**Professional Self-Assessment**

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CS-499 Computer Science Capstone

February 19, 2023

When starting the computer science program at SNHU my knowledge of techniques and standards was not polished due to a lack of understanding of some of the concepts. Over the course of the sessions, learning cumulatively as the program progressed, the concepts slowly made sense over time. One of the concepts difficult to understand in the beginning was data passing. How do we get data from one file to another securely. After reading then, re-reading the barrier was broken.

The ePortfolio capstone over the last semester was a highlight and great ending to the SNHU computer science program. This project was a cumulative assessment of the enhancements to an artifact created earlier in the program. The artifact chose was Paint.java. This program was initially written in another course in Java. One of the enhancements made to this program was to be rewritten in another language, python was the chosen language. The purpose here is to show diversity of language understanding. The goal here is to give enhance the design by adding a user interface to retrieve the user’s data, enhance the algorithm to increase efficiency and add a database structure.

Enhancing the interface was done using tkinter prebuild module loaded into python. The objectives for design enhancements were accomplished by creating a form with four fields for the user to enter data. Once the form was created and grid layout finalized, the algorithm enhancements started with getting the data from the Entry() textboxes. This is handled by the Click() function. In the Click() function, if statements check for no data in the Entry(). If no data exists a statement is printed to the user, if data exists the process contents by checking the validity of the format. Since all data from the python Entry() is returned to the as a string, the width and height had to be converted into numbers. The chosen method for this was type casting the strings to float() them passing them to the calculate() function for calculations. Once calculations were completed, displayResults() is called to show the results to the user inside the form.

The database portion of the project was completed by creating another file which handles connecting to MySql we named mysql\_connector.py. This handler opens the database and confirms the existence of the database (we called searches) and the table for the data. If these two components exist, there is a function here which we call from paint to insert the user’s data into the database.

Overall, the knowledge possessed now if far more than the knowledge possessed at the beginning of this computer science program. I look forward to what comes of my decision to completing this degree. After graduating, I plan to use every option available to the degree to start with entry level programming or development positions that will give the ability to use this new knowledge to gain professional experience.