

```

'
' Creado por SharpDevelop.
' Usuario: albert.creixell
' Fecha: 19/12/2014
' Hora: 22:28
'
' Para cambiar esta plantilla use Herramientas | Opciones | Codificación | Editar Encabezados Estándar
'
Imports nplot

Public Partial Class MainForm
    Dim grafx1(50) As Date
    Dim grafy1(50) As Single
    Dim graf1index As Integer=0
    Dim graf1max As Integer=10

    Dim grafx2(50) As Date
    Dim grafy2(50) As Single
    Dim graf2index As Integer=0
    Dim graf2max As Integer=10

    Dim grafx3(50) As Date
    Dim grafy3(50) As Single
    Dim graf3index As Integer=0
    Dim graf3max As Integer=10

    Public Sub New()
        ' The Me.InitializeComponent call is required for Windows Forms designer support.

        Me.InitializeComponent()

        '
        ' TODO : Add constructor code after InitializeComponents
        '
    End Sub

    Sub Button1Click(sender As Object, e As EventArgs)
        If Timer1.Enabled = False Then
            SerialPort1.PortName=Me.comboBox1.Text
            SerialPort1.Open()
            Timer1.Enabled = True
            Timer2.Enabled = True
            button1.Text="Parar Captura"
        Else
            SerialPort1.Close()
            Timer1.Enabled = False
            Timer2.Enabled = False
            button1.Text="Començar captura"
        End If
    End Sub

    Sub Timer1Tick(sender As Object, e As EventArgs)
        'Dim value As UInteger = 128000
        'Dim bytes() As Byte = BitConverter.GetBytes(value)
        Dim bytes2() As Byte = New Byte(8) {}
        Dim tempe As UShort
        Dim humi As UShort
        Dim tempe2 As Single

```

```

Dim humi2 As Single
Dim llum As Single
Dim exponent As Single
Dim mantisa As Single
Dim retras As Integer

If SerialPort1.BytesToRead > 0 Then
    SerialPort1.Read(bytes2, 0, 8)
End If
If (bytes2(0) = 0 And bytes2(1) = 0 And bytes2(2) = 0 And bytes2(3) = 0) Then
Exit Sub
Try
    If (bytes2(1) = 55) Then
        tempe = bytes2(2)
        tempe = (tempe << 8) + bytes2(3)
        tempe2 = -46.86 + 175.72 * (tempe / (2 ^ 16))
        humi = bytes2(4)
        humi = (humi << 8) + bytes2(5)
        humi2 = -6 + 125 * (humi / (2 ^ 16))
        mantisa = bytes2(6)
        exponent = bytes2(7)
        llum = (2 ^ exponent) * mantisa * 0.045
        Label12.Text = tempe2.ToString & "°C"
        Label14.Text = humi2.ToString & "%"
        Label16.Text = llum.ToString & "lux"
        Label12.Tag = tempe2
        Label14.Tag = humi2
        Label16.Tag = llum
    End If
    If (bytes2(0) = 30 And bytes2(1) = 60) Then
        retras = bytes2(5)
        retras = (retras << 8) + bytes2(4)
        retras = (retras << 8) + bytes2(3)
        retras = (retras << 8) + bytes2(2)
        Label18.Text = retras
        Label11.Text = (retras/32768)*1000000 & "us"
    End If
Catch ex As Exception

End Try
Try
    TextBox1.Text = Format(Now, "HH:mm:ss") & "-" & bytes2(0).ToString & " " &
bytes2(1).ToString & " " & bytes2(2).ToString & " " & bytes2(3).ToString & " " & bytes2
(4).ToString & " " & bytes2(5).ToString & " " & bytes2(6).ToString & " " & bytes2(7).ToString
& vbCrLf & TextBox1.Text
    TextBox2.Text = bytes2(0).ToString & " " & bytes2(1).ToString & " " & bytes2
(2).ToString & " " & bytes2(3).ToString & " " & bytes2(4).ToString & " " & bytes2(5).ToString
& " " & bytes2(6).ToString & " " & bytes2(7).ToString
Catch ex As Exception

End Try

End Sub

Sub Timer2Tick(sender As Object, e As EventArgs)
'
' Les línies comentades servien per fer proves en desenvolupament
' Dim tempe2 As Single
' Dim humi2 As Single
' Dim llum As Single

```

```

'         tempe2=Rnd()*4+20
'         humi2=Rnd()*2+60
'         llum=Rnd()*5+700
'
'         Label12.Text = tempe2.ToString & "°C"
'         Label14.Text = humi2.ToString & "%"
'         Label16.Text = llum.ToString & "lux"
'         Label12.Tag = tempe2
'         Label14.Tag = humi2
'         Label16.Tag = llum
'
'-----
Me.grafx1(Me.graf1index)=Now
Me.grafy1(Me.graf1index)=Label12.Tag
graf1index=graf1index+1
If graf1index >= Me.graf1max Then graf1index=0

Me.grafx2(Me.graf2index)=Now
Me.grafy2(Me.graf2index)=Label14.Tag
graf2index=graf2index+1
If graf2index >= Me.graf2max Then graf2index=0

Me.grafx3(Me.graf3index)=Now
Me.grafy3(Me.graf3index)=Label16.Tag
graf3index=graf3index+1
If graf3index >= Me.graf3max Then graf3index=0

carga1
carga2
carga3

End Sub

Sub carga1()
me.plotSurface2D1.clear
Dim contador As Integer=0
Dim datos(1) As System.Collections.ArrayList
Dim dates(1) As System.Collections.ArrayList
Dim x As Integer = -1
Dim y As Integer = -1
Dim lp As LinePlot
Dim sali As Integer = 0
Try
    Dim grae As New Grid
    grae.MajorGridPen.Color=color.Gray
    grae.MinorGridPen.Color=color.Gray
    plotSurface2D1.Add(grae)
    lp = New LinePlot
    lp.Pen.Width=2
    x = x + 1
    datos(x) = New System.Collections.ArrayList()
    dates(x) = New System.Collections.ArrayList()
    contador=graf1index
    While sali = 0
        If ((graf1index>0) AND (contador = graf1index-1)) OR (graf1index=0 AND
(contador = graf1max-1)) Then
            sali = 1
        Else

```

```

        If Me.grafy1(contador)<> -99999 Then
            dates(x).Add(Me.grafx1(contador))
            datos(x).Add(Me.grafy1(contador))
        End If
        contador=contador+1
        If contador >= Me.graf1max Then contador=0
    End If
End While

lp.DataSource = datos(x)
lp.AbscissaData = dates(x)
lp.Color = Color.Blue
plotSurface2D1.Add(lp)
plotSurface2D1.Visible=True
plotSurface2D1.PlotBackColor = color.LightGray
plotSurface2D1.RightMenu=NPlot.Windows.PlotSurface2D.DefaultContextMenu
plotSurface2D1.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.HorizontalRangeSelection())
plotSurface2D1.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.AxisDrag(true))
plotSurface2D1.YAxis1.FlipTicksLabel = True
plotSurface2D1.DateTimeToolTip=true
plotSurface2D1.Refresh()
Catch
    plotSurface2D1.Visible=False
End try
End Sub

Sub carga2()
    me.plotSurface2D2.clear
    Dim contador As Integer=0
    Dim datos(1) As System.Collections.ArrayList
    Dim dates(1) As System.Collections.ArrayList
    Dim x As Integer = -1
    Dim y As Integer = -1
    Dim lp As LinePlot
    Dim sali As Integer = 0
    Try
        Dim grae As New Grid
        grae.MajorGridPen.Color=color.Gray
        grae.MinorGridPen.Color=color.Gray
        plotSurface2D2.Add(grae)
        lp = New LinePlot
        lp.Pen.Width=2
        x = x + 1
        datos(x) = New System.Collections.ArrayList()
        dates(x) = New System.Collections.ArrayList()
        contador=graf2index
        While sali = 0
            If ((graf2index>0) AND (contador = graf2index-1)) OR (graf2index=0 AND
(contador = graf2max-1)) Then
                sali = 1
            Else
                If Me.grafy2(contador)<> -99999 Then
                    dates(x).Add(Me.grafx2(contador))
                    datos(x).Add(Me.grafy2(contador))
                End If
                contador=contador+1
                If contador >= Me.graf2max Then contador=0
            End If
        End While
    Catch
    End Try
End Sub

```

```

        End If
    End While

    lp.DataSource = datos(x)
    lp.AbscissaData = dates(x)
    lp.Color = Color.Blue
    plotSurface2D2.Add(lp)
    plotSurface2D2.Visible=True
    plotSurface2D2.PlotBackColor = color.LightGray
    plotSurface2D2.RightMenu=NPlot.Windows.PlotSurface2D.DefaultContextMenu
    plotSurface2D2.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.HorizontalRangeSelection())
    plotSurface2D2.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.AxisDrag(true))
    plotSurface2D2.YAxis1.FlipTicksLabel = True
    plotSurface2D2.DateTimeToolTip=true
    plotSurface2D2.Refresh()
Catch
    plotSurface2D2.Visible=False
End try
End Sub

Sub carga3()
    me.plotSurface2D3.clear
    Dim contador As Integer=0
    Dim datos(1) As System.Collections.ArrayList
    Dim dates(1) As System.Collections.ArrayList
    Dim x As Integer = -1
    Dim y As Integer = -1
    Dim lp As LinePlot
    Dim sali As Integer = 0
    Try
        Dim grae As New Grid
        grae.MajorGridPen.Color=color.Gray
        grae.MinorGridPen.Color=color.Gray
        plotSurface2D3.Add(grae)
        lp = New LinePlot
        lp.Pen.Width=2
        x = x + 1
        datos(x) = New System.Collections.ArrayList()
        dates(x) = New System.Collections.ArrayList()
        contador=graf3index
        While sali = 0
            If ((graf3index>0) AND (contador = graf3index-1)) OR (graf3index=0 AND
(contador = graf3max-1)) Then
                sali = 1
            Else
                If Me.grafy3(contador)<> -99999 Then
                    dates(x).Add(Me.grafx3(contador))
                    datos(x).Add(Me.grafy3(contador))
                End If
                contador=contador+1
                If contador >= Me.graf3max Then contador=0
            End If
        End While

        lp.DataSource = datos(x)
        lp.AbscissaData = dates(x)
        lp.Color = Color.Blue
    
```

```

        plotSurface2D3.Add(lp)
        plotSurface2D3.Visible=True
        plotSurface2D3.PlotBackColor = color.LightGray
        plotSurface2D3.RightMenu=NPlot.Windows.PlotSurface2D.DefaultContextMenu
        plotSurface2D3.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.HorizontalRangeSelection())
        plotSurface2D3.AddInteraction(new NPlot.Windows.PlotSurface2D.Interactions
.AxisDrag(true))
        plotSurface2D3.YAxis1.FlipTicksLabel = True
        plotSurface2D3.DateTimeToolTip=true
        plotSurface2D3.Refresh()
    Catch
        plotSurface2D3.Visible=False
    End try
End Sub

Sub MainFormLoad(sender As Object, e As EventArgs)
    Dim contador=0
    Do
        If contador>=Me.graf1max Then Exit Do
        Me.grafy1(contador)=-99999
        Me.grafy2(contador)=-99999
        Me.grafy3(contador)=-99999
        contador=contador+1
    Loop
End Sub
End Class

```