SYSTEMS DESIGN / CAPSTONE PROJECT MIS 316

Project 1

Goals: Demonstrate the capability to build a new project and demonstrate the use of variables, basic math functions and conversions of strings to numbers, and formatting.

- 1. Using the 1.0 Starting a New Project Guide found on the class website, start a new project on your DESKTOP, name the folder your LastNameMIS316. Please make sure the *Location* is on your desktop.
 - a. Also before hitting the OK button, check that in the left column you are under C#
 Web and then Previous Versions, the middle column should be the second entry or ASP.Net Web Forms Site.
- 2. One you hit OK, it will build a project for you, with many files. On the right side of your screen should be the *Solution Explorer* which lists all the files in your project. Over time, we will learn more about the project. We will do all our work on the About.ASPX page for this project.
- 3. Click the About.aspx file in the right Solution Explorer window.
- 4. It will open the About.aspx page in your center window. Near the bottom, click the SPLIT tab to see both the coding and the actual web view (design) page.
- 5. Putting your name on the page:
 - a. In Line 1 you should see a Title="" tag, place your name in the title tag and Project 1 as in Title="My Name – Project 1"
 - b. Modify Line 4 to be your name between the <h2> and </h2> tags, your line should be <h2>**Your Name**</h2>
 - c. Modify line 5, to say: **Project 1**between the <h3> and </h3> tags
 - d. Revise line 6, between the and tags to say: Demonstrate Basic C# Features.
 - e. Before Line 7 (the </asp:Content> tag), hit enter 5 times as the /asp.Content tag must be the last command on the page. All your new work will go after the tag and before the </asp:Content> tags
 - f. Save your work, click the Green Arrow and select Firefox, and bring up the web page you just built. Does it contain all the features you just built?
- 6. Creating new styles for your site:
 - a. In the CONTENT folder, click on the site.css file
 - b. After the last } add a comment so you know where you created your own styles as in:

```
/* Styles created by Tom J*/
```

c. After your comment add in your first style to bold items and center items

```
.center {
    text-align: center;
}
.bold {
    Font-weight: bold;
}
.errorRed {
    color: red;
    font-weight: bold;
}
```

- 7. Save the file
- 8. Back on your About.aspx page, and after the ; we desire to implement the bootstrap 'input form' object so it scales properly on a smart device as well as a desktop. Bootstrap input forms are like a table that it has rows and columns. Type the following after the you placed after the _instruction label. We are saying start a new row on the page and then add an item that is 6 columns wide (our text boxes etc) but first you leave 2 blank columns so that it is better centered on a monitor (that is the offset style). ** *the following is the sample text file placed in your miscapstone folder*

9. Our goal is to get an information (larger label), one label, one text box, one error message, a button and an answer label for each of our tasks, each should look like:

Part 1 - Convert Inches to Centimeters

Enter your measurement in Inches:	
2	
Convert to Centimeters	
	·

Answer: 5.08

- 10. The code to accomplish the building of the objects is:
 - a. Build our first task inside the form group you created in step 8.
 - i. After the form group tag, add an h3 Tag to say what this series of labels, text boxes and buttons will accomplish. For the first example it would be: <h3>Part 1- Convert Inches to Centimeters</h3>
 - ii. Insert a new label, change the text property to: Enter your measurement in Inches:
 - iii. Give the label the Style (CssClass) of bold
 - iv. Next add the text box to the form group, name the text box: __1Inches, add in a CssClass of form-control
 - v. Finally, *between the label and the text box*, slide in a Required Field Validator, you set three properties here:
 - 1. CssClass : errorRed (the message should turn red and bold)
 - 2. Control to Validate : _1Inches
 - 3. ErrorMessage: *Please enter Inches
 - 4. Set the Validation Group to: _1
- 11. Now add in the button, under the last
 Slide a Button to the web page. Change the following properties:
 - a. Name the button _1Calculate
 - b. Text to Convert To Centimeters
 - c. Set the CssClass to be btn btn-primary (this will make it blue and rounded)
 - d. Change the validation group to _1 (**Note for future use, each group / task should have its own validation group value (_1, _2, _3 etc)
- 12. Insert two line breaks

- 13. Now insert two labels,
 - a. one label should have a text property of Answer:
 - b. The second label should have a name of _1Answer, and a text property of blank or "".

14. When complete your code should be:

```
<asp:Label ID="Label7" runat="server" Text="Enter your
measurement in Inches:" CssClass="bold"></asp:Label>
```

```
<asp:RequiredFieldValidator ID="RequiredFieldValidator1"
runat="server" ErrorMessage="*Please enter Inches" CssClass="errorRed"
ValidationGroup="_1"</pre>
```

ControlToValidate="_1Inches"></asp:RequiredFieldValidator>

```
<asp:TextBox ID="_1Inches" runat="server" CssClass="form-
control"></asp:TextBox>
```

- 15. Save and run your project to see if you get the label and text box to appear; do not enter anything into the text box and click the button and you should see an error message asking the user to enter a value for Inches.
- 16. Now it is time for the calculation, double click on the "Convert" button, the C# window should appear and the cursor should be in block of code that is headed: protected void _1Calculate_Click.
- 17. Let's build some good coding habits by following a systematic method in coding

```
// declare variables
const double dblInchToCentimeter = 2.54;
double dblCentimeters = 0;
double dblInches = 0;
```

//grab the values from the text boxes and convert as necessary
dblInches = Convert.ToDouble(this._1Inches.Text);

```
//calculate
dblCentimeters = dblInches * dblInchToCentimeter;
```

```
//output and format the anwer
this._1Answer.Text = dblCentimeters.ToString("F2")
```

18. Save and run; test your answers. At this point we have not verified that the user has entered a #, but we will in future projects.

Task 2:

19. If all is correct, on the .aspx page, copy from the <form-group> down to and including the first </div> and paste after the 'end task div and before the last 2 </div> to start your second task.

- 20. One item you will need to delete every time you copy a task is to delete the 'call or click' to the subroutine/method to calculate.
 - a. Find the button in what you just copied and delete the code that says: OnClick = xxxxxxxx
- 21. The second task will be to calculate a 4% raise to individual's hourly pay.
- 22. In the new group you just pasted, change the h3 tag to be: Part 2 Calculate a 4% Raise
- 23. Change:
 - a. The text of the label to be: Enter Current Hourly Rate
 - b. The name of the text box to be _2Pay
 - c. For the Required field validator, change the Error Message, the Control to Validate, and the ValidationGroup to _2
 - d. For the button, change its name to be _2Calculate, change the text to be "Calculate Raise", change the ValidationGroup to _2,
 - e. The last label should be named _2Answer.
- 24. Double click the Calculate Raise button to start your coding, follow the 4 steps described in #17 above;
 - a. //declare variables (I believe 3 are needed, including one constant)
 - b. //grab values (1 'grab value')
 - c. //calculate
 - d. //display the result in _2Answer as currency (Hint "C2")

Grading

Items graded include:

- e. Title Tag
- f. All Text Boxes Named Properly
- g. All Buttons Named Properly
- h. All Labels (as needed) Named Properly
- i. All Coding Blocks follow the 4 step model described
- j. Variable Names appropriate
- k. It works!

Submitting your project:

- 25. When your project is ready for grading:
 - a. Make sure Visual Studio is closed
 - b. Using a file folder, move to <u>\\miscapstone\MIS316</u>
 - c. Find your S20 folder
 - d. Then slide your entire project folder from the desktop to your S20 folder area.

26. Following is a sample completed screen showing the calculations:

My Name

Project 1

Demonstrate Basic C# Features

Part 1 - Convert Inches to Centimeters Enter your measurement in Inches: 10 Convert to Centimeters Answer: 25.40 Part 2 - Calculate a 4% Raise Enter Current Hourly Rate: 12 Calculate Raise

Answer: \$12.48