Guided Program Development

Phase I: Design the Form

~ **Create a Windows Phone 7 SDK Silverlight Application** Open Visual Studio using the Start button on the Windows taskbar and the All Programs submenu. Create a new Windows Phone 7 SDK Application project by completing the following: Click the New Project button on the Standard toolbar; select and expand Visual Basic in the left pane under Project types; select Windows Phone 7 SDK; select Smart Device Project in the right (Templates) pane; name the project WoodCabinetEstimate in the Name text box; then click the OKbutton in the New Project dialog box *(ref: Figure 5-6).*

~ **Choose Target Platform** Select Windows Mobile 5.0 Pocket PC SDK, select Device Application, and then click the OK button.

**~ Name the Form** In the Solution Explorer pane, right-click Form1.vb and then click Rename. Type frmWoodCabinet Estimate.vb, and then press the ENTER key. Click the Yes button to automatically change the form (Name) in the Properties window.

**~ Change the Title on the Title Bar** To change the title on the title bar, click the form, double click on BLANK PAGE, type ESTIMATE then press the ENTER key.

**~ Add a Label** Drag the first label onto the frmWoodCabinetEstimate Form object and name the labellblLinearFeet. Set the Text property for the Label object to Linear Feet? Set the font to Segoe UI, Regular, Size 12. Position the label to resemble Figure 5-93 on the next page.

**Add TextBox Object** Drag a TextBox object onto the form . Using snap lines, align the top of the TextBox object with the top of the Label object. Name the TextBox object txtLinearFeet. Change the font to Segoe UI, Regular, Size 12. Reduce the width of the TextBox object to closely resemble Figure 5-93. Center the Label object and the TextBox object horizontally in the frmWoodCabinetEstimate Form object.

*The Label object and TextBox object occupy the first line of the frmWoodCabinetEstimate Form object (Figure* 5-93) . *They are centered horizontally in the form.*

**Add a Second LabeL** Drag a Label object onto the form below the lblLinearFeet Label object. Name the LabellblWoodType. Change the text in the Label to Wood Type:. Change the font to Segoe UI, Regular, Size 12. Center the label horizontally in the frmWoodCabinetEstimate Form object.

**Add a Panel** Drag a Panel object onto the frmWoodCabinetEstimate Form object. Name the Panel pnlWoodType. Set the BackColor to LightGray so the panel will stand out on the form. Set the Size of the Panel object to 127,82. Center the Panel object horizontally in the frmWoodCabinetEstimate

Form object *(ref: Figure 5-12).*

~ **Add Radio Buttons** Place three RadioButton objects on the Panel object. Name the first RadioButton radPine and change its Text property to Pine. Name the second RadioButton radOak and change its Text property to Oak. Name the third RadioButton radCherry and change its Text property to Cherry. Select the three RadioButtons and change the font to Segoe UI, Regular, Size 12 *(ref" Figure 5-15).*

**Set Radio Button Properties**  Click the Pine RadioButton object and change its Checked property from False to True. Pine is the most commonly used wood by this cabinetmaker *(ref: Figure 5-20).*

*The panel and radio buttons are included on the frmWoodCabinetEstimate Form object*

*(Figure* 5-94). *The light gray background of the Panel object helps it to stand out on the form. The radPine radio button is selected because it is the most widely used wood type.*

**Add Estimate and Cost Labels** Drag two more Label objects below the Panel object. Align these labels by their tops using snap lines. Name the first label lblCostEstimateLabel and change its Text property to Cost Estimate: and resize the Label object to view the text. Name the second labellblCostEstimate and set its Text property to 0000.00. These placement zeros allow you to view the Label object when it is not selected. The placement zeros will be cleared using code when the form is loaded. Change the font for both Label objects to Tahoma, Regular, Size 12. Horizontally center the labels as a unit on the frmWoodCabinetEstimate Form object.

**Add Calculate and Clear Buttons** Drag two Button objects onto the form. Align the tops of the Button objects using snap lines. Name the first Button object btnCalculate and change its Text property to Calculate. Name the second Button object on the right btnClear and change its Text property to Clear. Change the font for these two buttons to Tahoma, Regular, Size 12. Change the size of each button to 85,29. Change the BackColor property for each button to LightGray.

**Code the Comments** Double-click the btnCalculate Button object on the frmWoodCabinetEstimate Form object to open the code editing window and create the btnCalculate\_Click Event Handler. Close the Toolbox. Click in front of the first words, Public Class frmWoodCabinetEstimate, and press the ENTER key to create a blank line. Insert the first four standard comments. Insert the Option Strict On command at the beginning of the code to turn on strict type checking

**Comment btnCalculate\_Click Event Handler** Enter a com ment to describe the purpose of the btnCalculateJlick event.

**Declare and Initialize the Variables** This application requires six variables: 1) decLinearFeet: Holds the estimated linear footage of the cabinets. 2) decCostPerFoot: Holds the cost per linear foot based on the wood type; 3) decCostEstimate: Is assigned the calculated final estimated cost; 4) decPineCost: Is assigned the value 100.00; 5) decOakCost: Is assigned the value 150.00; 6) decCherryCost: Is assigned the value of 250.00. Declare and initialize these six variables.

**Write the IfStatement to Test for Numeric Data** When the user clicks the Calculate button, the program must first ensure that the user entered a valid numeric value in the txtLinearFeet TextBox object. If the user has entered a valid numeric value, the value must be converted from a string value into a decimal data type. Write the If statement and conversion statement required for this process *(rel Figure* 5-82).

'Program Name: Wood Cabinet Estimate

'Author: Corinne Hoisington

'Date: January 29, 2012

'Purpose : This mobile application computes the estimated cost

' of wood cabinets based on the number of linear feet of

' cabinets and the following cost per linear foot:

' Pine -$100.00 per linear foot; Oak -$150.00 per

' linear foot; Cherry -$250.00 per linear foot.

Option Strict On

Public Class frmWoodCabinetEstimate

Private Sub btnCalculate\_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnCalculate.Click

'The btnCalculate event handler calculates the estimated cost of 16 cabinets based on the linear feet and the wood type.

'Declaration Section

Dim decLinearFeet As Decimal

Dim decCostPerFoot As Decimal

Dim decCostEstimate As Decimal

Dim decPineCost As Decimal = 1000

Dim decOakCost As Decimal = 150D

Dim decCherryCost As Decimal = 250D

'Did user enter a numeric value?

If IsNumeric(Me.txtLinearFeet.Text) Then

decLinearFeet = Convert.ToDecimal(Me.txtLinearFeet.Text)

'Is Linear Feet greater than zero

If decLinearFeet > 0 Then

'Determine cost per foot of wood

If Me.radPine.Checked Then

decCostPerFoot = decPineCost

ElseIf Me.radOak.Checked Then

decCostPerFoot = decOakCost

ElseIf Me.radCherry.Checked Then

decCostPerFoot = decCherryCost

End If

'Calculate and display the cost estimate

decCostEstimate = decLinearFeet \* decCostPerFoot

Me.lbICostEstimate.Text = decCostEstimate.ToString("C")

Else

'Display error message if user entered a negative value

MsgBox("You entered" & decLinearFeet.ToString() & \_

" . Enter a Number Greater Than Zero.", , "Input Error")

Me.txtLinearFeet.Text = ""

Me.txtLinearFeet.Focus()

End If

Else

' Display error message if user entered a nonnumeric value

MsgBox("Enter the Linear Feet of the Cabinets.", , "Input Error")

Me.txtLinearFeet.Text = " "

Me.txtLinearFeet.Focus()

End If

End Sub

End Class