

Streamlining your code

Chapter 5 - Apply mouse selection

[StPendl](#) Oct 29, 2011

Now we are ready to start implementing the initial request to enable color selection by clicking the color boxes instead of the radio buttons.

We only have to apply the same naming convention to the graphics boxes used to display the tolerance colors to be able to use a unified mouse event handler.

```
graphicbox #w.Gold4 , 410, 40,30,30
graphicbox #w.Silver4, 410, 80,30,30
graphicbox #w.None4 , 410,120,30,30
```

Now we assign the mouse event handlers to all the graphics boxes, which is a piece of cake now, since we use loops to apply changes:

```
FOR Band = 1 to 3
  FOR Color = 1 to 10
    Handle$ = "#w."; Colors$(Color,1); Band

    #Handle$ "cls;down;fill "; Colors$(Color,2); ";flush"
    #Handle$ "when leftButtonUp MouseClick"
  NEXT
NEXT

FOR Tolerance = 1 to 3
  Handle$ = "#w."; Tolerances$(Tolerance,1); 4

  #Handle$ "cls;down;fill "; Tolerances$(Tolerance,2); ";flush"
  #Handle$ "when leftButtonUp MouseClick"
NEXT
```

Finally we just need to add the initial display and the mouse event handler.

```
' apply initial settings
call MouseClick "#w.Black1", 0, 0
call MouseClick "#w.Black2", 0, 0
call MouseClick "#w.Black3", 0, 0
call MouseClick "#w.None4", 0, 0
```

[none]

WAIT

[quit]

close #w

END

SUB MouseClick Handle\$, PosX, PosY

RBhandle\$ = Left\$(Handle\$, Len(Handle\$)-1); "r"; Right\$(
Handle\$, 1)

#RBhandle\$ "set"

call SetBandValue RBhandle\$

END SUB

The complete code now looks like this.

```
'Resistor Calculator.bas
'Author: salaion Yahoo! Group
'Date: 27.11.10
'
' List of Colors at http://en.wikipedia.org/wiki/List\_of\_colors
'
' 27.11.10 00:18:50 - Initial as posted

' 27.11.10 00:21:40 - added array for colors and reduced redundant code for color boxes

' 27.11.10 00:34:07 - replaced duplicate command strings by variables
' 27.11.10 02:22:16 - consolidated event handler
' 27.11.10 02:39:08 - mouse selection applied

nomainwin
WindowWidth = 850:WindowHeight = 600
UpperLeftX=int( (DisplayWidth- WindowWidth) /2)
UpperLeftY=int( (DisplayHeight- WindowHeight) /2)
BackgroundColor$ = "green"

GLOBAL Band1value, Band2value, Band3value, Band4value

dim Colors$(10,2), Tolerances$(3,2)
```

[Colors]

```
DATA "Black",    "  0  0  0"
DATA "Brown",    "170 100 20"
DATA "Red",       "255  0  0"
DATA "Orange",   "255 180  0"
DATA "Yellow",    "255 255  0"
DATA "Green",     " 45 157 40"
DATA "Blue",      "  0  0 255"
DATA "Violet",    "170  0 180"
DATA "Gray",      "127 127 127"
DATA "White",     "255 255 255"
```

[Tolerances]

```
DATA "Gold",     "212 175 55"
DATA "Silver",   "200 200 250"
DATA "None",     " 21 228 255"
```

```
'Fill the arrays
RESTORE [Colors]
```

```
FOR i = 1 to 10
    READ ColorName$, ColorValue$
    Colors$(i,1) = ColorName$
    Colors$(i,2) = ColorValue$
NEXT
```

```
RESTORE [Tolerances]
```

```
FOR i = 1 to 3
    READ ColorName$, ColorValue$
    Tolerances$(i,1) = ColorName$
    Tolerances$(i,2) = ColorValue$
NEXT
```

```
STATICTEXT #w.Ohm, "" , 500, 200, 300, 20
STATICTEXT #w.Tole, "" , 500, 230, 300, 20
```

```
STATICTEXT #w,Colors$( 1,1), 10, 42, 50, 20
STATICTEXT #w,Colors$( 2,1), 10, 82, 50, 20
STATICTEXT #w,Colors$( 3,1), 10, 122, 50, 20
STATICTEXT #w,Colors$( 4,1), 10, 162, 50, 20
STATICTEXT #w,Colors$( 5,1), 10, 202, 50, 20
STATICTEXT #w,Colors$( 6,1), 10, 242, 50, 20
STATICTEXT #w,Colors$( 7,1), 10, 282, 50, 20
STATICTEXT #w,Colors$( 8,1), 10, 322, 50, 20
STATICTEXT #w,Colors$( 9,1), 10, 362, 50, 20
```

```
    STATICTEXT #w,Colors$(10,1), 10, 402, 50, 20

    STATICTEXT #w,Tolerances$(1,1), 470, 42, 50, 20
    STATICTEXT #w,Tolerances$(2,1), 470, 82, 50, 20
    STATICTEXT #w,Tolerances$(3,1), 470, 122, 50, 20


    STATICTEXT #w,"K=Kilo " , 500, 300,100, 20
    STATICTEXT #w,"M=Mega " , 500, 330,100, 20
    STATICTEXT #w,
"Light Blue is The Default Color of Resistance " , 500, 360,400, 20

    'Band1
    groupbox #w.FirstDigit, "First Digit", 70,10,80,430
    radiobutton #w.Blackr1 , "", SetBandValue,[none] ,75, 45,20,20
'Black=0
    radiobutton #w.Brownr1 , "", SetBandValue,[none] ,75, 85,20,20
'Brown=1
    radiobutton #w.Redr1 , "", SetBandValue,[none] ,75,125,20,20
'Red=2
    radiobutton #w.Oranger1 , "", SetBandValue,[none] ,75,165,20,20
'Orange=3
    radiobutton #w.Yellowr1 , "", SetBandValue,[none] ,75,205,20,20
'Yellow=4
    radiobutton #w.Greenr1 , "", SetBandValue,[none] ,75,245,20,20
'Green=5
    radiobutton #w.Bluer1 , "", SetBandValue,[none] ,75,285,20,20
'Blue=6
    radiobutton #w.Violetr1 , "", SetBandValue,[none] ,75,325,20,20
'Violet=7
    radiobutton #w.Grayr1 , "", SetBandValue,[none] ,75,365,20,20
'Gray=8
    radiobutton #w.Whiter1 , "", SetBandValue,[none] ,75,405,20,20
'White=9

    'Band2
    groupbox #w.SecondtDigit, "Second Digit", 180,10,80,430
    radiobutton #w.Blackr2 , "", SetBandValue,[none] ,185, 45,20,20
'Black=0
    radiobutton #w.Brownr2 , "", SetBandValue,[none] ,185, 85,20,20
'Brown=1
    radiobutton #w.Redr2 , "", SetBandValue,[none] ,185,125,20,20
'Red=2
    radiobutton #w.Oranger2 , "", SetBandValue,[none] ,185,165,20,20
'Orange=3
    radiobutton #w.Yellowr2 , "", SetBandValue,[none] ,185,205,20,20
```

```
'Yellow=4
    radiobutton #w.Greenr2 , "", SetBandValue,[none] ,185,245,20,20
'Green=5
    radiobutton #w.Bluer2 , "", SetBandValue,[none] ,185,285,20,20
'Blue=6
    radiobutton #w.Violetr2 , "", SetBandValue,[none] ,185,325,20,20
'Violet=7
    radiobutton #w.Grayr2 , "", SetBandValue,[none] ,185,365,20,20
'Gray=8
    radiobutton #w.Whiter2 , "", SetBandValue,[none] ,185,405,20,20
'White=9

    'Band3
    groupbox #w.Multiplier, "Multiplier", 280,10,80,430
    radiobutton #w.Blackr3 , "", SetBandValue,[none] ,285, 45,20,20
'Black=0
    radiobutton #w.Brownr3 , "", SetBandValue,[none] ,285, 85,20,20
'Brown=1
    radiobutton #w.Redr3 , "", SetBandValue,[none] ,285,125,20,20
'Red=2
    radiobutton #w.Oranger3 , "", SetBandValue,[none] ,285,165,20,20
'Orange=3
    radiobutton #w.Yellowr3 , "", SetBandValue,[none] ,285,205,20,20
'Yellow=4
    radiobutton #w.Greenr3 , "", SetBandValue,[none] ,285,245,20,20
'Green=5
    radiobutton #w.Bluer3 , "", SetBandValue,[none] ,285,285,20,20
'Blue=6
    radiobutton #w.Violetr3 , "", SetBandValue,[none] ,285,325,20,20
'Violet=7
    radiobutton #w.Grayr3 , "", SetBandValue,[none] ,285,365,20,20
'Gray=8
    radiobutton #w.Whiter3 , "", SetBandValue,[none] ,285,405,20,20
'White=9

    'Band4
    groupbox #w.Tolerance, "Tolerance", 380,10,80,430
    radiobutton #w.Golldr4 , "", SetBandValue,[none] ,385, 45,20,20
'Gold=5%
    radiobutton #w.Silverr4 , "", SetBandValue,[none] ,385, 85,20,20
'Silver=10%
    radiobutton #w.Noner4 , "", SetBandValue,[none] ,385,125,20,20
'None=20%

    'Fram
    graphicbox #w.add, 530,60,292,30
```

```
'xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  stylebits #w.add, 0,_WS_BORDER, 0,0

  graphicbox #w.up, 523,53,306,7
  stylebits #w.up, 0,_WS_BORDER, 0,0'

  graphicbox #w.down, 523,90,306,7
  stylebits #w.down, 0,_WS_BORDER, 0,0'

  graphicbox #w.side1, 523,53,7,44
  stylebits #w.side1, 0,_WS_BORDER, 0,0'

  graphicbox #w.adds2, 822,53,7,44
  stylebits #w.adds2, 0,_WS_BORDER, 0,0'

  'Band1
  graphicbox #w.Black1 , 100, 40,30,30
  graphicbox #w.Brown1 , 100, 80,30,30
  graphicbox #w.Red1 , 100,120,30,30
  graphicbox #w.Orange1, 100,160,30,30
  graphicbox #w.Yellow1, 100,200,30,30
  graphicbox #w.Green1 , 100,240,30,30
  graphicbox #w.Blue1 , 100,280,30,30
  graphicbox #w.Violet1, 100,320,30,30
  graphicbox #w.Gray1 , 100,360,30,30
  graphicbox #w.White1 , 100,400,30,30

  'Band2
  graphicbox #w.Black2 , 210, 40,30,30
  graphicbox #w.Brown2 , 210, 80,30,30
  graphicbox #w.Red2 , 210,120,30,30
  graphicbox #w.Orange2, 210,160,30,30
  graphicbox #w.Yellow2, 210,200,30,30
  graphicbox #w.Green2 , 210,240,30,30
  graphicbox #w.Blue2 , 210,280,30,30
  graphicbox #w.Violet2, 210,320,30,30
  graphicbox #w.Gray2 , 210,360,30,30
  graphicbox #w.White2 , 210,400,30,30

  'Band3
  graphicbox #w.Black3 , 310, 40,30,30
  graphicbox #w.Brown3 , 310, 80,30,30
  graphicbox #w.Red3 , 310,120,30,30
  graphicbox #w.Orange3, 310,160,30,30
  graphicbox #w.Yellow3, 310,200,30,30
  graphicbox #w.Green3 , 310,240,30,30
```

```
graphicbox #w.Blue3 , 310,280,30,30
graphicbox #w.Violet3, 310,320,30,30
graphicbox #w.Gray3 , 310,360,30,30
graphicbox #w.White3 , 310,400,30,30

'Band4
graphicbox #w.Gold4 , 410, 40,30,30
graphicbox #w.Silver4, 410, 80,30,30
graphicbox #w.None4 , 410,120,30,30

'Selected Bands of Body Resistance
graphicbox #w.Band1, 155,470,15,35
graphicbox #w.Band2, 185,470,15,35
graphicbox #w.Band3, 215,470,15,35
graphicbox #w.Band4, 255,470,15,35

stylebits #w.Band1, 0,_WS_BORDER,0,0
stylebits #w.Band2, 0,_WS_BORDER,0,0
stylebits #w.Band3, 0,_WS_BORDER,0,0
stylebits #w.Band4, 0,_WS_BORDER,0,0

'General Body Resistance
graphicbox #w.37, 130,470,168,35
stylebits #w.37, 0,_WS_BORDER,0,0

'Terminal Wires
graphicbox #w.42, 80,485,50,5
graphicbox #w.43, 300,485,50,5

open "Resistor Calculator" for window_nf as #w
#w "trapclose [quit]"
#w "font Times_New_Roman 13"

#w.add
"cls;down;fill yellow;font Times_New_Roman 16 bold;color red;backcolor
yellow"
#w.add "place 5 20;\Resistor Color Code of 4 Bands"
#w.add "flush"

CommandString$ = "cls;down;fill blue;flush"
#w.up CommandString$
#w.down CommandString$
#w.side1 CommandString$
#w.adds2 CommandString$

FOR Band = 1 to 3
```

```
    FOR Color = 1 to 10
        Handle$ = "#w."; Colors$(Color,1); Band

        #Handle$ "cls;down;fill "; Colors$(Color,2); ";flush"
        #Handle$ "when leftButtonUp MouseClick"
    NEXT
NEXT

FOR Tolerance = 1 to 3
    Handle$ = "#w."; Tolerances$(Tolerance,1); 4

    #Handle$ "cls;down;fill "; Tolerances$(Tolerance,2); ";flush"
    #Handle$ "when leftButtonUp MouseClick"
NEXT

'Color of Terminal Wires
CommandString$ = "cls; down; fill 127 127 127;flush"
#w.42 CommandString$
#w.43 CommandString$

'General Body Resistance Color
CommandString$ = "cls; down; fill 21 228 255;flush" 'light blue
#w.37 CommandString$

#w.Band1 CommandString$
#w.Band2 CommandString$
#w.Band3 CommandString$
#w.Band4 CommandString$

' apply initial settings
call MouseClick "#w.Black1", 0, 0
call MouseClick "#w.Black2", 0, 0
call MouseClick "#w.Black3", 0, 0
call MouseClick "#w.None4", 0, 0

[none]
    WAIT

[quit]
    close #w
    END

SUB MouseClick Handle$, PosX, PosY
    RBhandle$ = Left$(Handle$, Len(Handle$)-1); "r"; Right$(
Handle$, 1)
```

```
#RBhandle$ "set"

call SetBandValue RBhandle$
END SUB

SUB SetBandValue Handle$
' parse handle of calling control
Band = val(Right$(Handle$, 1))
ColorName$ = Mid$(Handle$, 4, Len(Handle$)-5)

' get position of color
FOR i = 1 to 10
    if Colors$(i,1) = ColorName$ then exit for
    if i < 4 then if Tolerances$(i,1) = ColorName$ then exit for
NEXT

' if we had no match exit
If i = 11 Then Exit Sub

Select Case Band
    Case 1
        Band1value = (i-1) * 10

    Case 2
        Band2value = i-1

    Case 3
        Band3value = 10 ^ (i-1)

    Case 4
        Band4value = i*5
        if Band4value = 15 then Band4value = 20

    Case Else
        Exit Sub
End Select

Select Case Band
    Case 1, 2, 3
        ColorValue$ = Colors$(i,2)

    Case 4
        ColorValue$ = Tolerances$(i,2)

    Case Else
        Exit Sub
```

End Select

```
GBhandle$ = "#w.Band"; Band  
#GBhandle$ "cls;down;fill "; ColorValue$; ";flush"
```

```
vv=(Band1value+Band2value)*Band3value
```

Select Case

```
Case vv>=10000000
```

```
#w.Ohm "Resistance Value=";vv/1000000;" M Ohm"
```

```
Case vv>=1000
```

```
#w.Ohm "Resistance Value=";vv/1000;" K Ohm"
```

```
Case Else
```

```
#w.Ohm "Resistance Value=";vv;" Ohm"
```

End Select

```
if Band4value>0 then #w.Tole
```

```
"Tolerance Value =";" +/- ";Band4value;"%"
```

```
END SUB
```

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