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**01/19/2021**

**CS 499**

**Milestone Two**

**Enhancement One: Software Design/Engineering**

**The narrative that accompanies the artifact should explain why you included the artifact in your ePortfolio and should reflect on the process you used to create the artifact. The narrative should focus less on the actual creation of each artifact and more on the learning that happened through the creation of the artifact. Discuss the following:**

1. **Briefly describe the artifact. What is it? When was it created?**

This artifact was created September 2020 for my CS 210 Project two. The assignment is called The Airgead Banking App, and will allow the user to enter an Initial Investment Amount, Monthly Deposit, Annual Interest, and Number of Years their investment has to grow. It will then display the information for the user to see. For enhancement one, I will be enhancing the application by adding to the design areas that will detect errors within inputting the information. The application asks specific information and will notify the user if the information inputted was not correct.

1. **Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?**

I am very proud of the specific application. I feel it was one of my best designs in the way of organizing the code for readability, reusability and optimization. The inline notes explain the code and someone can simply follow the logic of how the code works. The application worked well on its own and my code review did a good job following and explaining what everything in the code represents. The artifact itself is a good representation of my ability to design and engineer code. With the enhancements I implemented, shows that I can write clear and understandable code and showcases my ability to modify and add to existing code. For the sections for error handling, it shows the importance and my understanding of the ability to writing code that you are then able to reuse in other areas of the application.

1. **Did you meet the course objectives you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**

I started by creating new code that was separate from my original application and worked on the code until it completed the course objective for Enhancement One: Software Design/Engineering. The error handling code which I used thought the original code meets the course objective, which I outlined in my ePortfolio Selection and Refinement Plan. By adding in additional code in the form of error handling, it shows my knowledge to be able to design and implement code into an existing application.

1. **Reflect on the process of enhancing and/or modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**

From previous classes I learned about handling errors, but we did not go into depth and just went over scenarios. As for this assignment, I did research on error handling and found that there is a lot of information on the subject because most programs have some form of error handling. In today’s environment which is technology heavy, we are doing many things online, which has to handle instances where users are not inputting the information correctly. From filling out credit card information to entering your username and password, error handling is an important part of coding because we have to think of the ways users will incorrectly use our applications. There were a few challenges I faces when enhancing my application. The first and main point was not to mess up my original code where everything is working properly. By creating a new project and writing my code first, I was able to get things working the way I wanted them to, and then integrated the new code into my application. Because the code is reusable with minor changes for the different parts of the application, I made sure to add the new code to one section at a time and test the code to make sure it functioned properly before moving on to a new section and repeating the process. It was a little time consuming doing it that way but I would rather take a little longer than having to go through all the code looking for errors. The other challenge was finding how I wanted to handle the errors. There were many examples online showing how to write code for handling specific errors so I just needed to do a little research so I could see how the logic works. I was then able to write my code for my purpose, following the standard guidelines for writing code.