



Specification for a C++ Five-Function Calculator

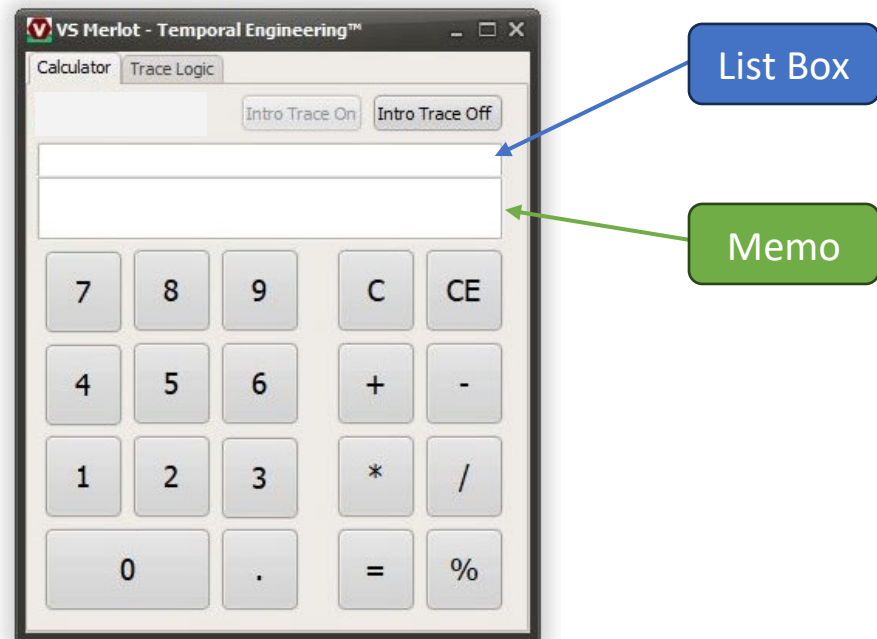
This is the specifications and requirements document for developing a five-function Calculator. This assignment helps us evaluate your approach to software development and is useful as a framework for further conversations regarding Temporal Engineering.

When complete email Tom Bowman (tom.bowman@vsmerlot.com)

Please include files in a .zip file along with an about.doc with notes including development environment used and build instructions. Also be ready to demo your calculator for follow-up interview.

The User Interface

This is an example of the calculator user interface design. The buttons and functionality for the “Calculator” and “Trace Logic” tabs are explained on page 2:





Calculator Tab:

Buttons:

Numbers 0-9 and Decimal point:

- Standard numbers for a calculator and decimal point

Operator buttons (+, -, *, /, %):

- Addition, Subtraction, Multiplication, and Division are all standard calculations.
- **Subtraction/Negative button:** Use the subtraction button for both: a subtraction operation and a negative sign.
- **Percentage button:** This calculation is an additive tax calculation. For example, adding a five percent tax to one hundred dollars result in $100 + 5\%$ equals 105. After selecting button 5, select the percentage button to perform the percentage and additive calculation.
- **Calculator should support multiple operations at once.** (i.e. $2+2+6*12/2$)

C button: Clear the entire calculator

CE button: Clear the current entry

Intro Trace On button: Turns the Trace on

Intro Trace Off button: Turns the Trace off

ListBox: Display's the most recently selected number and the result after "=" is selected.

Memo: (Optional – as this is difficult without Temporal technology)

Display's the current Rule, Step, and Function of the Matrix after a selection in a memo plus the number, if a display number was selected.

Trace Logic Tab:

Every decision must be traced and displayed in the listbox in the trace tab (This means that every decision point needs a printout of the decision with results). The trace should show the test "name" and provide a count for the decision in a format that the user will likely understand.

Listbox:

- Displays the Trace shortened version in a ListBox
- Include the ListBox trace in a CalcTrace.txt file

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