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Imports System
Imports System.IO.Ports
Public Class Form1
    Dim comPORT As String
    Dim receivedData As String = ""
    Dim command_app_1 As String = "T,1,500,500>"
    Dim command_app_2 As String = "T,2,500,500>"
    Dim Stop_command As String = "E"
    Dim Start_command As String = "S"
    Dim hulp1 As String = ""
    Dim name2 As String
    Dim name1 As String
    Dim name3 As String
    Dim testpos As Integer
    Dim iFileNo As Integer
    Dim command(20) As String
    Dim picture(20) As String
    Dim pictureA(20) As String
    Dim pictureB(20) As String
    Dim sexe(20) As Integer
    Dim sexeA(20) As Integer
    Dim sexeB(20) As Integer
    Dim identB(20) As Integer
    Public Property ImageLocation As String
    Dim ktest As Integer = 0
    Dim numRec As Integer = 0
    Dim OutArduino(20) As String
    Dim FirstCharacter As Integer
    Dim keuze(20) As Integer
    Dim correct As Integer = 0
    'Dim SecondForm As New Form
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Timer1.Enabled = False
        comPORT = ""

        For Each sp As String In My.Computer.Ports.SerialPortNames
            ComboBox1.Items.Add(sp)
        Next

        For k = 1 To 20
            OutArduino(k) = "Arduino"
        Next

    End Sub

    Private Sub ComboBox1_SelectedIndexChanged(sender As Object, e As EventArgs) Handles ComboBox1.SelectedIndexChanged
        If (ComboBox1.SelectedItem <> "") Then
            comPORT = ComboBox1.SelectedItem
            Label1.Text = comPORT
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        If (Button1.Text = "Connect") Then
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    If (comPORT <> "") Then
        SerialPort1.Close()
        SerialPort1.PortName = comPORT
        SerialPort1.BaudRate = 9600
        SerialPort1.DataBits = 8
        SerialPort1.Parity = Parity.None
        SerialPort1.StopBits = StopBits.One
        SerialPort1.Handshake = Handshake.None
        SerialPort1.Encoding = System.Text.Encoding.Default
        SerialPort1.ReadTimeout = 10000
        'SerialPort1.Open()
        'SerialPort1.Write("C>")
        Button1.Text = "Dis-connect"
        Timer1.Enabled = True
        SerialPort1.Open()
        SerialPort1.Write("C>")
        Label2.Text = "Timer: ON"
        Label2.Text = command_app_1
        Label3.Text = command_app_2
    Else
        MsgBox("Select a COM port first")
    End If
Else
    SerialPort1.Close()
    Button1.Text = "Connect"
    Timer1.Enabled = False
    Label2.Text = "Timer: OFF"
End If
End Sub

Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles Timer1.Tick
    receivedData = ReceiveSerialData()
    RichTextBox1.Text &= receivedData
    FirstCharacter = receivedData.IndexOf("OutArd:")
    If (FirstCharacter <> -1 And ktest > 0) Then
        Label10.Text = receivedData.Substring(FirstCharacter)
        OutArduino(ktest) = Label10.Text
    End If
End Sub

Function ReceiveSerialData() As String
    Dim Incoming As String
    Try
        Incoming = SerialPort1.ReadExisting()
        If Incoming Is Nothing Then
            Return "nothing" & vbCrLf
        Else
            Return Incoming
        End If
    Catch ex As TimeoutException
        Return "Error: Serial Port read timed out."
    End Try
End Function

Private Sub Button3_Click(sender As Object, e As EventArgs) Handles
    Button3.Click
        SerialPort1.Write(command_app_1)

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End Sub
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Private Sub Button4_Click(sender As Object, e As EventArgs) Handles
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    Button4.Click  
    SerialPort1.Write(command_app_2)
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End Sub
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Private Sub Button5_Click(sender As Object, e As EventArgs) Handles
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    Button5.Click  
    SerialPort1.Write(Stop_command)
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End Sub
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Private Sub Button6_Click(sender As Object, e As EventArgs) Handles
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    Button6.Click  
    SerialPort1.Close()  
    Application.Exit()
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End Sub
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Private Sub Button2_Click(sender As Object, e As EventArgs) Handles
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    Button2.Click  
    RichTextBox1.Text = ""
```

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End Sub
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Private Sub Button7_Click(sender As Object, e As EventArgs) Handles
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    Button7.Click  
    OpenFileDialog1.ShowDialog()  
    name2 = OpenFileDialog1.SafeFileName  
    name1 = OpenFileDialog1.FileName  
    testpos = InStr(name1, name2, CompareMethod.Text)  
    Label14.Text = name2  
    Label15.Text = name1  
    ' Label16.Text = Str(testpos)  
    Label16.Text = name1.Substring(0, testpos - 1)  
    name3 = name1.Substring(0, testpos - 1)
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End Sub
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Private Sub Button8_Click(sender As Object, e As EventArgs) Handles
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    Button8.Click  
    Dim sFileText As String = " "  
    Dim k As Integer = 0  
    Dim kk As Integer = 0  
    iFileNo = FreeFile()  
    FileOpen(iFileNo, name1, OpenMode.Input)  
    Do While Not EOF(iFileNo)  
        If kk = 0 Then k = k + 1  
        kk = kk + 1  
        Input(iFileNo, sFileText)  
        If kk = 1 Then command(k) = sFileText  
        If kk = 2 Then pictureA(k) = sFileText  
        If kk = 3 Then pictureB(k) = sFileText  
        If kk = 4 Then sexeA(k) = Int(sFileText)  
        If kk = 5 Then sexeB(k) = Int(sFileText)  
        If kk = 6 Then identB(k) = Int(sFileText)  
        RichTextBox1.Text &= sFileText + vbCrLf  
        If kk = 6 Then kk = 0
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    Loop
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numRec = k
Label17.Text = "aantal records: " + Str(k)
FileClose(iFileNo)
End Sub

Private Sub Button9_Click(sender As Object, e As EventArgs) Handles Button9.Click
    ktest = ktest + 1
    If ktest > numRec Then Button10.Visible = False
    PictureBox1.ImageLocation = pictureA(ktest) & ".jpg"
    PictureBox1.Load()
    PictureBox2.ImageLocation = pictureB(ktest) & ".gif"
    PictureBox2.Load()
    Label18.Text = pictureA(ktest) & ".jpg"
    Label13.Text = pictureB(ktest) & ".gif"
    Timer2.Enabled = True 'even wachten
    Button10.Visible = True
End Sub

Private Sub Button10_Click(sender As Object, e As EventArgs) Handles Button10.Click
    ' start commando geven voor de Arduino
    SerialPort1.Write(command(ktest))
    SerialPort1.Write("S")

    Timer2.Enabled = True 'even wachten
    Label19.Text = Str(ktest)
    Button10.Visible = False
    Button11.Visible = True
    Button12.Visible = True
End Sub

Private Sub Button11_Click(sender As Object, e As EventArgs) Handles Button11.Click
    Button11.Visible = False
    Button12.Visible = False
    Button10.Visible = True
    keuze(ktest) = 1
    If keuze(ktest) = sexeB(ktest) Then
        correct = correct + 1
    End If
    ktest = ktest + 1
    If ktest > numRec Then
        Button10.Visible = False
        PictureBox1.Visible = False
        PictureBox2.Visible = False
    Else
        PictureBox1.ImageLocation = pictureA(ktest) & ".jpg"
        PictureBox1.Load()
        PictureBox2.ImageLocation = pictureB(ktest) & ".gif"
        PictureBox2.Load()
        Label18.Text = pictureA(ktest) & ".jpg"
        Label13.Text = pictureB(ktest) & ".gif"
        Timer2.Enabled = True ' even wachten
        Timer2.Enabled = True ' even wachten
    End If
End Sub
```

End Sub

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Private Sub Button12_Click(sender As Object, e As EventArgs) Handles Button12.Click
    Button11.Visible = False
    Button12.Visible = False
    Button10.Visible = True
    keuze(ktest) = 2
    If keuze(ktest) = sexeB(ktest) Then
        correct = correct + 1
    End If
    ktest = ktest + 1
    If ktest > numRec Then
        Button10.Visible = False
        PictureBox1.Visible = False
        PictureBox2.Visible = False
    Else
        PictureBox1.ImageLocation = pictureA(ktest) & ".jpg"
        PictureBox1.Load()
        PictureBox2.ImageLocation = pictureB(ktest) & ".gif"
        PictureBox2.Load()
        Label8.Text = pictureA(ktest) & ".jpg"
        Label13.Text = pictureB(ktest) & ".gif"
        Timer2.Enabled = True ' even wachten
        Timer2.Enabled = True ' even wachten
    End If
End Sub
```

```
Private Sub Button13_Click(sender As Object, e As EventArgs) Handles Button13.Click
    Dim sFileText As String = " "
    Dim hulp As String = " "
    Dim k As Integer = 0
    Dim kk As Integer = 0
    Dim DQ As String
    DQ = Chr(34)
    iFileNo = FreeFile()

    hulp1 = Date.Now.ToString("dd-MM-yyyy HH:mm")
    hulp1 = Replace(hulp1, ":", "-")
    hulp1 = Replace(hulp1, " ", "T")
    hulp1 = Replace(hulp1, " ", "")

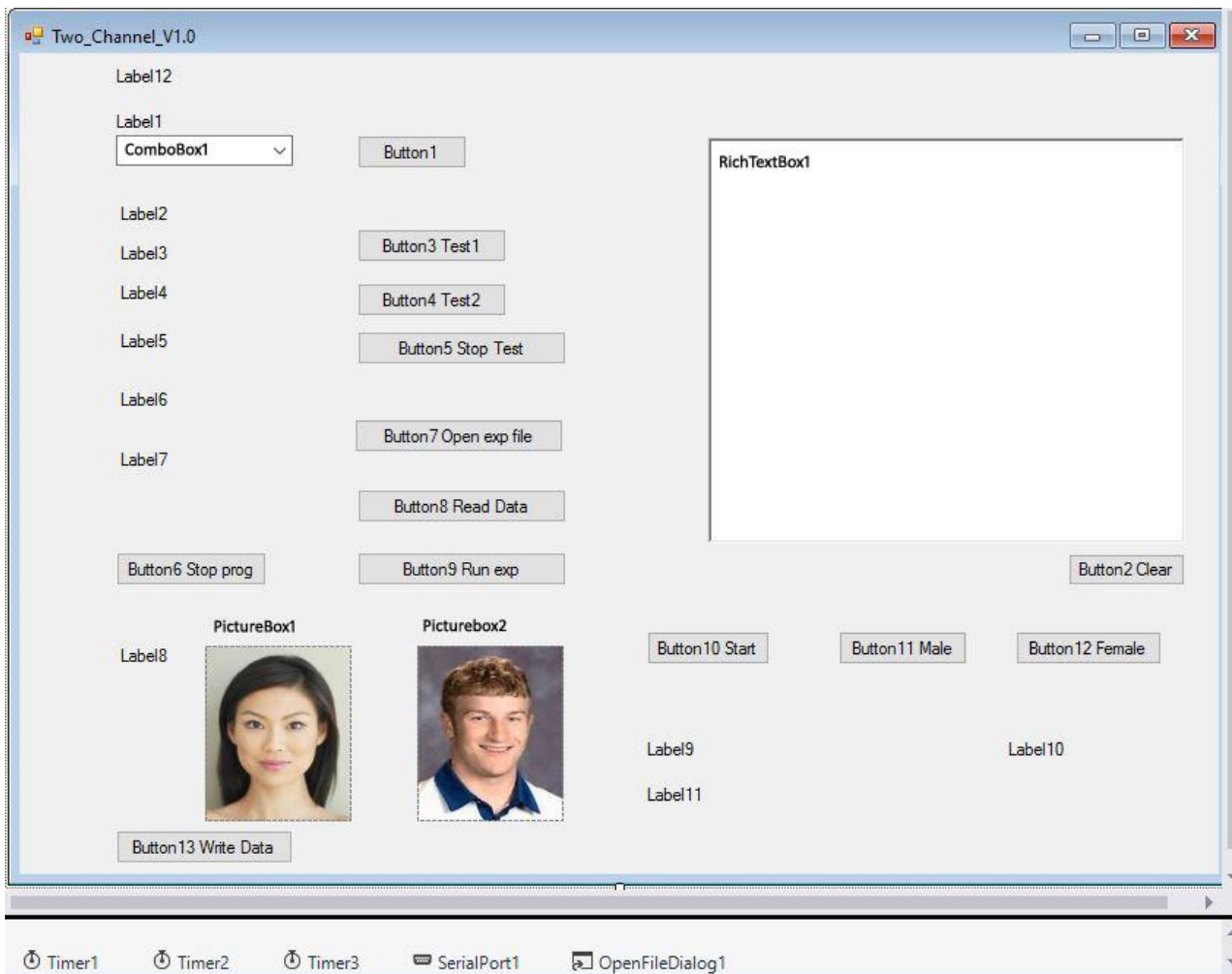
    FileOpen(iFileNo, name3 + "Output2.txt", OpenMode.Output)
    PrintLine(iFileNo, "Out" + hulp1)
    For k = 1 To numRec
        hulp = Str(sexeB(k)) + "," + Str(keuze(k)) + "," + command(k) + "," +
            pictureA(k) + "," + pictureB(k) + "," + OutArduino(k)
        hulp.Replace(vbCr, "").Replace(vbLf, "")
        hulp = Trim(hulp)
        'hulp = Replace(hulp, DQ, "")
        'WriteLine(iFileNo, hulp)
        Print(iFileNo, hulp + vbLf)
        Label10.Text = Str(Len(hulp))
        hulp = " "
    Next
End Sub
```

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Print(iFileNo, "Total: " + Str(numRec) + " Executed: " + Str(ktest - 1) + "
Correct: " + Str(correct))
Label11.Text = "Total: " + Str(numRec) + " Executed: " + Str(ktest - 1) + "
Correct: " + Str(correct)
FileClose(iFileNo)
Label19.Text = "Wegschrijven klaar"
End Sub

Private Sub Timer2_Tick(sender As Object, e As EventArgs) Handles Timer2.Tick
    Timer2.Enabled = False
End Sub
End Class

```



Connect Arduino with USB PC/Laptop

Label1

Connect

Label2

Label3

Test1

Label4

Test2

Label5

Stop Test

Label6

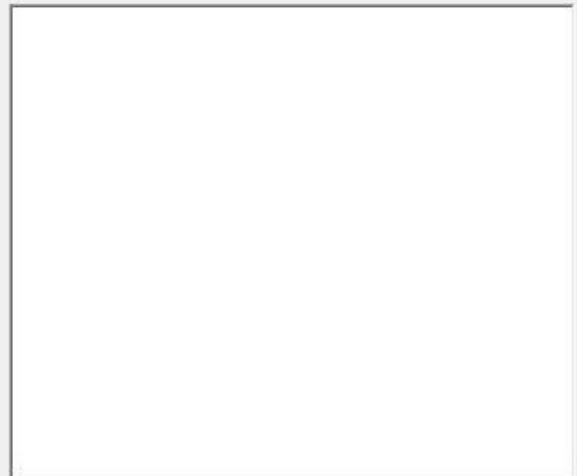
Open Input File

Label7

Read Data

Stop Program

Run Experiment



Clear

Label8

Label13



Start

Male

Female

Label9

Label10

Label11

Write Data

Timer1

Timer2

Timer3

SerialPort1

OpenFileDialog1