**Milestone Two**

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For the software design and engineering I selected four applications completed as part of CS260 – Data Structures and Algorithms. The four separate applications implemented a binary search tree, linked list, vector and hash table.

I included this artifact because it provided the opportunity to take multiple applications and combine them into one more functional application. The key component was pulling out code that was used in multiple applications and making it accessible by all.

I did meet my objectives of combining the four applications into one. In the process, I stepped into the next phase of the project a bit. When I developed the new main() method to connect to the different data structures, I developed for the final product. As a result, the main() asks the user which field they want to search by but the actual structures are not set up to search that way yet, that is my Algorithms and Data Structures enhancement.

It was a very challenging process for me to get to this point. First, I encountered some obstacles in accessing the applications. Looking back, I wish I had learned to use github much earlier in my schooling and I wish I had made better notes about the objectives and parameters of projects. Once I got going, there were errors in the code that were not there when I submitted it for the original class. This is where github could have been very useful. It would have been nice to look back at earlier versions. It also would have helped if I had utilized it from the beginning of this process. Getting the original applications working as intended was a big hurdle and some of it was trial and error. It would have been nice to be able to try a few things and then go back to a different branch if the didn’t work instead of going back through the code to undo the changes I had made. Once I got moving on the actual enhancements it was a lot of fun and I learned so much. I had not used hpp files in past C++ applications, it was great to learn a whole new tool that I can utilize going forward. I also needed to refresh on C++ in general. I went through a quick tutorialspoint.com course which helped a lot.