Gauge **Sample Help**

Sample Description: Gauge

Points of Interest

- Generating Random Numbers
- Using Scrollbars to Change Values
- Displaying Values in Gauges

Control

- Gauge

For Help on Help, Press F1

Gauge

The Gauge control allows you to provide the user with status on the progress of a task. For example, a gauge is often used to indicate what percentage of a task has been completed. The **Orientation** property of a gauge indicates how the control will be graphically displayed. A Vertical orientation will display a fill from top to bottom, while a Horizontal orientation will display a fill from left to right. The **Min**/**Max** properties specify the range of the gauge. The **Value** property specifies the current value being displayed between the Min and Max values.

In the sample form, there are 12 gauge controls and two scrollbars. One scrollbar is used to set the number of rolls per turn and the other is used to set the maximum value of all gauges. When the Roll button is clicked, a For loop begins running for the number of rolls per turn specified. For each roll, a random number is generated between 1 and 12. For each random number generated, the corresponding gauge value is incremented.

This sample will give you a good understanding of how gauges can be used to display the status of a task that is running. In the example, the task is to generate several random numbers and display how many of each number between 2 and 12 were generated.

Generating Random Numbers

In the sample, generating random numbers is done in the RollDice function shown below.

```
Function RollDice(low As Integer, high As Integer, n As Integer) As Integer
    Dim range, sum, i As Integer
    range = high - low + 1
    sum = 0

    For i = 1 To n
        sum = sum + rnd() * range + low
    Next i

    RollDice = sum
End Function
```

The RollDice function accepts three parameters: a low value, a high value, and a count value. The low and high values specify the range for generating a random number. In the example, 1-6 is used. The count value is used to append random numbers to each other. This gives an effective range of 2-12.

Using Scrollbars to Change Values

In the sample form, scrollbars are used to change the values used by the application. In this case, the maximum value of gauges and the number of rolls per turn are set. The scrollbars have two events that need to be handled: Scroll and Change. The Scroll event is triggered when the scrollbar is moved by dragging, while the Change event is triggered when either end of the scrollbar is clicked. The following method is executed when the "Number of Rolls" scrollbar is moved.

```
Sub sbrRolls_Scroll()
  ' Update the number of rolls per turn
  NumRolls = sbrRolls.Value
End Sub
```

The value of the scrollbar is used to set the NumRolls property. Since this is a "procedural" property, the **setNumRolls** method is executed automatically when this property is set as shown below. This is a good technique to keep multiple items such as lblRollsPerTurn and sbrRolls in sync with each other.

```
Sub setNumRolls(r as integer)
  lblRollsPerTurn.Text = r
  sbrRolls.Value = r
End Sub
```

The Caption property could have also been used. The following method is executed when the same scrollbar is clicked on either end.

```
Sub sbrRolls_Change()
  ' Update the NumRolls embedded integer and the rolls per turn text
  NumRolls = sbrRolls.Value
End Sub
```

NumRolls is a property in the sample form. It is an Integer data type and is used in the For loop that generates random numbers.

Displaying Values in Gauges

Displaying values in gauges involves setting the Value property to a number. This demonstrates the technique of setting the Value property through program code. The following program code can be found in the **btnRoll_Click** method.

```
Sub btnRoll_Click()
  Dim i, r as integer
  Dim gauge As Gauge

  ' Disable the roll button to prevent excessive clicks
  btnRoll.Enabled = "False"

  For i = 1 To NumRolls
    r = RollDice(1, 6, 2)
    Select Case r
      Case 2
        gauge = Gauge1
      Case 3
        gauge = Gauge2
      Case 4
        gauge = Gauge3
      Case 5
        gauge = Gauge4
      Case 6
        gauge = Gauge5
      Case 7
        gauge = Gauge6
      Case 8
        gauge = Gauge7
      Case 9
        gauge = Gauge8
      Case 10
        gauge = Gauge9
      Case 11
        gauge = Gauge10
      Case 12
        gauge = Gauge11
    End Select

    ' Increment the gauge and the counter
    gauge.Value = gauge.Value + 1
    RollCounter = RollCounter + 1
  Next i
  btnRoll.Enabled = "True"

End Sub
```

RollDice is a function that returns a random number between 2 and 12. NumRolls is a procedural property that contains the number of rolls being taken on this turn. When a random number is returned, the Dimmed "gauge," which is defined as a Gauge, is used to set the gauge number determined by the random number generated. The Value property is then incremented by 1.