

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

The original artifact was created from CS300, involves a parsed text document that was converted into a node object that was placed into a binary tree data structure, which was used to print a list of every course or find a specific course and its pre-requisites.

2. 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 chose this artifact because I felt it showed an understanding of important concepts in data structures. But also because developing into an AVL-Tree would function better for the additional features I wish to add to it. Allowing users to compare their courses and find what courses they still have to take. The conversion of a standard BST with an $O(n)$ time complexity to an AVL tree for a $O(\log n)$ complexity for allows for more efficient searching

3. Did you meet the course outcomes you planned to meet with this enhancement in Module Two? Do you have any updates to your outcome-coverage plans?

Yes, by increasing the speed of the Binary Search Tree, I met one of the primary goals of the assignment, which was reducing the time complexity of the previous artifact and improving on the assignment.

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

It reinforced my knowledge on how vital pointers are in data structures, both the C++ .find and binary tree heavily rely on them, and this project also reinforced my debugging practice, as easily on there were some number of type errors that needed to be debugged and required me to insert alot of testing markers during that portion of the production.