CS 499 Milestone Three Narative

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Artifact two is about algorithms and data structures so for this artifact I choose to look at my final project from CS 260, Data Structures and Algorithms. For this final project I was tasked with writing a reflection paper discussing a fictional e-bidding website, and what data structures and algorithms we would implement to accomplish the company's goals. I wrote a 3 page paper discussing various approaches for sorting and searching through the data the site had generated, ultimately coming to the conclusion that a binary search tree would be the best solution for their needs. This paper demonstrates my understanding of algorithms and data structures as they pertain to real world applications such as a company needing to utilize data in a meaningful way. I intend to demonstrate this understanding again by expanding the complexity of the binary search tree. I will improve upon the paper by explaining how a “red-black” tree could be used to improve search times. I will use example code as well as flow charts and diagrams to explain why I choose this algorithm.

Reflecting back on this process I’ve learned that the original binary search tree is a very effective data structure to utilize in data manipulation when needing to compare or search. While effective is a true statement, there are slight improvements that can be made to the algorithms that implement the binary tree that ultimately improve performance.