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ABSTRACT

This abstract describes a car racing game developed using VB.net, a programming language for developing Windows-based applications. The game is designed to provide players with an exciting and immersive racing experience through advanced graphics, physics-based gameplay, and challenging AI opponents.

Players are able to control their virtual vehicles using a keyboard or other input device, and race against other players or the computer. The game features multiple tracks and race modes, allowing players to test their driving skills in a variety of environments.

The use of VB.net allows for advanced graphics and animations, which provide a visually appealing and immersive experience for players. Additionally, the game features advanced physics simulations, which provide a realistic and challenging driving experience.

The AI opponents in the game adjust their behavior based on the player's actions, providing a unique and challenging experience for each race. Players can also customize their vehicles with different parts and upgrades, allowing them to fine-tune their performance and compete at the highest level.

Overall, this car racing game developed using VB.net provides an engaging and exciting experience for players of all skill levels, with advanced graphics, physics-based gameplay, challenging AI opponents, and vehicle customization options.

INTRODUCTION

VB.NET stands for Visual Basic.NET, and it's a programming language developed by Microsoft. it absolutely was initial free in 2002 to exchange Visual Basic vi. VB.NET is associate object-oriented artificial language. this suggests that it supports the options of object-oriented programming that embrace encapsulation, polymorphism, abstraction, and inheritance. Visual Basic .ASP web runs on the .NET framework, which suggests that it's full access to the .NET libraries. it's a really productive tool for speedy creation of a good vary of net, Windows, Office, and Mobile applications that are engineered on the .NET framework. The language was designed in such the simplest way that it's simple to grasp to each novice and advanced programmers. Since VB.NET depends on the .NET framework, programs written within the language run with a lot of responsibleness and measurability. With VB.NET, you'll produce applications that square measure totally object-oriented, kind of like those created in alternative languages like C++, Java, or C#. Programs written in VB.NET can even interoperate well with programs written in Visual C++, Visual C#, and Visual J#. VB.NET treats everything as associate object.

FEATURE OF VB.NET

VB.NET comes loaded with various options that have created it a preferred programming language amongst programmers worldwide. These options embrace the following:

- VB.NET isn't case sensitive like different languages like C++ and Java.
- It is associate degree object-oriented programming language. It treats everything as associate degree object.
- Automatic code format, XML designer, improved object browser etc.
- Garbage assortment is machine-driven.
- Support for mathematician conditions for deciding.
- Simple multithreading, permitting your apps to cope with multiple tasks at the same time.
- A customary library.
- Events management.
- References. you ought to reference associate degree external object that's to be employed in a VB.NET application.
- Attributes, that square measure tags for providing further info relating to parts that are outlined inside a program.
- Windows Forms- you'll be able to inherit your kind from associate degree already existing kind.

ADVANTAGES OF VB.NET

- Your code are going to be formatted mechanically.
- You can use object-oriented constructs to make Associate in Nursing enterprise-class code.
- You will produce internet applications with fashionable options like performance counters, event logs, and filing system.
- You will produce your internet forms with abundant ease through the visual forms designer. you may additionally relish drag and drop capability to switch any components that you simply may have.
- You will connect your applications to alternative applications created in languages that run on the .NET framework.
- You can relish options like tying up, automatic management anchoring, and in-place menu editor all smart for developing internet applications.

DISADVANTAGES OF VB.NET

- VB.NET cannot handle pointers directly. This is a significant disadvantage since pointers are much necessary for programming. Any additional coding will lead to many CPU cycles, requiring more processing time. Your application will become slow.
- VB.NET is easy to learn. This has led to a large talent pool. Hence, it may be challenging to secure a job as a VB.NET programmer.

REQUIREMENT SPECIFICATION

- **Software Specification:**

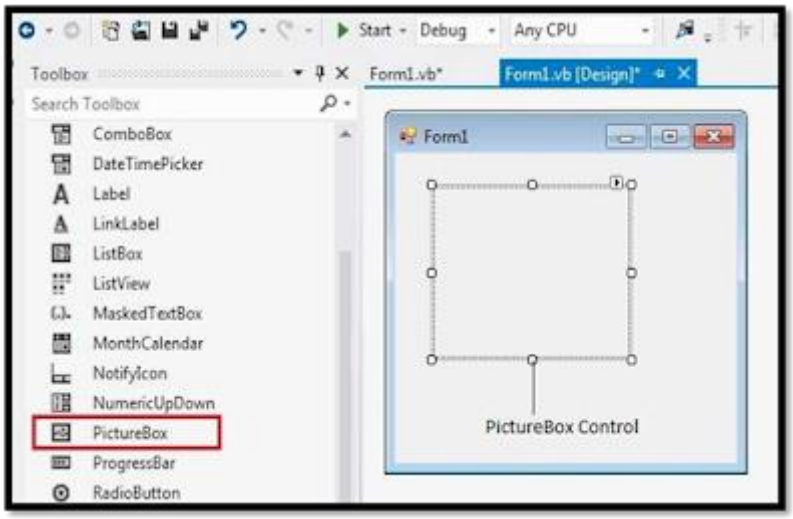
Name of the Components	Specification
Operating System	Windows 7 to 11(32bits & 64bits)
Language	VB.NET
Software	Microsoft Visual Studio 2022 Community
Browser	Brave, Chrome
IDE	Visual Studio
Other technologies	GitHub

- **Hardware Specification:**

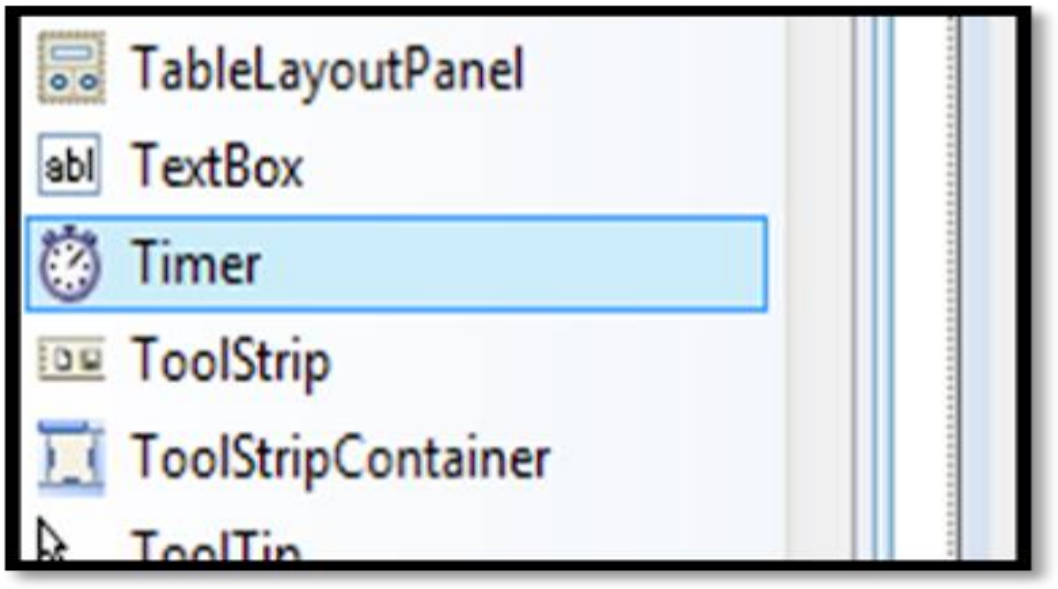
Name of the Components	Specification
Processor	Min. i2 Core , Ryzen 5 Hexa core
RAM	Min. 2GB,8GB
ROM	Min.215GB,512 GB
Monitor	14 Inch

TOOLS UTILIZED IN PROGRAM

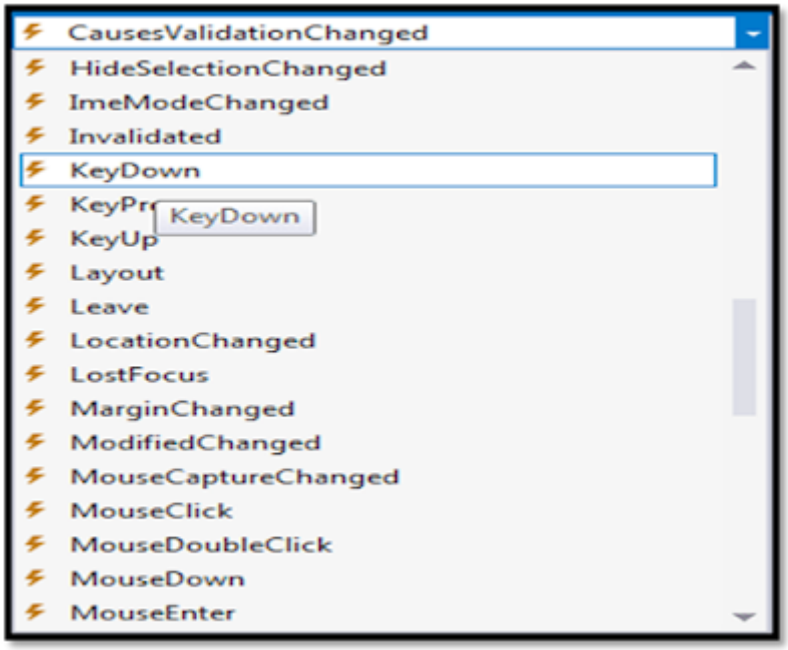
Picture Box : The Picture Box management is employed for displaying pictures on the shape. The Image property of the management permits you to line a picture each at style time or at run time. Following image shows image box insertion:



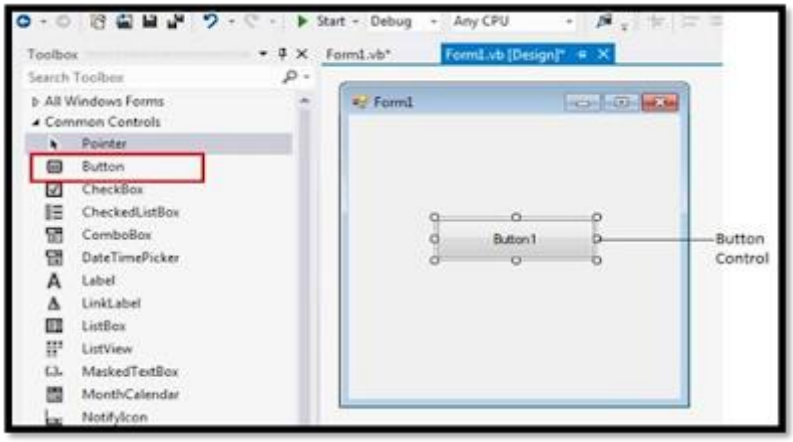
Timer: we are able to use Timer management in several things in our development atmosphere. If you wish to run some code once a definite interval of your time incessantly, you'll use the Timer management. moreover on begin a method at a hard and fast time schedule, to extend or decrease the speed in AN animation graphics with time schedule etc. you'll use the Timer management. The Visual Studio chest includes a Timer management that permitting you to tug and drop the timer controls directly onto a Windows Forms designer. At runtime it doesn't have a visible illustration and works as a element within the background.



Keydown, Keyup :- Occur in sequence once a user presses and releases a key. Key Down happens once the user presses a key. Key Up happens once the user releases a key.



Button : The Button management represents a regular Windows button. it's usually wont to generate a Click event by providing a handler for the clicking event.



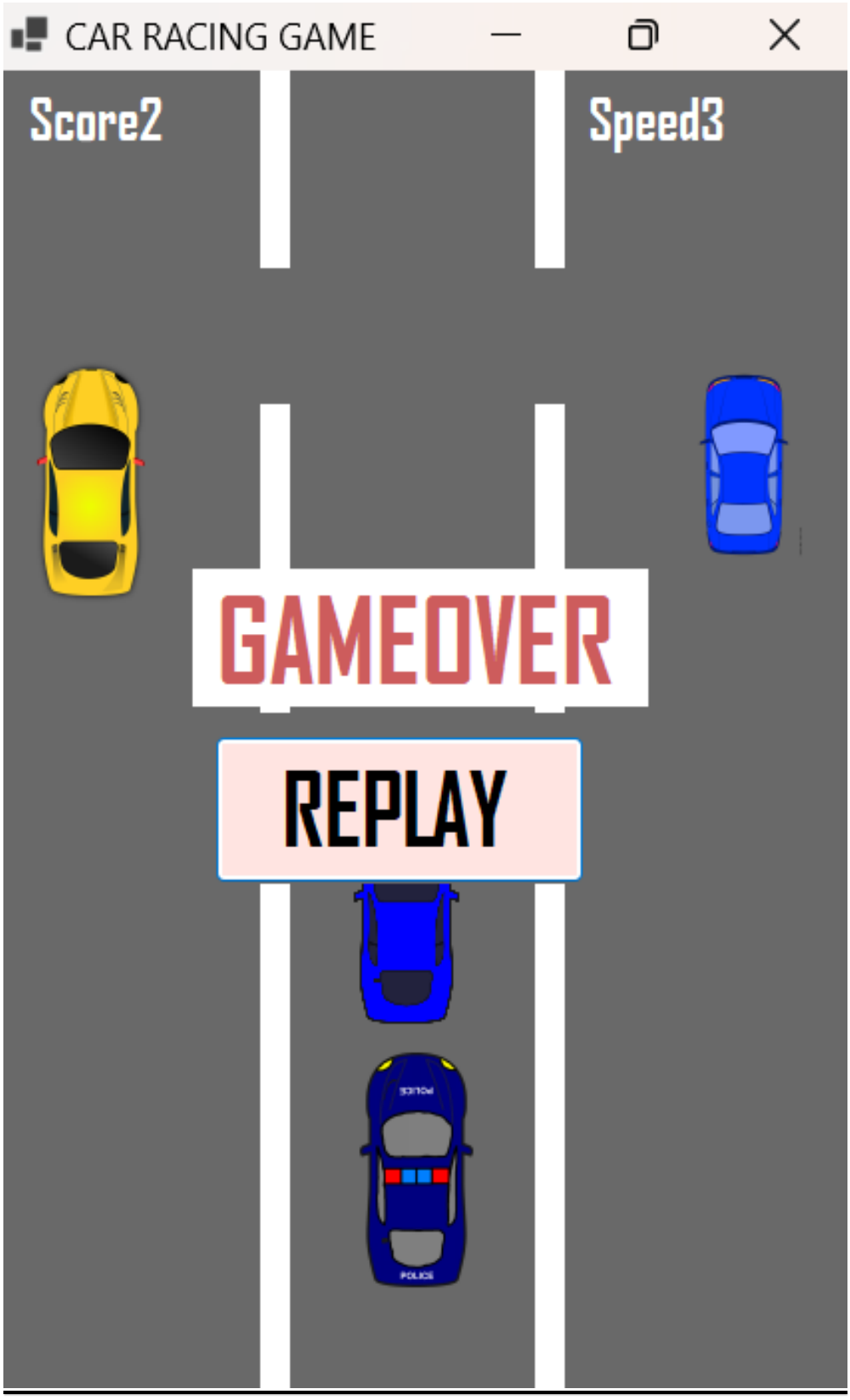
SOURCE CODE

```
Public Class Form1
    Dim speed As Integer
    Dim road(7) As PictureBox
    Dim score As Integer = 0
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        speed = 3
        road(0) = PictureBox1
        road(1) = PictureBox2
        road(2) = PictureBox3
        road(3) = PictureBox4
        road(4) = PictureBox5
        road(5) = PictureBox6
        road(6) = PictureBox7
        road(7) = PictureBox8

    End Sub

    Private Sub RoadMover_Tick(sender As Object, e As EventArgs) Handles RoadMover.Tick
        For X As Integer = 0 To 7
            road(X).Top += speed
            If road(X).Top >= Me.Height Then
                road(X).Top = -road(X).Height
            End If
        Next

        If score > 10 And score < 30 Then
            speed = 5
        End If
        If score > 30 And score < 50 Then
            speed = 6
        End If
        If score > 50 And score < 70 Then
            speed = 7
        End If
        If score > 100 Then
            speed = 9
        End If
        Label2.Text = "Speed" & speed
        If (car.Bounds.IntersectsWith(race1.Bounds)) Then
            endgame()
        End If
        If (car.Bounds.IntersectsWith(race2.Bounds)) Then
            endgame()
        End If
        If (car.Bounds.IntersectsWith(race3.Bounds)) Then
            endgame()
        End If
```

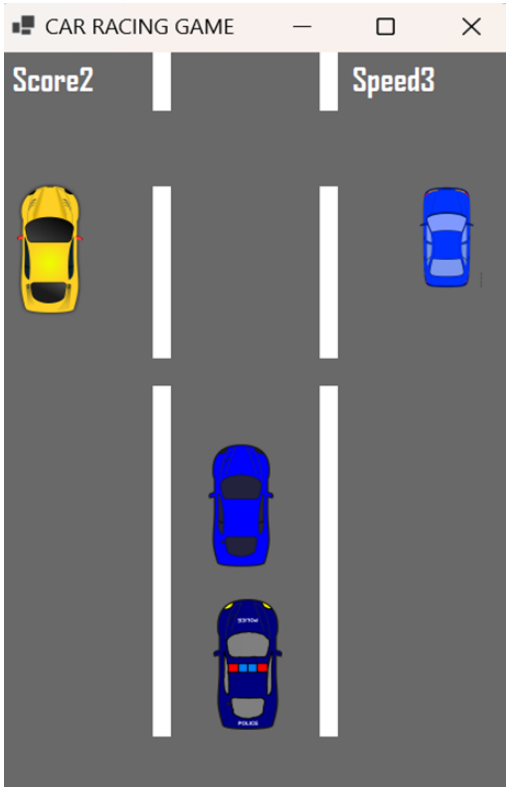
```
End Sub

Private Sub endgame()
    Button1.Visible = True
    Label3.Visible = True
    RoadMover.Stop()
    RaceMover1.Stop()
    RaceMover2.Stop()
    RaceMover3.Stop()


End Sub

Private Sub Form1_KeyDown(sender As Object, e As KeyEventArgs) Handles MyBase.KeyDown
    If e.KeyCode = Keys.Right Then
        RightSide.Start()
    End If

    If e.KeyCode = Keys.Left Then
        LeftSide.Start()
    End If
End Sub

Private Sub RightSide_Tick(sender As Object, e As EventArgs) Handles RightSide.Tick
    If (car.Location.X < 365) Then
        car.Left += 5
    End If

End Sub

Private Sub LeftSide_Tick(sender As Object, e As EventArgs) Handles LeftSide.Tick
    If (car.Location.X > 0) Then
        car.Left -= 5
    End If

End Sub

Private Sub Form1_KeyUp(sender As Object, e As KeyEventArgs) Handles MyBase.KeyUp
    RightSide.Stop()
    LeftSide.Stop()
End Sub

Private Sub RaceMover1_Tick(sender As Object, e As EventArgs) Handles RaceMover1.Tick
    race1.Top += speed / 2
    If race1.Top >= Me.Height Then
        score += 1
        Label1.Text = "Score" & score
        race1.Top = -(CInt(Math.Ceiling(Rnd() * 200)) + race1.Height)
```

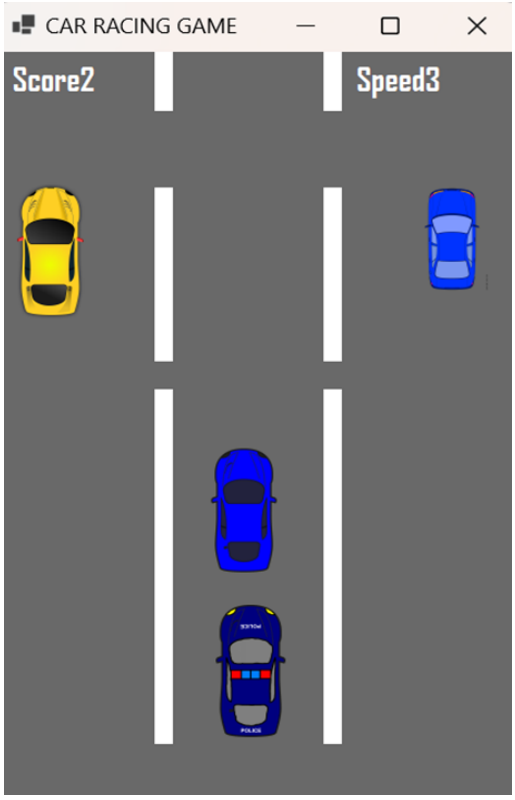
```
        race1.Top = -CInt(Math.Ceiling(Rnd() * 50)) = +0
    End If
End Sub

Private Sub RaceMover2_Tick(sender As Object, e As EventArgs) Handles RaceMover2.Tick
    race2.Top += speed / 3
    If race2.Top >= Me.Height Then
        score += 1
        Label1.Text = "Score" & score
        race2.Top = -(CInt(Math.Ceiling(Rnd() * 200)) + race2.Height)
        race2.Top = -CInt(Math.Ceiling(Rnd() * 50)) = +0
    End If
End Sub

Private Sub RaceMover3_Tick(sender As Object, e As EventArgs) Handles RaceMover3.Tick
    race3.Top += speed * 1 / 2
    If race3.Top >= Me.Height Then
        score += 1
        Label1.Text = "Score" & score
        race3.Top = -(CInt(Math.Ceiling(Rnd() * 200)) + race3.Height)
        race3.Top = -CInt(Math.Ceiling(Rnd() * 120)) = 180
    End If
End Sub

Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
    score = 0
    Me.Controls.Clear()
    InitializeComponent()
    Form1_Load(e, e)

End Sub
        End Class
```

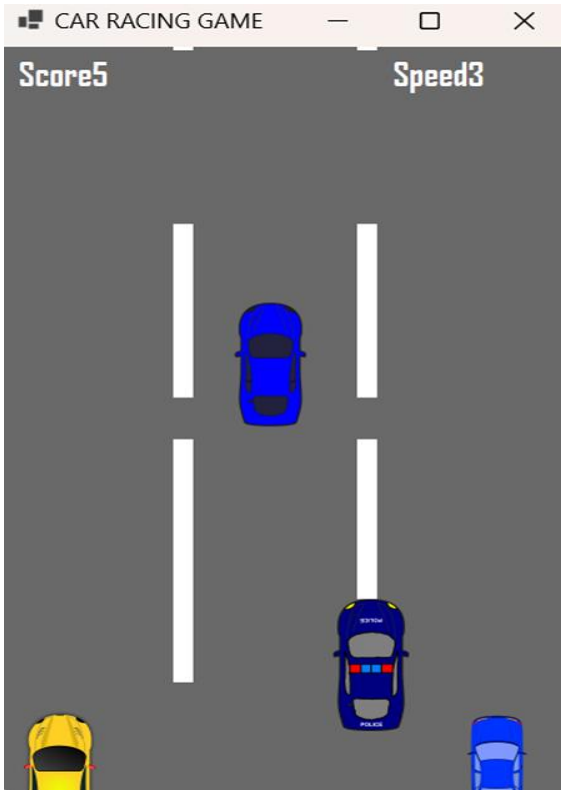
FORM 1 DESIGN



OUTPUT


CAR RACING GAME
Score2
Speed3


CAR RACING GAME
Score2
Speed3


CAR RACING GAME
Score5
Speed3

CONCLUSION

Car racing games are a popular form of entertainment that can provide a thrilling and immersive experience for players. These games allow players to control their virtual vehicles, compete against others, and experience the excitement of high-speed racing without any real-world risks or consequences. Car racing games have evolved significantly over the years, with advanced graphics, realistic physics, and online multiplayer modes that allow players to compete with others from around the world. Whether you're a casual gamer or a serious racing enthusiast, there are plenty of options available to suit your interests and skill level. So, if you're looking for a fun and exciting way to pass the time, a car racing game may be just what you need.

REFERENCES

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- https://www.msbtemicroproject.tech/2022/02/micro-project-of-GUI-Application-Development-Using-VB.NET.html