**COMP1004 – Rapid Application Development Assignment 2: Sharp Auto Center External Documentation**



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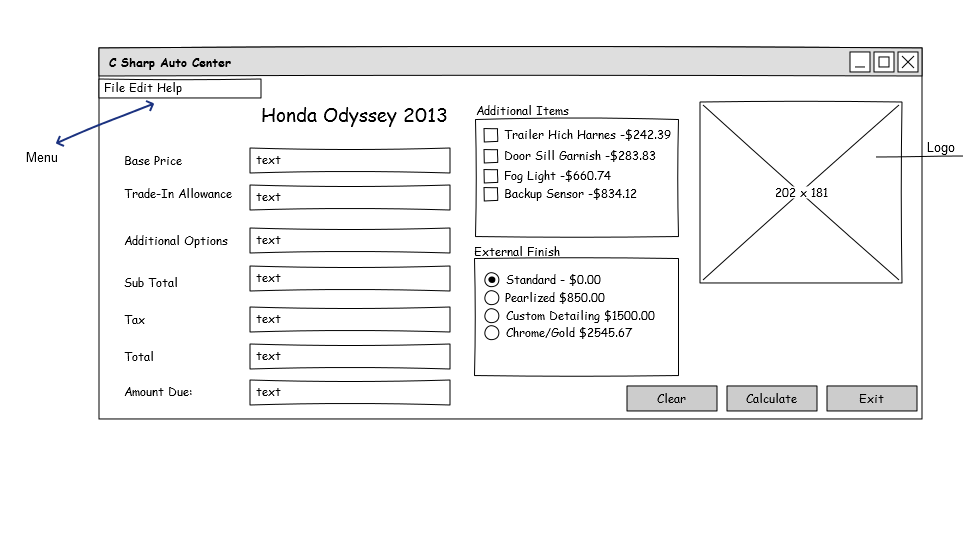
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# Application Description:

This application calculates the car new purchase value with several additional accessories, an external finish and factors in the trade-in discount value. It also allows menu access with shortcut keys that can control and affect the form to access the form’s main functions. There are three buttons Calculate, Clear and Exit. The menu includes a ‘File’, ‘Edit’ and ‘Help’ sections. The ‘File’ section contains an option to exit the form. The ‘Edit’ section holds; the ‘Calculate’ option which calculates the value for the purchase vehicle, the ‘Clear’ option clears all optional data (form is totally empty), the Font and Colour option will open a new dialog that allows the user to change the font and colour respectively of the AmountDueTextBox and BasePriceTextBox. The ‘Help’ section has an ‘About’ option which opens up a message box describing the application’s purpose. When the calculation function is activated by either the ‘File’ section of the menu or ‘Calculate’ button, it calculates the total cost of the car with its options minus the trade-in value. Exit will close the program and Clear will clear all selected options and results. All data in the ‘Additional Options’ is pulled from the actual Honda website and the vehicle name is copyright to Honda. The ‘Exterior Finish’ values are all made up for demonstrative purposes.

# Wire Frame:

****

|  |  |  |
| --- | --- | --- |
| **Object** | **Property** | **Setting** |
| CSharpAutoCenterForm | Font | Microsoft Sans Serif, 12pt |
|  | StartPosition | CenterScreen |
|  | Size | 1027, 471 |
|  | Text | C Sharp Auto Center |
| MenuStrip | Items | FileStripMenuItem  EditStripMenuItem  HelpStripMenuItem |
| FileStripMenuItem | DropDownItems | ExitToolStripMenuItem |
|  | Text | &File |
| ExitToolStripMenuItem | ShortcutKeys | ALT+Shift+X |
|  | Text | E&xit |
| EditStripMenuItem | DropDownItems | CalculateToolSripMenuItem  ClearToolStripMenuItem  FontToolStripMenuItem  ColourTooStripMenuItem |
|  | Text | &Edit |
| CalculateToolSripMenuItem | ShortcutKeys | ALT+Shift+A |
|  | Text | C&alculate |
| ClearToolStripMenuItem | ShortcutKeys | ALT+Shift+C |
|  | Text | &Clear |
| FontToolStripMenuItem | ShortcutKeys | ALT+Shift+O |
|  | Text | F&ont |
| ColourTooStripMenuItem | ShortcutKeys | ALT+Shift+L |
|  | Text | Co&lour |
| BasePriceLabel | Text | Base Price: |
| BasePriceTextBox | Size | 231, 30 |
|  | Text | $0 |
| TradeInValueLabel | Text | Trade-In Allowance: |
| TradeInValueTextBox | Size | 231, 30 |
|  | Text | $0 |
| AdditionalItemsLabel | Text | Additional Items: |
| AdditionalItemsTextBox | Size | 231, 30 |
|  | ReadOnly | True |
| SubTotalLabel | Text | Sub Total: |
| SubTotalTextBox | Size | 231, 30 |
|  | ReadOnly | True |
| TaxLabel | Text | Tax: |
| TaxTextBox | Size | 231, 30 |
|  | ReadOnly | True |
| TotalLabel | Text | Total: |
| TotalTextBox | Size | 231, 30 |
|  | ReadOnly | True |
| AmountDueLabel | Text | Amount Due: |
| AmountDueTextBox | Size | 231, 30 |
|  | ReadOnly | True |
| LogoPictureBox | BackgroundImg | CSharpAutoCenter.Properties.Resources.Yin\_Yang\_Symbol |
| CarNameLabel | Text | Honda Odyssey 2013 |
|  | Font | Microsoft Sans Serif, 13.8pt, style=Bold |
| AdditionalOptionGroupBox | Text | Additional Options |
| TrailerHitchCheckBox | Text | Trailer Hitch Harness - $242.39 |
| DoorSillCheckBox | Text | Door Sill Garnish -$283.83 |
| FogLightCheckBox | Text | Fog Lights - $660.79 |
| BackupSensorCheckBox | Text | Backup Sensor - $834.12 |
| ExternalFinishOptionGroupBox | Text | External Finish |
| StandardFinishRadioButton | Text | Standard -$0.00 |
|  | Checked | True |
| PearledFinishRadioButton | Text | Pearled - $850.00 |
| CustomDetailingFinishRadioButton | Text | Custom Detailing -$1500.00 |
| ChromeGoldFinishRadioButton | Text | Chrome/Gold-$2545.67 |
| ClearButton | Text | Clear |
| CalculateButton | Text | Calculate |
| ExitButton | Text | Exit |

# Code Planning:

**Validation:**

On leave event of either BasePriceTextBox and TradeInValueTextBox tryparse the data into decimal and if successful save the values in their respective class variable. Else display warning in message box and set value to zero.

**Menu File Options Click:**

**Option Exit:** When the exit option is chosen close the form.

**Menu Edit Options Click:**

**Option Calculate:** The values for additional Items, Base cost and trade-in value have all been saved when the user leaves the text field (see Validation Section of Code Planning above). Take the saved Base Price value and add to Additional Items to get the subtotal. Save and display this in SubTotalTextBox. Take the sub total and multiply it by the tax constant (0.13) to get tax. Save tax value in a variable and display tax in TaxTextBox. Add subtotal to tax and get Total. Save total and display in TotalTextBox. Now Check if total is >= trade-in value. If it is then subtract total from trade-in value and display that value in AmountDueTextBox. Else

**Option Clear:** Reset the form to defaults. Clear all TextBoxes , unselect all checkboxes and reset radio button selected to standard.

**Option Font:** Set the FontDialog.Font to the the AmountDueTextBox and BasePriceTextBox Font property. Open FontDialog in modal form. Then change the AmountDueTextBox and BasePriceTextBox Font Property to the user’s selected font.

**Option Colour:** Set the ColorDialog.Font to the the AmountDueTextBox and BasePriceTextBox BackColor property. Open ColorDialog in modal form. Then change the AmountDueTextBox and BasePriceTextBox BackColor Property to the user’s selected color.

**Menu Help Options Click:**

**Option Help:** Open the AboutMessageBox to display a summary of the program.

**Click on Button ‘Exit’:** Access the File Exit click function.

**Click on Button ‘Calculate’:** Access the Edit Calculate click function.

**Click on Button ‘Clear’:** Access the Edit Clear click function.

**On change of Additional Items/External Finish:** Check which options are chosen and add the appropriate values then display the result in

For each groupbox in the form

If groupbox is checkbox

If checkbox is checked

Case statement (based on what checkbox increment var AdditionalItemsTotalDecimal that initaly is zero)

End if

End if

If groupbox is radiobutton

If radio button is checked

Case Statement that parses which radio button was selected and adds the appropriate value to AdditionalItemsTotalDecimal

End if

End if

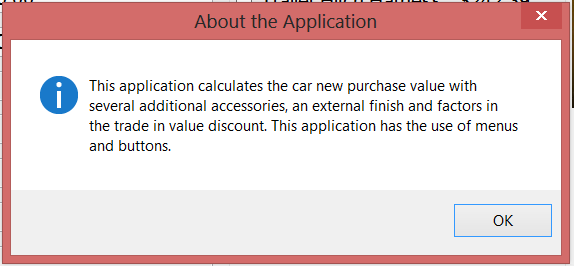
End for each

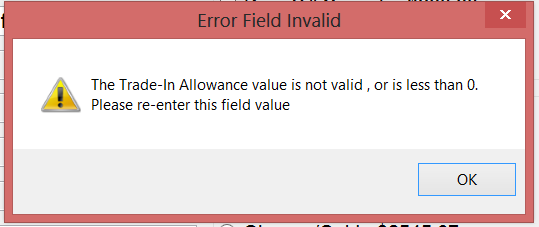
Display AdditionalItemsTotalDecimal in AdditionalItemsTextBox.

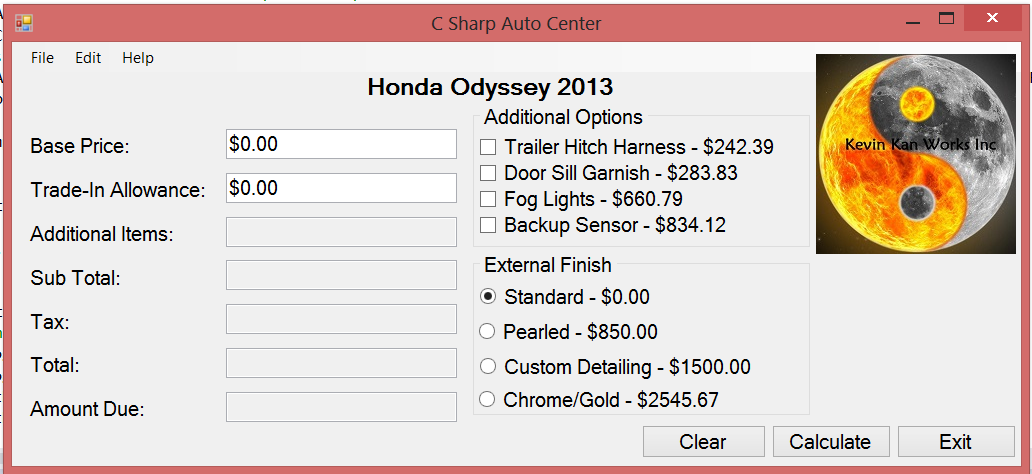
Save the AdditionalItemsTotalDecimal in class variable.

# MultiMedia:

Screen Shots:

About the Application Message Box

Error, Invalid Data Message Box

Form:

Logo: Yin Yang Symbol.jpg

# Extra Works:

Lines 105 and 160 contains code that should be uncommented for dynamic “click” of calculate function.

Form has context menu.