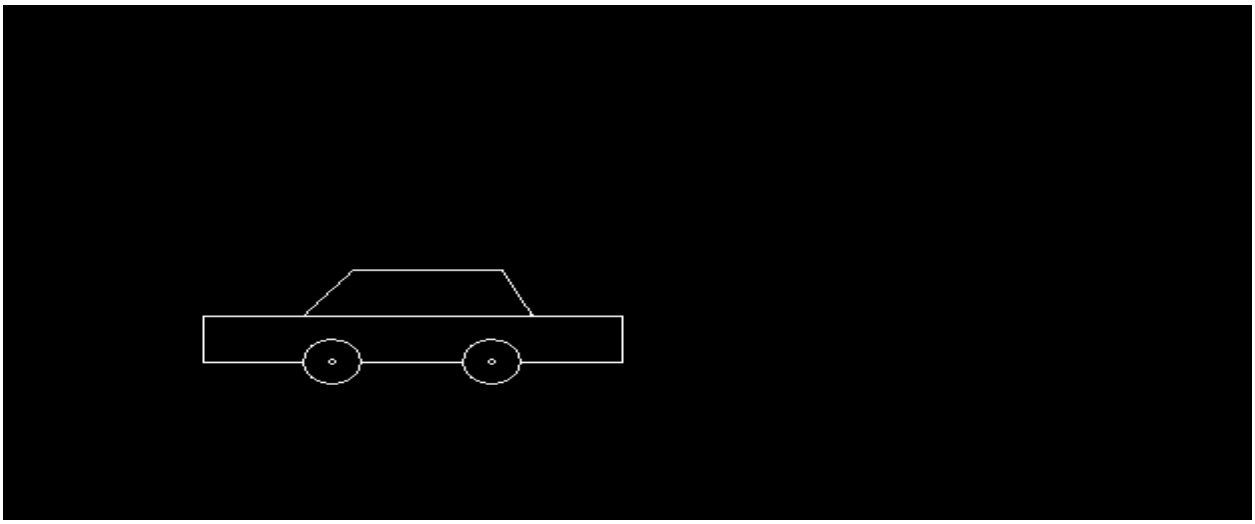
```
    getch();

    closegraph();
}

// Driver code
int main()
{
    draw_moving_car();

    return 0;
}
```

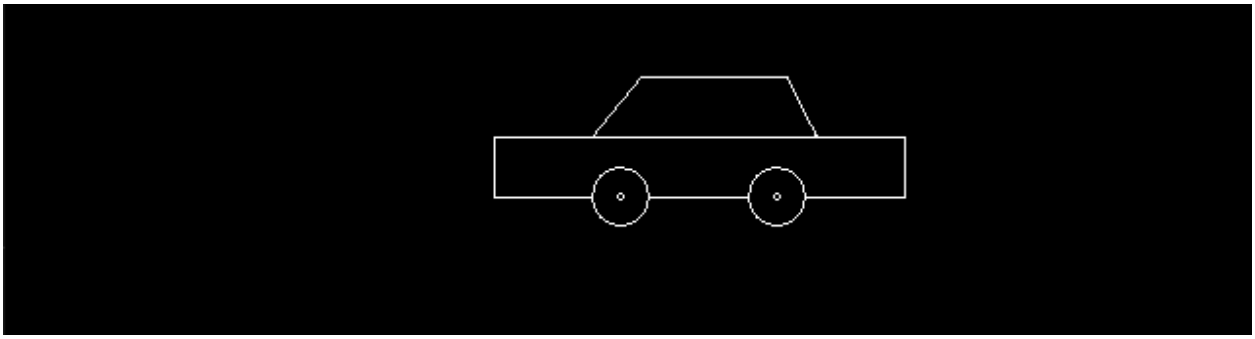
## 6. Actual Resources Used:

| Sr. No. | Name of resource / material | Specification | Quantity | Remarks |
|---|---|---|---|---|
| 1 | Computer | WINDOWS 11,8GB RAM, 160GB HDD | 1 | |
| 2 | Operating System | WINDOWS 11 | 1 | |
| 3 | Compiler | Turbo C/GCC/VS code | 1 | |
| 4 | Browser | Chrome | 1 | |

## 7.Outputs of Micro-Projects:







## 8.Skill developed / Learning out of this Micro-Project:

There are so many thing that we learn from this project of

1. We learn that how to make the project in c programming.
2. How to design computer graphics in ‘C’ Language.
3. How to collect the information and how to make the presentation that we learn from this project.
4. We develop our logic implementation for programing and coding as well as for designing graphics.
5. We learn much more functions of graphics.
6. We learn how to create different designs and shapes with different graphical function.
7. We learn some keywords and functions from ‘dos.h’ and ‘stdio.h’ header file.
8. We learnt lot more things like logic building and enhancement from this project.

## 9. Applications of this Micro-Project:

1. 1. also be used to design graphics with implimenting this project on large scale.It can be used to understand computer graphics.
2. And we also learn how to animate our car by using for loop.
3. It can also be used to make animations UI development , Game development Etc…..

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