**CSC 139 - Project 1**

**REQUIREMENTS DOCUMENT**

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| **Date submitted:** | March 7, 2019 |
| **Application title:** | Simple Calculator |
| **Purpose:** | The simple calculator program will allow to user to enter values for two operands then select an arithmetic operation to perform on them. The result of the operation will then be displayed. |
| **Program**  **Procedures:** | Create a Visual Basic Windows Forms application. From a forms window on the screen, the user will click buttons or type from the keyboard to enter two operands into text boxes. The user will then click the appropriate button that corresponds to the operation he/she wants to perform on the operands. The result will be displayed as an equation in a label. |

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| **Algorithms,**  **Processing and**  **Conditions:** | 1. The developer will need to provide buttons for each number 0-9 as well as a decimal button to allow numbers with decimals to be entered 2. The developer will need to provide buttons for the following arithmetic operations: addition, subtraction, multiplication and division. 3. A button needs to be provided to enable the user to clear the text boxes and the label that contains the result’s equation. The focus should then be set to the operand 1 text box. 4. A button needs to be provided that will allow the user to exit the program when clicked. 5. Labels are needed to show the user which textbox corresponds to each operand. 6. The operation will be as follows: operand1 operator operand2 (for example if operand1 is 4 and operand2 is 3 and the subtract operation is selected, the resultant equation that would appear in the label would be: 4 – 3 = 1) 7. Tab indexes should be provided (in this order) to only the following components: operand1 textbox, operand2 textbox, addition button, subtraction button, multiplication button, division button, clear button, exit button. 8. As numeric buttons are clicked, the active operand textbox should be updated. 9. Option Strict On must be enabled. |
| **Notes and**  **Restrictions:** | The developer can assume that only numbers will be entered into the operand text boxes and that both text boxes will be filled with a number when an operand button is clicked. Also, the developer can assume that a 0 will not be placed in the operand 2 text box when the division operator is chosen.  No If statements (or other decision statements) or loops are allowed with this program. |
| **Comments:** | 1. For division, limit your result to display a maximum of 2 decimal places. 2. The form should have a Cancel button property enabled to fire the exit button’s event method. 3. All controls and variables must have meaningful names which begin with the prefixes found in Appendix B of your textbook. 4. The source file should have a header comment stating the project’s name, purpose, developer’s name and date the program was started. Also, each major section of code should be commented. 5. Work on the project must be your own and no collaboration with classmates is allowed. |
| **Grading:** | 70% - properly working program as described above  10% - for proper naming of controls and variables  10% - documentation of code (use of sufficient comments)  10% - neat appearance and style presented to user |