**ePortfolio Selection and Software Design Document**

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The first artifact comes from IST 145: Foundation in Application Development. The name on the assignment is “Paint”. In this assignment, we were to design a program that calculates how many cans of paint are necessary to cover a give square footage. Because it such a simple project, I would like to enhance the code security for the user input to ensure no buffer issues or overflows. I would like to extract more user information such as name and email address as well as giving it an interface instead of the console model used here. The code would go as follows:

* + - Load interface
    - Get user information from user
    - Get Square footage from user
    - Check user input validity
    - Perform calculations
    - Display results

I think this would align with the Final project by showing design skills, algorithmic knowledge, and secure coding practices.

For the second artifact I would like to make more enhancements to the previous artifact Paint. Next, I will design testing protocols for this artifact. I will add try catch control structures to catch exceptions. In addition, I will as assertions to ensure the proper data collected and the proper calculations are performed. I believe doing this would address the requirement for the final project by ensure the algorithms are performed as desired as well as ensure the data and memory allocations to avoid exceptions then crashing.

I will also be using this artifact to accomplish the third category of by adding functionality to the paint application that will save the users data to a database. I will add a function that opens a database connection the adds the user’s data to the database. It would look like the following:

* + - * Open DB connection
      * Get user data
      * Check user data
      * Bind user data
      * Submit query to server
      * Display success or failure message

I believe this would meet the requirements of the final project rubric by showing the ability to design a database connection and build proper SQL query submission protocols.

In the ePortfilio overall I like to showcase as many learned skills as possible. In code review, I plan to illustrate the current state of the code and its flaws. What could I have done differently would be my maid focus here. I would like to show my skills in the narrative by clearing communicating points and explaining things to the average ear. In the self-assessment, I plan to show the ability to be an honest self-critic. I want to convey that even though I’ve been coding for a while, I still have much to learn.